DAYANANDA SAGAR UNIVERSITY

School of Commerce and Management Studies

Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for learning experiences

Student Centric Methods	Activities/Events Conducted
Experiential Learning	1. Industrial Visits 2. Outbound Team Building Training 3. Internship/ Social Internship/ Dissertation
Participative Learning	1. Case Study Activity 2. Club Events 3. Group Assignments
Problem-solving methods	1. Assignment Problems (additional) in Analytics, Accountancy, Operations Management, Quantitative Techniques

Industrial Visit Report: **Titan Watch Manufacturing Unit**

Date: 10.02.2024
Location: Hosur, Tamil nadu, India

On 10th February 2024, a group of 37 students from III Semester B.Com and BBA accompanied by faculties Dr.Laxman rao, Dr. Roohi and Prof.T.M.Suresh kumar of Dayananda Sagar University, School of Commerce and Management Studies Department had the privilege to embark on an industrial visit to Titan watch manufacturing industry. The industrial visit to Titan World -Watch Manufacturing Company provided valuable insights into the intricate process of watch production. The visit aimed to enhance our understanding of the watchmaking industry, from design to final assembly.

In charge:
The Security Admin of Titan Mr. Unus the in-charge for the industrial visit. He efficiently coordinated the visit, ensuring all arrangements were made and the schedule was followed meticulously.

Arrival and Reception:
We arrived at the Titan Company at the scheduled time on 10:30 am. They were warmly welcomed by the staff members and guided to the visitor's area. All the Students and Faculties were provided with Company badge through out the visit to ensure visitor's authentication.

Factory Tour:
The tour commenced with a comprehensive overview of the manufacturing process of various watches.They were able to witness in Production Floor the firsthand intricacies of the production processes, from raw material intake such as Brass Alloys, Leaded and Unleaded Brass as well as Steel to finished product packaging. It was fascinating to see how automation and technology are integrated into every step, optimizing efficiency and quality.In Quality Control they briefed on the rigorous quality control measures implemented by the company to ensure that only the highest standard products reach the market. This emphasized the importance of quality assurance in maintaining customer satisfaction and brand reputation. In Research and Development The interaction session with Titan Security Admin Incharge Mr. Unus gave insight of the company vision and the adaptability to changes in market with the rising demands. It was inspiring to see how the company invests in continuous improvement and stays ahead of industry trends.

Interactive Sessions:
Throughout the visit, interactive sessions were conducted wherein the students had the opportunity to engage with professionals from various departments. The discussions allowed us to gain valuable insights into career paths and industry expectations. Also gain insights into the challenges and opportunities in the Watch manufacturing sector. They were encouraged to ask questions and seek clarification on various aspects of production, logistics, and sustainability practices adopted by Titan

Conclusion:
The industrial visit to Titan Watch Company proved to be an enriching and educational experience for the students and faculty members alike. It provided valuable insights into the complexities of watch manufacturing and CSR activities done by Titan and how they are

sustaining waste water and reusing the waste water through water treatment in the facility itself. At the end sir told us that there are about 180 parts in a watch which has to be assembled, and there are about 7000 employees working with Titan Watch.

Outcome

The industrial visit complements the syllabus by providing practical exposure to theoretical concepts, enabling students to better understand the application of production and operations management principles. Key takeaways include:

1. **Enhanced Practical Knowledge:**
    - The visit showcased real-life implementations of concepts like automation, quality control, and production processes discussed in the syllabus.
    - Students observed how theoretical frameworks, such as production planning and control, are applied to optimize resources and meet delivery schedules.
2. **Reinforced Importance of Quality:**
    - Witnessing rigorous quality assurance protocols validated the syllabus's focus on quality management and tools like ISO standards, TQM, and control charts.
3. **Insight into R&D and Strategic Management:**
    - Discussions with industry professionals on adapting to market demands aligned with the syllabus's emphasis on innovation and competitive strategies in operations.
4. **Bridging Gaps in Understanding SCM and Logistics:**
    - While the report doesn't delve deeply into inventory control or detailed supply chain processes, the visit indirectly highlighted the importance of efficient logistics and supplier coordination.
5. **Professional Growth and Career Pathways:**
    - Engaging with industry experts provided practical career insights, supplementing the syllabus's theoretical understanding of roles and responsibilities in operations management.

GPS Map Camera
Google
Hosur, Tamil Nadu, India
03, Sipcot Phase II Industrial Complex, Sipcot Ph 2, Hosur, Tamil Nadu 635109, India
Lat 12.748473°
Long 77.81901°
10/02/24 12:51 PM GMT +05:30

fastrac
TITAN
MAIN GATE
GPS Map Camera
Google
Hosur, Tamil Nadu, India
03, Sipcot Phase II Industrial Complex, Sipcot Ph 2, Hosur, Tamil Nadu 635109, India
Lat 12.748905°
Long 77.81873°
10/02/24 01:00 PM GMT +05:30

ONE DAY OUTBOUND TRAINING REPORT

Date: 27.11.2023
Location: Kaggalipura, Off Kanakapura road, Karnataka, India

On 27th November 2023, a group of around 100 students from I Semester BBA and B.Com along with Three Asst.Professors Mr.Lohith, Mr.Santhosh, Ms.Yogashree and One Associate Professor Dr. Lakshman from SCMS, embarked on an One day Outbound training to Eagle Outbound Training at Kaggalipura, via Kanakapura road Karnataka. The Training aimed to provide students with one of the most memorable events in their life, with fun and learning, a day out and opportunity to know and rediscover themselves, cultivate skills and lifelong friendships.

Outbound Training
All the Students accompanied with faculties started with forming groups and teams along with trained professionals who had vast experience in conducting various training programs. The trainers instructed all the students before the training and other adventure activities strictly about the Do's and Don't's regarding the various activities and also provided them all the necessary safety accessories and tools to carry out the task. It started with adventure activities such as wall climbing, Zip lane, rope climbing, to test your physical abilities and stamina etc, Also archery, crossbow, helped the students to improve their strength and focus on the target. Likewise air rifle/pistol shooting with special care on ear and eye protection to test their skills on eye concentration and confidence that enhances reaching the target without any distraction. Finally all the students participated in rain disco which students as well as facutlties enjoyed with fun. Over all the students as well as faculties enjoyed and it was a great opportunity to enhance various skills and understanding of teamwork, leadership and management abilities through various mind games and team tasks.

DAYANANDA SAGAR UNIVERSITY			
SCHOOL OF COMMERCE AND MANAGEMENT STUDIES			
Academic year 2023-24			
I SEMESTER BCOM STUDENTS LIST			
Eagle Out Bound Training on 27/11/2023			
Sl.No	USN	For Name	SIGNATURE
1	CMS23BC0001	ADARSH.T.N	
2	CMS23BC0002	BHUMIKA KUMARI	
3	CMS23BC0003	CAROLINE MOHANJI GERA	
4	CMS23BC0004	DULI NEPAL	
5	CMS23BC0005	FAREED	
6	CMS23BC0006	HARSHITHA M	
7	CMS23BC0007	KUMARASWAMY	
8	CMS23BC0008	KARAN VERMA	
9	CMS23BC0009	MITHIL R	
10	CMS23BC0010	NAVEENREDDY BIRADAR	
11	CMS23BC0011	NIKHIL PRAKASH T C	
12	CMS23BC0012	NIRMA	
13	CMS23BC0013	SAIF KAREEM	
14	CMS23BC0014	SRINIVAS D R	
15	CMS23BC0015	YAMUNA	
16	CMS23MA0001	ANUKA VANDITHA	
17	CMS23MA0002	GUTTAL HARSHITHA	
18	CMS23MA0003	PRAJWAL LAMICHANEY	
19	CMS23MA0004	SNEHA CHAUBEY	
20	CMS23MA0005	SUMA A	
21	CMS23BM0001	A.V VAMSHIE	
22	CMS23BM0002	ANKIT GOPE	
23	CMS23BM0003	ASHOK S	
24	CMS23BM0004	BHARATH K	
25	CMS23BM0005	BINDU	
26	CMS23BM0006	HARSHITH G	
27	CMS23BM0007	M SURAJ	
28	CMS23BM0008	MADDEGIRI RAMANJULU	
29	CMS23BM0009	MANJUNATH S K	
30	CMS23BM0010	MAYUR LS	
31	CMS23BM0011	MONISH R	
32	CMS23BM0012	NAIDU PAVAN SUBRAMANIAM	
33	CMS23BM0013	NANDINI LAKHMANI	
34	CMS23BM0014	PRAKRUTHI S	
35	CMS23BM0015	RAGINI KUMARI	
36	CMS23BM0016	RAJIV NAYAN MISHRA	
37	CMS23BM0017	SATHISH KUMAR G	
38	CMS23BM0018	SHIVAPRASAD L R	
39	CMS23BM0019	SHRADDHA VAISHNAVI	
40	CMS23BM0020	TANEES.M	
41	CMS23BM0021	VANI SHREE N	

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DAYANANDA SAGAR UNIVERSITY

SCHOOL OF COMMERCE AND MANAGEMENT STUDIES

Academic year 2023-24

I SEMESTER BBA STUDENTS LIST

Eagle Out Bound Training on 27/11/2023

Sl.No	USN	For Name	
1	CMS23BB0001	A R SHARAN TEJ	
2	CMS23BB0002	A SRI VISHNU	
3	CMS23BB0003	ADITYA MEHRA	
4	CMS23BB0004	AHMED MOHAMMED FAHIM RAZA	
5	CMS23BB0005	AKASH A SEERVI	
6	CMS23BB0006	ANANTH KRISHNA	
7	CMS23BB0007	ANCHAL R	
8	CMS23BB0008	ANISHA SHARMA	
9	CMS23BB0009	ANKIT CHHETRI	
10	CMS23BB0010	ANUBHAB PRASAD SAHU	
11	CMS23BB0011	ASHISH	
12	CMS23BB0012	BINDU M	
13	CMS23BB0013	DEEKSHA S REDDY	
14	CMS23BB0014	DRASHTY ROJJIVADIA	
15	CMS23BB0015	DRUVANTH S REDDY	
16	CMS23BB0016	GAURAV KUMAR	
17	CMS23BB0017	GOVIND OM PATEL	
18	CMS23BB0018	GUNJAN	
19	CMS23BB0019	HARSHIT MANOJ DAYAMA	
20	CMS23BB0020	J AFRAZ AHMED	
21	CMS23BB0021	J PRASANNA KUMAR	
22	CMS23BB0022	JEEVAN.H	
23	CMS23BB0023	KANDURI VIDITHA	
24	CMS23BB0024	KEERTHANA CG	
25	CMS23BB0025	MANYA H D	
26	CMS23BB0026	MOHAK BANSAL	
27	CMS23BB0027	MS MIKKI KUMARI	
28	CMS23BB0028	NAVANEET RAMU	
29	CMS23BB0029	NANDON DAS	
30	CMS23BB0030	PALASH NANDI	
31	CMS23BB0031	PARMANSHU	
32	CMS23BB0032	PRANJAL BRAMHA	
33	CMS23BB0033	PRATHAM PRAKASH POOJARI	
34	CMS23BB0034	PRITAM KUMAR DHAL	
35	CMS23BB0035	RAMAN OJHA	
36	CMS23BB0036	SAI BHAVANTH M R	
37	CMS23BB0037	SANJAY V	
38	CMS23BB0038	SAURAV KUMAR JAISWAL	
39	CMS23BB0039	SHIVA SAGAR PATIL	

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40	CMS23BB0040	SHIVYANSH RANJAN	
41	CMS23BB0041	SHORYA SHARMA	
42	CMS23BB0042	SUHANA RAHMAN	
43	CMS23BB0043	TAKHELLAMBAM STELLA DEVI	
44	CMS23BB0044	TARU SINGH	
45	CMS23BB0045	VARSHITH A S	
46	CMS23BB0046	VIKRANT SINGH THAKUR	
47	CMS23BB0047	VISHAL S	
48	CMS23BB0048	YASH TRIVEDI	
49	CMS23BB0049	DHRUV SINGH	

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CYRAAC Services Private Limited
#22, Gopalan Innovation Mall, 3rd Floor,
Bannerghatta Main Road, 3rd Phase JP Nagar,
Bengaluru-560076,
Karnataka
CIN: U74999KA2017PTC104449

04 January 2024

S Govind Raj

Dear S Govind,

Sub: Internship with CyRAACS

We are pleased to offer you Internship at CYRAAC SERVICES PRIVATE LIMITED so as to facilitate you to acquire requisite degree of proficiency, competency and work knowledge.

Joining Date: 8th January 2024

Duration: 6 months

Location: Bangalore

Business Line: Business Development

Stipend: INR 10,000 only per month

You will be reporting to **Mr. Murari Shanker** and will be briefed on your Project when you join.

Your current engagement is only in the capacity of an Intern and shall not be construed to be an employment. Moreover, the current training shall not entitle you to claim permanent employment with either CYRAAC SERVICES PRIVATE LIMITED or any of the customers you may be working with for a project. Based on your performance during this internship, you may be offered a position at CYRAAC Services Private Limited.

During your internship with Company, you may have access to trade secrets and confidential business information belonging to the Company. By accepting this offer of internship, you acknowledge that you will keep all of this information strictly confidential, and refrain from using it for your own purposes or from disclosing it to anyone outside the Company. In addition, you agree that, upon conclusion of your internship, you will immediately return to the Company all of its property, equipment, and documents, including electronically stored information .

By accepting this offer, you agree that throughout your internship, you will observe all policies and practices governing the conduct of our business and employees, including our policies prohibiting discrimination and harassment.

Looking forward to having you with us, and hope your association with the Company will be successful and rewarding. If you have any questions, please contact do not hesitate to contact me.

Please indicate your acceptance of this offer by signing below.

Yours faithfully,

For **CYRAAC SERVICES PRIVATE LIMITED**

Jyothi Mehta

Head - HR

Signed by Jyothi Mehta
Date: 2024.01.04
19:57:35

CYRAAC Services Private Limited
#22, Gopalan Innovation Mall, 3rd Floor,
Bannerghatta Main Road, 3rd Phase JP Nagar,
Bengaluru-560076,
Karnataka
CIN: U74999KA2017PTC104449

ACKNOWLEDGEMENT

I have read, understand and accept the internship on the terms and conditions herein and have signed without any undue influence, pressure or coercion from any side.

I am not relying on any representations made to me by anyone other than as set out above. I have submitted herewith the documents mentioned above.

Candidate: S Govind Raj

Signature: Date:

Annexure I - Documents for On-Boarding

Photocopy of the below documents along with the originals. The original copies are only for verification purposes.

Education documents

- SSC / Class X / Matriculation Mark sheet and Passing Certificate
- HSC / Class XII Mark sheet and Passing Certificate
- Degree / Diploma mark sheet (all Semesters) and Convocation Certificate (Graduation)
- Master's degree / Post-Graduation mark sheet (all Semesters) & Convocation Certificate

Personal Documents

- Photocopy of Passport
- Bank cheque leaf (Mandatory)
- Passport size colour photos - 4 No.
- Photocopy of Aadhar card and PAN Card / Photocopy of status document (if applied) (Mandatory)
- Soft Copy of Aadhar card and PAN Card (to be shared on email after joining)

Previous Employment Documents (Minimum Last 2 Companies if any)

- Appointment letter
- Relieving Letter & Service Certificate or Experience letter
- Last 3 months pay slips
- Latest 3 months bank statement of Salary credit
- Any promotion/increment letter

Hyprbots

Hyprbots Systems Pvt Limited

Bhive Workspace
Plot No. 77, JBR Tech Park, 6th Rd, EPIP Zone, Whitefield,
Bengaluru, Karnataka 560066

Apr 30, 2024

Certificate of Completion of Internship

Dear Mihir,

This is to certify that Mihir Bhat has successfully completed an internship with Hyprbots in the Data Annotation Team from Jan 17, 2024 to Apr 30, 2024.

During the internship, he demonstrated exceptional dedication and enthusiasm in his role, contributing significantly to data annotation tasks.

This internship certificate is issued as a formal recognition of Mihir Bhat's valuable contributions to Hyprbots. We wish him success in all his future endeavors.

For

Hyprbots Systems Pvt Limited

Niyati Chhaya
Cofounder & VP-AI Hyprbots
Systems

Hyprbots

Hyprbots Systems Pvt Limited

Bhive Workspace
Plot No. 77, JBR Tech Park, 6th Rd, EPIP Zone, Whitefield,
Bengaluru, Karnataka 560066

Apr 30, 2024

Certificate of Completion of Internship

Dear Nischitha,

This is to certify that Nischitha S has successfully completed an internship with Hyprbots in the Data Annotation Team from Jan 17, 2024 to Apr 30, 2024.

During the internship, she demonstrated exceptional dedication and enthusiasm in her role, contributing significantly to data annotation tasks.

This internship certificate is issued as a formal recognition of Nischitha. S's valuable contributions to Hyprbots. We wish her success in all her future endeavors.

For

Hyprbots Systems Pvt Limited

Niyati Chhaya
Cofounder & VP-AI Hyprbots
Systems

SUDISA
A STEP TO QUALITY CASTING

Sudisa/HR/16/2023-24 Date: 15.07.2023

TO WHOM IT MAY CONCERN

This is to certify that ***Mr. Shiv Raj Singh***, a student of Dayananda Sagar University, Bangalore has completed his training for his project on **"Performance Management System"** for employees of Sudisa Foundry Pvt Limited w.e.f. ***30.05.2023 to 15.07.2023.***

During his training period, he was found capable, sincere and hard working.

We wish him all the best in his future endeavors.

For Sudisa Foundry Private Limited

15/07/2023

Authorized Signatory

SUDISA FOUNDRY PVT. LTD. ADITYAPUR

SUDISA FOUNDRY PRIVATE LIMITED
Registered Office : B-26, 1st Phase, Industrial Area, Adityapur, Jamshedpur-832109, Jharkhand, India, Tel.: 7209075119
Works : B51-56, 3rd Phase, Indistrial Area, Adityapur, Jamshedpur-832109, Jharkhand, India, Tel.: 7209075118
Website : www.sudisa.in
CIN : U26960JH2006PTC012772

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PRIVATE AND CONFIDENTIAL

29th August 2023

TO WHOMSOEVER IT MAY CONCERN

Subject – Internship Certificate

This is to certify that **Sachin D** from **Dayanand Sagar University, School of Commerce & Management studies** completed his internship with us at **Schneider Electric India Private Limited** from **5th June 2023 to 4th August 2023** and he worked on

- **Training efficiency measures**

He was reporting to **Soumya G Prabha (SESA704833)**

During the period of his training, we found **Sachin D** to be sincere, hardworking and a keen learner.
On behalf of Schneider Electric, we would like to thank him & wish him every success in future endeavors.

Best Regards,

For and on behalf of

Schneider Electric India Private Limited

DocuSigned by:
Siva Emani
5DEFB443D885490...

Siva Emani, VP HR Services

Schneider Electric India Private Limited
Corporate Office: 9th Floor, DLF Building No.10.Tower C, DLF Cyber City, Phase II, Gurgaon – 122002, India
Tel.: 91 124 3940400 Fax: 91 124 4222036, 4222037
Regd. Office: C-56, Mayapuri Industrial Area, Phase-II, New Delhi – 110064, India
Tel.: 91 11 30189530
CIN No.: U74899DL1995PTC065815

schneider-electric.com

Prashikshan -2024

SHAVAK NANAVATI TECHNICAL INSTITUTE

An ISO 9001:2015 Organization

CERTIFICATE

This is to certify that Shreya Chakraborty (Reg. No. VT20241979),
Student of DAYANANDA SAGAR UNIVERSITY,
has undergone Vocational Training Program at Tata Steel Ltd., Jamshedpur from 25-June ,2024 *to* 30-July ,2024. *The details of the programme are as under:*

Department Covered	LEARNING & DEVELOPMENT
Project Title	SUSTAINABILITY AND RECRUITMENT AT TATA STEEL

He/She has successfully completed the Programme

Amit Kumar Tiwary
Sr. Manager Resourcing Services
Learning and Development, Tata Steel

Place : Jamshedpur
Date : 30-07-2024
Ref No : VT20241979

SHAVAK NANAVATI TECHNICAL INSTITUTE, TATA STEEL LTD, N-ROAD, BISTUPUR, JAMSHEDPUR – 831001,
Telephone: 91-657-2320243, Fax: 91-657-2320243, E-mail- snit.office@tatasteel.com

Business Plan
Presentation

Presented To:

Dr.Roohi

Meet Our Team

Akash.A
Project Manager

Ahmed.Raza
Project Manager

Pratham.P
Project Manager

Raman.Ojha
Project Manager

Table of Contents

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02 Value Propositions

03 Channels

04 Customer Relationships

05 Revenue Streams

06 Revenue Streams

07 Key Activities

08 Key Resources

09 Key Partners

10 Conclusion

About Company

Eco Flex Prosthetics is committed to revolutionizing the prosthetics market with high-quality limb prostheses made from recycled plastic waste, providing affordable and eco-friendly solutions. Our innovative manufacturing techniques specialize in creating, producing, and distributing prosthetics solely from recycled plastic materials, targeting individual customers and healthcare institutions globally. We aim to develop affordable, environmentally responsible prosthetic solutions, improving lives while contributing to a greener planet.

Customer Segments

- Individuals with limb amputations
- Healthcare institutions and clinics

- Non-profit organizations focusing on prosthetic aid

Value Propositons

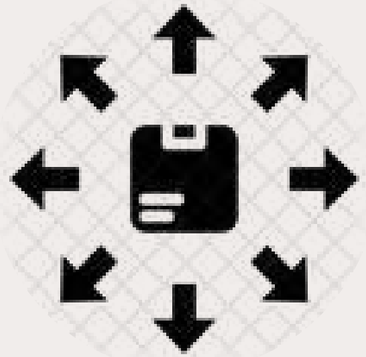
- Affordable prosthetics
- Eco-friendly and sustainable products

- Customizable designs
- High-quality and durable materials

Channels

- Online store and e-commerce platforms
- Partnered healthcare providers

- Non-profit distribution networks
- Social media and digital marketing



Customer Relationships

- Direct sales and customer support
- Regular updates on new products and features

- Community engagement and outreach programs

Revenue Streams

- Direct sales to consumers
- Partnerships with healthcare providers

- Wholesale and bulk sales to institutions
- Licensing agreements for proprietary technologies

Key Activities

- Research and development of prosthetic designs
- Recycling and processing plastic waste

- Manufacturing and assembly of prosthetic limbs
- Quality control and testing

Key Resources

- Plastic waste suppliers
- Skilled prosthetic designers and engineers

- Manufacturing facilities
- Distribution networks

Key Partners

- Plastic recycling companies
- Healthcare professionals and clinics

- NGOs and charitable organizations
- Online marketplaces and distributors

Cost Structure

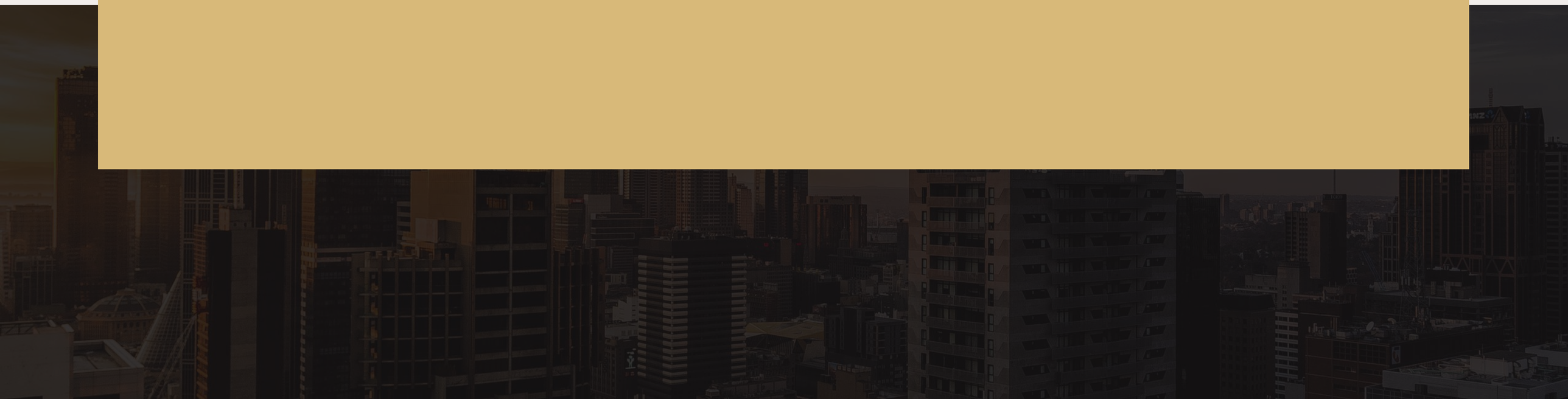
- Raw material procurement (recycled plastics)
- Manufacturing and production costs

- Research and development expenses
- Marketing and sales expenses
- Overhead costs (utilities, maintenance, etc.)

Conclusion

EcoFlex Prosthetics is dedicated to revolutionizing the prosthetics industry by integrating environmental sustainability, affordability, and accessibility into our core mission. Through strategic partnerships with healthcare providers, collaborations with NGOs, and our online presence via e-commerce platforms and social media, we are committed to making prosthetic solutions readily available to underserved communities worldwide. By prioritizing innovation, quality, and environmental responsibility, we not only aim to enhance the lives of amputees but also contribute to a cleaner planet. Together, let's build a future where everyone has the opportunity to thrive, one sustainable prosthetic limb at a time.

Thank You



Ethical Dilemmas Case Study

Presented by : Ahmed Raza and Pratham Prakash

Brief Summary of the Case Study

- In the case study, Jennifer, after years of trying, finally secures the junior Account Executive Trainee position at XYZ Advertising Agency. The agency's financial stability depend on securing the ABC Client Company account, but to do so, Mr. Hurn agrees to a request from the ABC Director of Advertising to replace African-American actors in the advertisement with white actors. Sharon, Jennifer's colleague, refuses to comply, citing ethical concerns about perpetuating racial biases. Consequently, Sharon is fired for insubordination, and Jennifer is offered Sharon's position with the condition that she must comply with the request to recast the advertisement. Jennifer is torn between her dream job, her belief in the right actions, the lack of job opportunities in a poor economy, and her existing financial struggles.

What should Jennifer do? Should she accept the new position or resign?

Jennifer needs to carefully weigh her options. Accepting the new position as an Account Executive means she would have to compromise her principles by recasting the advertisement as requested by Mr. Hurn. However, resigning would mean giving up on her dream job and facing financial difficulties, especially considering her student loan payments and the scarcity of job opportunities in a poor economy.

Ultimately, Jennifer needs to consider her personal values and priorities. If she feels strongly about not maintaining racial biases and discrimination, resigning might align better with her principles, even though it comes with significant risks and challenges.

What alternative would you choose if you were in her position? Why would you make that choice?

If I were in Jennifer's position, I would lean towards resigning. While becoming an Account Executive is a significant career advancement, compromising one's values and committing racial biases is ethically unacceptable to me. Resigning would allow Jennifer to maintain her integrity and seek opportunities elsewhere that align better with her values, even though it may entail short-term financial difficulties and career setbacks. I would feel even better things are to come for my sacrifices.

What ethical theories (utilitarian, rights, justice) make the most sense to you as they relate to this situation?

- I WOULD GO FOR THE UTILITARIAN APPROACH , FROM A UTILITARIAN PERSPECTIVE, JENNIFER MIGHT CONSIDER THE CONSEQUENCES OF HER ACTIONS ON ALL STAKEHOLDERS INVOLVED. WHILE ACCEPTING THE PROMOTION AND COMPLYING WITH MR. HURN'S REQUEST MIGHT BENEFIT HER CAREER AND THE FINANCIAL STABILITY OF THE AGENCY, IT WOULD PERPETUATE RACIAL DISCRIMINATION AND HARM THE INTEGRITY OF THE ADVERTISEMENT. RESIGNING, ON THE OTHER HAND, MIGHT LEAD TO SHORT-TERM NEGATIVE CONSEQUENCES FOR JENNIFER BUT COULD UPHOLD HER PRINCIPLES AND CONTRIBUTE TO THE LONG-TERM FIGHT AGAINST DISCRIMINATION.

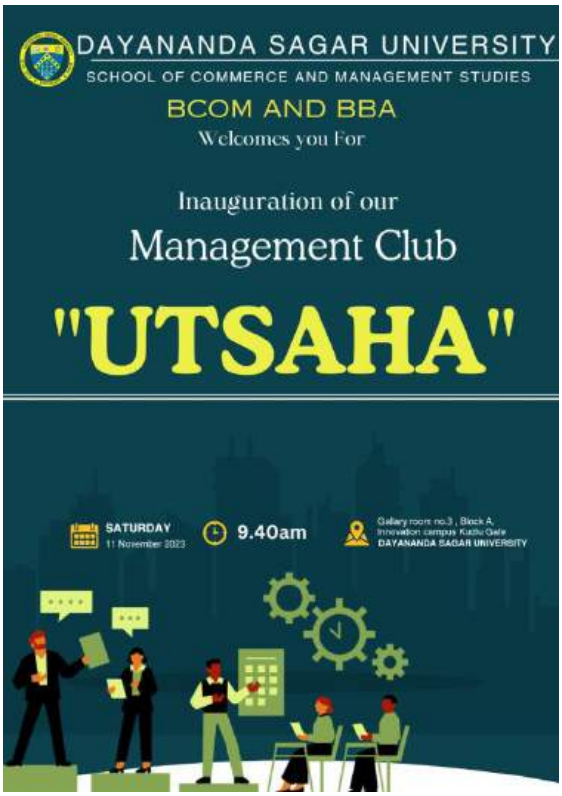
Conclusion

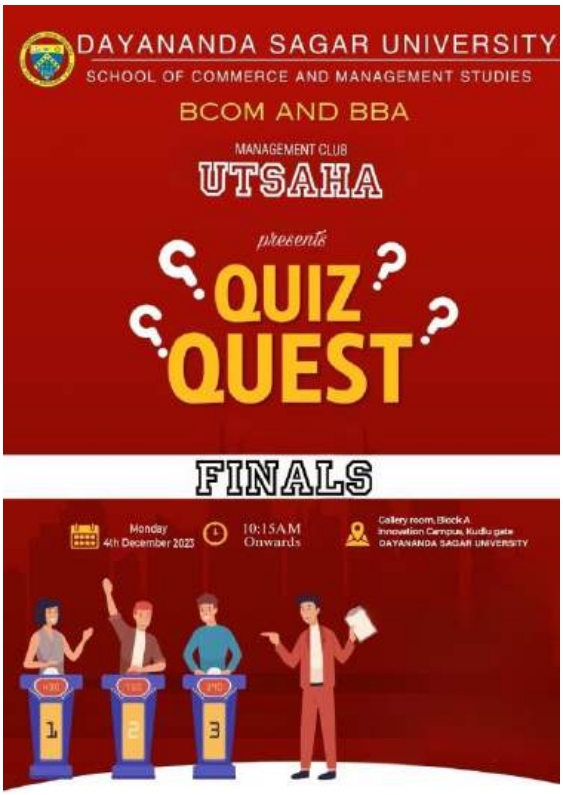
- In conclusion, Jennifer faces a complex ethical dilemma that requires careful consideration of her values, principles, and the potential consequences of her actions. Ultimately, the decision she makes should align with her conscience and commitment to ethical integrity. The situation highlights the complex interplay between professional advancement, ethical integrity, and systemic issues such as racial discrimination. Jennifer's decision to either comply with the request to recast the advertisement or resign reflects the ethical challenges individuals encounter in navigating workplace pressures while upholding their principles. Ultimately, the case underscores the importance of ethical leadership, corporate responsibility, and the need for individuals to critically assess the ethical implications of their actions in the professional sphere.

Thank you!

UTSAHA – MANAGEMENT CLUB INAUGURATION

QUIZ QUEST EVENT REPORT





Event Overview:

The "Utsaha" Management and Literature Club orchestrated a remarkable inauguration event targeted at fostering unity and academic prowess among students within the esteemed School of Commerce and Management Studies. The event, featuring both preliminary rounds on 11th November and the finals on 4th December, aimed to establish the club's identity while encouraging a culture of scholarly excellence among the university community.

Participation and Objectives:

Participants from diverse semesters and campuses within the BBA and BCOM programs enthusiastically engaged in this debut event, signifying a collective eagerness to embrace academic challenges and showcase their intellectual acumen. The primary goal was to blend

entertainment with education, providing a platform for students to not only display their knowledge but also to celebrate their talents.

Key Contributors:

The success of this inaugural event was indebted to the unwavering dedication and contributions of the Coordinators, Faculty, Volunteers, as well as the invaluable support from the Dean and assistant Dean. Their collective efforts ensured the smooth execution and success of both the preliminary and final rounds.

Event Structure and Highlights:

The preliminary rounds, conducted on 11th November, witnessed intense competition among participants from various semesters and campuses. Comprising three rounds, including written assessments and a thrilling knockout buzzer round, the prelims narrowed down the field to the top 6 teams for the finals. The competition showcased both dominance and tightly contested battles among the participants.

The culminating finals, held on 4th December, saw the introduction of an External Quiz Master who led participants through six challenging rounds. Five rounds involved oral questionnaires, testing the depth and breadth of participants' knowledge, while the final round featured a logo guessing challenge. The Quiz Master's expertise facilitated the emergence of clear winners and runners-up.

Supporting Elements:

The event was well-documented and supported by a dedicated photography team, ensuring that all the precious moments of this inaugural event were captured and preserved.

Impact and Future Prospects:

The Utsaha Club, through this event, has set a high standard for forthcoming engagements within the School of Commerce and Management Studies. This event not only celebrated academic excellence but also laid a robust foundation for future endeavors, emphasizing the club's commitment to nurturing a dynamic academic environment within the university community.

Conclusion:

In summary, the "Utsaha" Management Club's inaugural event successfully promoted unity and academic excellence within the School of Commerce and Management Studies. With resolute support from club members and esteemed university faculty, the event received commendation and recognition from university authorities. The competition's spirited rounds and the presence of a guest Quiz Master underscored participants' capabilities while establishing a benchmark for future engagements within the university community.

vivitek

QUIZ
QUEST

DAYANANDA SAGAR UNIVERSITY

Shavige Malleshwara Hills,1st Stage, Kumaraswamy Layout, Bengaluru –560078 Karnataka, India

SCHOOL OF COMMERCE AND MANAGEMENT STUDIES

ASSIGNMENT – 0I

Submitted by, Name: Athreya K. P.

Class: 6th Sem B.Com {CMA}

USN: CMS21MA0003

COURSE: Basics of Econometrics

COURSE CODE: 21BA3641

Submission Date: 7/3/2024

Objective:

To find the influence of Reliance industries on Nifty 50 index

Data set:

Nifty 50 Index (X)	Reliance Industries (Y)
22356.60	3000.40
22405.60	3014.80
22378.40	2982.15
22356.30	2984.25
22338.75	2921.60
22217.45	2911.25
22212.70	2971.30
22198.35	2974.65
22196.95	2987.25
22122.25	2963.50
22122.05	2935.40
22097.45	2942.05
22055.05	2948.00
22040.70	2921.15
22032.30	2941.20
21982.80	2962.75
21951.15	2930.20
21930.50	2904.70
21929.40	2921.50
21910.75	2900.25
21894.55	2884.30
21853.80	2855.60
21840.05	2878.05
21782.50	2915.40
21778.70	2853.30
21771.70	2853.25
21743.25	2815.25
21741.90	2896.10
21737.60	2706.15
21731.40	2687.75
21725.70	2657.15
21717.95	2713.30
21710.80	2734.90
21697.45	2735.90
21665.80	2723.15
21658.60	2749.25
21654.75	2788.25
21647.20	2741.45
21622.40	2719.80
21618.70	2650.10
21616.05	2580.50
21571.95	2587.35

21571.80	2607.70
21544.85	2596.65
21522.10	2583.30
21517.35	2611.70
21513.00	2590.25
21462.25	2584.95
21456.65	2605.55
21453.95	2586.85
21453.10	2578.05
21441.35	2565.05
21418.65	2562.55
21352.60	2527.15
21349.40	2558.10
21255.05	2521.00
21238.80	2495.60
21182.70	2464.15
21150.15	2433.95
20997.10	2424.05
20969.40	2459.35
20926.35	2455.75
20906.40	2457.05
20901.15	2461.10

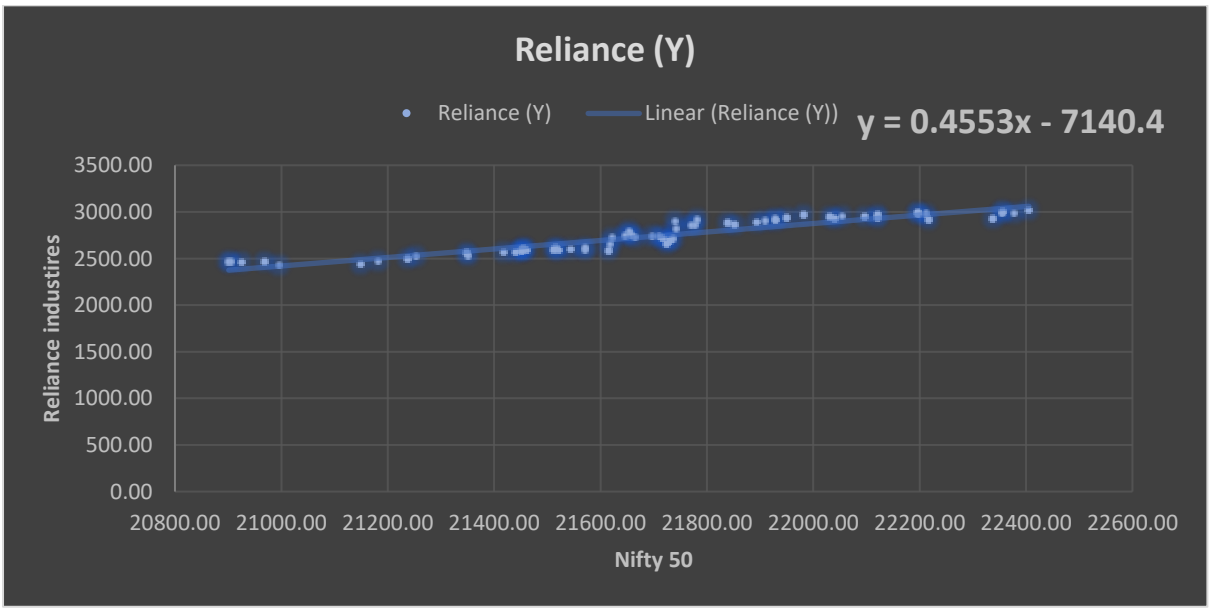
DV- Nifty 50 IV – Reliance industries

Hypothesis

- Ho = There is no influence of Reliance industries on Nifty 50
- H1 = There is an influence of Reliance industries on Nifty 50

Graphical representation:

Relationship between nifty 50 and reliance industries



Simple linear regression model

$$Y= mX +c +u$$

Y= Dependent Variable
c= intercept
m= slope
X= Independent variable
u= Error term

Y=0.455(X)-7140+u

where, Slope m=0.455

Intercept c = -7140

Analysis:

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.940380421							
R Square	0.884315336							
Adjusted R Square	0.882418866							
Standard Error	62.83859434							
Observations	63							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	1	1841255.795	1841255.795	466.2954776	2.9054E-30			
Residual	61	240870.0253	3948.688939					
Total	62	2082125.82						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-7200.940545	460.3200528	-15.64333446	0.000008	-8121.40738	-6280.473711	-8121.40738	-6280.473711
22356.6	0.458086261	0.021213712	21.59387593	0.028651	0.415666822	0.500505699	0.415666822	0.500505699

Interpretation:

The Multiple R value of 0.9403 indicates a strong positive correlation between the independent variable and the dependent variable.

The R Square value of 0.8843 means that about 88% of the variation in the dependent variable can be explained by the independent variable.

The above table shows the coefficient of determination (R2) is 0.88 which indicates, the overall model predicts about 88 percent and remaining 12 percent is explained by some other variable.

The p value of the model is less than 0.05 percent which depicts there is positive and significant impact of Reliance industries on Nifty 50. Hence, H1 accepted.

SCHOOL OF COMMERCE AND MANAGEMENT STUDIES

DAYANANDA SAGAR UNIVERSITY, BENGALURU-560078

ASSIGNMENT -1 INDIVIDUAL REPORT

NAME: PRASHANTH .P

USN: CMS21BB0052

CLASS: 6TH SEM BBA

COURSE TITLE: BASIS OF ECONOMETRICS

COURSE CODE: 21BA3641

DATE OF SUBMISSION: 07/03/2024

SUBMITTED TO: DR. CHANDRAKALA G

OBJECTIVE:

To find the influence of Bajaj Auto on Nifty 50 index

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DATA SET:

NIFTY 50 (X)	BAJAJ AUTO(Y)
20901.15	8,605.80
20969.4	8,351.75
20997.1	8,207.30
20906.4	8,041.30
20926.35	8,040.05
21182.7	7,909.35
21456.65	8,188.65
21418.65	8,463.50
21453.1	8,448.00
21150.15	8,436.95
21255.05	8,498.45
21349.4	8,232.25
21441.35	8,295.20
21654.75	8,509.70
21778.7	8,325.05
21731.4	8,123.05
21741.9	8,083.30
21665.8	7,917.40
21517.35	7,829.95
21658.6	7,784.85
21710.8	7,757.25
21513	7,701.90
21544.85	7,720.40
21618.7	7,658.25
21647.2	7,738.20
21894.55	7,655.75
22097.45	7,667.55
22032.3	7,566.40
21571.95	7,548.80

21462.25	7,597.50
21622.4	7,212.85
21571.8	7,095.90
21238.8	7,095.15
21453.95	7,136.55
21352.6	7,083.60
21737.6	7,165.95
21522.1	7,293.95
21725.7	7,332.10
21697.45	7,301.95
21853.8	7,298.85
21771.7	7,053.75
21929.4	7,093.90
21930.5	6,983.85
21717.95	6,978.50
21782.5	6,922.15
21616.05	6,986.50
21743.25	6,665.05
21840.05	6,701.10
21910.75	6,797.25
22040.7	6,703.30
22122.25	6,709.65
22196.95	6,464.55
22055.05	6,372.10
22217.45	6,246.35
22212.7	6,364.45
22122.05	6,419.00
22198.35	6,465.70
21951.15	6,275.20
21982.8	6,334.85
22338.75	6,316.10
22378.4	6,254.20
22405.6	6,138.40
22356.3	6,075.70
22474.05	6,093.60

DV – NIFTY 50

IV – BAJAJ AUTO

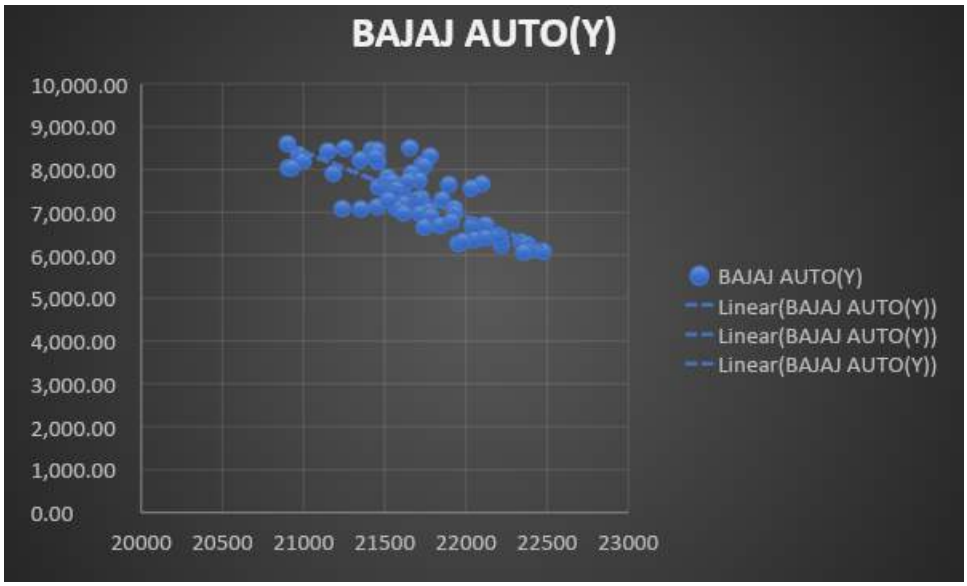
Hypothesis

• Ho = There is no influence of Bajaj Auto on Nifty 50

• H1 = There is an influence of Bajaj Auto on Nifty 50

Graphical representation:

Relationship between nifty 50 and Bajaj Auto.



Simple linear regression model

$$Y= mX +c +u$$

Y= Dependent Variable

c= intercept

m= slope

X= Independent variable

u= Error term

$$y = -1.507x + 40064$$

where,

Slope m=-1.507

Intercept c = 40064

Analysis:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.7691786
R Square	0.5916357
Adjusted R Square	0.5849412
Standard Error	471.87885
Observations	63

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	19678746.55	1967874.7	88.37642	1.7939E-13
Residual	61	13582848.77	222669.7		
Total	62	33261595.33			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	39980.059	3473.6978	11.50937	6.28E-17	33033.9712	46926.1473	33033.97119	46926.14728
20901.15	-1.5032048	0.159900548	-9.40087	1.79E-13	-1.8229457	-1.1834639	-1.82294571	-1.183463891

Interpretation:

The Multiple R value of 0.7691 indicates a strong positive correlation between the independent variable(NIFTY 50) and the dependent variable(BAJAJ AUTO). The R Square value of 0.5916 means that about 59% of the variation in the dependent variable can be explained by the independent variable. The above table shows the coefficient of determination (R2) is 0.58 which indicates, the overall model predicts about 58 percent and remaining 42 percent is explained by some other variable. The p value of the model is greater than 0.05 percent which depicts there is positive and significant impact of Bajaj Auto on Nifty 50. Hence, H1 accepted.

DAYANANDA SAGAR UNIVERSITY

DEPARTMENT OF AEROSPACE ENGINEERING

21AS2502 DRIVES & ACTUATORS

CONCORDE NOSE DROOP

From Aérospatiale/BAC Concorde

Student Name	Student ID
1. A Sharon	ENG21AS0001
2. Amshu Arun	ENG21AS0008

Lecturer in charge:

Prof. K Sudha Deepthi

Prof. Kartik Tandel

Submission Date : 22/12/2023

1 Introduction

In the annals of aviation history, few aircraft have left as indelible a mark on the collective imagination as the Concorde. Symbolizing audacity and engineering excellence, the Concorde emerged as the world's inaugural supersonic passenger airliner—a marvel forged through collaborative ingenuity by British and French engineers in the latter half of the 20th century. Among its pioneering features, the Concorde's iconic nose droop mechanism stands as a testament to the meticulous engineering that defined an era of aeronautical brilliance.

This project embarks on a journey to pay homage to this historical icon by meticulously crafting a scaled-down model that replicates the Concorde's distinctive nose droop. Driven by a profound passion for aviation history, a commitment to hands-on education, and a deep appreciation for the technological prowess that set the Concorde apart, this endeavor is more than a mere demonstration. It is an exploration into the intricacies of aircraft design—a nod to the past, an inspiration for future engineers, and a celebration of technological advancement.

The Concorde, a technological marvel in its time, boasted innovations ranging from its delta-wing design to the sheer power of its engines, enabling it to traverse the skies at twice the speed of sound. At the heart of its functionality was the nose droop mechanism—a dynamic feature allowing pilots to optimize visibility and aerodynamics during critical phases of flight.

Figure 1: Concorde Aircraft

Beyond the recreation of a mechanical marvel, this project is rooted in the educational significance of providing a hands-on learning experience. Seeking to demystify the engineering principles underpinning the Concorde's nose droop, the objective is to make complex concepts accessible and foster an appreciation for aeronautical engineering.

Moreover, the aim is to engage the broader community through public demonstrations at educational events, science fairs, and aviation exhibitions. Beyond the nuts and bolts of the model, the aspiration is to share the historical and cultural significance of the Concorde, inviting audiences to connect with the spirit of innovation that propelled this supersonic pioneer into the stratosphere.

In acknowledging the multinational collaboration that birthed the Concorde,

inspiration is drawn from the visionary engineers who dared to challenge conventional limits. This project stands as a testament to the convergence of passion, knowledge, and dedication that characterized the era of aerospace exploration.

Yet, within the constraints of time and resources, the challenge is to distill the complexity of aerospace engineering into a tangible, functional representation within a limited time frame. Witness the convergence of history and education as life is breathed into the pneumatic pulse of the Concorde's iconic nose droop—a symbol of innovation that once graced the skies and continues to inspire new heights of engineering excellence.

2 Literature Summary

Sl no.	Title	Author	Findings
1	Future Supersonic Transport studeies at Aerospatial	Dudley Collard	Studies carried out so far at AEROSPATIALE show that even using a technically conservative design approach the characteristics of a M = 2 ATSF look encouraging. The performance objectives chosen would be met if a 5\% improvement is made in operating weight empty, cruise lift/drag ratio, and powerplant installed specific fuel consumption.
2	The Airworthiness certification of Concorde	Norman F. Harpur	A collaborative effort between the UK, France, and USA has successfully addressed technical and administrative challenges in certifying a jointly designed advanced aircraft, Concorde. The airworthiness requirements are largely agreed upon, and there is confidence that the certification process will be completed by the first half of 1974.
3	Concorde Operations	John D Eames	Concorde, a product of political collaboration between France and the UK, emerged without market demand, leading to significant development costs and challenging halting. While it proved a technological success, it was economically unsuccessful. However, by 1970, the F.A.A. anticipated a substantial market for supersonic transport aircraft by 1990, and despite Concorde's economic struggles, it has become a profitable flagship for the Airlines of France and Britain, contributing to the established market for supersonic travel.

Figure 2: Literature summary

3 Aim

1. The primary aim of this project is to faithfully replicate the Concorde's nose droop mechanism on a scaled-down model using pneumatic systems. Through this endeavor, we seek to provide a tangible and educational representation of the pioneering engineering behind the iconic feature, fostering a deeper understanding of aeronautical principles.

4 Objectives and Learning Outcomes

1. Research and Analysis: Undertake comprehensive research to elucidate the intricate engineering nuances of the Concorde's nose droop mechanism, ensuring a thorough understanding of its operational principles.

2. Pneumatic System Design: Develop a meticulous design plan for a scaled model, intricately integrating a pneumatic system to accurately emulate the Concorde's nose droop motion, ensuring fidelity to the original functionality.

3. Material Procurement: Identify and procure suitable materials, emphasizing lightweight yet robust components, aligning with the model's scale and structural requirements for optimal performance.

4. Pneumatic System Integration: Precisely integrate pneumatic components into the frame, creating a seamless system that faithfully replicates the Concorde's nose droop, conducting rigorous testing to ensure smooth functionality.

5. Nose Structure Design: Devise an aerodynamically accurate design for the nose structure, mirroring the Concorde's aesthetic while seamlessly integrating it with the pneumatic system.

6. Refinement and Testing: Refine the model based on initial tests, addressing any functional or structural deficiencies, and conduct comprehensive testing to validate the reliability and accuracy of the nose droop simulation.

5 Equipments

- Model: Inflatable flexible bag, wooden stick, plastic cockpit and thermocol nose

- Pneumatic circuit: Direction cntrol valve, Flow control valve, Push button, Compressed air

6 Methodology

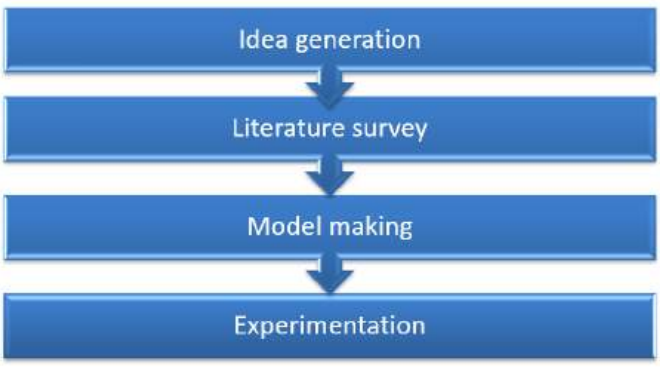


Figure 3: Methodology

7 Design and Experimentation

The 3D design of the nose of the Concorde aircraft was initially made with the necessary parameters

Figure 4: 3D Design of the nose of the aircraft

The model was then made using polyethylene terephthalate (PET) hydration vessel, thermocol, inflatable flexible bag and pipes.

Figure 5: Model of the nose

The circuit was made and the model was connected to it and an alternative approach was also considered where the model was connected to syringes

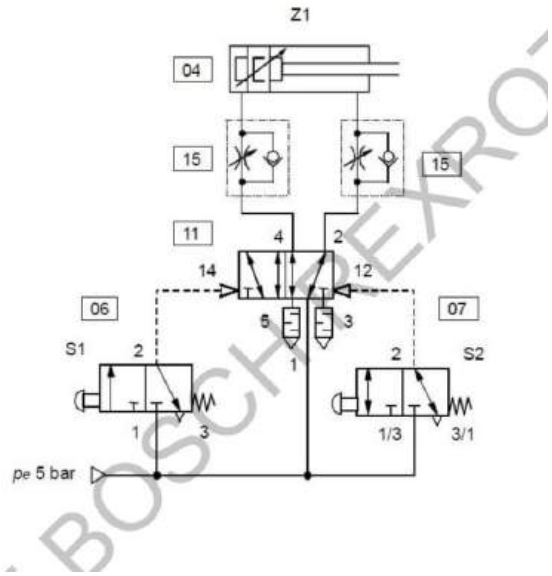


Figure 6: Circuit

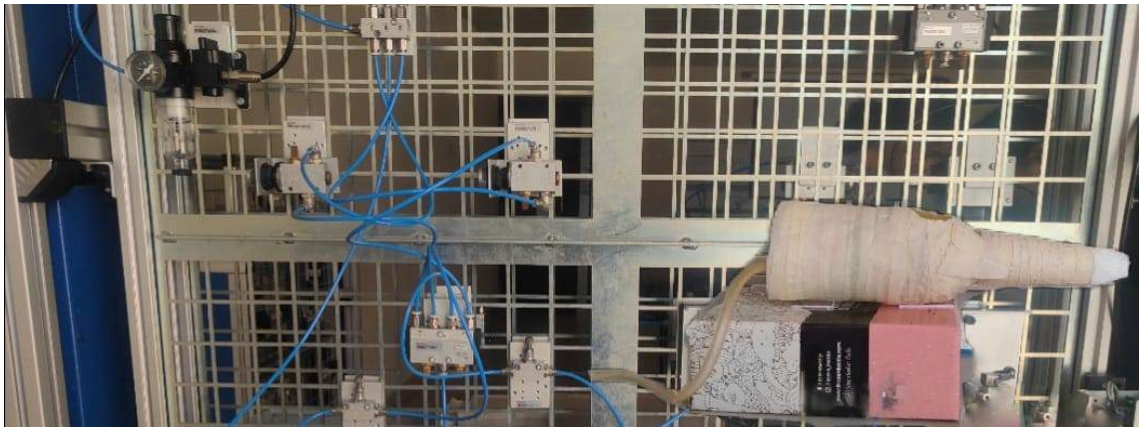


Figure 7: model with the pneumatic circuit setup

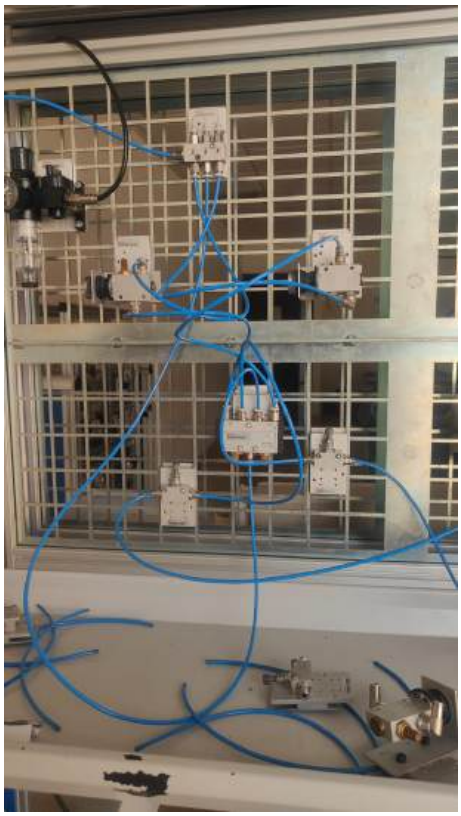


Figure 8: Pneumatic circuit

Figure 9: model with syringes

8 Result

Successful Nose Droop Emulation: The model successfully emulates the nose droop mechanism of the Concorde using the designed pneumatic system. Controlled actuation allows for a gradual nose droop motion.

Structural Integrity: The chosen materials prove suitable for the desired balance between weight and strength.

Pneumatic System Reliability: The pneumatic system exhibits reliability in controlling the nose droop motion. The integration of cylinders, valves, providing consistent and repeatable results during testing.

Aerodynamic Nose Design: The nose structure, designed to mirror the Concorde's aerodynamics, complements the overall model. Its integration with the pneumatic system maintains an authentic appearance, contributing to the accurate representation of the original aircraft.

9 Discussion

Optimization Opportunities - Despite successful emulation, there is room for optimization in the pneumatic system to enhance efficiency and responsiveness. Fine-tuning the control parameters may further improve the model's ability to mimic the nuanced nose droop motion observed in the Concorde.

Material Selection Considerations - Discussions on material selection should weigh the trade-offs between weight, strength, and cost. Evaluating alternative materials for the frame and nose structure could provide insights into potential improvements in overall model performance.

Educational Value - The model's success in replicating the Concorde's nose droop presents significant educational value.

Historical Context - The accuracy of the model raises questions about the historical context and importance of preserving aviation history.

Future Developments - Considerations for future developments may involve exploring additional features of the Concorde or expanding the model to include other aspects of aircraft functionality. This could serve as a basis for continued research and engineering exploration.

10 Conclusion

In conclusion, the successful realization of the Concorde nose droop mechanism on our scaled model through precise pneumatic emulation reflects a significant accomplishment in the realm of aeronautical engineering. The model's ability to faithfully replicate the nuanced nose droop motion, alongside the structural integrity of its frame and the reliability of the pneumatic system, underscores the meticulous attention to detail in our design and execution. This achievement not only adds to the body of engineering knowledge but also holds promise for educational applications, offering an engaging tool to demystify complex concepts and inspire a new generation of aerospace enthusiasts.

Looking ahead, optimization opportunities in the pneumatic system and considerations for material selection provide avenues for further refinement. The

successful fusion of historical accuracy and engineering innovation prompts contemplation on the enduring importance of preserving aviation history and the role such projects play in bridging the past with the present. As the model stands as a testament to the brilliance of the Concorde era, it also paves the way for future developments and continued exploration in aerospace engineering, ensuring that the legacy of pioneering aircraft like the Concorde continues to inspire and captivate the imaginations of those in the field and beyond.

11 References

[1] Model https://sketchfab.com/search?q=tag%3Aconcorde&sort_by=-likeCount&type=models.

[2] Nose Droop https://en.wikipedia.org/wiki/Droop_nose_(aeronautics).

[3] Concorde Nose droop and visor test https://youtu.be/RxHa1GX0CDI.

[4] The Aerodynamics of Concorde https://science.howstuffworks.com/transport/flight/modern/concorde3.htm

CIE - Assignment

« Back To List (LMS_Content_StaffLMSDashboard.aspx)

Assignment Information

CIE

Title	Assignment		
Subject	22AS2302 - THERMODYNAMICS AND HEAT TRANSFER	**Unit**	-
Prepared By Staff	Dr. NAGARAJA S R	**Updated On**	13-01-2024
Description	-		

CIE

FILTER

Division

Select Division

All Not Check Checked Not Submitted Rejected LateSubmission

CHECK SUBMISSION

49 Total 41 Submitted 8 Not Submitted 0 Selected 49 Not Selected

	Sr.	Program	Roll No	USN	Name
☐	1	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	22	ENG22AS0022 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=pJpuTWiTsmk=)	AAGNAYEE BISWAS (../../Student/STU_Student StudentID=pJpuTWiTsmk=

☐	2	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	1	ENG22AS0001 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=GIXMor5ne4M=)	ACHYUTHA S NIJIGAL (../../Student/STU_Student StudentID=GIXMor5ne4M
☐	3	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	23	ENG22AS0023 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=PkQOTtwLN80=)	AMRANIA VATSAL VIPUL (../../Student/STU_Student StudentID=PkQOTtwLN80
🔒	4	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	2	ENG22AS0002 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=hHbH425NAL4=)	ANKITHA RAGINI RAJU M (../../Student/STU_Student StudentID=hHbH425NAL4
☐	5	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	24	ENG22AS0024 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=pAxCfjFBQS4=)	ASHVANI CHAUDHARY (../../Student/STU_Student StudentID=pAxCfjFBQS4=)
☐	6	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	3	ENG22AS0003 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=KWpmY4PfCLs=)	B KARTHIK (../../Student/STU_Student StudentID=KWpmY4PfCLs
☐	7	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	25	ENG22AS0025 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=antVRj2GMkU=)	BARATH P (../../Student/STU_Student StudentID=antVRj2GMkU=
🔒	8	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	4	ENG22AS0004 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=jBHEG$h763M=)	BASAVA KIRAN (../../Student/STU_Student StudentID=jBHEG$h763M
☐	9	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	5	ENG22AS0005 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=35H2vCDg3gQ=)	DEVINDRA LAXMAN MASA (../../Student/STU_Student StudentID=35H2vCDg3gQ
☐	10	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	6	ENG22AS0006 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=Gwzo7gdD$GA=)	JAHNAVISHREE S (../../Student/STU_Student StudentID=Gwzo7gdD$GA
🔒	11	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	26	ENG22AS0026 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=jpfdmJqBGLs=)	JAIMAN NARESH KHANDE (../../Student/STU_Student StudentID=jpfdmJqBGLs=)

☐	12	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	7	ENG22AS0007 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=eRvd37lesk0=)	JAYASHREE D M (../../Student/STU_Student StudentID=eRvd37lesk0=)
☐	13	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	27	ENG22AS0027 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=WuEtwnsBY=)	K S RAHUL BHARGAV (../../Student/STU_Student StudentID=WuEtwnsBY
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☐	48	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	21	ENG22AS0021 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=HJbuFxJZbjk=)	YASHAS D G (../../Student/STU_StudentStudentID=HJbuFxJZbjk=)
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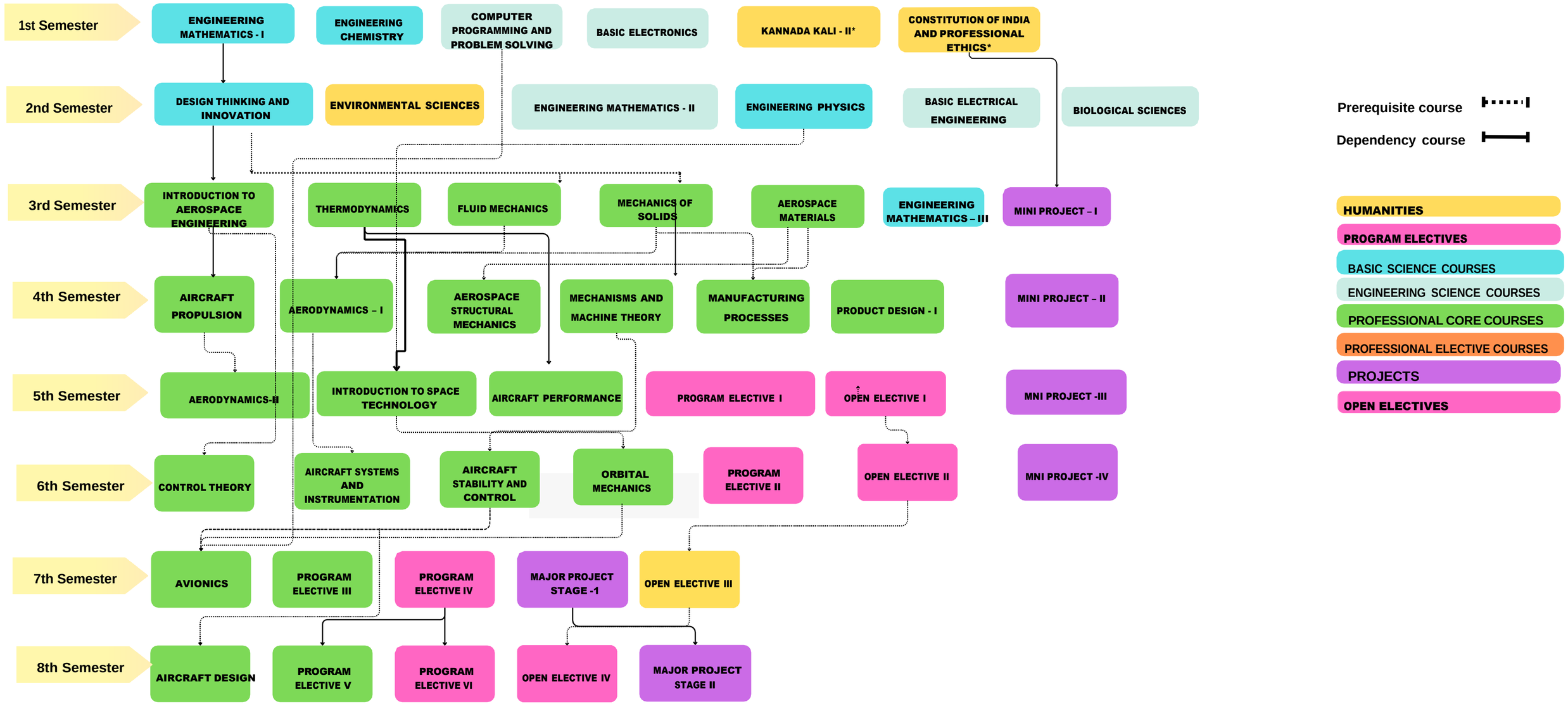
DAYANANDA SAGAR UNIVERSITY

Department of Aerospace Engineering

COURSE CHART – 2023-24



DAYANANDA SAGAR UNIVERSITY

Kartik AE <kartik-ae@dsu.edu.in>

Question Set 2

1 message

surya-ae <surya-ae@dsu.edu.in> Tue, Oct 17, 2023 at 10:02 AM
To: ASE 2022 <ase-2022@googlegroups.com>

Dear Students,

i have attached questions related to steady (unaccelerated) flight performance of aircraft, based on portions covered in the Reference text book. I urge you to study answers for all these questions so that you gain a god understanding of the subject.

--
You received this message because you are subscribed to the Google Groups "ASE 2022" group.
To unsubscribe from this group and stop receiving emails from it, send an email to ase-2022+unsubscribe@googlegroups.com.
To view this discussion on the web visit https://groups.google.com/d/msgid/ase-2022/19c5be62-b32b-429c-b3e3-397df58a5179n%40googlegroups.com.

Part 2 - Alircraft Performance 202-332.pdf
3434K

2.3.1: Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences

2.3.2: Teachers use ICT enabled tools including online resources for effective teaching and learning processes during the year

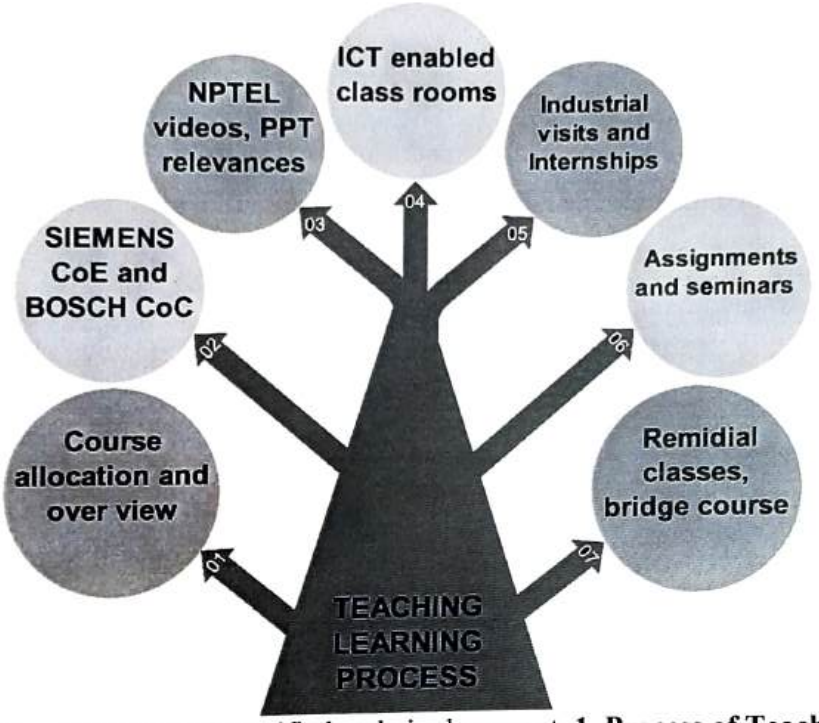


Figure Error! No text of specified style in document..**1 Process of Teaching learning process**

- The finalized list of subjects allotted to the faculties is circulated among the faculty and the final copy is approved by HOD.
- Faculties reinforce their thoughts, outline, Lesson design and strategies for conveyance about the corresponding course and submit the same, which then will be reviewed by a team of expertise.
- Faculties plans course outcomes and mapping of CO-PO and PSO of their courses which will be delivered and discussed with stream coordinators/ facilitators for advance elucidations
- Faculty members registers for NPTEL courses which upgrades the instructing aids.

- Aside from classroom sessions and PPT conveyed by the staff, students are urged to take an interest in multi-disciplinary exercises, course sessions by the students will be directed to help up their confidence level.
- Students are taken for industrial visits for enriching the practical experiences
- Courses which are closely related to laboratory-oriented topics, practical demonstration of the equipment and experiments along with classroom teaching will be imparted.
- The teaching-learning Process to be student centric. Faculty undergoes training and workshops on modern teaching methodologies and those are incorporated to enhance learning
- Modern tools such as Flip class rooms, group discussions are introduced in order to enhance the learning skills and capability of the students.
- Assignments are given to enhance problem solving aptitude.
- Students are encouraged to conduct seminars in the classrooms on theme relating to educational modules and ongoing advances which upgrades their insight and certainty
- Group discussions are conducted in classrooms and laboratories on regular basis.
- Remedial classes are arranged for under-performers.
- PPT, PDF and Videos related to academics and courses are uploaded to Institute's ERP/ LMS for easy access.
- The Bosch CoE to increase gigantic viable information of the industry applicable virtual products and furthermore improve their critical thinking approaches which has empowered numerous students to create tasks of industry principles over the most recent years.
- The Dept. of Aeronautical Engineering has a completely ICT enabled classrooms that has Wi-Fi connectivity with projectors, Smart-board.

6/8/2024

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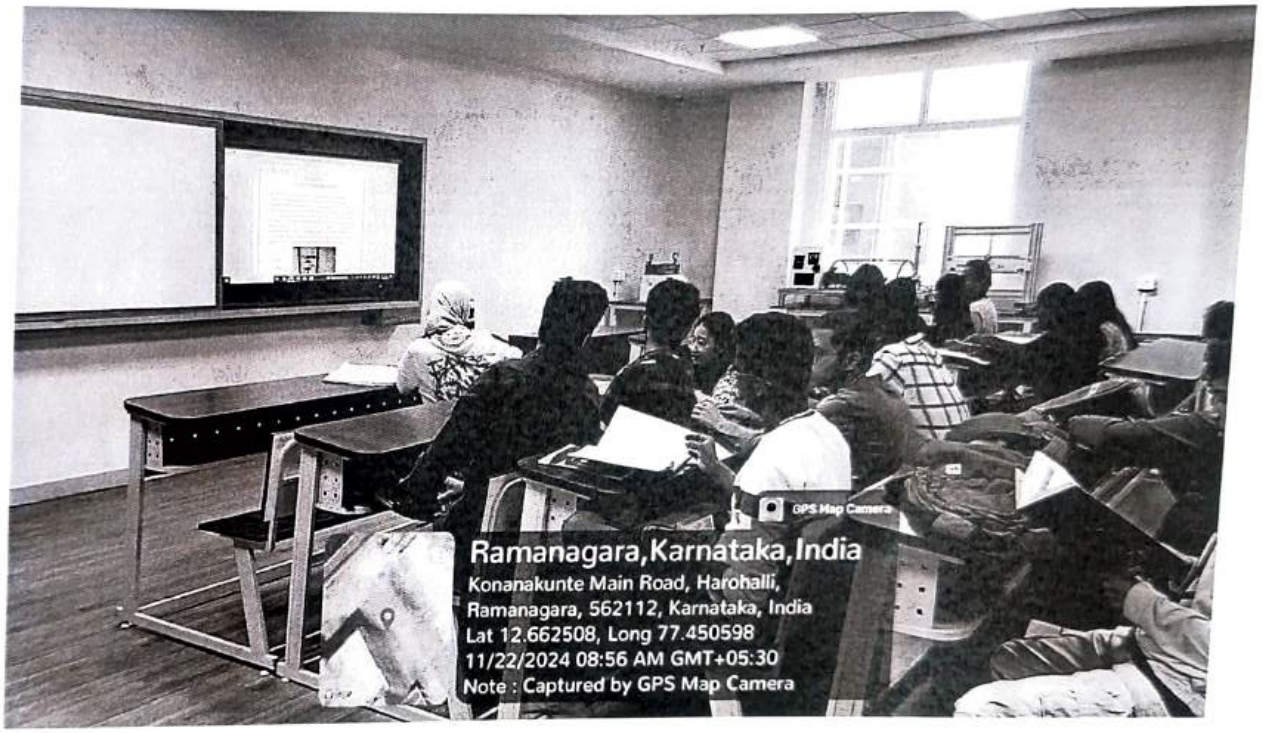
Ramanagara District - 562112
Karnataka



6/1/2024

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DAYANANDA SAGAR UNIVERSITY

DEPARTMENT OF AEROSPACE ENGINEERING

21AS2502 DRIVES & ACTUATORS

CONCORDE NOSE DROOP

From Aérospatiale/BAC Concorde

Student Name	Student ID
1. A Sharon	ENG21AS0001
2. Amshu Arun	ENG21AS0008

Lecturer in charge:

Prof. K Sudha Deepthi

Prof. Kartik Tandel

6/12/2024

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Karnataka

Submission Date : 22/12/2023

successful fusion of historical accuracy and engineering innovation prompts contemplation on the enduring importance of preserving aviation history and the role such projects play in bridging the past with the present. As the model stands as a testament to the brilliance of the Concorde era, it also paves the way for future developments and continued exploration in aerospace engineering, ensuring that the legacy of pioneering aircraft like the Concorde continues to inspire and captivate the imaginations of those in the field and beyond.

11 References

[1] Model https://sketchfab.com/search?q=tag%3Aconcorde&sort_by=-likeCount&type=models.

[2] Nose Droop https://en.wikipedia.org/wiki/Droop_nose_(aeronautics).

[3] Concorde Nose droop and visor test https://youtu.be/RxHa1GX0CDI.

[4] The Aerodynamics of Concorde https://science.howstuffworks.com/transport/flight/modern/concorde3.htm

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DAYANANDA SAGAR UNIVERSITY
Department of Aerospace Engineering

MINI PROJECT TITLE

Aerodynamic Wing Analysis

Final Review

By

Name of The student	USN
O . Vishnu Vardhan Reddy	ENG22AS1005
CH . Srichandra Yadav	ENG22AS1002
Bosu Reddy	ENG22AS1007
Neelam Sagar	ENG22AS1004

NAME OF GUIDE : Prof. Kartik S Tandel

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Summary Phase 1 Review

- Opportunity to learn simulation was provided through the project.
- We know how research is done exclusively.
- Finding the different configuration of the wing.
- Understanding the effects of air on the wing during flight conditions.

6/8/2024

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CIE - Assignment

« Back To List (LMS_Content_StaffLMSDashboard.aspx)

Assignment Information

CIE

Title	Assignment		
Subject	22AS2302 - THERMODYNAMICS AND HEAT TRANSFER	**Unit**	-
Prepared By Staff	Dr. NAGARAJA S R	**Updated On**	13-01-2024
Description	-		

CIE

FILTER

Division

Select Division

All Not Check Checked Not Submitted Rejected LateSubmission

CHECK SUBMISSION

49 Total 41 Submitted 8 Not Submitted 0 Selected 49 Not Selected

	Sr.	Program	Roll No	USN	Name
☐	1	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	22	ENG22AS0022 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=pJpuTWiTsmk=)	AAGNAYEE BISWAS (../../Student/STU_Student StudentID=pJpuTWiTsmk=

☐	2	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	1	ENG22AS0001 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=GIXMor5ne4M=)	ACHYUTHA S NIJIGAL (../../Student/STU_Student StudentID=GIXMor5ne4M
☐	3	DSU-B.Tech-AS (../../Institute/INS_Program/INS_ProgramView.aspx?ProgramID=jXOL5xvwlYA=)	23	ENG22AS0023 (../../Student/STU_Student/STU_StudentProfileViewNew.aspx?StudentID=PkQOTtwLN80=)	AMRANIA VATSAL VIPUL (../../Student/STU_Student StudentID=PkQOTtwLN80
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DAYANANDA SAGAR UNIVERSITY

DEPARTMENT OF AEROSPACE ENGINEERING

21AS2502 DRIVES & ACTUATORS

CONCORDE NOSE DROOP

From Aérospatiale/BAC Concorde

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Lecturer in charge:

Prof. K Sudha Deepthi

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Submission Date : 22/12/2023

1 Introduction

In the annals of aviation history, few aircraft have left as indelible a mark on the collective imagination as the Concorde. Symbolizing audacity and engineering excellence, the Concorde emerged as the world's inaugural supersonic passenger airliner—a marvel forged through collaborative ingenuity by British and French engineers in the latter half of the 20th century. Among its pioneering features, the Concorde's iconic nose droop mechanism stands as a testament to the meticulous engineering that defined an era of aeronautical brilliance.

This project embarks on a journey to pay homage to this historical icon by meticulously crafting a scaled-down model that replicates the Concorde's distinctive nose droop. Driven by a profound passion for aviation history, a commitment to hands-on education, and a deep appreciation for the technological prowess that set the Concorde apart, this endeavor is more than a mere demonstration. It is an exploration into the intricacies of aircraft design—a nod to the past, an inspiration for future engineers, and a celebration of technological advancement.

The Concorde, a technological marvel in its time, boasted innovations ranging from its delta-wing design to the sheer power of its engines, enabling it to traverse the skies at twice the speed of sound. At the heart of its functionality was the nose droop mechanism—a dynamic feature allowing pilots to optimize visibility and aerodynamics during critical phases of flight.

Figure 1: Concorde Aircraft

Beyond the recreation of a mechanical marvel, this project is rooted in the educational significance of providing a hands-on learning experience. Seeking to demystify the engineering principles underpinning the Concorde's nose droop, the objective is to make complex concepts accessible and foster an appreciation for aeronautical engineering.

Moreover, the aim is to engage the broader community through public demonstrations at educational events, science fairs, and aviation exhibitions. Beyond the nuts and bolts of the model, the aspiration is to share the historical and cultural significance of the Concorde, inviting audiences to connect with the spirit of innovation that propelled this supersonic pioneer into the stratosphere.

In acknowledging the multinational collaboration that birthed the Concorde,

inspiration is drawn from the visionary engineers who dared to challenge conventional limits. This project stands as a testament to the convergence of passion, knowledge, and dedication that characterized the era of aerospace exploration.

Yet, within the constraints of time and resources, the challenge is to distill the complexity of aerospace engineering into a tangible, functional representation within a limited time frame. Witness the convergence of history and education as life is breathed into the pneumatic pulse of the Concorde's iconic nose droop—a symbol of innovation that once graced the skies and continues to inspire new heights of engineering excellence.

2 Literature Summary

Sl no.	Title	Author	Findings
1	Future Supersonic Transport studeies at Aerospatial	Dudley Collard	Studies carried out so far at AEROSPATIALE show that even using a technically conservative design approach the characteristics of a M = 2 ATSF look encouraging. The performance objectives chosen would be met if a 5\% improvement is made in operating weight empty, cruise lift/drag ratio, and powerplant installed specific fuel consumption.
2	The Airworthiness certification of Concorde	Norman F. Harpur	A collaborative effort between the UK, France, and USA has successfully addressed technical and administrative challenges in certifying a jointly designed advanced aircraft, Concorde. The airworthiness requirements are largely agreed upon, and there is confidence that the certification process will be completed by the first half of 1974.
3	Concorde Operations	John D Eames	Concorde, a product of political collaboration between France and the UK, emerged without market demand, leading to significant development costs and challenging halting. While it proved a technological success, it was economically unsuccessful. However, by 1970, the F.A.A. anticipated a substantial market for supersonic transport aircraft by 1990, and despite Concorde's economic struggles, it has become a profitable flagship for the Airlines of France and Britain, contributing to the established market for supersonic travel.

Figure 2: Literature summary

3 Aim

1. The primary aim of this project is to faithfully replicate the Concorde's nose droop mechanism on a scaled-down model using pneumatic systems. Through this endeavor, we seek to provide a tangible and educational representation of the pioneering engineering behind the iconic feature, fostering a deeper understanding of aeronautical principles.

4 Objectives and Learning Outcomes

1. Research and Analysis: Undertake comprehensive research to elucidate the intricate engineering nuances of the Concorde's nose droop mechanism, ensuring a thorough understanding of its operational principles.

2. Pneumatic System Design: Develop a meticulous design plan for a scaled model, intricately integrating a pneumatic system to accurately emulate the Concorde's nose droop motion, ensuring fidelity to the original functionality.

3. Material Procurement: Identify and procure suitable materials, emphasizing lightweight yet robust components, aligning with the model's scale and structural requirements for optimal performance.

4. Pneumatic System Integration: Precisely integrate pneumatic components into the frame, creating a seamless system that faithfully replicates the Concorde's nose droop, conducting rigorous testing to ensure smooth functionality.

5. Nose Structure Design: Devise an aerodynamically accurate design for the nose structure, mirroring the Concorde's aesthetic while seamlessly integrating it with the pneumatic system.

6. Refinement and Testing: Refine the model based on initial tests, addressing any functional or structural deficiencies, and conduct comprehensive testing to validate the reliability and accuracy of the nose droop simulation.

5 Equipments

- Model: Inflatable flexible bag, wooden stick, plastic cockpit and thermocol nose

- Pneumatic circuit: Direction cntrol valve, Flow control valve, Push button, Compressed air

6 Methodology

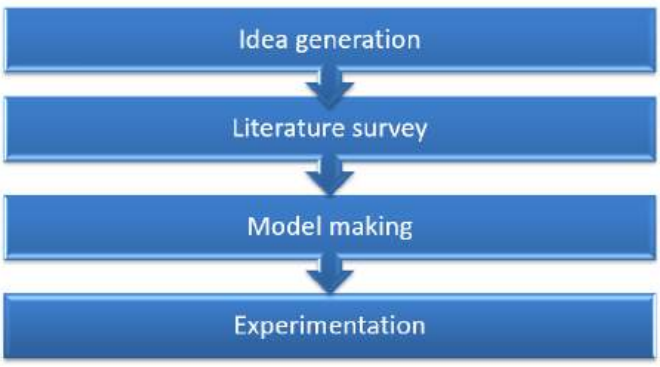

Figure 3: Methodology

7 Design and Experimentation

The 3D design of the nose of the Concorde aircraft was initially made with the necessary parameters

Figure 4: 3D Design of the nose of the aircraft

The model was then made using polyethylene terephthalate (PET) hydration vessel, thermocol, inflatable flexible bag and pipes.

Figure 5: Model of the nose

The circuit was made and the model was connected to it and an alternative approach was also considered where the model was connected to syringes

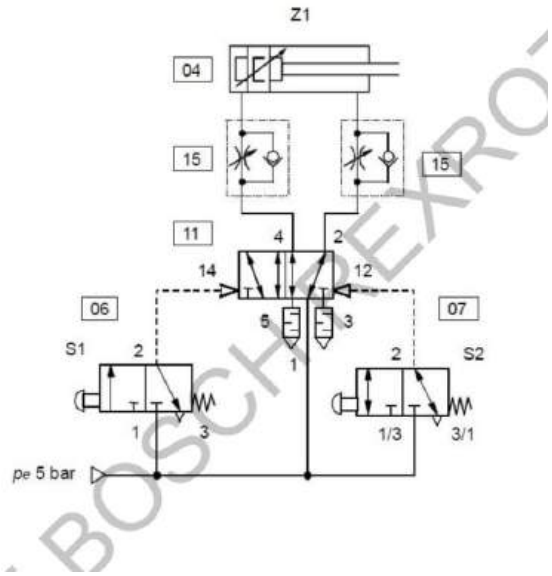

Figure 6: Circuit

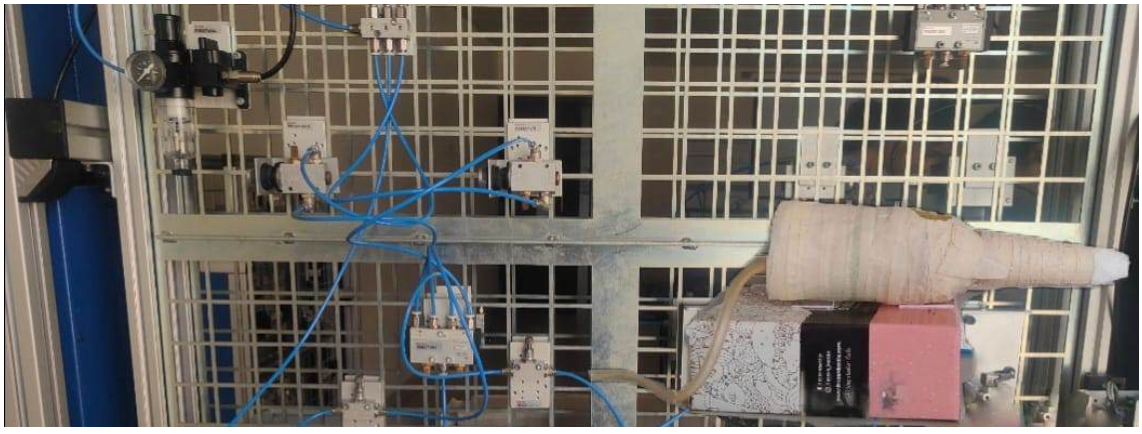

Figure 7: model with the pneumatic circuit setup

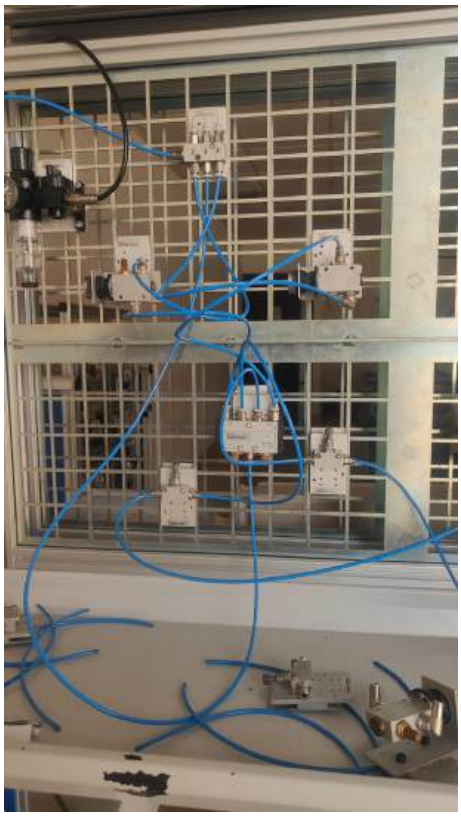

Figure 8: Pneumatic circuit

Figure 9: model with syringes

8 Result

Successful Nose Droop Emulation: The model successfully emulates the nose droop mechanism of the Concorde using the designed pneumatic system. Controlled actuation allows for a gradual nose droop motion.

Structural Integrity: The chosen materials prove suitable for the desired balance between weight and strength.

Pneumatic System Reliability: The pneumatic system exhibits reliability in controlling the nose droop motion. The integration of cylinders, valves, providing consistent and repeatable results during testing.

Aerodynamic Nose Design: The nose structure, designed to mirror the Concorde's aerodynamics, complements the overall model. Its integration with the pneumatic system maintains an authentic appearance, contributing to the accurate representation of the original aircraft.

9 Discussion

Optimization Opportunities - Despite successful emulation, there is room for optimization in the pneumatic system to enhance efficiency and responsiveness. Fine-tuning the control parameters may further improve the model's ability to mimic the nuanced nose droop motion observed in the Concorde.

Material Selection Considerations - Discussions on material selection should weigh the trade-offs between weight, strength, and cost. Evaluating alternative materials for the frame and nose structure could provide insights into potential improvements in overall model performance.

Educational Value - The model's success in replicating the Concorde's nose droop presents significant educational value.

Historical Context - The accuracy of the model raises questions about the historical context and importance of preserving aviation history.

Future Developments - Considerations for future developments may involve exploring additional features of the Concorde or expanding the model to include other aspects of aircraft functionality. This could serve as a basis for continued research and engineering exploration.

10 Conclusion

In conclusion, the successful realization of the Concorde nose droop mechanism on our scaled model through precise pneumatic emulation reflects a significant accomplishment in the realm of aeronautical engineering. The model's ability to faithfully replicate the nuanced nose droop motion, alongside the structural integrity of its frame and the reliability of the pneumatic system, underscores the meticulous attention to detail in our design and execution. This achievement not only adds to the body of engineering knowledge but also holds promise for educational applications, offering an engaging tool to demystify complex concepts and inspire a new generation of aerospace enthusiasts.

Looking ahead, optimization opportunities in the pneumatic system and considerations for material selection provide avenues for further refinement. The

successful fusion of historical accuracy and engineering innovation prompts contemplation on the enduring importance of preserving aviation history and the role such projects play in bridging the past with the present. As the model stands as a testament to the brilliance of the Concorde era, it also paves the way for future developments and continued exploration in aerospace engineering, ensuring that the legacy of pioneering aircraft like the Concorde continues to inspire and captivate the imaginations of those in the field and beyond.

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DAYANANDA SAGAR UNIVERSITY

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MajorProject-Phase1

1 message

Rama Kumar <ramakumar-ae@dsu.edu.in> Fri, Oct 6, 2023 at 12:25 PM
To: 2020-ae@googlegroups.com
Cc: aerospacedepartment@dsu.edu.in

Dear Students,
Good wishes of the day. I am the coordinator for your major projects. This mail is regarding your major project titles and team members.
Please find the attached details of your project's proposals. There are some gaps that need to be closed. See my comments and sort these by tomorrow. Its more than a month that we started this exercise. We need to expedite the process. Do the needful by tomorrow. Please have a discussion with your supervisor and define the project title clearly. The tittle should clearly reflect your work and it should not be vague. You need to submit me the weekly progress report now onwards with your supervisor's signature.

--
Thanks and regards,
Dr. B V N Ramakumar,
Professor, Department of Aerospace Engineering,
School of Engineering,
Dayananda Sagar University.

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Level- 1 Digitally Twinned 1U CubeSat (DT1UC) - concept to reality

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***Abstract* —This paper presents the design and development of a digitally twinned 1U CubeSat, representing a significant advancement in satellite technology. The CubeSat is equipped with digital twinning capabilities at level-1, allowing for real-time monitoring and analysis of its behavior in space. The integration of digital twin technology enables proactive sensor data generation, motion detection which lead to enhanced mission planning. The design process encompasses various aspects, including the selection of components, system architecture, and integration of sensors for data capture. The development phase involves rigorous testing and validation to ensure the reliability and performance of the digitally twinned CubeSat.**

Keywords — *CubeSat, Digitally Twinned, Satellite Technology, Real-time Monitoring, Space-based Operations, Mission Planning, Innovation*

I. INTRODUCTION

Space exploration has long been a frontier of human endeavor, driving technological innovation and expanding our understanding of the universe. Payloads play a crucial role in modern space exploration, facilitating communication, navigation, Earth observation, scientific research, and national security. Traditional satellite payloads are designed to collect data from space and transmit it back to Earth for analysis. However, these payloads often lack real-time monitoring and simulation capabilities, limiting their effectiveness in responding to dynamic space environments and unexpected events. In recent years, digital twinning technology has emerged as a powerful tool for simulating and monitoring physical systems in real-time. A digital twin is a digital model of an intended or actual real-world physical product, system, or process (a physical twin) that serves as the effectively indistinguishable digital counterpart of it for practical purposes, such as simulation, integration, testing, monitoring, and maintenance [1]. The digital twin concept encompasses various levels, each offering distinct functionalities and capabilities. Level 1 & Level 2, known as the Descriptive twin & Informative twin providesa live and sensory data. Level 3 introduces the Predictive twin, leveraging operational data to gain insights and anticipate future events. At Level 4, the Comprehensive twin takes simulation to the next level by exploring various future scenarios and hypothetical situations.

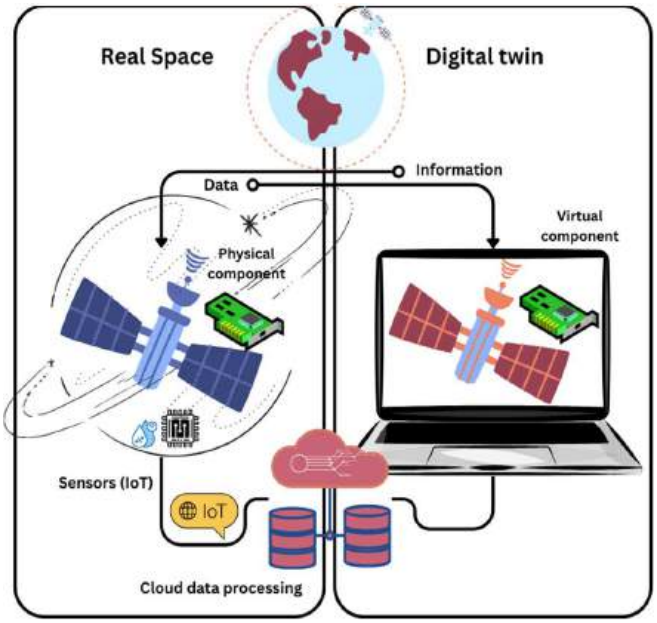

Fig. 1 Digital twin outline for a satellite

Lastly, Level 5 marks the Autonomous twin, endowed with the ability to learn and act autonomously on behalf of users.

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This advanced level signifies the pinnacle of digital twin technology, enabling adaptive and self-regulating systems [2][3], Levels 3, 4, and 5, enriched with real-time data from embedded sensors and IoT technologies, represent the future trajectory. However, the widespread adoption of digital twins may not be warranted for every manufacturer or product. Industries achieving significant success with digital twins typically involve large-scale products or projects within the Aerospace and Space industry, including engineering systems, satellite manufacturing, and space mission planning [4][5]. In this paper we would like to discuss the assessment towards developing of digital twin satellites in L-1 condition

II. DT1UC MISSION ARCHITECT

The mission architecture of the DT1UC (Digitally Twinned 1U CubeSat) is depicted in Figure 2, illustrating the integration of various sensors and their respective data outputs. The mission is structured around three primary modules: the On-board Computer Module, Sensor Suite Module, and Digital Twin Module. The On-board Computer Module serves as the central processing unit,responsible for managing and coordinating the functions of the satellite. It interfaces with the Sensor Suite Module to receive real-time data from onboard sensors and performs initial processing tasks.

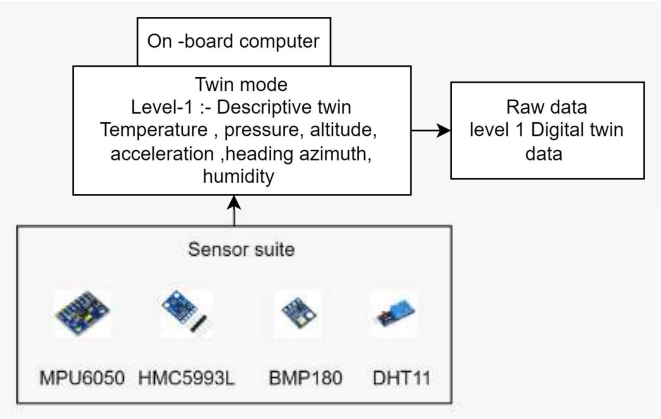

Fig. 2 The mission architect of level - 1 Digitally Twinned 1U CubeSat (DT1UC)

III. MISSION DEVELOPMENT LIFE CYCLE

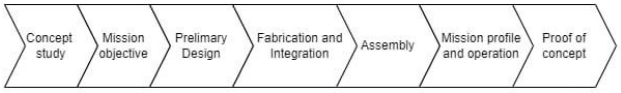

Fig.3 Shows the mission development life cycle of level - 1 Digitally Twinned 1U CubeSat (DT1UC)

The mission development life cycle for a digital twin 1U satellite begins with conceptualizing mission objectives and analyzing system requirements (fig.3). This is followed by designing and refining the satellite's subsystems, such as structure, power, and communication. Once the design is finalized, manufacturing and assembly of the satellite components take place, ensuring rigorous quality control. Subsequently, integration and testing phases validate the satellite's functionality and performance in simulated space environments. Finally, the satellite is prepared for its operational phase, collecting data to validate its digital twin model.

IV. DIGITAL TWIN FRAME WORK

Framework is defined as a system of rules, ideas, or beliefs that is used to plan or decide something. The following figure.4 shows typical Digital twin frame work for a satellite, which shows the process involved. The complete CubeSat system consists of several sensors and components which are listed as follows. The Arduino Nano is a small, complete, and breadboard-friendly board based on the ATmega328P. It offers the same connectivity and specs of the Arduino Uno board in a smaller form factor. The BMP180 was designed to accurately measure atmospheric pressure. Atmospheric pressure varies with both weather and altitude; can measure both of these using this sensor. The DHT11 is a basic, ultra-low-cost digital temperature and humidity sensor. It uses a capacitive humidity sensor and a thermistor to measure the surrounding air, and spits out a digital signal on the data pin (no analog input pins needed).

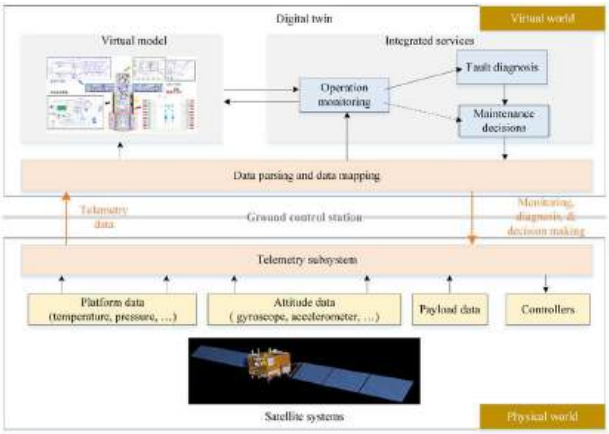

Fig.4 The digital twin frame work of DT1UC

V. MISSION DEVELOPMENT LIFE CYCLE

The Fig.5 Shows the layout of various sensors of DT1UC. The Honeywell HMC5883L is a surface- mount, multi-chip module designed for low-field magnetic sensing with a digital Interface for applications such as low-cost

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compassing and magnetometry. The MPU-6050 ports are the world's first Motion Tracking devices designed for the low power, low cost, and high- performance requirements of smartphones, tablets and wearable sensors. The NEO-6M GPS module is a well- performing complete GPS receiver with a built-in 25 x 25 x 4mm ceramic antenna, which provides a strong satellite search capability. With the power and signal indicators, you can monitor the status of the module. The ESP32-CAM is a small size, low power consumption camera module based on ESP32 It comes with an OV2640 camera and provides an onboard TF card slot. RF 433MHz is a pair of electronic RF transmitters and receiver modules used to send and receive radio signals between any two devices. The data is sent by the transmitter module from the transmitter end, and it is received by the receiver module at the receiver end. Power source will be a 9 volt battery and a pair of lithium for CubeSat 2.0 with ESP32 cam module

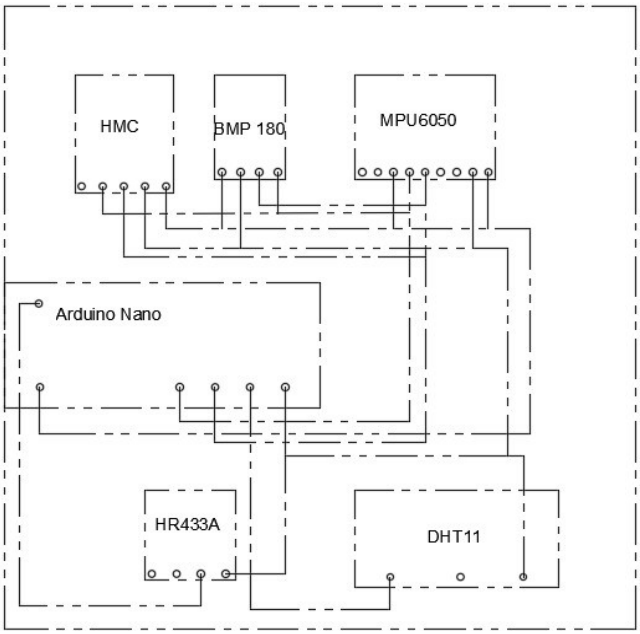

Fig.5 Shows the layout of placement various sensor of DT1UC

VI. STRUCTURAL DESIGN & SIMULATION

The cube-sat can carry small science instruments to conduct an experiment or take measurements from space. In the current research, the cube-sat is made up of 3D printed material using PLA (polylactic acid) shown in fig.6a. The cube-sat is made using 3 different types of plates which will be of dimension 10*10 ,10*8 and 9*9 respectively, that form the six faces of the cube. The bases are attached to one another using screws as fasteners. The structural analysis simulates the response of a CubeSat to a 100 kN load applied to its top surface. Using finite element analysis (FEA), the model evaluates stress distribution as shown in fig.6.b. Insights gained from this analysis aid in understanding how the CubeSat withstands mechanical loads

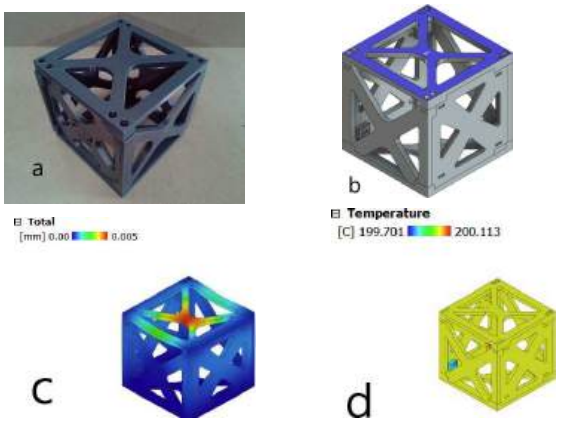

Fig. 6 (a) 3D-printed version of structure, (b) 3D model (c) Strain Simulation (d) Thermal Simulation of DT1UC

VII. SYSTEM ARCHITECT

In the above flow chart shown(fig.7) observe the working of the satellite. It begins from application of power to the Arduino nano and then subsequently to all the sensors. The collected data is thensent to the receiver circuit, where it is processed and displayed. Fig. 8 illustrates the output dashboard, displaying graphical representations of temperature, altitude, atmospheric pressure and gyro received in real time during mission operation. It is essential to acknowledge that these parameters are captured at an altitude of 75 meters. This shows the integration and demonstration of level 1 digital twin technology for 1u CubeSat. During deployment or in-orbit operations, informing design improvements and ensuring mission success.

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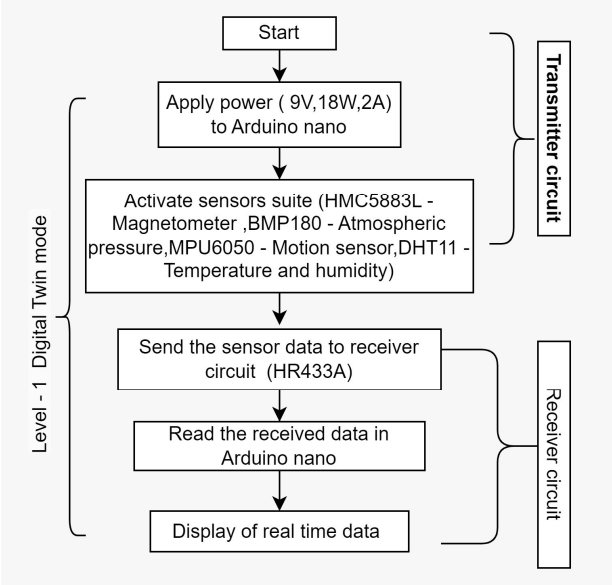

Fig.7 System architect of level - 1 Digitally Twinned 1U CubeSat (DT1UC)

The thermal analysis assesses the CubeSat's response to a uniform thermal load of 200°C applied to all six sides. Employing thermal analysis techniques such as finite difference or finite element methods, the model predicts temperature distribution, heat fluxes, and thermal stresses within the structure. By analyzing thermal management strategies and potential hotspots, this analysis guides the design process to ensure the CubeSat's onboard components operate within acceptable temperature ranges, enhancing reliability and mission performance in the harsh environment of space.

VIII. DIGITAL TWIN OPERATION MODE

The figures 8 & 9 show a simplified version of both the transmitter and receiver circuit. The satellite is a paragon of level 1 digital twinning as it employs one way communication. The transmitter circuit sends data to the receiver circuit making it an example of digital twinning. Fig. 10 illustrates the output dashboard, displaying graphical representations of temperature, altitude, atmospheric pressure and gyro received in real time during mission operation. It is essential to acknowledge that theseparameters are captured at an altitude of 75 meters. This shows the integration and demonstration of level 1 digital twin technology for 1u CubeSat. The complete integrated model withinthe CubeSat structure is shown in fig.11

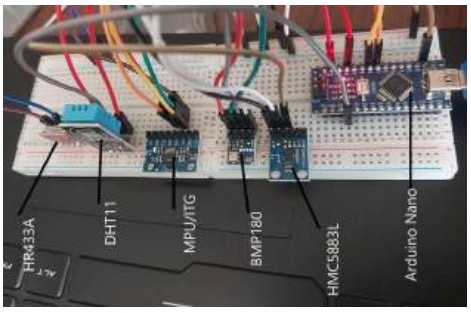

Fig. 8 Shows the transmitter circuit

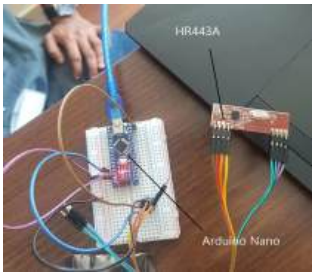

Fig. 9 Shows the receiver circuit

Fig. 10 Shows the output dashboard

CONCLUSION AND FUT URE SCOPE

In the current research, successfully demonstrated the design and development of the Level-1 Digitally Twinned 1U CubeSat (DT1UC) which is a significant step forward in satellite technology. With real-time monitoring of the DT1UC opens doors to enhanced space-based operations. Future scope includes advancing to higher levels of digital twinning for more sophisticated analysis and predictive capabilities.

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Transforming Wildlife Conservation With AI Integrated Darting Drone

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***Abstract*— This research explores the potential of using drones integrated with AIML for remote animal darting. It proposes drone-based gimbal mounted gun beneath the drone with automated AI target locking system which allows precise movement of the gun, facilitating dart deployment, ensuring accurate and efficient darting for the purposes like wildlife vaccination program, dart and research program, capture and relocation, medical intervention, tranquilization during human wildlife conflict. This reduces the risks associated with close human-animal encounters and minimizes stress for the animal and can benefit both animal welfare and human safety in wildlife conservation, research, and intervention efforts.**

Keywords—Dart Drone, Artificial Intelligence (AI), Machine Learning, Animal welfare, Wildlife conservation

I. INTRODUCTION

The pursuit of wildlife conservation often necessitates the capture and management of animals for various purposes such as vaccination programs, research initiatives, relocation efforts, and mitigation of human-wildlife conflicts. Traditionally, these endeavors have required substantial human resources, extensive logistical support, and significant financial investment. A convoy comprising up to 200 individuals, including personnel from the forest department, medical professionals, and technical experts, is commonly assembled for such operations, equipped with cumbersome cages and gear to capture target animals as shown in Fig 1.

However, this conventional approach poses inherent risks to both human participants and the target animals. The complexities of capturing wildlife using traditional methods are compounded by the potential for injury or even fatalities resulting from direct confrontation between humans and animals. Moreover, the logistical challenges and associated costs associated with deploying large teams for these endeavors are considerable as shown in Fig 1.

Fig. 1. Human-Wildlife conflict article (made by author)

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TABLE I. LITERATURE REVIEW

Company/ Project	*Description*	*Advancements*	*Challenges*
Uttrakhand Forest Department	Super Drones for tranquilization efforts	Super Drones for tranquilization efforts	Limited flight time and operational range
Haevic (South Africa)	'Super Drone' with dart delivery via fixed pressurized gun triggered remotely	Advanced dart delivery system	Accuracy concerns, risk of mishitting vital organs resulting in fatality
JMUXLabs (Virginia, USA)	WASP drone with fixed-wing approach to wildlife capture	Innovative fixed-wing design	Difficulty in agility and manoeuvrability, single main rotor configuration, AI algorithm limitations

II. AI OPERATIONAL WORKFLOW

- Data Collection: Drone-mounted cameras capture high- resolution images and videos during surveillance flights over wildlife areas, ensuring comprehensive coverage.

Fig. 2. AI project workflow (made by the author)

- Classification: YOLOv8 classifies the detected animals into predefined categories based on features and characteristics such as species, size, and behavior. This classification aids in informed decision-making [2].
- YOLOv8 Object Detection: The YOLOv8 model processes captured images, providing bounding box coordinates, class labels, and confidence scores for detected animals. Its real- time capabilities are crucial for dynamic wildlife scenarios [2].
- Segmentation: Post-detection and segmentation techniques are applied to isolate animals within their bounding boxes. This step refines the accuracy of subsequent analyses by focusing on the identified objects.
- Pose Estimation: These techniques are implemented to identify crucial anatomical points on animals. Identification of key points enhances the accuracy of the dart gun targeting system [2].
- Tracking: Using cameras and sensors in drone to systematically monitor and observe wildlife from above, which is analyzed using tracking software to monitor movement patterns, behaviors, and interactions of individual animals or groups for predicting their next move.

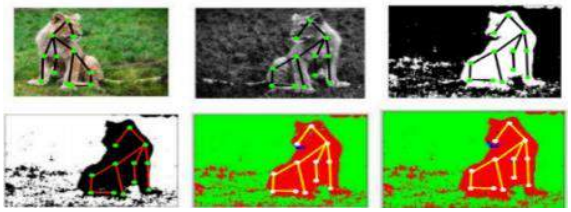

Fig. 3. Detection of animals using night vision and IR sensor (made by the author)

Traditional methods of animal detection often rely on visual cues during daylight hours, which can be limited in effectiveness during low-light conditions or in environments with poor visibility. To address this challenge, we propose a hybrid detection system that leverages both night vision and IR sensors.

III. FLOW CHARTS

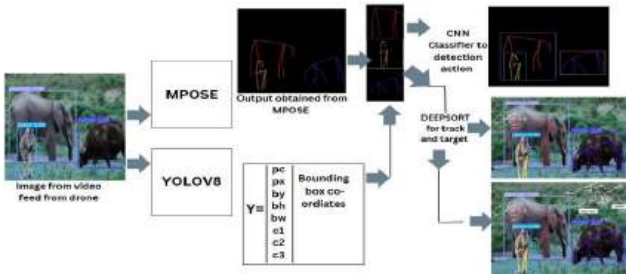

Fig. 4. Flowchart of integrating algorithm in the model (made by author)

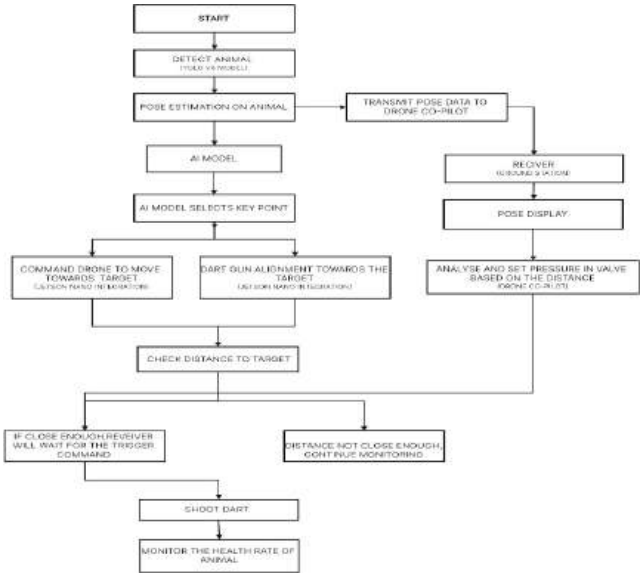

Fig. 5. Overall Workflow (made by author)

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IV. Drone's Operational Workflow

- Drone Flying Operations (Pilot-Controlled): The pilot is primarily responsible for controlling the flight of the drones. This includes tasks such as takeoff, navigation, and landing. During flight, the pilot focuses on maintaining the drone's stability and maneuverability, ensuring it stays within the designated flight path. The pilot also communicates with the co-pilot regarding the drone's position relative to the target animal and adjusts the flight trajectory as necessary to optimize targeting conditions.
- Gun Alignment (AI controlled): The AI assumes the responsibility of aligning the dart gun mechanism with the identified target animal. Utilizing the drone's onboard sensors and AI algorithms, the computer receives real-time data on the target's position, distance, and orientation relative to the drone. Based on this data, the gimbal adjusts the orientation of the gun mechanism, ensuring it is precisely aligned with the target animal.
- Firing Mechanism (Co-pilot controlled): The co-pilot will be equipped with remote access capabilities to adjust pressure settings within the gun mechanism in real-time. This allows for fine-tuning dart trajectories to ensure accurate targeting. These adjustments are informed by data received from the AI, which continuously updates based on the drone's distance from the target.

A. AI-driven mechanisms ensure alignment and locking of the gun to the target, irrespective of drone or target movement:

In our drone system, the gun gimbal and drone flight control operate independently, ensuring continuous target locking. Utilizing advanced AI-driven technology, the system achieves precise alignment and targeting, maintaining accuracy despite drone or target movement. Onboard cameras equipped with sophisticated algorithms detect and track the target animal's visual features in real-time, analyzing images to monitor its position and movements seamlessly. Upon detection, automatic adjustments to the dart gun's orientation ensure precise alignment with the target, optimizing dart deployment. These AI mechanisms adapt dynamically to environmental conditions and position changes, ensuring consistent alignment throughout operations and enhancing the safety and effectiveness of tranquilizer dart deployment in wildlife management efforts. After aligning the gun mechanism with the target, the copilot receives crucial AI data for precise distance calculation. Using AI-driven algorithms [2], the copilot calculates the exact distance between the drone and the targeted animal. Based on the obtained distance data from the AI, pressure adjustment in the gun mechanism is then conducted. In CO2-operated systems, dart trajectory hinges on pre-trigger pressure. Armed with precise distance information, the copilot fine-tunes pressure settings to ensure accurate dart deployment, effectively managing dynamic variables of distance and trajectory for each intervention scenario.

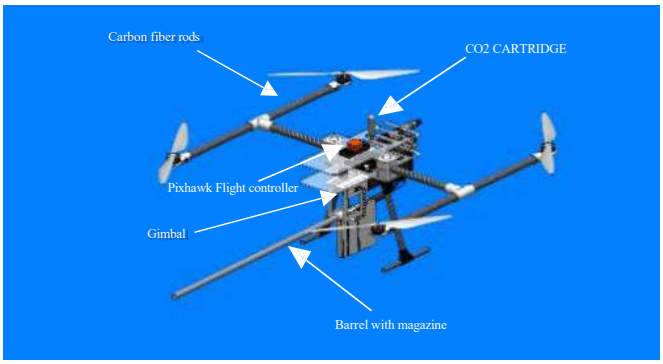

Fig. 6. Isometric view of the drone (made by author using SolidWorks)

V. Quadcopter with H- Frame for Darting Drone

Our quadcopter design as shown in Fig 6 has optimal space for embodying the Darting gun mechanisms, featuring an H-frame design with a retractable landing gear that ensures impressive payload capacity for seamless integration of equipment, including Avionics and flight computers, it strikes a balance between redundancy and stability, guaranteeing safe flight operations.

A. On-board Computers and Flight Controller for Enhanced Computation:

To meet the demanding computational requirements of real-time object detection and tracking, we have incorporated NVIDIA Jetson onboard computers into our drone system. The Jetson platform offers high-performance computing capabilities, enabling rapid processing of complex AI algorithms for animal detection and classification. This integration enhances our drone's ability to accurately identify wildlife targets, contributing to more effective tranquilizing operations in the field. While our choice of the Pixhawk Cube Plus as the flight controller for our tranquilizing drone is driven by its proven reliability, advanced features, and compatibility with our chosen quadcopter platform. The Pixhawk Cube Plus offers robust flight control capabilities, ensuring stable and precise flight performance essential for accurate dart deployment and maneuvering in challenging environments.

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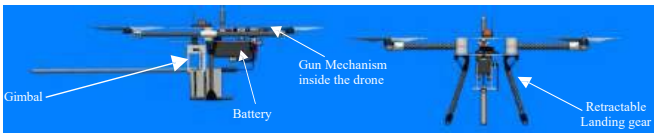

Fig. 7. Side view and Front view of the drone (made by author using SolidWorks)

VI. TRANQUILISING GUN MECHANISM

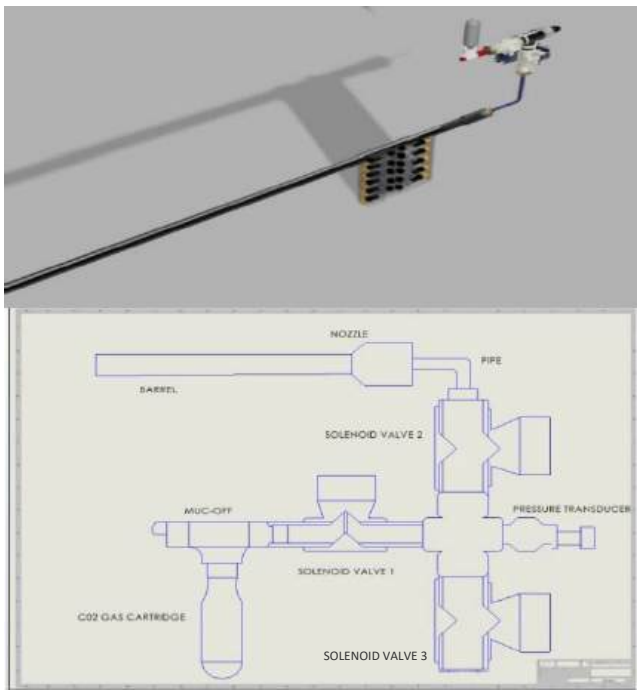

Fig. 8. Fusion 360 model and schematic of the gun mechanism (made by author using Fusion 360 and SolidWorks)

TABLE II. DESCRIPTION OF CO2 GUN

Feature	*Specifications*
Weight	1500 grams- 1700 grams
Overall Length	60 cm (with barrel)
Material	Aluminum/Steel
Barrels/Syringes Volume	Interchangeable Barrel System with quick connection coupling
	-Caliber 11mm ($1cm^3$ – $5cm^3$)
	-Caliber 13mm ($5cm^3$ – $20cm^3$)
Effective Range	With standard barrel (caliber 11mm): 4000 cm (depending on dart sizes)
Pressure build-up	CO2 cartridge
Pressure control	0 – 10 bars(1 bar ≈ 1 x 10^6 $dyne/cm^2$)
Safety features	Safety Striker: Yes (rotary knob safeguard)
	Pressure relief and safety valve: Yes (3^{rd} Solenoid valve)
Kinetic Energy	> 7.5 × 10^7 ergs

TABLE III. COMPLETE PROCESS OF CO2 ELECTRICAL GUN

Component	*Description*
CO2 Adaptor	Interface for mounting CO2 cartridge, ensuring secure connection to gas source
Solenoid Valve (First)	Regulated flow of pressurized CO2 from adaptor to gas chamber, control gas flow
Gas chamber with pressure sensor	Provides pressure for dart propulsion, monitors pressure with sensor for telemetry data
Solenoid Valve (Third)	Controlled release of pressurized gas from the gas chamber to barrel, ensures controlled pressure release
Solenoid Valve (Second)	Trigger release of pressurized gas to shoot dart through the barrel
Barrel	Pathway for dart propulsion, direct dart towards target when gas is released
Maintaining Trajectory	Dynamically regulates gas chamber pressure based on target distance via microcontroller, ensures optimal dart flight characteristics and accuracy

VII. CONCLUSION

In this paper, we have proposed the design of a darting drone equipped with an AI-integrated gimbal-mounted gun for precise remote animal darting. This innovation seeks to enhance wildlife vaccination, research, relocation, and conflict mitigation by minimizing human-animal interactions and reducing stress on animals. While the proof of concept has been successfully established the AI-ML system is in its early stages and requires further development with additional datasets and optimized algorithms. Also, further refinements in mechanical precision of gimbal and gun will enhance the system's precision and efficiency. This technology holds significant potential to improve animal welfare and safety in wildlife conservation efforts [1][3].

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CanSat Deployment: Electrothermal and Electromechanical Methods

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***Abstract*—In this research work, a drone-based CanSat release mechanism with parachute deployment is designed and implemented. Two methods of deployment are examined: Electrothermal and Electromechanical techniques. Our analysis covers the design and implementation of both models, evaluating their effectiveness, dependability, and suitability for CanSat deployment projects. Our results offer important new information for tiny satellite deployment technology advancement, CanSat deployment mechanisms, and aerial deployment mission success rates.**

***Index Terms*—Drone Based, CanSat release mechanism, Parachute deployment, Electrothermal, Electromechanical, Aerial deployment**

I. INTRODUCTION

A major development in aerospace technology, the deployment of CanSats from drones allows for unprecedented flexibility and efficiency while conducting scientific observations and research from space. The vital requirement for precise and controlled deployment methods is addressed in this research article, which focuses on the design and implementation of a drone-based CanSat release mechanism with parachute deployment. CanSats, tiny can-sized satellites, have proven to be incredibly useful for scientific research, technology demonstration, and teaching. However, mission flexibility and accessibility are restricted by conventional deployment techniques, including ground-based launches or rocket deployments. This project intends to revolutionize the field of tiny satellite deployment by combining drones and CanSat deployment, offering quick and affordable access to space for a variety of applications.

II. LITERATURE SURVEY

Drone-based CanSat (can-sized satellite) deployment has attracted a lot of interest because it can improve flexibility, affordability, and speed of access to space for commercial, scientific, and educational purposes. The state-of-the-art in CanSat deployment mechanisms is examined in this literature review, with an emphasis on electrothermal and electromechanical approaches and the corresponding performance metrics.

Mechanisms for Electrothermal Deployment CanSats are released by electrothermal deployment techniques, which use heat produced by electrical resistance. Materials like nichrome wire, which has a high resistance and may produce enough heat to sever a restraining element like a nylon wire, are frequently used in these systems.

Fikes et al. (2018) investigated the application of electrothermal cutters for tiny satellite deployment. The study emphasized the safety and ease of use of electrically heated cables for the discharge of satellite parts. According to the study's conclusion, these systems have fine control over release timing and little moving parts, which makes them useful.

Similar to this, a 2020 study by Smith and Johnson assessed several materials and setups for electrothermal release mechanisms. They discovered that nichrome wire was appropriate for CanSat deployment scenarios because of its consistent heating qualities, which offered dependable performance under a variety of environmental settings.

Mechanisms of Electromechanical Deployment CanSats are deployed via electromechanical

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methods that make use of actuators, motors, and other mechanical components. Because of these systems' accuracy and dependability, they are frequently chosen.

Roberts et al. (2019) conducted a thorough analysis on the application of servo motors for satellite deployment. According to their research, servo motors provide excellent control precision and quick response times, both of which are essential for on-time deployment. They observed that the main obstacle is the power consumption and complexity of the control algorithms needed to operate these kinds of devices.

A servo motor-controlled movable base plate was used in an empirical investigation by Kim et al. (2021) to build a drone-based CanSat deployment mechanism. According to their findings, the technology outperformed conventional techniques in terms of deployment speed and precision, being able to deploy CanSats with accuracy and reliability in under two seconds.

Zhou and Park (2022) conducted a second study that concentrated on the incorporation of sophisticated control algorithms to improve the dependability of electromechanical deployment systems. They claimed that the deployment process's resilience and accuracy under various environmental circumstances were greatly enhanced by the use of fuzzy logic controllers.

Performance Measures precision: Because electromechanical techniques precisely control mechanical movements, they typically yield higher precision. This was demonstrated in the study by Kim et al. (2021), where servo motors guaranteed precise and constant deployment timings.

Dependability: Both approaches exhibit high levels of dependability; yet, because electromechanical systems rely less on their surroundings, they may be slightly more reliable. Compared to electrothermal systems, electromechanical systems are less susceptible to changes in external temperature, despite their greater complexity, as noted by Roberts et al. (2019).

Time of Deployment: Electromechanical devices usually have shorter times to deploy. For example, Kim et al. (2021) reported a deployment time of 2 seconds utilizing servo motors, while Smith and Johnson (2020) remarked that electrothermal systems often require 10-15 seconds.

III. METHODOLOGY

Design and execution are the two primary stages of the research technique. The CanPod-based heat-activated nylon wire cutter mechanism and servo motor-controlled movable base plate deployment systems are conceptualized throughout the design phase through comprehensive engineering analysis and simulations. This consists of heat transfer simulations, structural analysis, and servo motor control algorithms designed especially for the CanPod container. During the implementation stage, two CanPod-based deployment systems prototypes are built and put through rigorous testing in a lab setting. Systematic testing and data analysis are used to evaluate performance parameters like accuracy, dependability, and deployment time. The outcomes are utilized to confirm if each CanPod-based deployment method for the release of CanSats from drones is effective.

IV. ELECTROTHERMAL METHOD

A. THEORY

A number of essential parts are included in the CanPod with the heat-activated nylon wire cutter mechanism to enable the CanSat to be released in a controlled manner. A circuit containing a current source, resistor, transistor serving as a switch, and potentiometer to control the current is designed within the avionics chamber. Batteries are used to power this system. Within the circuit lies the nichrome wire, which is well-known for its high resistance and capacity to generate heat.

The avionics chamber, which houses the batteries and circuits in a rectangular enclosure, is the structural component of the CanPod. The CanSat is safely stored in a cylindrical container beneath this chamber. Through the avionics chamber, a nylon wire connects the CanSat to a base plate. Because of its weight capability, nylon wire is chosen to ensure a secure grasp.

B. WORKING

The circuit's transistor permits current to pass through the nichrome wire in response to the activation signal. The nylon thread melts when heat is produced by the current flowing through the nichrome wire. As a result, the base plate is released, enabling the CanSat to drop freely from the CanPod. The parachute deployment mechanism is then activated to guarantee the CanSat's safe return.

C. RESULTS

- Average Time taken for deployment is 13 seconds.
- Temparature at which the nylon wire breaks is 150degrees-180degree celsius.
- Maximum payload capacity is 5 kilograms.

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TABLE I
COMPONENTS SPECIFICATIONS

Components	Specifications
Transistor	5V 20A
Resistor	2.2ohm 5W
Potentiometer	1ohm
Nichrome wire	0.0015m thickness
Nylon wire	0.0003m thickness

Fig. 1. Experimental setup of Electrothermal method based Canpod

V. ELECTROMECHANICAL METHOD

A. THEORY

A powerful servo motor with a large capacity is installed at the base of the CanPod structure in the servo motor-controlled movable base plate configuration. This servo motor's movements are controlled by a control system that is integrated within it.

B. WORKING

As a movable hinge joint, the base plate, to which the CanSat is firmly fastened, is made to revolve around the servo motor. The servo motor follows the control algorithm to perform exact motions when it receives an instruction.The servo motor turns in response to the command signal, which causes the base plate to pivot and move out of its initial position. The CanSat may now easily depart the CanPod thanks to the opening this movement makes at the bottom. In order to guarantee the CanSat's safe descent and retrieval, the parachute deployment system is simultaneously engaged.

The precise and seamless deployment of the CanSat from the CanPod is made possible by the precise control over the release process provided by the servo motor-controlled system. This improves the dependability and accuracy of aerial deployment operations.

TABLE II
COMPONENTS SPECIFICATIONS

Components	Specifications
Servo motor	Mg 995 7.2V 1.2A

Fig. 2. Experimental setup of Electromechanical method based Canpod

C. RESULTS

Time taken for deployment is 2 seconds.
Maximum payload capacity is 7 kilograms.

VI. CONCLUSION

Two configuration for CANSAT deployment has been worked out, Electromechanical (servo) and Electrothermal). In both the methods, after drone reaching the specified altitude the CANSAT will be deployed (dropped) by executing command on drone remote controller. The worked out configuration has following features:

1. Simple and reliable electronic circuit
2. Reliable
3. Low cost
4. Easy and less time to make the setup for consecutive deployments
5. Reusable, except for nylon thread in case of electrothermal configuration.
6. As students project we gained design, development, realization and field testing.

Hence these configurations has been arrived.

The two CanPod models demonstrate promising advances in tiny satellite deployment technologies by using drones as the air vehicle for CanSat deployment. We have proven the viability and efficacy of the electrothermal and electromechanical methods by thorough design, analysis, and testing done in-house using basic lab equipment and in future we plan to improvise the model to meet industry standards. These novel deployment methods highlight CanSats' affordability while providing increased accuracy, dependability, and flexibility in their release from drones. These CanPod devices

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mark a major advancement in democratizing access to space for commercial, scientific, and educational applications by utilizing low-cost components and established drone technology. Further development and improvement of these CanPod systems will propel advancements in the field of tiny satellite deployment in the future, creating new opportunities for scientific research, exploration, and commercial applications in space.

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Drives And Actuators_Assignment	DRIVES AND ACTUATORS	21AS3502	Mr. KARTIK SADANAND TANDEL	RABI DEB ROY	ENG22AS1006	Submitted on 20-12-2023	AS - 5 - A	0	07-12-2023	22-12-2023	18	20		False	
Drives And Actuators_Assignment	DRIVES AND ACTUATORS	21AS3502	Mr. KARTIK SADANAND TANDEL	VEMIREDDY BOSU REDDY	ENG22AS1007	Submitted on 22-12-2023	AS - 5 - A	0	07-12-2023	22-12-2023	18	20		False	
Drives And Actuators_Assignment	DRIVES AND ACTUATORS	21AS3502	Mr. KARTIK SADANAND TANDEL	ADNAN KHAN A N	ENG22AS1008	Submitted on 22-12-2023	AS - 5 - A	0	07-12-2023	22-12-2023	18	20		False	
Drives And Actuators_Assignment	DRIVES AND ACTUATORS	21AS3502	Mr. KARTIK SADANAND TANDEL	MEGHANADAN S	ENG22AS1010	Submitted on 22-12-2023	AS - 5 - A	0	07-12-2023	22-12-2023	18	20		False	

CDSIMER

PATIENT SAFETY WEEK ACTIVITIES

SLOGAN COMPETITION

Date: 21.09.2023 **Batch: Phase 2 MBBS [2021-22]**

Duration = 45 minutes

As a part of the patient safety week activities, a slogan competition was organized for the students of 2nd phase MBBS students with the central theme of International Patient Safety Goals [1 to 7]

GOAL ONE: Identity Patients Correctly

GOAL TWO: Improve staff Communication

GOAL THREE: Use Medicines Safely

GOAL FOUR: Use Alarms Safely

GOAL FIVE: Prevent Infection

GOAL SIX: Identify Patient Safety risks

GOAL SEVEN: Prevent Mistakes in Surgery

The slogans were evaluated on the basis of the following criteria,

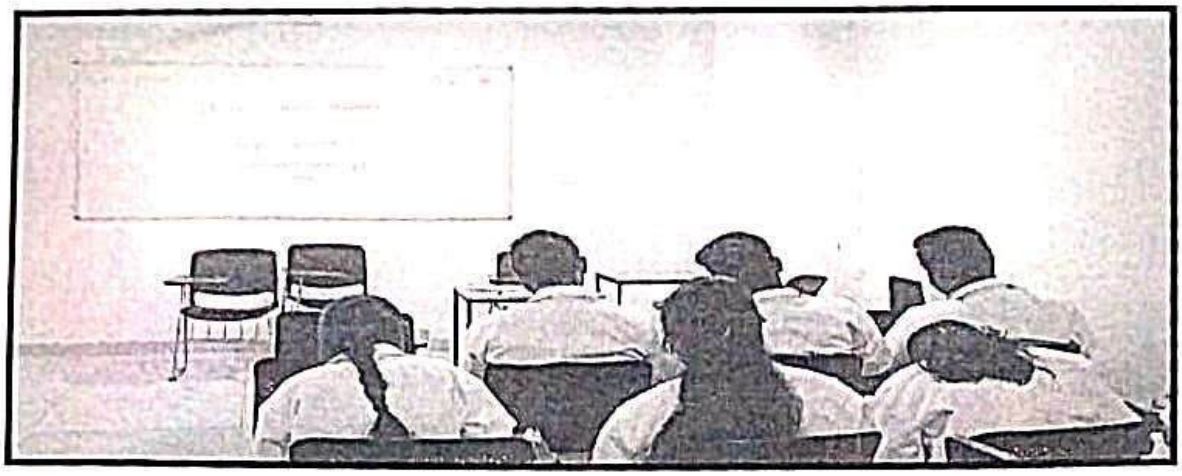
i. Originality
ii. Relevance to the theme
iii. Catchy or Having a Rhyme scheme or is Easy to remember

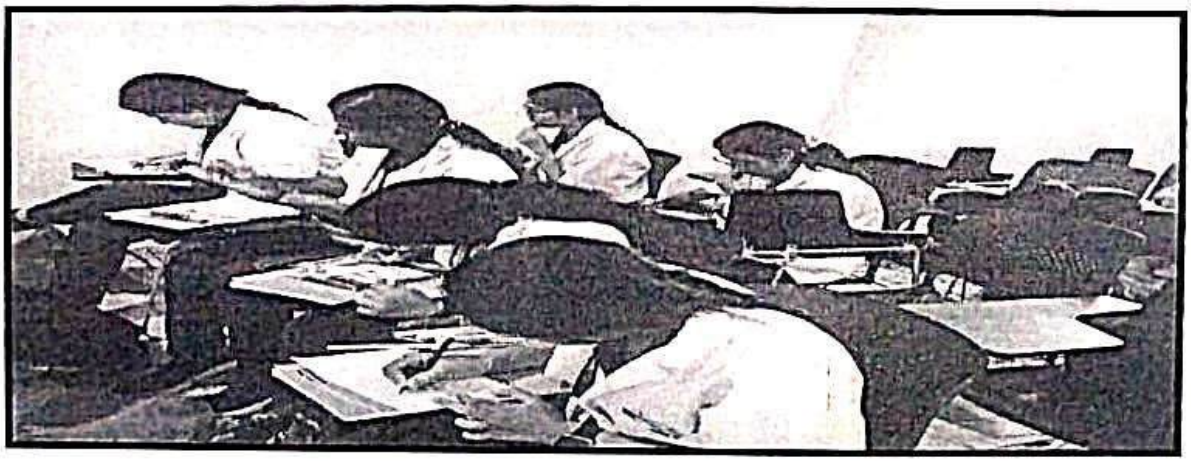
JUDGING COMMITTEE:

1. Dr. Divya Udayakumar, [Assistant Professor, Department of Community Medicine]
2. Dr. Keerthana N Gowda, [Assistant Professor, Department of Community Medicine]
3. Dr. Pratiksha Nayan, [Assistant Professor, Department of Community Medicine]

22/11/24

Medicine
Dr. Chendramma Devananda Sagar
Institute of Medical Education & Research





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LIST OF PARTICIPANTS with SCORES

Sl No.	Student USN	Student Name	Goal	SCORE [5]
1.	HSC21MB0002	ABHIJEET ASHOK JANGALI*	FIVE	0
2.	HSC21MB0004	AKSHAY T M	SEVEN	1.5
3.	HSC21MB0005	AMAR SARAF	FIVE	2.25
4.	HSC21MB0006	ANANYA MALAGHAN	FIVE	2
5.	HSC21MB0007	ANANYA VISHVAS	SEVEN	3.5
6.	HSC21MB0008	ANGELINA SANJANA SELVARAJ	FIVE	1.5
7.	HSC21MB0009	ANKITHA A MASUR*	SEVEN	0
8.	HSC21MB0010	ANKITHA D J	FIVE	1.75
9.	HSC21MB0012	ANUSHA DHOTARBANDI	THREE	1.5
10.	HSC21MB0013	ANVITHA PRASAD	TWO	3
11.	HSC21MB0014	APURVA BEHAL	FIVE	3
12.	HSC21MB0015	ARFA TAJ [1]	THREE	4.75
13.	HSC21MB0016	ASHI SINGH [3]	FIVE	4
14.	HSC21MB0017	ASHITH ANAND KUMAR*	SEVEN	0
15.	HSC21MB0018	AVINASH N*	FIVE	0
16.	HSC21MB0019	AYESHA REYAZ	FIVE	3
17.	HSC21MB0020	BHAVANA R H	FIVE	1.5
18.	HSC21MB0021	BHAVYA T [2]	ONE	4.5
19.	HSC21MB0022	BHUMIKA L	FIVE	2
20.	HSC21MB0023	BHUVAN GOWDA A	THREE	1
21.	HSC21MB0024	BRINDA D MALNAD	THREE	2.5
22.	HSC21MB0025	BRUNDA R	TWO	1.5

*Indicates Plagiarized entries

WINNERS:

1. 1st place = Arfa Taj
2. 2nd place = Bhavya T
3. 3rd place = Ashi Singh

22/4/24

Professor & HOD

Department of Community Medicine
Dr. Chandramma Dayananda Sagar
CDSIMER Medical Education & Research
DSU Devarakaggala Main ... Harohalli Hobli
Kanakapura ... Karnataka

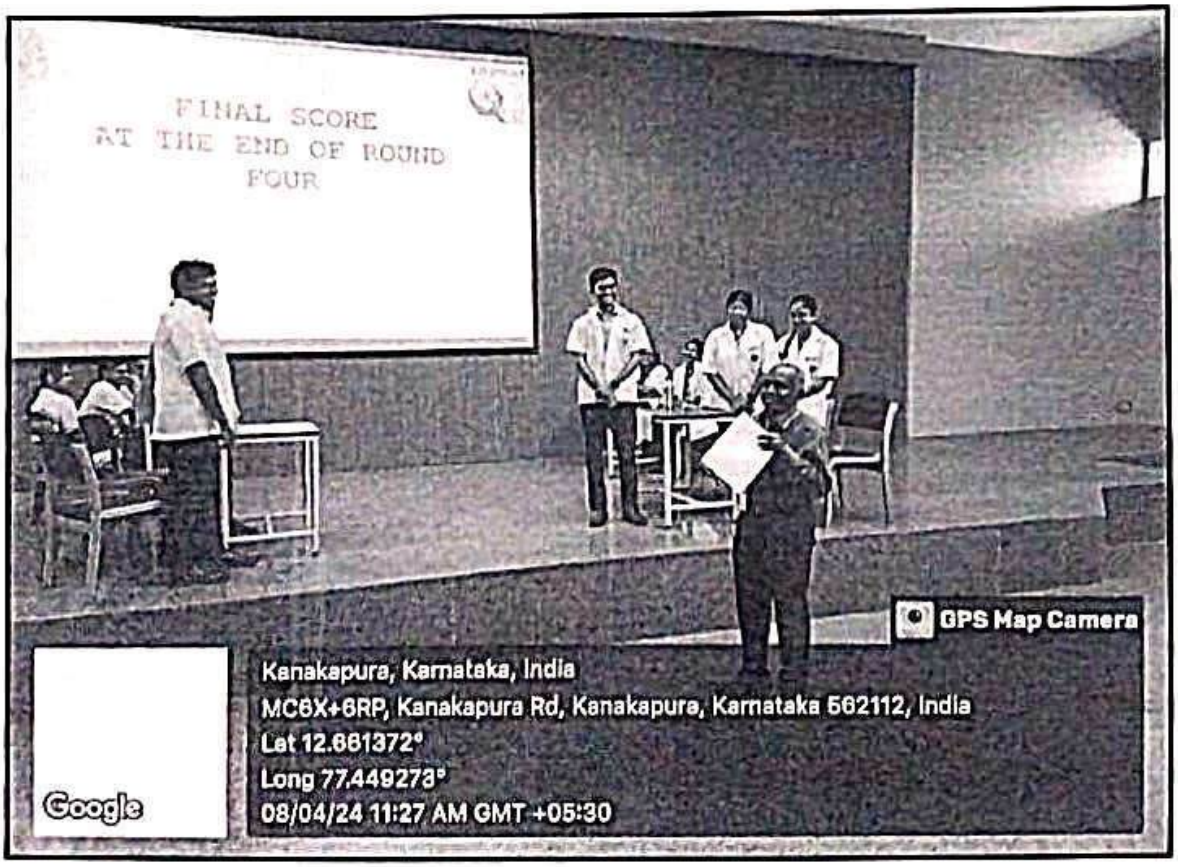
CDSIMER

DEPARTMENT OF COMMUNITY MEDICINE

World Health Day 2024

In view of World Health Day 2024, quiz competition was conducted for the III year MBBS students in collaboration with IAPSM. The theme for this World Health Day is 'My Health My Right'. A total of 16 teams with 3 students in each team participated in the quiz. The elimination round was conducted on 2/04/2024 from 10am-10:30am. The quiz consisted of 30 MCQs. The following students were selected for the final round on 8/04/2024.

1. **Team 3** (Sarah, Sameeha, Varshitha K)
2. **Team 1** (Redappa, Monika, Prerana)
3. **Team 4** (Suhera, Shifa, Millan)
4. **Team 5** (Shami ,Kim, Yogitha)



22/11/24

Head, Dept. of Community Medicine
Dr. Chandramma Dayananda Sagar
Institute of Medical Education & Research
DSI Department of Community Medicine

CDSIMER
Dr. Chandramma Dayananda Sagar

Dayananda Sagar University Bengaluru

CDSIMER-National Pharmacovigilance Week (17- 23 Sept 2023)
In association with NCC-IPC, MoHFW, Govt of India
CME EVENTS (Sept - Nov 2023)

THEME : Boosting Public Confidence in Pharmacovigilance

SHORT MOVIE COMPETITION

TARGET PARTICIPANTS

Category 1 - Doctors + Post graduate students of Medical /Dental/ Ayush etc, And Para—medical staff
Category 2 - Under graduate students of MBBS/ BDS/BPT/BSc nursing/Allied health sciences.

1. Duration of animation/ video must not be more than 10 minutes
2. The animation/ video file format should be MP4
3. Last date for submission- 17-October-2023, 6.00 pm
5. Registration fee - Rs. 200
6. File size max limit: 25 MB
7. All registered participants will receive e-certificates and top 3 winners will get prize. One certificate will be issued per video in the name of director of the movie.
9. Only Original work should be submitted
10. Live / Animated - Language - Any language accepted with English subtitles.
11. Strict adherence to requirements is required.
12. Confirmation of acceptance for participation or rejection will be sent.
13. No further communication will be entertained for rejected articles. Judges decision is final.

Contact details of In-charge Staff:
Dr Raghavendra Belavatagi
Phone no: 96209 06296
Email: npw.cdsimer@gmail.com

For Registration Please click here :

https://forms.gle/jPAPaYekLdzSkdD N8

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BHIM UPI

2. E poster making completions. Last date of submission extended to 17-Oct-2023. The brochure contains the details.

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CDSIMER-National Pharmacovigilance Week (17- 23 Sept 2023)
In association with NCC-IPC, MoHFW, Govt of India
CME EVENTS (Sept - Nov 2023)

THEME : Boosting Public Confidence in Pharmacovigilance

E POSTER COMPETITION

TARGET PARTICIPANTS

Category 1 - Doctors & Post graduate students of Medical /Dental/ Ayush etc. And Para—medical staff
Category 2 - Under graduate students of MBBS/ BDS/BPT/BSc nursing/Allied health sciences.

1. Last date for submission- 17-October -2023, 6.00 pm
2. Any IT tools can be used to create an e-poster.

The file format must be A4 size pdf or jpg and not more than 10 MB

- Original Research presentations - to follow IMRAD method
- Case Studies with Introduction, case description, discussion and conclusion
- No other type of Articles will be considered for participation.
- Authors declaration should be submitted along with your submission.
- Strict adherence to requirements is required.
- Confirmation of acceptance for participation or rejection will be sent.
- No further communication will be entertained for rejected articles. Judges decision is final.
- Top ten candidates will be considered for oral presentation in presence of judges and 5+2 min will given in a scheduled meeting for presentation. Decision on winners will be made after the presentations and will be announced in the valedictory function.

3. Appropriate original pictures and graphs
may be used for presenting the facts.
4. Strictly adhere to
the above given topics (out of topic will be rejected)
5. Registration fee : Rs. 200
6. File size max limit 10 MB
7. All registered participants will receive e-certificates and top 3 winners will get prize.

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Contact details of In-charge staff
Dr. Sagar Pulli 98857 57245
Dr Anusha S.J: 74111 34489
Dr Ravi D Mala 87629 79755
Email ID: npw.cdsimer@gmail.com

For Registration Please click here

https://forms.gle/tPAPaYckKdcSbdDN8

3. Reflective writing competitions. Last date of submission extended to 17-Oct-2023. The brochure contains the details.

CDSIMER-National Pharmacovigilance Week (17- 23 Sept 2023)
In association with NCC-IPC, MoHFW, Govt of India
CME EVENTS (Sept - Nov 2023)
THEME : Boosting Public Confidence in Pharmacovigilance

REFLECTIVE WRITING ARTICLE

TARGET PARTICIPANTS

Category 1 - Doctors + Post graduate students of Medical /Dental/ Ayush etc, And Para—medical staff
Category 2 - Under graduate students of MBBS/ BDS/BPT/BSc nursing/Allied health sciences.

1. Last date for submission- 17 October -2023, 6.00 pm
2. Submit your article in the form of Microsoft Word document. Single spacing. Font 12, Times New Roman only
- The file format must be A4 size WORD document and not more than 10 MB.
- Name of story and Topics - Choose your own fancy name to your story (eg. Pandora's box , a can of worms , friend or foe. (objective should be to identify, manage, prevent ADRs for better patient outcome. Story should be based on your experience)
- Who can participate:

Structure and subtitles to do reflective writing story: Describe the adverse drug reaction with following:

1. What happened and what were you thinking and feeling?
2. What was good and bad about this experience and what worked and what didn't?
3. Details of the event
4. What else could you have done?
5. What did you learn?
6. If it happens again, what would you do?

Please follow the classical structure as much as possible: an introduction, main body paragraphs, and a conclusion.

Event Instructions:

1. Write-up shall be original, good quality and not published already on any platform/website.
2. Provide your article in a simple word format (MS word) (if necessary along with the images you wish to use in JPEG or PNG format with good resolution. Copyrighted material should not be submitted).
3. The word limit will be 800-1000 words with "Times New Roman" Font , '12' Font Size.
4. Registration fee - Rs. 200
5. Note: All best reflective writings will be added to 2nd edition of e-book that will be released on the day of Valedictory ceremony/subsequently.

- Strict adherence to requirements is required.
- Confirmation of acceptance for participation or rejection will be sent.
- No further communication will be entertained for rejected articles. Judges decision is final.
- Decision on winners will be announced in the valedictory function.
- Strictly adhere to the above given topics. (out of topic will be rejected)
- All registered participants will receive e-certificates and top 3 winners will get prize.

Contact details of staff in-charge:
Ms. Asha C: 95132 04302
Dr Padmaja K Shetty: 94488 62850
email id: npw.cdsimer@gmail.com

For Registration Please click here :

https://forms.gle/vDeaFRsXuudKrvjw5

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Page 3 of 3

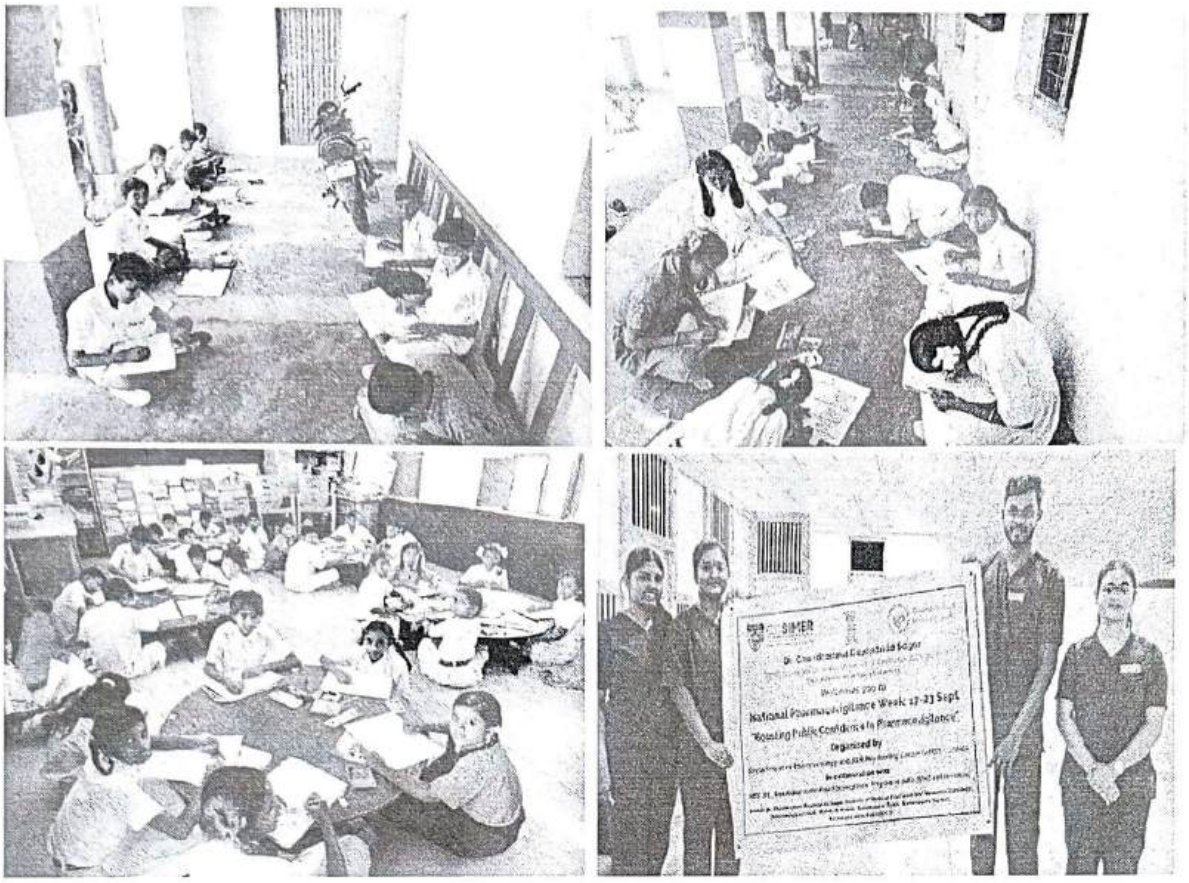
4. Date planned - 16-Nov-2023 - Role play by MBBS students - Inter house (within the CDSIMER college students) competitions among 4 batches of MBBS students.

5. Valedictory function and distribution of prizes. planned on 30-Nov-2023.

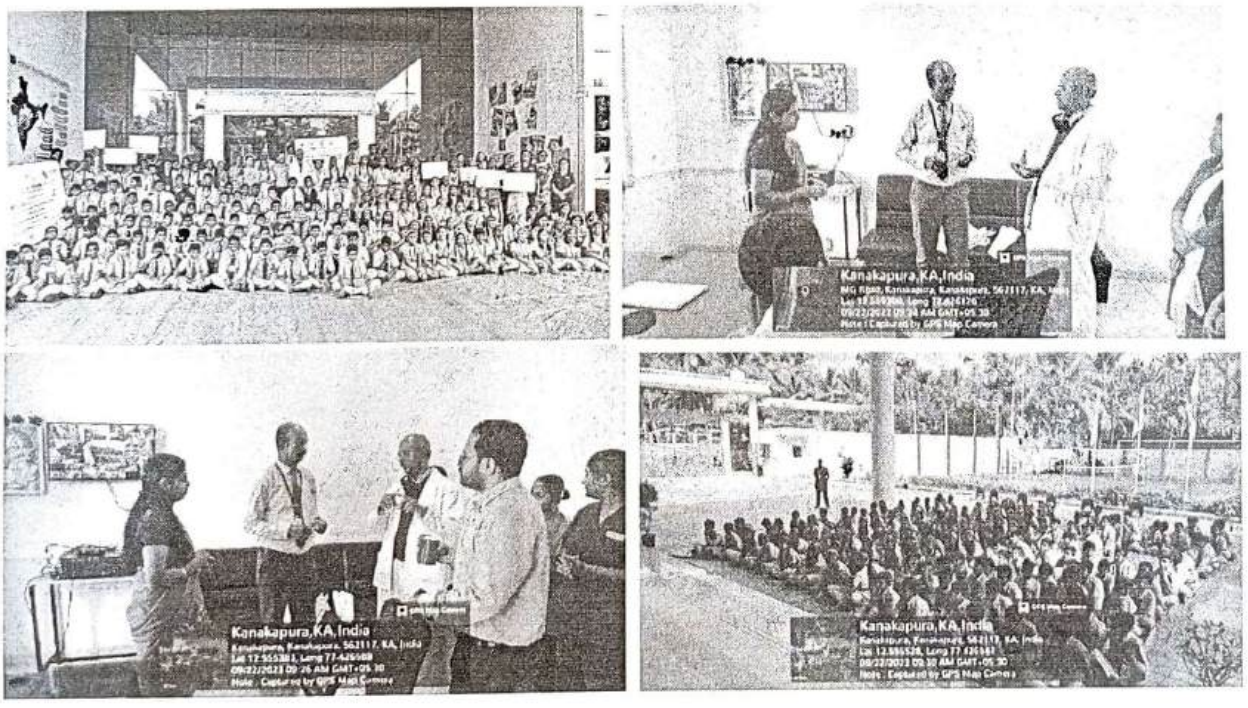
Update about the above activities will be provided after 30-Nov-2023.

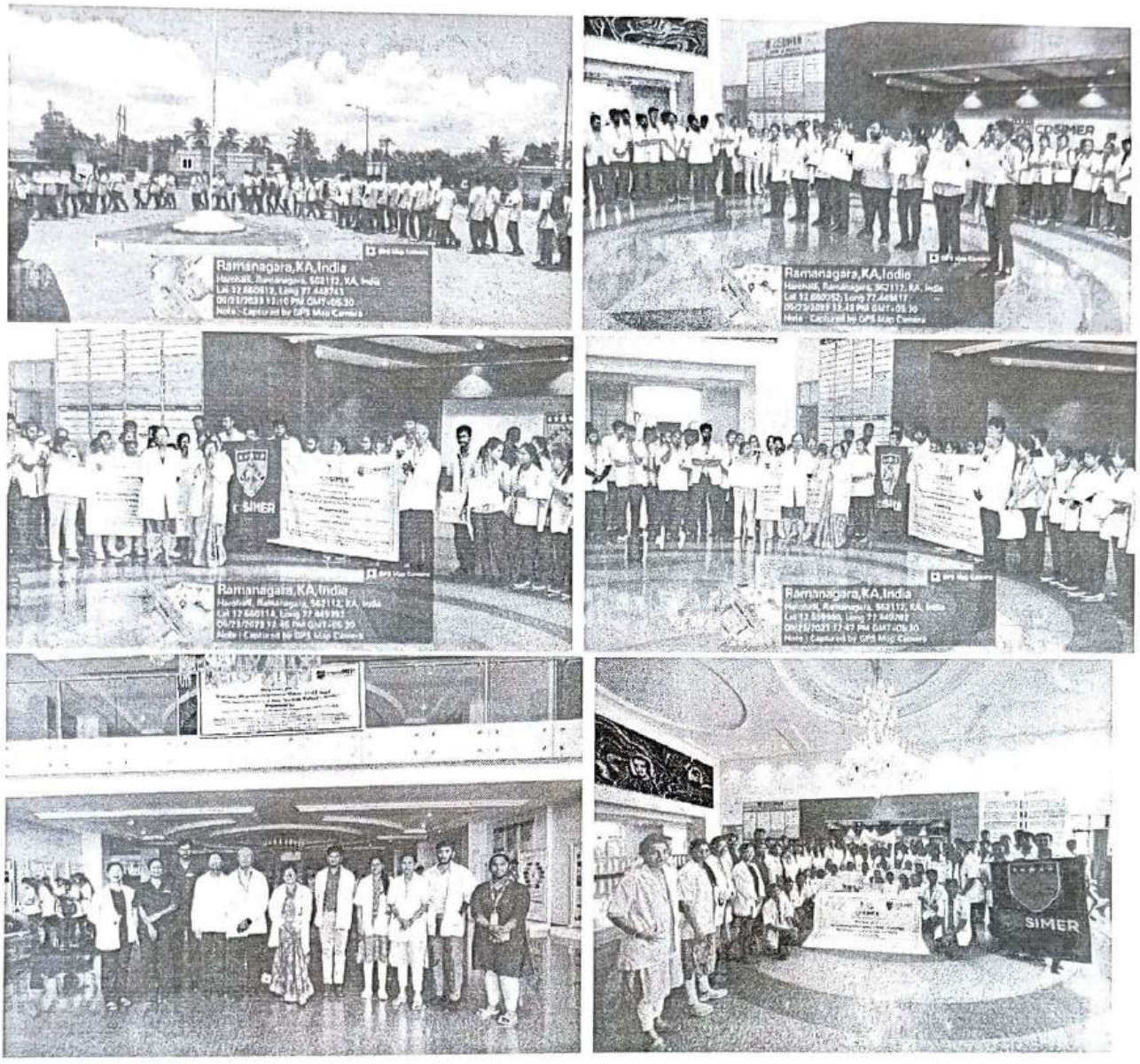
- Model Certificate and course content (soft copy if any)

Day 2 - Children at Govt School Educated on Adverse Drug Reactions Reporting by CDSIMER Staff . Our activity covered in new paper - Hindusthan Samachar



Day 3 - Children at Private School (Poddar International School) Educated on Adverse Drug Reactions Reporting by CDSIMER Staff .

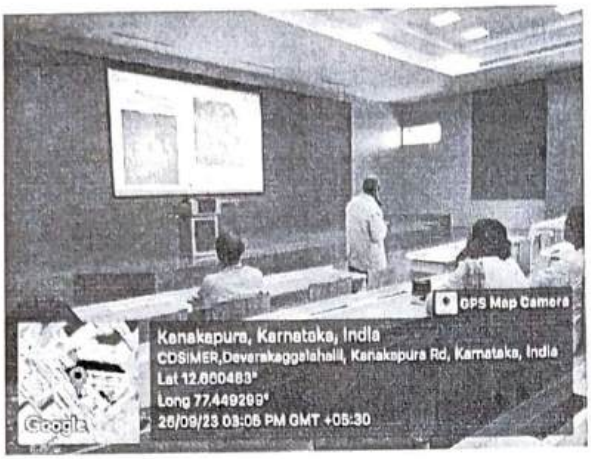




Day - 6 holiday

Day - 7 Patient safety day celebration as per NMC requirements on 25-Sept-2023

Faculties of department of pharmacology, CDSIMER under the leadership of Dr Rajagopalan S Medical Director. Dr Pratibha Nadig, Dr Shiva murthy N, and Dr Padmaja K Shetty spoke on on PVPI and MVPI requirements for reporting ADRs. This was also part of faculty and nursing staff training on ADR reporting methodology.



Competitions related activities (completed and results announced)

1. Essay and Drawing competitions - Govt school

Winners of the Drawing competition:

1. Nandeesh - first prize
2. Jagan. G -2nd prize
3. Vasantha Kumar. N - 3rd prize

Winners of the Essay competition **(Juniors)**

1. Tungesh - first prize
2. Chiranjeevi - 2nd prize
3. Kishor - 3rd prize

Winners of the Essay competition **(Seniors)**

1. Nandan Kumar. N. S - first prize
2. Tanushree - first prize
3. Prajwal V - 2nd prize
4. Vasantha Kumar N - 3rd prize
5. Nandeesh - 3rd prize
6. Manasa - 3rd prize

Winners of the Drawing competition: Private school

1. CHAITHANYA K N - first prize
2. YASHASWINI K R -2nd prize
3. SINCHANA B - 3rd prize

Winners of the Essay competition

1. PRIYANKA P- first prize
2. YASHMITHA R - 2nd prize
3. TEJAL GOWDA - 3rd prize

2. Short movie Results

First Prize: Dr Ayan Roy

Second Prize: Dr Kushal R Swamy

3. E poster,

E poster Competition Results

Winners -

Category 1 - No of competing participants - 02

Winner -

Ms. Thanushri VS
Title: A case of adverse drug reaction of Steven Johnson syndrome was presented in VMCH

Category 2 - No of participants - 13. Presented - 12, Absent - 01

First Prize

Dr Kushal R Swamy, Dr Anuradha H V

Title: Paracetamol induced fixed drug eruptions: A case report

Second Prize

Dr. Ashiya Parveen, Dr. Bharti Daswani

Title: A Case Series of Cutaneous Adverse Drug Reaction Presenting with Stevens-Johnson Syndrome in A Tertiary Care Hospital in Maharashtra

Third Prize - Shared by two participants

1. Rajat Khanavkar, Abdul Hannan

Title: An Adverse Drug Reaction to Hydroxychloroquine: Reversible visual loss - A Case Report

2. Dr Preethi B, Dr H Mohan Kumar, Dr Mousumi Paul, Dr Sharadadevi Mannur

Title: Ocular Vigilance

4. Reflective writing competitions

Category 1 (UG)

- First Prize: Mr.Sagar Goyal
- Second Prize: Priyanshi Sikka
- Third Prize: Vismitha Varghese

Category 2 (PG & Faculty)

- First Prize: Dr Rajesh Naik
- Second Prize: Dr. Ayan Roy
- Third Prize - Dr.Sirisha Annavarapu

3. Role play at CDSIMER

Students performed role play on the day of valedictory function

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Dr. Chandramma Dayananda Sagar

Dayananda Sagar University Bengaluru

Feedbacks/Suggestions received from Participants/Speaker (if Any):

Written feedback of the participants was not taken while conducting the activity. All the programs were well received by the participants. The photographs and reports exemplifies the proper and satisfactorily conduct of the events.

Submitted By: Dr Shiva Murthy N

Designation: Professor and AMC Coordinator, CDSIMER centre

Signature:

Approved By: Dr Pratibha Nadig

Designation: Prof and HOD Pharmacology Dept, CDSIMER centre

Signature:

Head Dept of Pharmacology
Dr. Chandramma Dayananda Sagar
Institute of Medical Education & Research
DSU, Devarakeggala Halli Village, Harohalli Hobli
Kanakapura, Ramanagara Dist., Karnataka

Head Dept. of Pharmacology
Dr. Chandramma Dayananda Sagar
Institute of Medical Education & Research
DSU,Devarakeggala Halli Village, Harohalli Hobli
Kanakapura, Ramanagara Dist., Karnataka

DAYANANDA SAGAR UNIVERSITY

COLLEGE OF JOURNALISM AND MASS COMMUNICATION

QLM 2.3.1.

CJMC Industrial Vist Policy

Principal
College of Journalism and Mass Communication
Dayananda Sagar University

DEAN
COLLEGE OF JOURNALISM &
MASS COMMUNICATION
DAYANANDA SAGAR UNIVERSITY
Shavige Malleshwara Hills, Kumaraswamy Layout,
BANGALORE - 560 078.

DAYANANDA SAGAR UNIVERSITY

COLLEGE OF JOURNALISM AND MASS COMMUNICATION

Industrial Visit Policy

Industry Visits (IV) supplement, complement and add value to classroom learning. They provide every student with an opportunity to watch their classroom learning being put into action in professional settings by the industry. Students can make an assessment of their acquired skills and their relevance.

- CJMC organizes guided industrial visits at least once a semester, accompanied by at least one faculty member.

- Students shall visit at least one industry related to a relevant field of study to obtain practical knowledge and to know the latest trends and advancements in their chosen area of communication.

- The visit is related to curriculum, specialization and academic requirements.

- Students undertake the visit with parental consent, conveyed to the faculty. The student shall duly inform their parent(s)/local guardian and provide valid contact details of the parent(s)/local guardian. No written consent means the student will not go for the IV.

- Prior permission is obtained by the college from the management. During one-day visits, official to-and-fro transport is also provided.

- College ID cards are mandatory for undertaking every visit. Attendance is taken at various stages to ensure student safety. Staff and students face disciplinary action if safety and conduct demanded is compromised, or reported.

- First-aid kit for the students and faculty members participating in such visits shall be organized by the institution.

- Recce is undertaken before a visit is organized to check potential dangers if any, for students. No visit is organized to places with water bodies or to dangerous places where there is risk of accidents or questions of safety.

- Students are briefed in advance on conduct and safeguards required at the site. In case of any damage at the site caused due to a student's negligence or infringement of policy, they will have to pay for the same.
- Students are required to submit a detailed report of the visit within a week of the IV.
- All students must be in the group during the entire duration of IV till they return to the destination. There shall be no subgroups heading towards different locations.
- Going to restricted areas and not following the instructions of the faculty will be treated as serious disobedience. If a student violates any instructions, the student is liable to disciplinary action by the college, university, police or other agency.

Principal
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Dayananda Sagar University

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COLLEGE OF JOURNALISM &
MASS COMMUNICATION
DAYANANDA SAGAR UNIVERSITY
Shavige Malleshwara Hills, Kumaraswamy Layout.
BANGALORE - 560 078.

DAYANANDA SAGAR UNIVERSITY

COLLEGE OF JOURNALISM AND MASS COMMUNICATION

Undertaking by the student before going for Industrial Visit:

I have written permission from my parent/s to go for the industrial visit arranged by CJMC, DSU.

I have provided the correct contact details of the parent(s)/local guardian - to be contacted in case of an emergency.

I understand that the institution will not be held responsible for any personal or material risk incurred during the visit.

I shall follow the rules of the college and the university and maintain decorum so as not to hurt the institutional, state and national sentiments in any manner.

I also understand that If I violate any of these, I shall be liable to disciplinary action, including by the police or other investigating agencies.

Date:

Signature and name of student

DAYANANDA SAGAR UNIVERSITY

COLLEGE OF JOURNALISM AND MASS COMMUNICATION

Undertaking by the parent before sending his/her son/daughter/ward for Industrial Visit:

I, ... mother/father/guardian of ..... hereby permit him/her to go for the industrial visit arranged by CJMC, DSU.

I understand that the institution will not be held responsible for any risk arising from personal and material loss to the student, if incurred during the visit.

I confirm that the student has provided the correct contact details of the parent(s)/local guardian.

Date:

Signature and name of parent/guardian

DAYANANDA SAGAR UNIVERSITY

COLLEGE OF NURSING SCIENCES

Shavige Malleshwara Hills, Kumaraswamy Layout, Bengaluru-560078.

2.3.1: STUDENT CENTRIC METHODS SUCH AS EXPERIMENTAL LEARNING, PARTICIPATIVE LEARNING, PROBLEM SOLVING METHODOLOGIESARE USED FOR ENHANCING THEIR LEARNING EXPERIENCE.

Student centric methods such as experimental learning, Participative learning, Problems solving methods are used for imparting knowledge and enhance their learning abilities. This helps to transform students from being a role of passive recipients to active and involved learner apart from boosting their confidence and encouraging independence. Since students vary in their ability to grasp, it is not possible to address the needs and expectations of individual students and expect a uniform learning out come from them all in a teacher centric class.

The teacher facilitates learning by allowing each individual student to comprehend at their ability by ensuring their involvement in class activities. Teacher makes classes as interactive as possible and encourages creative ideas, innovative thoughts, critical thinking and analytical abilities. Audio visual methodology, industrial visit, field work, lab demonstration, role plays, panel discussion, symposium, Projects, poster presentation, model presentation, Group discussion and quiz are some of the student centric methods utilized to provide experimental learning, participative learning. Debates on contemporary issues are encouraged so that students can reflect and analyse by eliciting responses to the subject under discussion.

PRINCIPAL
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Harohalli, Karnataka-562112

COLLEGE OF NURSING SCIENCES

DAYANANDA SAGAR UNIVERSITY
COLLEGE OF NURSING SCIENCES

2.3.1. Student Centric Methods- Participative Learning

Role play:

B.Sc. Nursing students performed role-play and learned breast feeding techniques and gave awareness to mothers on these techniques on 03.08.23.

Hands-on experience:

B.Sc. Nursing IV year students learning female pelvis, fetal skull and obstetric instruments through hands-on experience.

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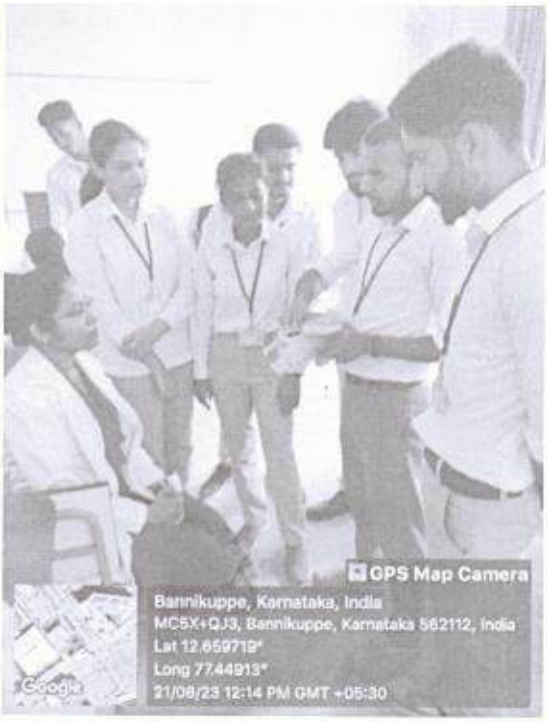
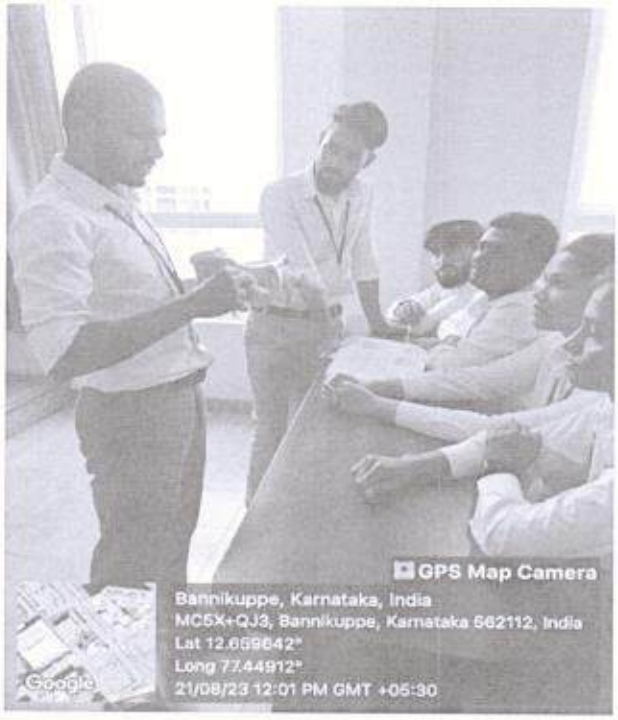
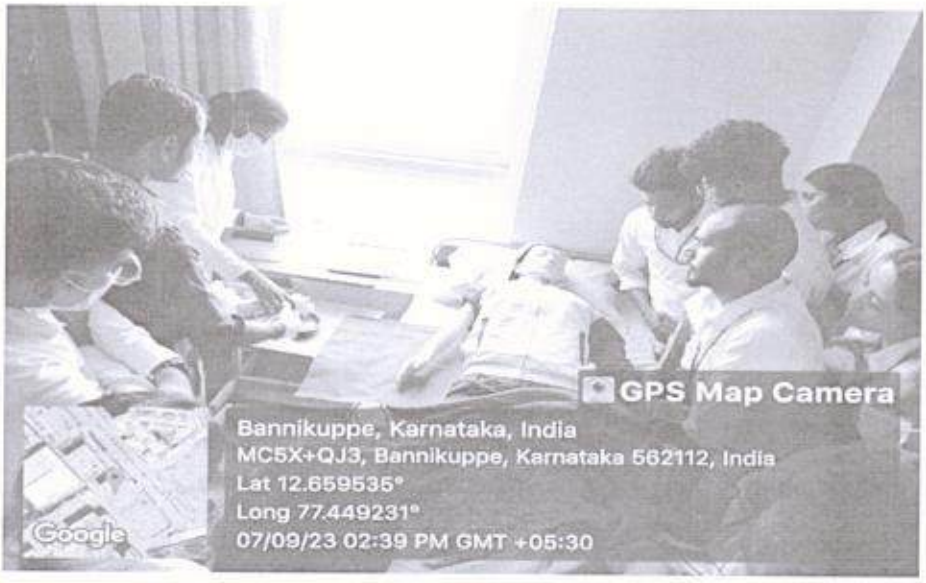
College Of Nursing Sciences
DAYANANDA SAGAR UNIVERSITY
Harohalli, Karnataka-562112





Lab Demonstrations:

The Nursing procedures are thought to students and given opportunity to students on hands on practice to acquire skills and return demonstrations conducted.



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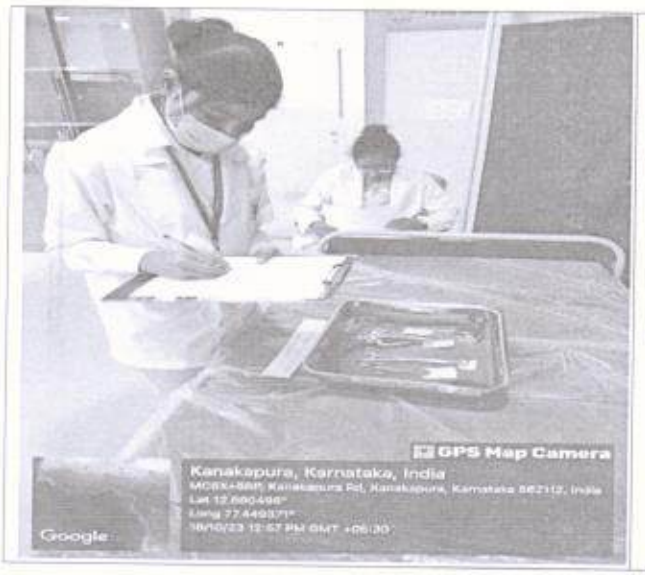
Harohalli, Karnataka-562112

Demonstration of procedures:

B.Sc. Nursing IV year students performed Nursing procedures at community

OSCE:

Students performed Objective Structured Clinical Evaluations skill procedures.



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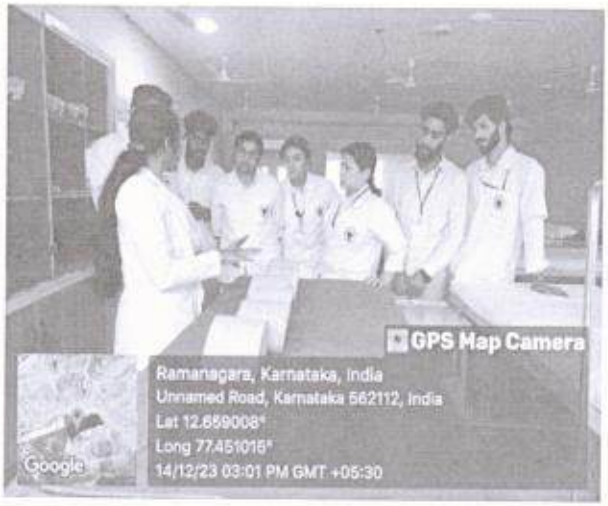
DAYANANDA SAGAR UNIVERSITY
Harohalli, Karnataka-562112

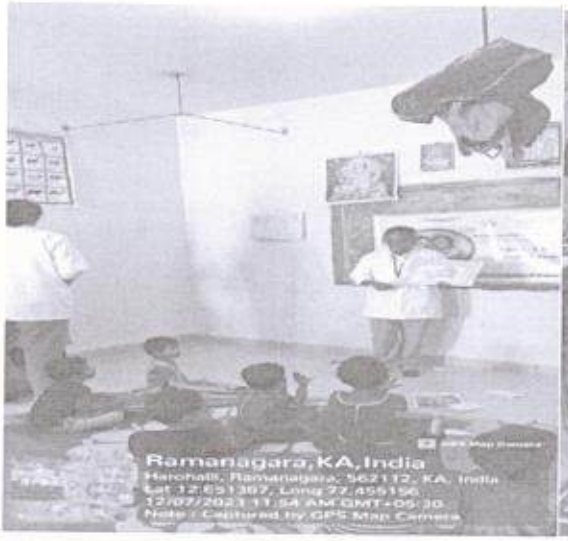
OBG Nursing Lab Demonstrations:

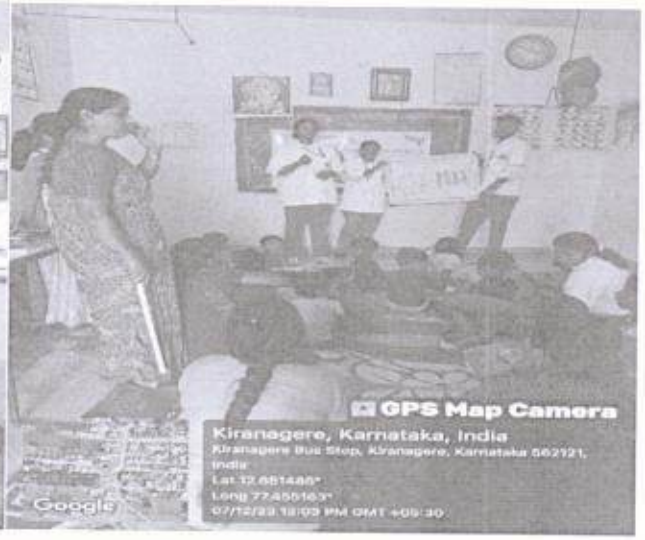
The OBG Nursing procedures are thought to students and given opportunity to students on hands-on practice to acquire skills and return demonstrations conducted.



Health Education:

B.Sc. Nursing III year students performed Health Education in community on nutritious diet for children





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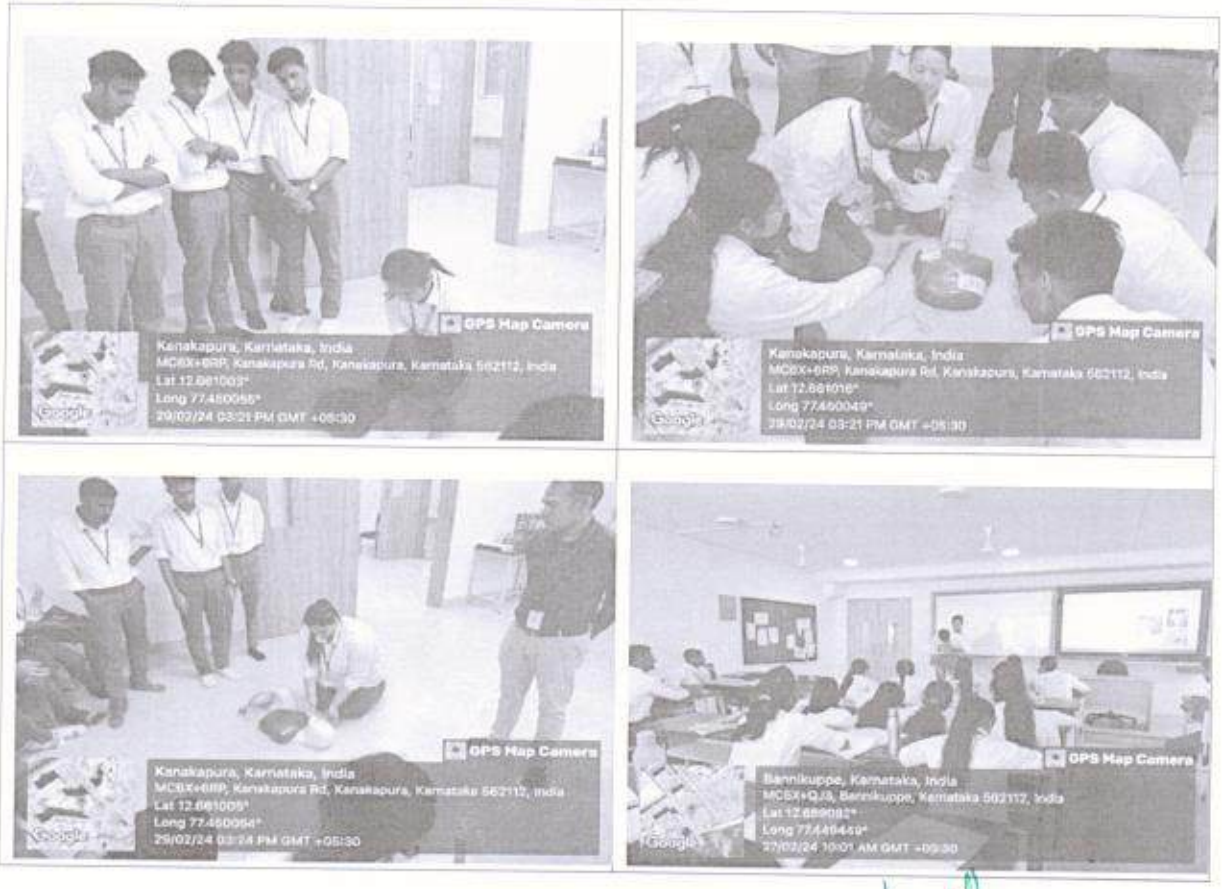
SYMPOSIUM ON IMMUNIZATION:

Symposium was organized by M.Sc. Nursing students for B.Sc. Nursing 3rd year on immunization for 3 days from **22.02.24 to 26.02.24** between11am – 1 pm at CNE Hall. The symposium featured sessions covering a wide range of topics such as National immunization schedule, Immunity, types of vaccines, cold chain etc. and hands-on experience for different types of immunization was performed at simulation lab at CDSIMER and skills was assessed by OSCE.

Hands-on practice on first Aid:

B.Sc. Nursing I Semester students had hands-on practiced on first aid & CPR demonstration by using mannequins and AED machine.



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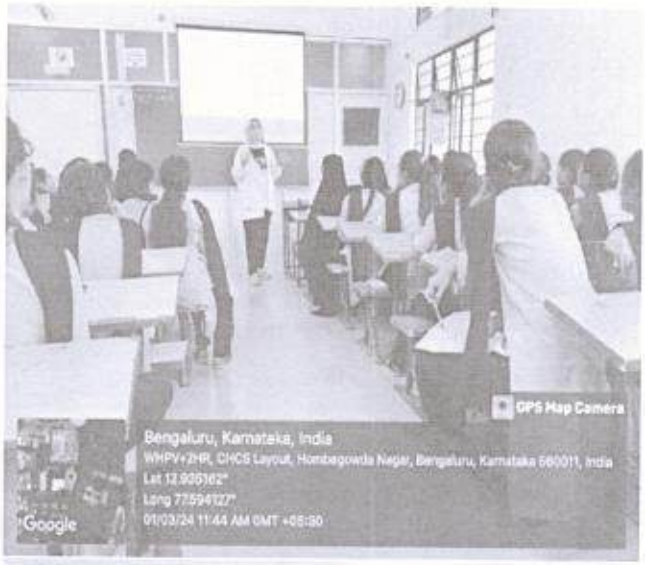
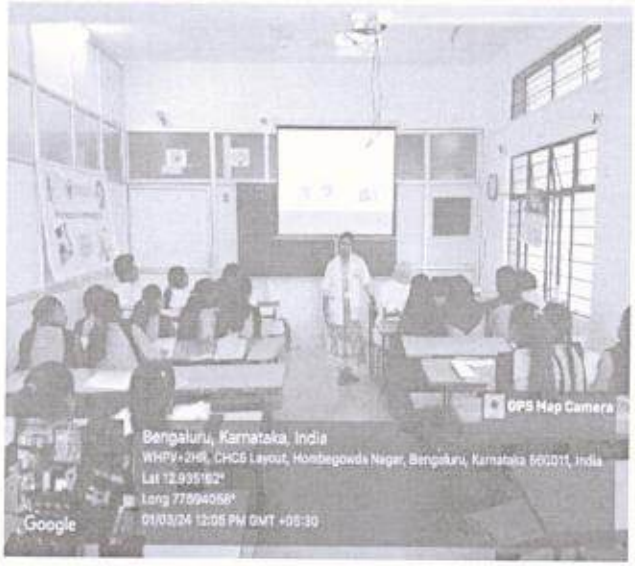
Peer Teaching:

The Department of Child Health Nursing organized Peer Teaching on "Recommended Immunization Program" by WHO at College of Nursing Sciences, DSU and Sanjay Gandhi College of Nursing, Bangalore on 26/02/24 & 01/03/2024 respectively. The comparison of outcome was assessed by post test and it was found to be effective.





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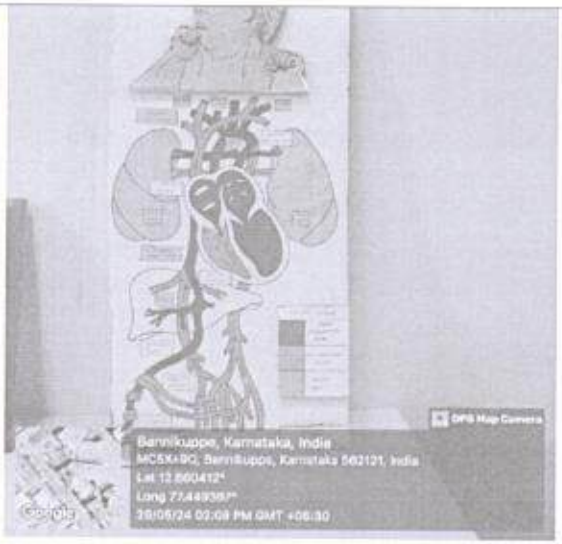
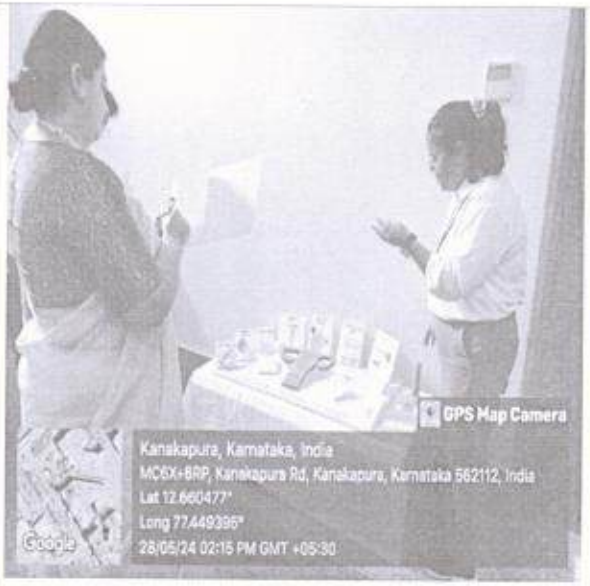
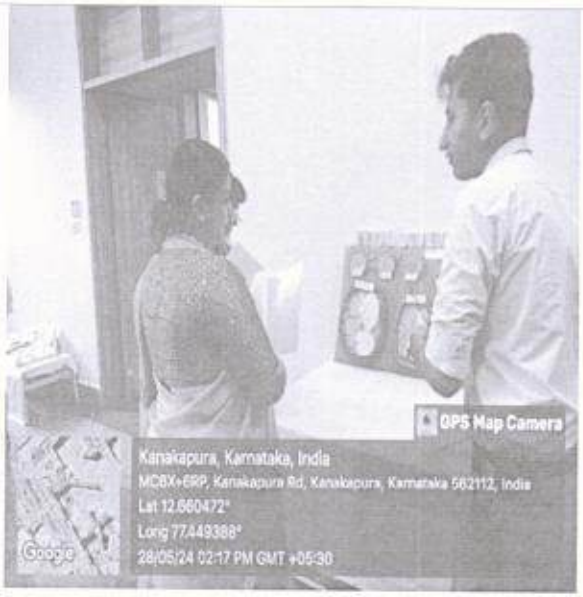
MODEL PREPARATION ON SAFE MOTHERHOOD:

B. Sc. Nursing IV year students prepared Models on safe motherhood and got opportunity for critical thinking in preparation of models.







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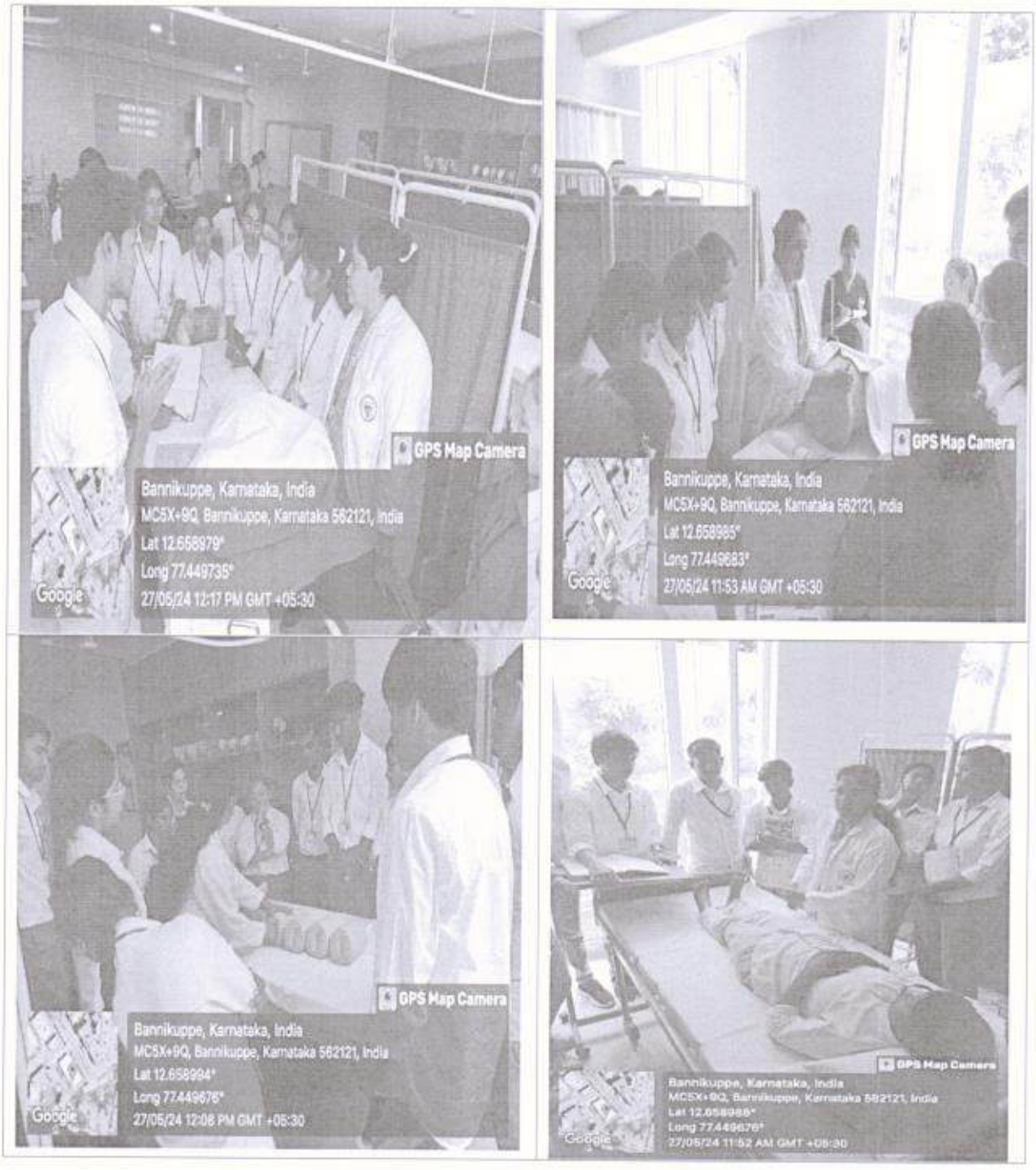
OBG Lab Demonstrations:

OBG procedures were demonstrated to B.Sc. Nursing students in the OBG lab and made students to practice and return demonstrate the procedures.



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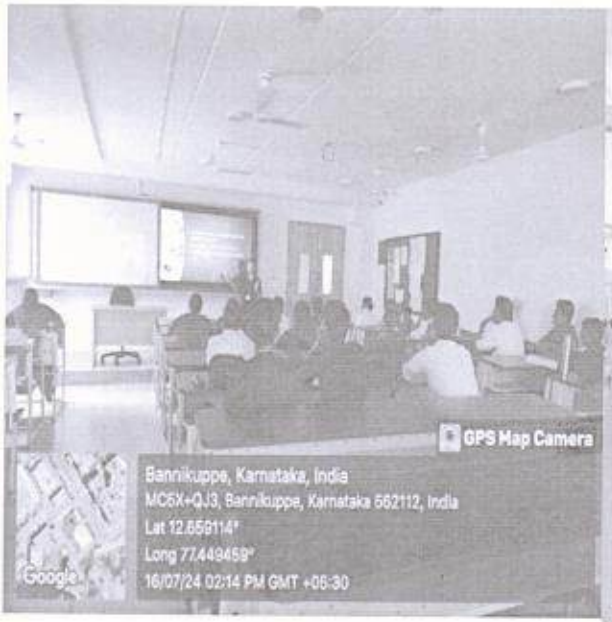
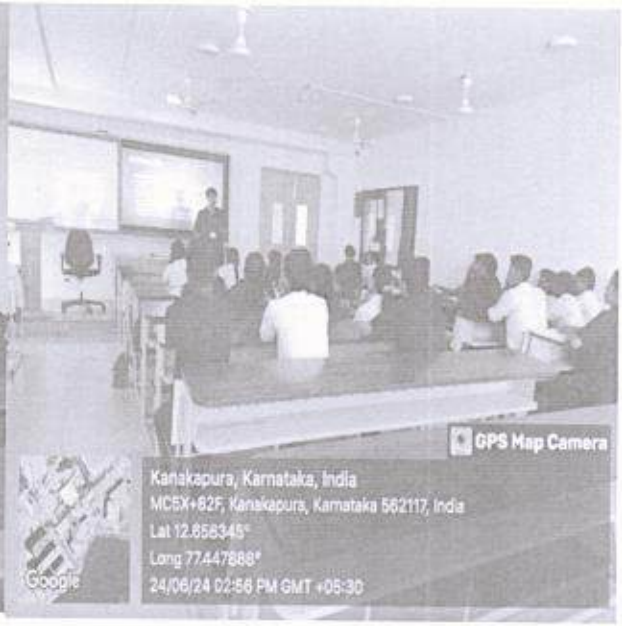
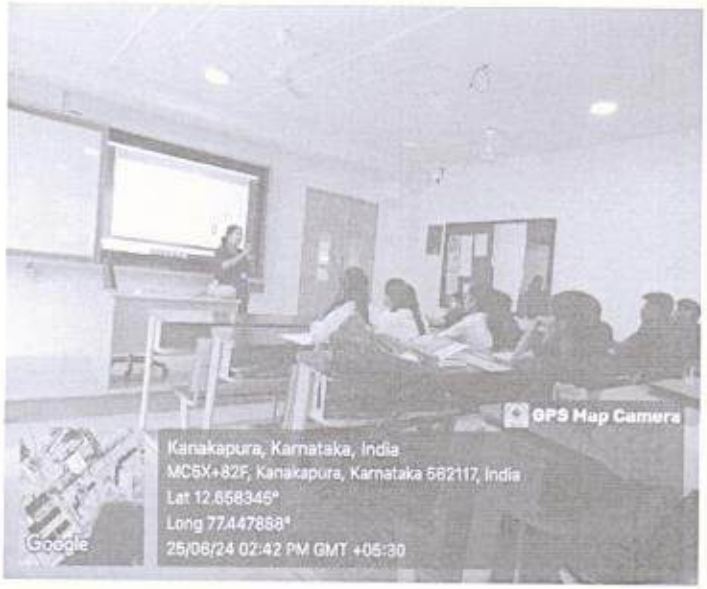
Class Presentations:

B.Sc. Nursing IV year students done class presentations on various topics and learned through critical thinking and participative learning.







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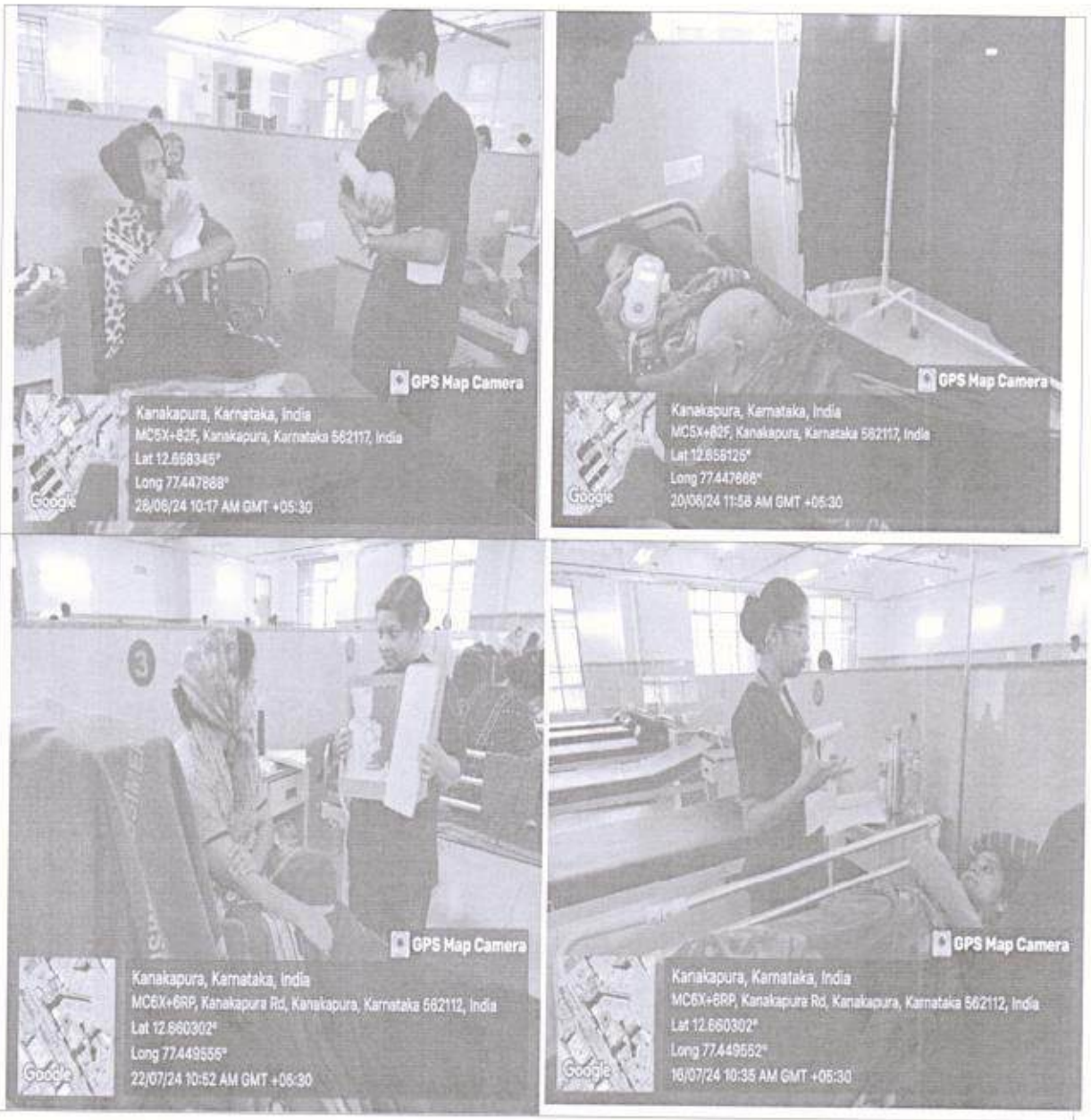
Clinical Teaching:

B.Sc. Nursing IV year students done class teaching on various topics and taught to antenatal and postnatal mothers and performed procedure in the clinical setting.



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2.3.1. Student Centric Methods:

Problem Solving Methodologies

BATCH	ACTIVITY
B.Sc. NURSING	Nursing care plan, Case study, Drug files, clinical presentation, Health Education
P.B.Sc. NURSING	Nursing care plan, Case study, Drug files, clinical presentation, Health Education
M.Sc. NURSING	Nursing care plan, Case study, Drug files, clinical presentation, Health Education

Participation in video competitions at MS Ramaiah College.

M.Sc. & B.Sc. Nursing students of College of Nursing Sciences participated in inter college video making competition organized by MS Ramaiah College of Nursing Education & Research on occasion of World Hypertension Day 2024 conducted in the month of June 2024. Their creativity & team work earned the first prize and brought pride & recognition to the college.

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RAMAIAH
Institute of Nursing
Education & Research

Certificate of Appreciation

WORLD
HYPERTENSION
DAY
2024

This is to certify that **Mr./Ms. Anusha K.S** student of College of Nursing Science, Dayanand Sagar University has secured 1st **Place** in Intercollege Competition on Video Making, **Theme : "Measure Your Blood Pressure Accurately, Control it, Live Longer"** on occasion of "World Hypertension Day-2024" held from 7th to 17th June 2024.

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Dr. Jadhav Sonali Tarachand
Dean & Principal,

RAMAIAH
Institute of Nursing
Education & Research

Certificate of Appreciation

WORLD
HYPERTENSION
DAY
2024

This is to certify that **Mr./Ms. Gaganashree M** student of College of Nursing Science, Dayanand Sagar University has secured **1st Place** in Intercollege Competition on Video Making, **Theme : "Measure Your Blood Pressure Accurately, Control it, Live Longer"** on occasion of "World Hypertension Day-2024" held from 7th to 17th June 2024.

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Dr. Jadhav Sonali Tarachand
Dean & Principal,

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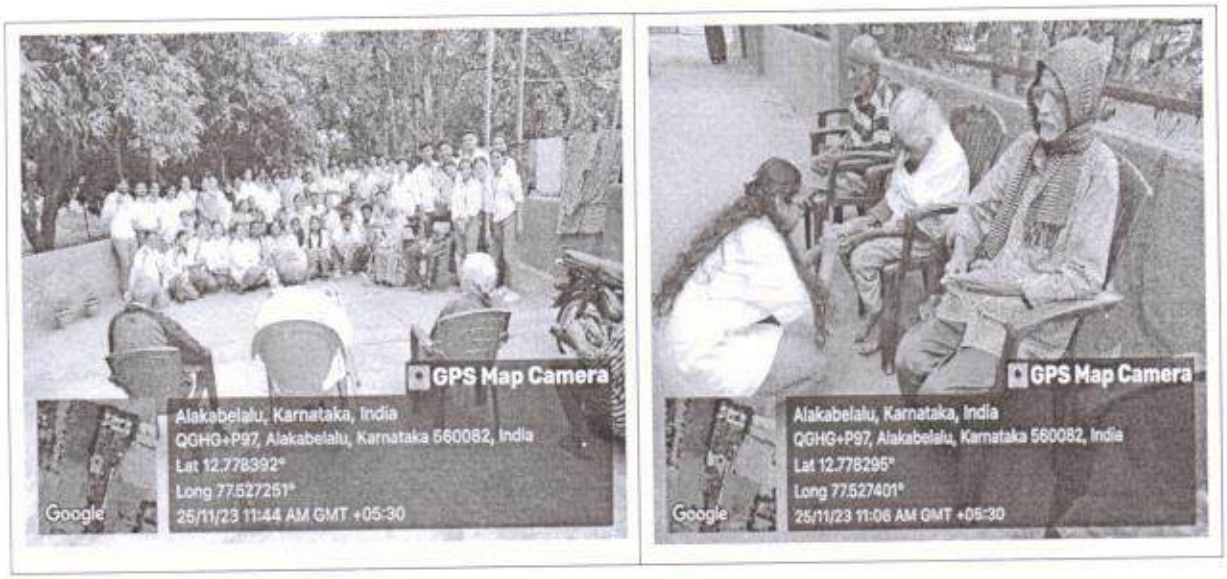
2.3.1 Student Centric Methods- Experiential Learning

Industrial Visits-2023-24

1. Educational Visit to Aaraika home for the aged:

College of Nursing Sciences organized educational visit to **Aaraike home for the aged** on **25.11.23** from 10 am – 12.30 pm for **B.Sc. Nursing IV Semester & M.Sc. Nursing I year** students. The students were accompanied by **Mrs. S.Suseela**, Associate Professor. There were 25 elderly people at the Aaraike home for the aged. The students got opportunity to visit them and interact with elderly and identified the age related issues, monitored BP, hair care & nail care provided. Entertained them with songs and dance and distributed snacks to the residents at the home.



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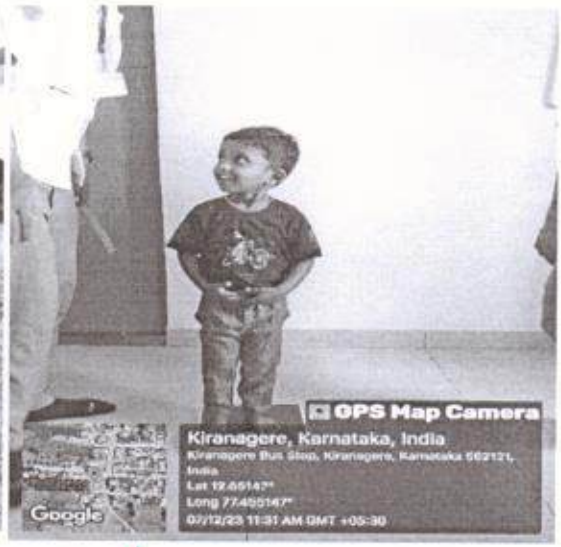
2. OBSERVATIONAL VISIT TO CADABAMS REHABILITATION CENTRE:

College of Nursing Sciences has organized an **observational visit to CADABAMS Rehabilitation Centre** on **28th November 2023** with an aim to witness the practical experience of the rehabilitation and health care setting. 32 students from **III year B.Sc. Nursing** & 2 faculty **Dr. Sujitha M & Mrs. Sejal Darbar** visited CADABAMS. The team was guided by a counsellor named Mr. Manjunath who explained in detail about the whole process and the functioning of their institution, and the specialty of their institution.

3. Anganwadi visit for under five health assessment:

The Department Child Health Nursing, CONS has organized **Anganwadi visit** on **07.12.23** from 9 am onwards. B.Sc. Nursing III year students participated in the event and health assessment, growth monitoring & puppet show was performed for under five children at Anganwadi schools.



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4. OBSERVATIONAL VISIT TO PALLIATIVE CARE CENTRE:

College of Nursing sciences has organized visit to the **Old Age Home and Palliative Care Centre** at **Little Sisters of the Poor** on **18.12.23** for B.Sc. Nursing III year students. Sr. Josephine, the coordinator, facilitated the overall orientation to the area, providing historical context about the beginning of the old age home. The students were briefed on the challenges faced by the elderly and the importance of palliative care in enhancing their quality of life. **Dr. Jamuna PP & Mrs. Julice vurughese** accompanied the students for visit.

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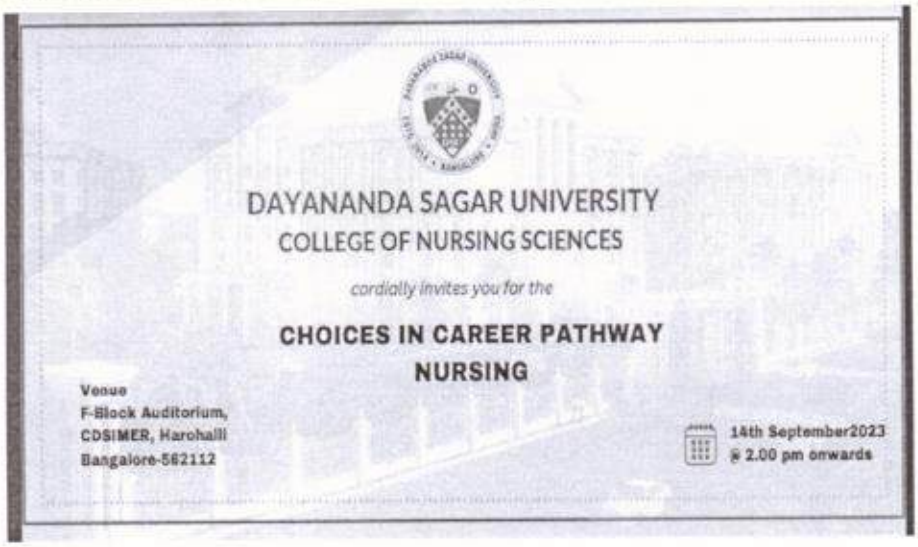
REPORT ON - DIVERSE CHOICES IN CAREER PATH IN NURSING

Event Date: September 14, 2023

Event Time: 2:00 PM Onwards

Venue: 'F' Block Auditorium

Introduction: The event on "Choices of Career Pathway in Nursing" held at the F Block Auditorium on September 14, 2023, was a resounding success.



Introductory Speech:

Dr. Santham Sweet Rose, Principal of College of Nursing Sciences, DSU, initiated the event by emphasizing the importance of choosing the right career path, especially in nursing. Madam shared her own experience as a student and highlighted how the field of nursing offers various opportunities and emphasized the need for students to make informed decisions regarding their future.

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Welcome Address:

Dr. Jamuna, Associate Professor, OBG Nursing Speciality welcomed the gathering with warmth and enthusiasm. She expressed her gratitude to the guest speakers and Principal, College of Nursing Sciences, DSU for their presence and encouraged all the attendees to actively participate in the discussions and make the most of the valuable insights to be shared.

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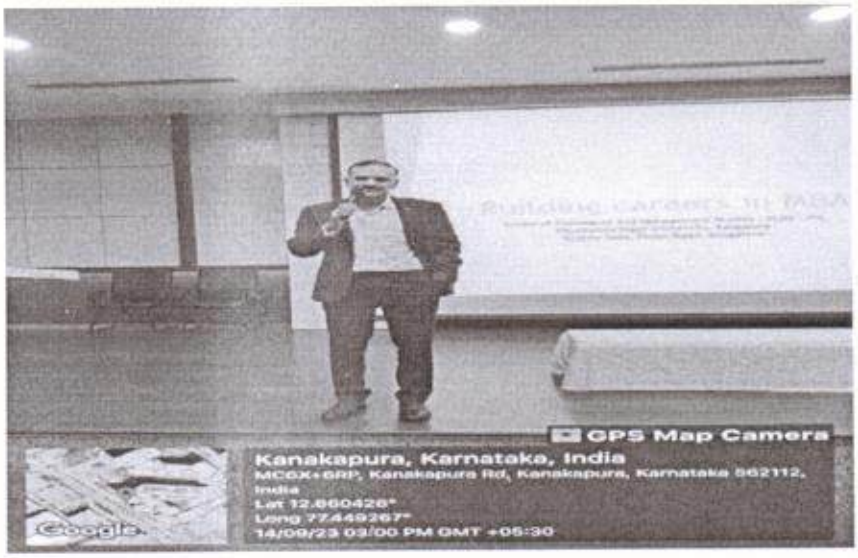
Guest Speaker Presentations:

Dr. Umashankar Subramanian, one of the guest speakers, began by discussing the diverse career pathways within nursing. He shed light on the opportunities available in clinical nursing, research, education, and administration. Dr.Umashankar Subramanian shared his personal experiences and insights, motivating the students to explore their passions within and out the nursing profession.

1. **Dr. Umashankar Subramanian.**

2. **Professor Mohan.**



Prof. Mohan, another distinguished guest speaker, spoke about the evolving role of technology in MBA. He discussed how advancements in healthcare technology are opening up new avenues in nursing, including telemedicine, informatics, and data analysis. Prof. Mohan emphasized the importance of embracing into MBA course and to enhance the prospectus of the students.

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3. **Dr. Pavithra**

Dr. Pavithra, the final guest speaker, shared her expertise in the field of mentoring MBA studentsr. She highlighted the significance of executive MBA and its potential to drive positive changes in healthcare. Dr. Pavithra encouraged students to consider pursuing careers in various specializations in MBA and provided valuable guidance on how to get started in this field.

Vote of Thanks:

Mr. Ramesh, Associate Professor, Medical Surgical Nursing Speciality, faculty representative, delivered the vote of thanks at the end of the event. He expressed gratitude to the guest speakers for their enlightening presentations and to Dr. Santham Sweet Rose, Principal CONS,DSU, Nursing faculty and all the attendees for making the event a success. Mr. Ramesh encouraged fellow students to reflect on the insights gained and make informed decisions about their nursing careers.

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Conclusion: The "Choices of Career Pathway in Nursing" event provided students with valuable insights into the diverse opportunities within the nursing profession. The guest speakers, Dr. Umashankar Subramanian, Prof. Mohan, and Dr. Pavithra, shared their expertise, motivating students to explore various career paths in nursing. The event served as a platform for learning and networking, and it is hoped that it will inspire students to make informed and fulfilling career choices in the field of nursing.

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Dayananda Sagar University Bengaluru

COLLEGE OF NURSING
SCHOOL OF HEALTH SCIENCES
Shavige Malleshwara Hills, Kumaraswamy Layout, Bengaluru-560078.

B.Sc. Nursing IV year
MINI RESEARCH PROJECTS

Sl.No.	USN	NAME	Name of the Guide	Signature
1	HSC19BN0049	SYED MUSAIB NAZIR	Group I Mrs. Sabina Christina	A Descriptive study to assess the knowledge about home remedies for acute respiratory infections among mothers of children
2	HSC19BN0050	TAHIR AHMAD WAZA		
3	HSC18BN0025	MOHAMMAD WASEEM DAR		
4	HSC18BN0065	WAQAS KHALID SHAH		
5	HSC18BN0001	ABDUL MATIEN KHAN		
6	HSC19BN0042	SHAHID UL ISLAM KHAN		
1	HSC19BN0001	ABHIK MANDAL	Group III Dr. Sharmila J	Assessment of sleep quality among Type-2 Diabetes mellitus
2	HSC19BN0002	ABHINAYA R		
3	HSC19BN0004	AMIT RAJ		
4	HSC18BN0007	ANWESHA BISWAS		
5	HSC19BN0043	SHAILU RATHOD		
1	HSC19BN0005	ANANT MUKHIA	Group III Mr. Ramesh S	A study to assess the quality of life among geriatric population among selected villages of Ramanagara district, Kanakapura.
2	HSC19BN0006	ARPITA SHIL		
3	HSC19BN0007	BABU S		
4	HSC18BN0015	DEBAPRIYA KUNDU		
5	HSC18BN0014	DAMYIR MARY KAYE		
1	HSC19BN0010	BIKRAM BISWAS	Group IV Dr. Jamuna PP	A Quantitative study to assess the effectiveness of heat therapy on afterpains among postnatal women at postnatal ward, CDSIMER
2	HSC19BN0011	C LALREMRUATI		
3	HSC19BN0023	JENNIFER LALMUANPUII		
4	HSC18BN0021	KOKILA NITHYA		
5	HSC17BN0022	SAVAD.M		

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1	HSC19BN0014	DEBAJYOTI JOARDAR	Group V Mrs. S. Suseela	A study to assess the effectiveness of Benson's relaxation technique on perceived stress among postmenopausal women in selected community area.
2	HSC19BN0015	DEEPTHI R		
3	HSC19BN0019	G SHALINI RAJ		
4	HSC18BN0030	MUHAMMED NASAL E K		
5	HSC19BN0048	SUSHMITA CHAKRABORTY		
1	HSC19BN0018	FAIZAN ANWAR	Group VI Mr. Ravi Kulal	A Descriptive study to assess the knowledge regarding treatment modalities of pulmonary tuberculosis among patients of selected villages in Ramanagar district.
2	HSC19BN0020	G SHIVAPRASAD		
3	HSC19BN0022	JANNABI SHERPA		
4	HSC18BN0027	MONIKA KULARIYA		
5	HSC18BN0032	NEHA BASUMATARY		
1	HSC19BN0013	CHOUDHARY MUNISHMEHDI	Group VII Dr. Sujitha M	"A study to assess the effectiveness of relaxation therapy in reducing stress and insomnia among the elderly population in selected old age home of Bangalore"
2	HSC19BN0003	AKASH SAHA		
3	HSC19BN0027	LALLENMAWII		
4	HSC19BN0052	TAPABRATA BISWAS		
5	HSC18BN0039	PRAKRUTHI JYOTI		
1	HSC19BN0028	LHAKPA TENZOM	Group VIII Mrs. Julice Vurghese	Assessment of knowledge, attitude and practice among mothers on effectiveness of fever care of febrile children at CDSIMER hospital
2	HSC19BN0032	MERLIN A		
3	HSC19BN0030	MARIA C LALRINMAWII		
4	HSC18BN0040	PUNITH B K		
5	HSC18BN0041	RABART		
1	HSC19BN0033	NIKITA J	Group IX Mrs. Sejal Darbar	A study to assess the problem solving skills among school children with play therapy in selected schools of Harohalli
2	HSC19BN0034	NITHIN K P		
3	HSC19BN0037	RIYA CHOUDHURY		
4	HSC18BN0045	S K SOHEL RANA		
5	HSC18BN0046	SAMYUKTHA B		
1	HSC19BN0039	SANAT MAJUMDAR	Group X Ms. Anjana Thangjam	A study to assess knowledge and attitude of diabetes management among adults with type 2 diabetic mellitus of a selected community area, Harohalli
2	HSC19BN0040	SARASWATHI A H		
3	HSC19BN0047	SOUNDARYA		
4	HSC18BN0053	SINGH JYOTI DHARAM		

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5	HSC19BN0016	DHANAVELU J		
1	HSC19BN0054	VISHNUPRIYA VINOD	Group XI Ms. Ashwini A	A study to assess the effectiveness of interventional package on knowledge regarding pre-conceptional health care among final year students, degree college at Harohalli
2	HSC19BN0008	BEIPHAKI HLYCHHO		
3	HSC19BN0009	BHUMIKA		
4	HSC19BN0026	LALHMANGAIHZUALI		
5	HSC19BN0026	LALHMANGAIHZUALI		
1	HSC19BN0017	DHRUVA KUMAR V	Group XII Mr. Franklin Jino	A Study to assess the knowledge regarding Prevention of Diarrhoea among mothers of under five children at selected community area
2	HSC19BN0025	KENCHAPPA GADDIGE		
3	HSC19BN0029	LOBSANG CHODDEN		
4	HSC19BN0035	PALLAVI K L		
5	HSC17BN0025	STANZIN KUNSAL		
6	HSC17BN0015	MUHAMMED SHAMSEER		

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LIST OF COURSE COMPLETED BY B.SC NURSING STUDENT

S.NO	DATE	NAME OF THE STUDENT	SEMESTER	COURSE	TOPIC
18.	JAN 24	VARSHINI P	1ST	WHO	Infection control and prevention
19.	JAN 24	VARSHITHA B C	1ST	WHO	Infection control and prevention
20.	JAN 24	ADIN SULAIMAN C	1ST	WHO	Infection control and prevention
21.	JAN 24	AJAY KUMAR	1ST	WHO	Infection control and prevention
22.	JAN 24	AKSHAY LAL KS	1ST	WHO	Infection control and prevention
23.	JAN 24	AKULA PRANITHA	1ST	WHO	Infection control and prevention
24.	JAN 24	ALAN K SCARIA	1ST	WHO	Infection control and prevention
25.	JAN 24	ALTHAF JASEEM K P	1ST	WHO	Infection control and prevention
26.	JAN 24	ANUJ KUMAR PANDEY	1ST	WHO	Infection control and prevention
27.	JAN 24	AROMAL S NAIR	1ST	WHO	Infection control and prevention
28.	JAN 24	ASIT RANJAN	1ST	WHO	Infection control and prevention
29.	JAN 24	ATHUL SURESH E M	1ST	WHO	Infection control and prevention
30.	JAN 24	AYLIN PETER	1ST	WHO	Infection control and prevention
31.	JAN 24	BASIL PT	1ST	WHO	Infection control and prevention
32.	JAN 24	BEN THOMAS	1ST	WHO	Infection control and prevention
33.	JAN 24	BHAWANA GURUNG	1ST	WHO	Infection control and prevention
34.	JAN 24	BIYA BINU	1ST	WHO	Infection control and prevention
35.	JAN 24	CHRIS JOHNSON	1ST	WHO	Infection control and prevention

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LIST OF COURSE COMPLETED BY B.SC NURSING STUDENT

S.NO	DATE	NAME OF THE STUDENT	SEMESTER	COURSE	TOPIC
36.	JAN 24	DEEPA	1ST	WHO	Infection control and prevention
37.	JAN 24	EDISON K BABU	1ST	WHO	Infection control and prevention
38.	JAN 24	FARHAN K	1ST	WHO	Infection control and prevention
39.	JAN 24	FATHIMA RINSHA E P	1ST	WHO	Infection control and prevention
40.	JAN 24	FEBY ROY	1ST	WHO	Infection control and prevention
41.	JAN 24	GLADWIN S FRANCIS	1ST	WHO	Infection control and prevention
42.	JAN 24	HAFSA AK	1ST	WHO	Infection control and prevention
43.	JAN 24	JOYAL VARGHESE	1ST	WHO	Infection control and prevention
44.	JAN 24	KASHISH GURUNG	1ST	WHO	Infection control and prevention
45.	JAN 24	MAHEK KUMARI	1ST	WHO	Infection control and prevention
46.	JAN 24	MANAV JAYAN	1ST	WHO	Infection control and prevention
47.	JAN 24	MISHAL M K	1ST	WHO	Infection control and prevention
48.	JAN 24	MOHAMED SHAMIL	1ST	WHO	Infection control and prevention
49.	JAN 24	MOHAMMED SHAMEEM	1ST	WHO	Infection control and prevention
50.	JAN 24	MOHAMMED SHEHIN TM	1ST	WHO	Infection control and prevention
51.	JAN 24	MOHAMMED SUFAIL K S	1ST	WHO	Infection control and prevention
52.	JAN 24	MUHAMMAD THAHSIN MUBASSHIR	1ST	WHO	Infection control and prevention
53.	JAN 24	MUHAMMED AZAAN P	1ST	WHO	Infection control and prevention

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LIST OF COURSE COMPLETED BY B.SC NURSING STUDENT

S.NO	DATE	NAME OF THE STUDENT	SEMESTER	COURSE	TOPIC
54.	JAN 24	MUHAMMED JAVAD	1ST	WHO	Infection control and prevention
55.	JAN 24	MUHAMMED RM	1ST	WHO	Infection control and prevention
56.	JAN 24	NAYANA M	1ST	WHO	Infection control and prevention
57.	JAN 24	PURUSHOTTAM KUMAR	1ST	WHO	Infection control and prevention
58.	JAN 24	RAZI ABDUL RAZACK	1ST	WHO	Infection control and prevention
59.	JAN 24	SHEBA ANU SIBI	1ST	WHO	Infection control and prevention
60.	JAN 24	VELINA	1ST	WHO	Infection control and prevention
61.	JAN 24	NIRJALA KOIRALA	1ST	WHO	Infection control and prevention

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Mr./Ms. .....

has successfully completed the Nutrition Education Programme

on" .....Growth Monitoring....."

through e-Learning platform.

Director
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COURSES INTEGRATED WITH LABS
B.Sc. NURSING

S No	Year	Course Code	Course Title	No. of Contact hours Practical (Lab & Clinical)
1.	I year	16NS101	Anatomy	15
		16NS102	Physiology	15
		16NS103	Nutrition	20
		16NS104	Biochemistry	15
		16NS105	Microbiology	15
		16NS171	Nursing Foundation	650
2.	II year	16NS203	Pathology And Genetics	10
		16NS271	Medical Surgical Nursing-I	720
		16NS205	Community Health Nursing-I	135
3.	III Year	16NS371	Medical Surgical Nursing-II	270
		16NS372	Child Health Nursing	270
		16NS373	Mental Health Nursing	270
4.	IV Year	16NS471	Midwifery & Obstetrical Nursing	180
		16NS472	Community Health Nursing-II	135

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COURSES INTEGRATED WITH LABS

PBB.Sc. NURSING

S No	Year	Course Code	Course Title	No. of Contact hours Practical (Lab & Clinical)
1.	I year	16PB101	Biochemistry	15
		16PB102	Biophysics	15
		16PB103	Nutrition & Dietetics	15
		16PB104	Microbiology	30
		16PB171	Maternal Nursing	240
		16PB172	Child Health Nursing	240
		16PB173	Medical Surgical Nursing	270
2.	II year	16PB271	Community Health Nursing	240
		16PB72	Mental Health Nursing	240

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COURSES INTEGRATED WITH LABS

M.Sc. NURSING

S No	Year	Course Code	Course Title	No. of Contact hours Practical (Lab & Clinical)
1.	I year	16MSN102	Advance Nursing Practice	200
		16MSN103	Nursing Research	100
		16MSN103	Statistics	50
		16MSN171	Nursing Education	150
		16MSN172	Medical Surgical Nursing	650
		16MSN173	Obstetric and Gynecological Nursing	650
2.	II year	16MSN201	Nursing Management	150
		16MSN271	Medical Surgical Nursing	950
		16MSN272	Obstetric And Gynecological Nursing	950

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COURSES INTEGRATED WITH LABS
B.Sc. NURSING SEMESTER SCHEME-2021-22 BATCH ONWARDS

S No	Semester	Course Code	Course Title	No. of Skill Lab Hours	Credits
1.	I Semester	N-NF (I)125	NURSING FOUNDATION I INCLUDING FIRST AID MODULE	80	2
2.	II Semester	N-NF (II)125	NURSING FOUNDATION II INCLUDING HEALTH ASSESSMENT MODULE	120	3
		HNIT 145	HEALTH/NURSING INFORMATICS & TECHNOLOGY	40	1
3.	III Semester	MICR 201	APPLIED MICROBIOLOGY AND INFECTION CONTROL INCLUDINGSAFETY	40	1
		N-AHN (I)215	ADULT HEALTH NURSING I WITH INTEGRATED PATHOPHYSIOLOGY INCLUDING BCLS MODULE	40	1
4.	IV Semester	N-AHN (II)225	ADULT HEALTH NURSING II WITH INTEGRATED PATHOPHYSIOLOGY INCLUDING GERIATRIC NURSING +PALLIATIVE	40	1
5.	V Semester	N-CHN(I) 301	CHILD HEALTH NURSING I INCLUDING ESSENTIAL NEWBORNCARE (ENBC), FBNC, IMNCI AND PLS, MODULE	40	1
		EDUC 315	EDUCATIONAL TECHNOLOGY/NURSINGEDUCATION	40	1
6.	VI Semester	N-MIDW(I) /OBGN 335	MIDWIFERY/OBSTETRICS AND GYNECOLOGY (OBG) NURSINGI INCLUDING SBA MODULE	40	1
7.	VII Semester	NRST 405	NURSING RESEARCH & STATISTICS	80	2

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		N- MIDW(II)/ OBGN 410	MIDWIFERY/OBSTETRICS AND GYNECOLOGY (OBG) NURSING II INCLUDING SAFE DELIVERY APP MODULE	40	I

DAYANANDA SAGAR UNIVERSITY

COLLEGE OF PHARMACEUTICAL SCIENCE

PHYSICAL PHARMACEUTICS

PROBLEM-BASED LEARNING

TOPIC:

A CASE STUDY ON FORMULATION STABILITY CHALLENGE

CASE STUDY

PRINCIPAL
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Kumaraswamy Layout,
Bengaluru - 560 078.

Submitted by:

Kautarth Shah
IV - B. Pharm.

SUBMITTED TO:

DR.ARFA NASRINE
ASSISTANT PROFESSER
COPS,DSU

Problem-Based Learning

Problem Topic: Formulation Stability Challenge

Scenario:
You are part of a pharmaceutical R&D team working on a new oral suspension for a pediatric drug. However, during preliminary testing, the formulation is showing signs of instability, with particles settling rapidly and the suspension separating after a short period.

Problem Statement:

Investigate the possible reasons for the instability of the suspension. Consider the interfacial properties of the suspended particles, the effects of flocculation and deflocculation, and the formulation's rheological properties. Propose a strategy to improve the stability of the suspension, ensuring that it remains homogenous over its intended shelf life. Include a discussion on the methods to test the stability and justify the choice of additives or formulation techniques.

Answer:

1. Understanding the Problem:

- **Interfacial Properties:** The stability of a suspension largely depends on the interfacial properties of the suspended particles. Factors such as particle size, zeta potential, and surface energy influence the tendency of particles to aggregate or remain dispersed.
- **Flocculation vs. Deflocculation:** In a flocculated suspension, particles form loose aggregates that can be easily redispersed. In a deflocculated suspension, particles remain separate but are more prone to sedimentation, leading to hard cake formation.
- **Rheology:** The flow properties of the suspension, including viscosity and thixotropy, play a crucial role in maintaining homogeneity. A higher viscosity can slow down particle settling, while thixotropic behavior ensures ease of redispersion.

2. Formulation Strategy:

- **Choice of Surfactants:** Use of suitable surfactants can modify the interfacial tension and stabilize the suspension. For instance, non-ionic surfactants can help in reducing the zeta potential and prevent particle aggregation.
- **Use of Polymers:** Polymers like xanthan gum or carboxymethylcellulose can increase the viscosity of the suspension, reducing the rate of sedimentation. Additionally, these polymers can impart thixotropic properties, ensuring easy redispersion after shaking.
- **Incorporation of Flocculating Agents:** To prevent the formation of a hard cake, controlled flocculation can be achieved using electrolytes or polymers that cause the particles to loosely aggregate, making them easy to redisperse.

3. Stability Testing:

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Bengaluru - 560 078.

- **Sedimentation Volume:** Measure the sedimentation volume (F) over time to assess the stability of the suspension. A higher F value indicates better stability.
- **Zeta Potential Measurement:** Determine the zeta potential of the suspended particles. A zeta potential between -30 mV and +30 mV usually indicates good stability.
- **Rheological Testing:** Use a viscometer to measure the viscosity and assess the thixotropic behavior of the suspension. The formulation should exhibit a balance between high viscosity (to prevent sedimentation) and low viscosity (for ease of pouring).

4. Conclusion:

- By optimizing the interfacial properties, controlling flocculation, and enhancing the rheological characteristics, a stable suspension can be formulated. The use of surfactants, polymers, and flocculating agents should be justified based on their compatibility with the drug and excipients, as well as their impact on the overall stability and efficacy of the formulation.

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PROBLEM- BASED LEARNING SESSION

Subject in-charge : Dr. Lita Susan Thomas

Khamdka N.M.

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Harohalli

SUBMITTED BY,

MONIMALA BHOWMICK

NAINA SHALVI TIGGA

PIYALI DAS

PRIYANKA KUMARI

SANNIK CHAKRABORTY

CASE EXAMPLE: 03

SIGNAL IDENTIFIED VIA SPONTANEOUS REPORTING CONFIRMED BY A FORMAL PHARMACOEPIDEMIOLOGY STUDY.

Background

- Phenylpropanolamine (PPA) is an ingredient that was used in many over-the-counter (OTC) and prescription cough and cold medications as a decongestant and in OTC weight loss products. As early as 1984, the FDA received reports of hemorrhagic stroke (bleeding into the brain or into tissue surrounding the brain) in association with PPA. In addition, there were published reports in the literature.

Question

- Is the use of PPA-containing products associated with hemorrhagic stroke?

Approach

- To confirm the signal of hemorrhagic stroke in association with PPA use identified through case reports submitted to the FDA's spontaneous reporting system database, and published case reports in the literature, an ad hoc case-control study was conducted by researchers at Yale University (Kernan WN, et al. Phenylpropanolamine and the risk of hemorrhagic stroke. N Engl J Med 2000; 343: 1826-32).

Results

- The study demonstrated a statistically significant increased risk of hemorrhagic stroke among both appetite suppressant users and first-time users of PPA as a cold/cough remedy.

Outcome

- An FDA Advisory Committee meeting was convened to discuss the case-control study, along with additional information on PPA, and determined that there is an association between PPA and hemorrhagic stroke and recommended that PPA be considered not safe for OTC use.
- The FDA agreed with the recommendations of its Advisory Panel and took steps to remove PPA from all drug products and requested all drug companies to discontinue or reformulate PPA-containing products.

1. What is your inference from this?
2. What are the strengths and limitations of this study?

1. What is your inference from this?

Ans: The inference drawn from this information is that there is a significant association between the use of phenylpropanolamine (PPA) and hemorrhagic stroke. This inference is supported by the findings of an adhoc case-control study conducted by researchers at Yale University, which demonstrated a statistically significant increased risk of hemorrhagic stroke among both appetite suppressant users and first time users of PPA as a cough/cold remedy. Additionally, there is inference further validated by the subsequent FDA advisory committee meeting, which reviewed the study's findings and other relevant information on PPA and concluded that PPA is associated with hemorrhagic stroke, leading to the recommendation to remove PPA from over-the-counter (OTC) use.

2. What are the strengths and limitations of the study?

Ans: Strengths:

- Case-control studies are valuable for assessing associations between exposures and outcomes.
- The study conducted by researchers at Yale University included both published case reports and data from the FDA's spontaneous reporting system database,

which increases the robustness of the findings.

- The study demonstrated a statistically significant increased risk of hemorrhagic stroke associated with PPA use, indicating a strong association between the two variables.

Limitations:

- Case-control studies can be prone to biases, such as recall bias and selection bias.
- The study relies on observational data, which cannot establish causation; it can only identify associations.
- The study might not have controlled for all potential confounding variables that could influence the association between PPA use and hemorrhagic stroke risk.
- The study's findings might not be generalizable to all populations, as it was conducted in a specific setting (Yale University) and might not represent the broader population.

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PROBLEM-BASED LEARNING

TOPIC:

A CASE STUDY ON DESIGNING A RHEOLOGICALLY STABLE TOPCAL GEL

CASE STUDY

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Bengaluru - 560 078.

Submitted by:
Kushi U Shetty

SUBMITTED TO:
DR.ARFA NASRINE
ASSISTANT PROFESSER
COPS,DSU

Answer:

1. Understanding the Problem:
- Rheological Properties: The gel should exhibit non-Newtonian flow, particularly pseudoplastic or thixotropic behavior, to ensure that it is easy to apply (shear thinning) and remains stable during storage (high viscosity at rest).
- Temperature Sensitivity: The gel's viscosity must remain consistent across a range of temperatures to ensure that it doesn't become too runny in warmer climates or too stiff in cooler environments.

2. Formulation Approach:
- Selection of Gelling Agents: Polymers such as carbomers or xanthan gum are commonly used to create the desired rheological properties. Carbomers can provide high viscosity and shear-thinning behavior, while xanthan gum can add thixotropic properties.
- Use of Humectants: Glycerin or propylene glycol may be included to

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the gel's moisture content and
it from drying out, which can
its rheology.
ratives: To ensure microbial
preservatives like parabens or
ethanol should be added,
ally if the gel contains water.
erimental Design for Rheological

nal Viscometer: Use a rotational
ter to measure the viscosity of
at different shear rates. This
characterize the gel's flow
(e.g., pseudoplasticity or
y).
erature Control: Test the gel at
temperatures (e.g., 4°C, 25°C,
to assess how its viscosity changes
perature. This will help ensure
gel remains stable under
nt storage conditions.
Rate Dependence: Measure the
at low and high shear rates to
ining behavior, which is
lication.

Kharade N.M.
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Problem-Based Learning

Problem Topic: Designing a Rheologically

Topical Gel

Scenario:

You have been assigned to develop a topical gel formulation for a new anti-inflammatory drug. The gel needs to have appropriate viscosity to ensure ease of application and stability over a range of temperatures.

Problem Statement:

Investigate the rheological properties required for the gel to maintain its consistency and effectiveness during storage and use. Consider the Newtonian and non-Newtonian flow characteristics, and how temperature changes could affect the viscosity. Propose a formulation approach, including the selection of suitable gelling agents and additives, to achieve the desired rheological behavior. Additionally, design an experiment using capillary or rotational viscometers to evaluate the gel's viscosity.

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4. Conclusion:

- By carefully selecting gelling agents and optimizing the formulation for rheological properties, a stable and effective topical gel can be developed. The experimental data from viscometry will guide adjustments to the formulation to achieve the desired consistency and stability across a range of temperatures.

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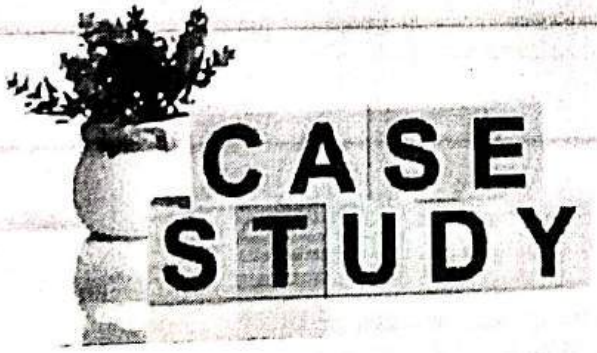
PROBLEM-BASED LEARNING

TOPIC:

A CASE STUDY ON FORMULATION STABILITY CHALLENGE



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Bengaluru - 560 078.

Submitted by:

Koutarth Shah
IV - B. Pharm.

SUBMITTED TO:

DR.AREA NASRINE
ASSISTANT PROFESSER
COPS,DSU

Problem-Based Learning

Problem Topic: Formulation Stability Challenge

Scenario:
You are part of a pharmaceutical R&D team working on a new oral suspension for a pediatric drug. However, during preliminary testing, the formulation is showing signs of instability, with particles settling rapidly and the suspension separating after a short period.

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1. Understanding the Problem:

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2. Formulation Strategy:

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- **Incorporation of Flocculating Agents:** To prevent the formation of a hard cake, controlled flocculation can be achieved using electrolytes or polymers that cause the particles to loosely aggregate, making them easy to redisperse.

3. Stability Testing:

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Kumaraswamy Layout,
Bengaluru - 560 078.

- **Sedimentation Volume:** Measure the sedimentation volume (F) over time to assess the stability of the suspension. A higher F value indicates better stability.
- **Zeta Potential Measurement:** Determine the zeta potential of the suspended particles. A zeta potential between -30 mV and +30 mV usually indicates good stability.
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CLINICAL RESEARCH

ASSIGNMENT: 02

TOPIC: PRE-CLINICAL AND CLINICAL STUDY DATA OF BEXAGLIFLOZIN

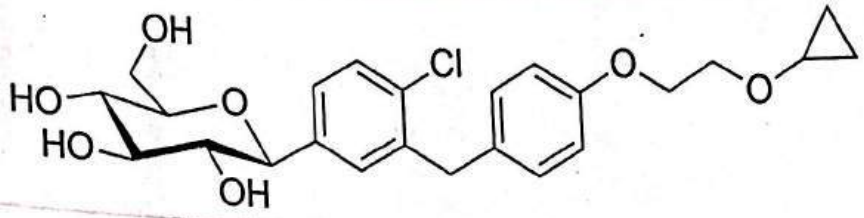
PRINCIPAL
College of Pharmaceutical Sciences
Dayananda Sagar University
Kumaraswamy Layout,
Bengaluru - 560 078.

SUBMITTED BY:
PIYALI DAS
V PHARM-D
HSC19PD0015

INTRODUCTION:

Adults with type 2 diabetes are prescribed the medication brentavvy, which contains bexagliflozin, to improve glycemic management when paired with dietary changes and physical activity. When taken orally, it functions as an SGLT2 inhibitor to control blood sugar levels.

Bexagliflozin, an SGLT2 inhibitor, is an ingredient in BRENZAVVY tablets, which are intended for oral use. The following formula specifies the chemical makeup of bexagliflozin: (2S, 3R, 4R, 5S, 6R)-2-(4-chloroPhenyl-3-(4-(2-cyclopropoxyethoxy)benzyl)Tetrahydro-6-(hydroxymethyl)3,4,5-triol-2H-pyran. Its molecular weight is 464.94 g/mol and its formula is C24H29ClO7. The following is the structural representation of bexagliflozin:



Recommended dosage:

As stated in the Clinical Pharmacology section, the recommended dosage for BRENZAVVY is 20 mg taken orally once daily in the morning, with or without food. It's crucial to avoid chewing or crushing the tablet. If a dose is accidentally missed, it should be taken without doubling the next dose as soon as it is remembered.

WARNING AND PRECAUTIONS:

Ketoacidosis: Regardless of blood glucose levels, assess patients displaying metabolic acidosis symptoms for potential ketoacidosis. Stop the treatment, perform an evaluation, and start managing the situation right away if you suspect something. Think about the risk factors for ketoacidosis before starting. In clinical situations where a patient is at risk of ketoacidosis, they may require close observation and a temporary stop to their treatment.

Depletion of volume: May cause acute kidney damage. Prior to beginning

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BRENZAVVY, patients who are elderly, have low systolic blood pressure, have impaired kidney function, or are taking diuretics should have their volume status evaluated and corrected. Continue to be alert for symptoms and indicators.

Pyelonephritis and urirosepsis: Examine patients for urinary tract infection symptoms and administer timely treatment if required.

Hypoglycemia: When taking BRENZAVVY concurrently with insulin, think about reducing the dose to reduce the risk of hypoglycemia.
Serious cases of necrotizing fasciitis of the perineum, also known as **Fournier's gangrene**, have been documented in patients receiving SGLT2 inhibitor therapy. Assess patients who exhibit particular symptoms in the genital or perineal region, and provide the necessary care as soon as possible.

PRE-CLINICAL STUDY:

Preclinical evaluations of bexagliflozin included laboratory and animal studies prior to human trials. The goal of these studies was to fully investigate bexagliflozin's pharmacokinetics (absorption, distribution, metabolism, and excretion), pharmacodynamics (effects on the body), safety profile, and possible efficacy.
The main constituents of these preclinical studies included:
The majority of the glucose that is reabsorbed from the renal glomerular filtrate in the renal proximal tubule is done so by the sodium-glucose co-transporter 2 (SGLT2), which is inhibited by bexagliflozin. This inhibition lowers the renal threshold for glucose, which increases the amount of glucose excreted in urine, and reduces the renal reabsorption of filtered glucose.

Pharmacodynamics:

Urinary Volume and Glucose Excretion: Following both a single and multiple bexagliflozin administration, increases in urine volume and urinary glucose excretion (UGE) proportional to dosage were noted in adults with type 2 diabetes mellitus as well as in healthy individuals. According to analysis, bexagliflozin at a dose of 20 mg produces almost maximal UGE, which lasts even after repeated dosing.
Cardiac Electrophysiology: Bexagliflozin does not prolong the QTc interval significantly at five times the recommended dose.

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Pharmacokinetics:

The pharmacokinetics of bexagliflozin in adults with type 2 diabetes mellitus and healthy subjects are consistent. Following a fast, 134 ng/mL and 1,162 ng.h/mL were found to be the peak plasma concentrations (Cmax) and area under the curve (AUC0-∞), respectively. The medication has a limited plasma accumulation that reaches 20% after several doses and does not show time-dependent pharmacokinetics.

Absorption:

Peak plasma concentrations of bexagliflozin follow oral administration of BRENZAVVY and can be delayed if taken with food or medications that slow down gastric emptying. These concentrations occur between 2 and 4 hours post-dose. From 3 mg to 90 mg, there is a proportional increase in plasma Cmax and AUC with dosage.

Impact of Food: Compared to fasting, taking BRENZAVVY after a high-fat, high-calorie meal raises Cmax and AUC by 31% and 10%, respectively. We increase the median Tmax to five hours. These effects aren't thought to be clinically significant, though.

Distribution: Bexagliflozin exhibits little change in protein binding with renal or hepatic impairment and is largely bound to plasma proteins (93%) in plasma. There are 262 L in the distribution's apparent volume.

Metabolism: The primary metabolizer of bexagliflozin is UGT1A9, with CYP3A having a minor role. The primary metabolite found in plasma is 3'-O-glucuronide, which is pharmacologically inert and accounts for 32.2% of the AUC of the parent compound in tracer investigations. There shouldn't be any notable pharmacological effects from any of the metabolites.

Excretion: Bexagliflozin has an estimated 19.1 L/h oral clearance and a 12-hour elimination half-life. 91.6% of the input radioactivity was recovered in healthy subjects who received an oral [14C]-bexagliflozin solution; 51.1% of this radioactivity was found in feces (mostly as bexagliflozin) and 40.5% in urine (mostly as 3'-O-glucuronide). In the urine and feces, bexagliflozin accounted for 1.5% and 28.7%, respectively, of the input radioactivity

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recovered.

CLINICAL STUDY:

BRENZAVVY has undergone clinical trials both as a standalone treatment (Trial 1) and in combination with metformin for adults with type 2 diabetes mellitus (Trials 2, 3, and 4). Additionally, it has been assessed in adults with type 2 diabetes and moderate renal impairment (Trial 5) as well as in those with established cardiovascular disease (CVD) or at heightened risk for CVD (Trial 6).

Phase I trials: Phase I clinical trials of Bexagliflozin primarily aim to evaluate its pharmacokinetics, pharmacodynamics, safety, and tolerability in healthy individuals. Through the use of both single and multiple ascending dose protocols, these trials seek to determine the optimal dosage range for subsequent studies. Findings from these trials reveal favourable safety characteristics of Bexagliflozin, with reductions in fasting plasma glucose levels and enhanced excretion of glucose in urine showing dose-dependency. Phase 1 trials determine appropriate dosage ranges for further study.

Phase II trials: Phase II clinical trials for bexagliflozin aim to assess its safety and efficacy in individuals diagnosed with type 2 diabetes. These trials typically involve randomization and placebo control, examining various treatment durations and doses. Key effectiveness measures include alterations in body weight, blood pressure, fasting plasma glucose, and glycated haemoglobin (HbA1c) levels. Findings from Phase II trials of a comparable medication, dapagliflozin, suggest enhanced glycemic regulation and metabolic indicators in a consistent and dose-dependent manner. These trials offered significant insights into potential advantages and influenced the formulation of subsequent trial methodologies.

Phase III trials: Comprehensive Phase III trials conducted across multiple centres aim to verify the safety and efficacy of Bexagliflozin in various patients diagnosed with Type 2 Diabetes Mellitus (T2DM). These trials frequently involve comparing Bexagliflozin with alternative antidiabetic medications or standard treatments. Key objectives include reducing HbA1c levels, attaining glycemic targets, assessing cardiovascular outcomes, and monitoring safety parameters. Furthermore, the trials emphasize its beneficial effects on regulating blood pressure and promoting weight reduction.

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CONCLUSION:

The development and eventual application of bexagliflozin in clinical practice were greatly influenced by the clinical studies that ultimately established the drug's safety, efficacy, and tolerability profile for the treatment of type 2 diabetes mellitus. Both as a monotherapy and an adjunct pharmacological therapy for the treatment of type 2 diabetes, bexagliflozin seems to be safe and effective.

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PRECLINICAL AND CLINICAL DATA OF SOTAGLIFLOZIN

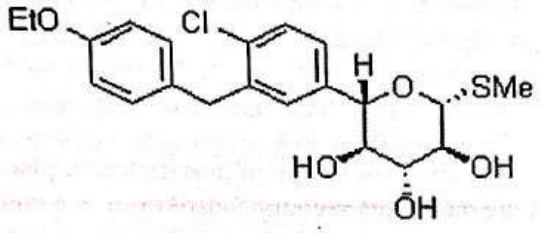
One drug that is part of the sodium-glucose cotransporter-2 (SGLT2) inhibitor class is sotagliflozin. It is used to treat chronic renal disease, heart failure, and both type 1 and type 2 diabetes.

SGLT1 and SGLT2, proteins involved in glucose reabsorption in the gastrointestinal tract and kidneys, respectively, are inhibited by sotagliflozin, a new oral dual inhibitor. Sotagliflozin lowers blood glucose levels by decreasing intestinal glucose absorption and increasing urine glucose excretion through the inhibition of these transporters.

Sotagliflozin's chemical name is (2S,3R,4R,5S,6R)2-(4-ethoxybenzyl)phenyl)-2-(4-chloro-3-)- 6-(methylthio)tetrahydro-2H-pyran-3,4,5-triol.

Its molecular weight is 424.94 and its formula is C21H25ClO5S.

The structural formula is:



The solid form of sotagliflozin is white to off-white. It is essentially water insoluble.

The following inactive chemicals are included in each 200 mg or 400 mg film-coated INPEFA tablet along with sotagliflozin. Magnesium stearate, microcrystalline cellulose, talc, croscarmellose sodium, and colloidal silicon dioxide are all found in the tablet's core. The 200 mg tablet's film coating is made of titanium dioxide, talc, polyethylene glycol, partially hydrolyzed polyvinyl alcohol, and indigo carmine aluminum lake. Yellow iron oxide, triacetin, titanium dioxide, hypromellose, and lactose monohydrate are all present in the 400 mg tablet's film coating. Ammonium hydroxide, black iron oxide, isopropyl alcohol, N-butyl alcohol, propylene glycol, and shellac are all present in black printing ink.

PRE – CLINICAL STUDIES :-

Preclinical investigations are usually carried out on lab animals prior to moving forward with human trials. The effectiveness of sotagliflozin in lowering blood glucose levels in animal models of type 1 and type 2 diabetes is one of the main conclusions from preclinical research on the drug.

1. In vitro research revealed that sotagliflozin inhibits the SGLT1 and SGLT2 transporters, which lowers the absorption of glucose in the kidney and the absorption of glucose in the gut.

2. Sotagliflozin enhanced insulin sensitivity and glucose tolerance while lowering hemoglobin A1c and fasting blood glucose in diabetic mice and rat models.

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3. Preclinical toxicology investigations lasting up to six months in rats and dogs revealed no significant safety concerns.

These investigations also shed light on the drug's pharmacokinetics, safety profile, and mode of action.

MECHANISM OF ACTION

SGLT2 and SGLT1 are inhibited by sotagliflozin. By inhibiting SGLT2, glucose and salt are less readily absorbed by the kidneys, which may have an impact on a number of physiological processes, including a decrease in the heart's pre- and afterload and a downregulation of sympathetic activity. Reduced intestinal absorption of salt and glucose is a possible cause of diarrhea when SGLT1 is inhibited. The cardiovascular advantages of sotagliflozin are not fully understood.

PHARMACODYNAMICS

Cardiac Electrophysiology

58 healthy participants received a single oral dose of moxifloxacin, placebo, and sotagliflozin 800 mg or 2000 mg (5 times the maximum recommended dose) in a randomized, placebo-controlled, active-comparator crossover research. With either 800 mg or 2000 mg sotagliflozin, there was no increase in QT corrected for heart rate (QTc).

PHARMACOKINETICS

Sotagliflozin's plasma Cmax and AUC rose in a dosage-proportionate way within the therapeutic dose range of 200 mg to 400 mg once daily. The area under the concentration-time curve from 0 to 24 hours (AUC0-24h) and Cmax increased by roughly 50–100% when sotagliflozin was accumulated at steady state compared to the first day of dose.

Absorption

The oral sotagliflozin 400 mg dose's absolute bioavailability was roughly 25% (90% confidence interval [CI] 16% to 39%) for the area under the concentration-time curve (AUC0-last) between time 0 and the final measured concentration. It is believed that enterohepatic circulation contributes roughly 50% of the total exposure. Over a single-dose range of 200 mg to 2000 mg, the median time to maximum plasma concentration (Tmax) varied from 1.25 to 3 hours. The 400 mg and 800 mg dosages that were administered resulted in median Tmax values that varied from 2.5 to 4 hours.

Food effect

In comparison to fasting settings, the administration of sotagliflozin tablets with a high-calorie breakfast raised plasma exposure to sotagliflozin by 149% and 50%, respectively. In healthy adults, three doses of 400 mg sotagliflozin given right before breakfast, half an hour before breakfast, and thirty minutes before breakfast demonstrated a consistent effect of sotagliflozin on postprandial glucose (PPG), insulin, and urine glucose excretion (UGE)

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across all dosing schedules. It is advised to take INPEFA no more than 60 minutes prior to the first meal of the day.

Distribution

High binding to human plasma proteins (> 93% bound) was demonstrated by both sotagliflozin and its major human metabolite, sotagliflozin 3-O-glucuronide. This binding was independent of both the concentration of sotagliflozin and sotagliflozin 3-O-glucuronide, as well as the degree of renal or hepatic function. After 400 mg of [14C]-sotagliflozin was administered, the mean whole blood to plasma concentration ratio of sotagliflozin varied from 0.5 to 0.6, and the mean blood/plasma ratios for total radioactivity were 0.5 and 0.4 for Cmax and AUC0-last, respectively. After taking 400 mg of [14C]-sotagliflozin orally, the mean apparent volume of distribution of sotagliflozin was 9000 L.

Metabolism

After 400 mg [14C]-sotagliflozin was given as a single dosage to healthy individuals, sotagliflozin was mostly converted to sotagliflozin 3-O-glucuronide, which accounted for 94.3% of the radioactivity in plasma. The main enzymes involved in sotagliflozin metabolism were CYP3A4 and UGT1A9, with CYP3A4 playing a supporting role. The primary conjugation seen after sotagliflozin was incubated with UGT1A9 was the 3-O-glucuronide metabolite. There were no sotagliflozin acyl glucuronides found.

Excretion

The radioactivity recovered in the urine and feces was 57% and 37%, respectively, after a single 400 mg dose of [14C]-sotagliflozin. These findings suggest that renal elimination was the primary pathway. Sotagliflozin 3-O-glucuronide was the most common metabolite found in urine, accounting for a mean of 33% of the radioactive dose that was given. The main radioactive peak found in fecal samples was unchanged [14C]-sotagliflozin, which accounted for a mean of 23% of the total radioactive dosage given. Sotagliflozin is circulated through the enterohepatic system. After 200 mg and 400 mg were administered, the mean terminal half life (T1/2) of sotagliflozin was found to be between 21 and 35 hours, whereas sotagliflozin 3-O-glucuronide was found to be between 19 and 26 hours. Sotagliflozin's effective half-life spanned five to ten hours. Generally, a steady state was attained after five days of using sotagliflozin 200 mg and 400 mg once daily. Following the administration of 200 mg and 400 mg of sotagliflozin, the mean oral clearance (CL/F) in healthy volunteers varied between 260 and 370 L/hr. For patients with type 2 diabetes mellitus and normal renal function, the median population PK model estimated CL/F to be approximately 300 L/hr.

CLINICAL STUDIES :-

The purpose of the SOLOIST (Effects of Sotagliflozin on Clinical Outcomes in Hemodynamically Stable Patients with Type 2 Diabetes Post Worsening Heart Failure) study (NCT03521934) was to ascertain whether INPEFA lowers the risk of overall cardiovascular death, hospitalization for heart failure, and urgent heart failure visit in patients with type 2 diabetes mellitus who had been admitted to the hospital, a heart failure unit, an infusion center, or an emergency department due to worsening heart failure. Patients who satisfied the following requirements for clinical stability—no need for oxygen therapy, a systolic blood pressure of at least 100 mmHg, and the ability to switch from intravenous to oral diuretic therapy—were randomly assigned to treatment. Among the 1,222 patients who underwent

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randomization, 608 were assigned to INPEFA and 614 to a placebo. The start of assigned treatment occurred either in the hospital or, at most, two days after hospital release. After starting therapy, the study drug's dosage was to be increased from 200 mg to 400 mg sotagliflozin or a matching placebo as soon as two weeks or as late as eight months. For 336 patients (56%) in the sotagliflozin group and 325 patients (53%) in the placebo group, the dose was increased to 400 mg once day. The uptitration period took 16 days on average. The decision to undertake an up-titration was made based on the investigator's assessment, which took into account the patient's clinical condition, the drug's tolerance, and the occurrence of adverse events (AEs) common to SGLT2 inhibitors, such as volume depletion. At baseline, there were 34% females, 93% White people, and 4% Black or African American people, with a median age of 70. The median eGFR was 50 mL/min/1.73 m2, the median body mass index (BMI) was 31 kg/m2, and the median A1C was 7.1%. The median score on the Kansas City Cardiomyopathy Questionnaire-12 (KCCQ-12) was 41, the median N-terminal pro B-type natriuretic peptide (NT-proBNP) was 1806 pg/mL, and the median left ventricular ejection fraction (LVEF) was 35% (79% with LVEF < 50%). 86% of patients were treated with antihyperglycemic drugs at baseline; these included biguanides (52%), insulin (36%), sulfonylureas (19%), dipeptidyl peptidase-4 (DPP4) inhibitors (16%), and glucagon-like peptide 1 (GLP-1) receptor agonists (3%). In the beginning, 91% of patients received treatment with renin-angiotensin-aldosterone system inhibitors, 92% with beta blockers, 95% with loop diuretics, and 10% with additional diuretics. The main composite endpoint risk was lower with INPEFA than with placebo (Hazard Ratio [HR] 0.67 [95% confidence interval (CI) 0.53, 0.85]; p = 0.001).

Phase 1 Trials:

In healthy volunteers, these preliminary studies evaluate the drug's safety, tolerability, pharmacokinetics, and pharmacodynamics. Sotagliflozin's potential to reduce blood glucose levels without causing major side effects was probably shown in phase 1 trials. Oral sotagliflozin exposure was dose-proportional and well absorbed. A 17-hour half-life was the mean.

Sotagliflozin increased urine glucose excretion in both type 2 diabetes patients and healthy volunteers in a dose-dependent manner, suggesting inhibition of SGLT1 and SGLT2.

The majority of side effects were minor. Thirst, polyuria, and vaginal mycotic infections were the most prevalent. Hypoglycemia was not seen.

Phase 2 Trials:

Patients with the ailment that the medicine is intended to treat typically make up the bigger participant pool in phase 2 trials. Phase 2 trials most likely assessed sotagliflozin's safety and effectiveness in individuals with type 1 and type 2 diabetes. It's possible that these trials investigated dose-response connections and determined the ideal dosage for more investigation.

Sotagliflozin significantly lowered A1c and reduced weight compared to placebo in patients with type 2 diabetes whose metformin management was insufficient across a 12-to 24-week period.

Over a 12-week period, sotagliflozin reduced A1c by 0.5-0.7% as a monotherapy in patients with type 2 diabetes who had not taken any previous medication.

Over an 18–24 week period, the combination of sotagliflozin with insulin lowered bolus insulin dose and enhanced glycemic control in individuals with type 1 diabetes.

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Phase 3 Trials:

These extensive investigations are meant to verify the medication's safety and effectiveness in particular patient groups. They supply the information required for regulatory clearance. In order to evaluate sotagliflozin's impact on glycemic control, cardiovascular outcomes, and safety parameters, a significant number of patients with type 1 and type 2 diabetes were probably tested extensively during the drug's phase 3 studies.

When used as an adjuvant to insulin for a 24-week period, sotagliflozin significantly reduced A1c, glucose variability, and insulin dosage in individuals with type 1 diabetes compared to a placebo.

In patients with type 1 diabetes, sotagliflozin elevated the incidence of genital mycotic infections and diabetic ketoacidosis.

Sotagliflozin is being tested in phase 3 trials to treat diabetic kidney disease and heart failure.

Post-Marketing Surveillance:

Following approval, post-marketing surveillance keeps an eye on the efficacy and safety of the medication in real-world situations. Additional information on long-term results and uncommon adverse events is provided at this phase.

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SUBMITTED BY –

GOOTY SHANAZ

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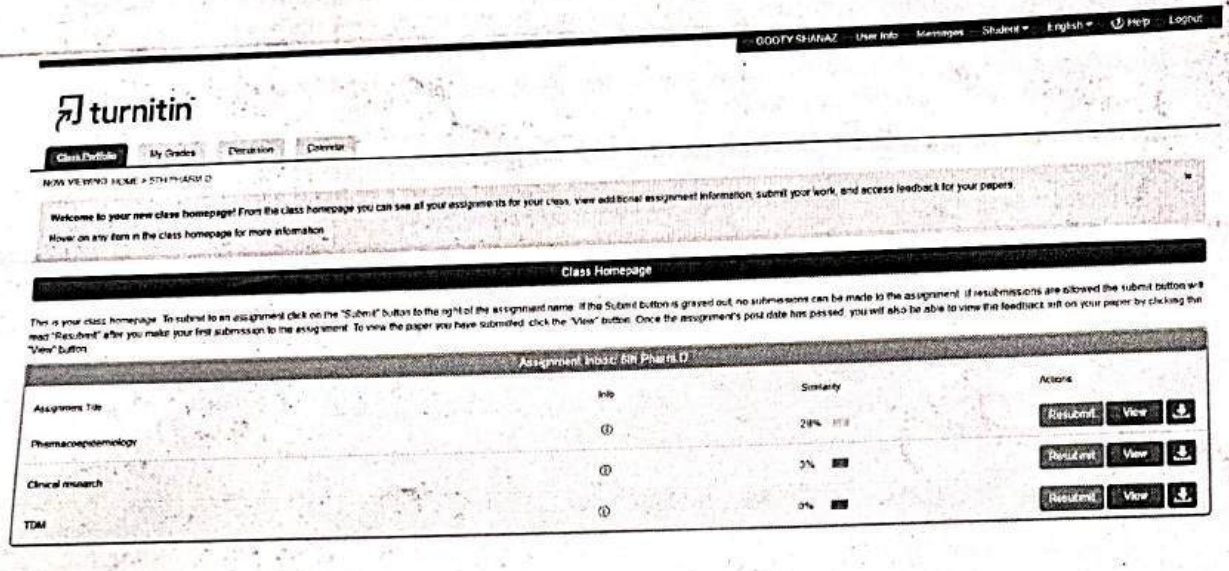

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Assignment

Various Instabilities of Emulsion

A stable emulsion is one in which the globules (dispersed phase) retain their size & as well as remain uniformly distributed throughout the continuous phase.

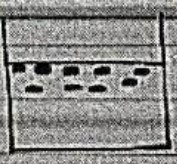
- Some instability occur during storage & formulation of emulsion.

1. Creaming
2. Coalescence
3. Breaking
4. Flocculation
5. Phase inversion
6. Physical & Chemical properties.

1. Creaming

- It is reversible phenomenon.
- In which droplets of disposed phase come together or deposit at the surface of the emulsion.

* o/w
  In this oil have low density so they come together at the surface of emulsion.
  - upward creaming



* w/o — In this density of water (dispersed phase)

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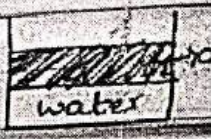
is more than continuous phase.
So particles come together at the bottom of emulsion.
→ Downward creaming

2. Coalescence

In emulsion, oily particles (dispersed phase) because of sticky nature attract each other & they aggregate to form bug particles

3. Breaking (Cracking)

Due to improper mixing of oil & water in emulsion, emulsions get separated into 2 layers. It is also occured due to improper ratio of oil & water.



4. Flocculation

In this due to increased surface free energy particles get aggregated to form floccules to decrease surface area.

5. Phase inversion

In this, the phase of emulsion get inverted
i.e o/w ⟶ w/o (or) w/o ⟶ o/w.

It happened due to mixing problem or by choosing wrong dispersed phase during formulation.

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apsara

5. Physical & chemical property changes:

In preparation of an emulsion, we use emulsifying agents to mix & make stable emulsion.
Sometime addition of these agents causes changes in properties like colour, pH, odour, taste etc...

preservation of Emulsions :-

> By using anti-oxidants.
> Using anti-microbials.

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NAME : JAHNAVI.M

29/3/24 UEN: HSC21PH0088

BT - UNIT TEST- 1

Q1. Describe different methods of Enzyme mobilization with Advantages & Disad. (6m).

Q2. Explain principle, construction & working of Bioreactors with a neat labelled diagram. (6m)

Q3. Write applications of pharmaceutical Biotechnology. (3m).

A3. Pharmaceutical Biotechnology - It is defined as the branch of science that covers all the technologies required for the production, Manufacture and registration of biological drugs or products.

Applications :-

(1) Food industry - Biotechnology is used to develop new strains & hybrid plant produ for various research developments

(2) Vaccines - Biotechnology plays an important role in the modern methods of development of vaccines

(3) Biotechnology is used in conservation purposes for the environment like protecti endangered species

(4) It is widely used in Gene therapy in the pharmaceutical industry.

(5) It is useful in producing Recombinan DNA enzymes, vaccines etc.

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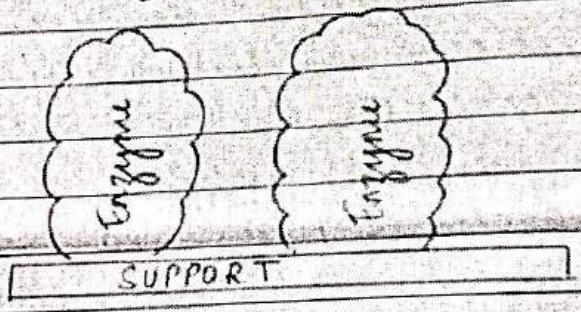
A.1. Enzyme Immobilization - It is defined as the process of confining an enzyme molecule to a solid support & pass over the substrate to form a product.
Enzyme immobilization involves restriction of the enzyme to a defined space.
It plays an important role in increasing the efficiency of the enzyme activity.

Methods :- There are 2 major methods.
(1) physical - encapsulation, adsorption, etc.
(2) chemical - cross linking. Covalent bo

(i) Adsorption :- It is a process in which the enzyme is allowed to adsorb to a solid support. The interaction between the support & enzyme involves weak forces.



Advantages :-
(1) It is a easy process
(2) Less expensive
(3) Easy distraction of the enzyme. Hence can be re-used.

Disadvantages :-
(1) Not a very effective method.
(2) NO accuracy.

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Assignment

Various Instabilities of Emulsion

→ Is an stability refers to the ability of an emulsion to resist change in its properties over time

The given 4 types of instability in emulsion :

(a) Flocculation
(b) Coalescence
(c) Cracking
(d) Creaming / Sedimentation

* Flocculation

Flocculation is when the emulsion droplets aggregate and form larger units

→ Forms fluffy aggregate called floc
→ Flocculation is defined as weak reversible association of globules in emulsion. These can be easily redispersed.

* Coalescence :

Coalescence is when the smaller droplets merge together when they form a large one.
* It is a irreversible process.
* It is indicated by ↑increased size of globules and reduced no. of globules.

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Creaming

It is the process of rising or sedimentation of dispersed globules to form a concentrated layer at the surface and bottom of emulsion.

Two types:-

Upward Creaming Downward Creaming

Cracking:

When dispersed particles come together and form a large globule we call this phenomena as cracking.

When the coalescence increase, the phases separate completely as two different layers i.e the emulsion breaks.

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PRECLINICAL AND CLINICAL DATA OF SOTAGLIFLOZIN

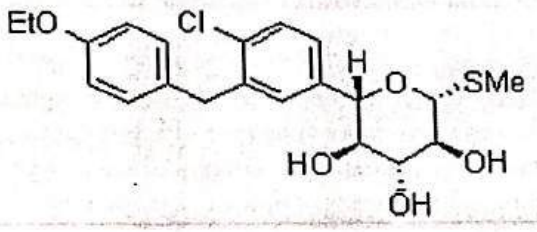
One drug that is part of the sodium-glucose cotransporter-2 (SGLT2) inhibitor class is sotagliflozin. It is used to treat chronic renal disease, heart failure, and both type 1 and type 2 diabetes.

SGLT1 and SGLT2, proteins involved in glucose reabsorption in the gastrointestinal tract and kidneys, respectively, are inhibited by sotagliflozin, a new oral dual inhibitor. Sotagliflozin lowers blood glucose levels by decreasing intestinal glucose absorption and increasing urine glucose excretion through the inhibition of these transporters.

Sotagliflozin's chemical name is (2S,3R,4R,5S,6R)2-(4-ethoxybenzyl)phenyl)-2-(4-chloro-3-)- 6-(methylthio)tetrahydro-2H-pyran-3,4,5-triol.

Its molecular weight is 424.94 and its formula is C21H25ClO5S.

The structural formula is:



The solid form of sotagliflozin is white to off-white. It is essentially water insoluble.

The following inactive chemicals are included in each 200 mg or 400 mg film-coated INPEFA tablet along with sotagliflozin. Magnesium stearate, microcrystalline cellulose, talc, croscarmellose sodium, and colloidal silicon dioxide are all found in the tablet's core. The 200 mg tablet's film coating is made of titanium dioxide, talc, polyethylene glycol, partially hydrolyzed polyvinyl alcohol, and indigo carmine aluminum lake. Yellow iron oxide, triacetin, titanium dioxide, hypromellose, and lactose monohydrate are all present in the 400 mg tablet's film coating. Ammonium hydroxide, black iron oxide, isopropyl alcohol, N-butyl alcohol, propylene glycol, and shellac are all present in black printing ink.

PRE – CLINICAL STUDIES :-

Preclinical investigations are usually carried out on lab animals prior to moving forward with human trials. The effectiveness of sotagliflozin in lowering blood glucose levels in animal models of type 1 and type 2 diabetes is one of the main conclusions from preclinical research on the drug.

1. In vitro research revealed that sotagliflozin inhibits the SGLT1 and SGLT2 transporters, which lowers the absorption of glucose in the kidney and the absorption of glucose in the gut.

2. Sotagliflozin enhanced insulin sensitivity and glucose tolerance while lowering hemoglobin A1c and fasting blood glucose in diabetic mice and rat models.

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3. Preclinical toxicology investigations lasting up to six months in rats and dogs revealed no significant safety concerns.

These investigations also shed light on the drug's pharmacokinetics, safety profile, and mode of action.

MECHANISM OF ACTION

SGLT2 and SGLT1 are inhibited by sotagliflozin. By inhibiting SGLT2, glucose and salt are less readily absorbed by the kidneys, which may have an impact on a number of physiological processes, including a decrease in the heart's pre- and afterload and a downregulation of sympathetic activity. Reduced intestinal absorption of salt and glucose is a possible cause of diarrhea when SGLT1 is inhibited. The cardiovascular advantages of sotagliflozin are not fully understood.

PHARMACODYNAMICS

Cardiac Electrophysiology

58 healthy participants received a single oral dose of moxifloxacin, placebo, and sotagliflozin 800 mg or 2000 mg (5 times the maximum recommended dose) in a randomized, placebo-controlled, active-comparator crossover research. With either 800 mg or 2000 mg sotagliflozin, there was no increase in QT corrected for heart rate (QTc).

PHARMACOKINETICS

Sotagliflozin's plasma Cmax and AUC rose in a dosage-proportionate way within the therapeutic dose range of 200 mg to 400 mg once daily. The area under the concentration-time curve from 0 to 24 hours (AUC0-24h) and Cmax increased by roughly 50–100% when sotagliflozin was accumulated at steady state compared to the first day of dose.

Absorption

The oral sotagliflozin 400 mg dose's absolute bioavailability was roughly 25% (90% confidence interval [CI] 16% to 39%) for the area under the concentration-time curve (AUC0-last) between time 0 and the final measured concentration. It is believed that enterohepatic circulation contributes roughly 50% of the total exposure. Over a single-dose range of 200 mg to 2000 mg, the median time to maximum plasma concentration (Tmax) varied from 1.25 to 3 hours. The 400 mg and 800 mg dosages that were administered resulted in median Tmax values that varied from 2.5 to 4 hours.

Food effect

In comparison to fasting settings, the administration of sotagliflozin tablets with a high-calorie breakfast raised plasma exposure to sotagliflozin by 149% and 50%, respectively. In healthy adults, three doses of 400 mg sotagliflozin given right before breakfast, half an hour before breakfast, and thirty minutes before breakfast demonstrated a consistent effect of sotagliflozin on postprandial glucose (PPG), insulin, and urine glucose excretion (UGE)

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across all dosing schedules. It is advised to take INPEFA no more than 60 minutes prior to the first meal of the day.

Distribution

High binding to human plasma proteins (> 93% bound) was demonstrated by both sotagliflozin and its major human metabolite, sotagliflozin 3-O-glucuronide. This binding was independent of both the concentration of sotagliflozin and sotagliflozin 3-O-glucuronide, as well as the degree of renal or hepatic function. After 400 mg of [14C]-sotagliflozin was administered, the mean whole blood to plasma concentration ratio of sotagliflozin varied from 0.5 to 0.6, and the mean blood/plasma ratios for total radioactivity were 0.5 and 0.4 for Cmax and AUC0-last, respectively. After taking 400 mg of [14C]-sotagliflozin orally, the mean apparent volume of distribution of sotagliflozin was 9000 L.

Metabolism

After 400 mg [14C]-sotagliflozin was given as a single dosage to healthy individuals, sotagliflozin was mostly converted to sotagliflozin 3-O-glucuronide, which accounted for 94.3% of the radioactivity in plasma. The main enzymes involved in sotagliflozin metabolism were CYP3A4 and UGT1A9, with CYP3A4 playing a supporting role. The primary conjugation seen after sotagliflozin was incubated with UGT1A9 was the 3-O-glucuronide metabolite. There were no sotagliflozin acyl glucuronides found.

Excretion

The radioactivity recovered in the urine and feces was 57% and 37%, respectively, after a single 400 mg dose of [14C]-sotagliflozin. These findings suggest that renal elimination was the primary pathway. Sotagliflozin 3-O-glucuronide was the most common metabolite found in urine, accounting for a mean of 33% of the radioactive dose that was given. The main radioactive peak found in fecal samples was unchanged [14C]-sotagliflozin, which accounted for a mean of 23% of the total radioactive dosage given. Sotagliflozin is circulated through the enterohepatic system. After 200 mg and 400 mg were administered, the mean terminal half life (T1/2) of sotagliflozin was found to be between 21 and 35 hours, whereas sotagliflozin 3-O-glucuronide was found to be between 19 and 26 hours. Sotagliflozin's effective half-life spanned five to ten hours. Generally, a steady state was attained after five days of using sotagliflozin 200 mg and 400 mg once daily. Following the administration of 200 mg and 400 mg of sotagliflozin, the mean oral clearance (CL/F) in healthy volunteers varied between 260 and 370 L/hr. For patients with type 2 diabetes mellitus and normal renal function, the median population PK model estimated CL/F to be approximately 300 L/hr.

CLINICAL STUDIES :-

The purpose of the SOLOIST (Effects of Sotagliflozin on Clinical Outcomes in Hemodynamically Stable Patients with Type 2 Diabetes Post Worsening Heart Failure) study (NCT03521934) was to ascertain whether INPEFA lowers the risk of overall cardiovascular death, hospitalization for heart failure, and urgent heart failure visit in patients with type 2 diabetes mellitus who had been admitted to the hospital, a heart failure unit, an infusion center, or an emergency department due to worsening heart failure. Patients who satisfied the following requirements for clinical stability—no need for oxygen therapy, a systolic blood pressure of at least 100 mmHg, and the ability to switch from intravenous to oral diuretic therapy—were randomly assigned to treatment. Among the 1,222 patients who underwent

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randomization, 608 were assigned to INPEFA and 614 to a placebo. The start of assigned treatment occurred either in the hospital or, at most, two days after hospital release. After starting therapy, the study drug's dosage was to be increased from 200 mg to 400 mg sotagliflozin or a matching placebo as soon as two weeks or as late as eight months. For 336 patients (56%) in the sotagliflozin group and 325 patients (53%) in the placebo group, the dose was increased to 400 mg once day. The uptitration period took 16 days on average. The decision to undertake an up-titration was made based on the investigator's assessment, which took into account the patient's clinical condition, the drug's tolerance, and the occurrence of adverse events (AEs) common to SGLT2 inhibitors, such as volume depletion. At baseline, there were 34% females, 93% White people, and 4% Black or African American people, with a median age of 70. The median eGFR was 50 mL/min/1.73 m2, the median body mass index (BMI) was 31 kg/m2, and the median A1C was 7.1%. The median score on the Kansas City Cardiomyopathy Questionnaire-12 (KCCQ-12) was 41, the median N-terminal pro B-type natriuretic peptide (NT-proBNP) was 1806 pg/mL, and the median left ventricular ejection fraction (LVEF) was 35% (79% with LVEF < 50%). 86% of patients were treated with antihyperglycemic drugs at baseline; these included biguanides (52%), insulin (36%), sulfonylureas (19%), dipeptidyl peptidase-4 (DPP4) inhibitors (16%), and glucagon-like peptide 1 (GLP-1) receptor agonists (3%). In the beginning, 91% of patients received treatment with renin-angiotensin-aldosterone system inhibitors, 92% with beta blockers, 95% with loop diuretics, and 10% with additional diuretics. The main composite endpoint risk was lower with INPEFA than with placebo (Hazard Ratio [HR] 0.67 [95% confidence interval (CI) 0.53, 0.85]; p = 0.001).

Phase 1 Trials:

In healthy volunteers, these preliminary studies evaluate the drug's safety, tolerability, pharmacokinetics, and pharmacodynamics. Sotagliflozin's potential to reduce blood glucose levels without causing major side effects was probably shown in phase 1 trials.

Oral sotagliflozin exposure was dose-proportional and well absorbed. A 17-hour half-life was the mean.

Sotagliflozin increased urine glucose excretion in both type 2 diabetes patients and healthy volunteers in a dose-dependent manner, suggesting inhibition of SGLT1 and SGLT2.

The majority of side effects were minor. Thirst, polyuria, and vaginal mycotic infections were the most prevalent. Hypoglycemia was not seen.

Phase 2 Trials:

Patients with the ailment that the medicine is intended to treat typically make up the bigger participant pool in phase 2 trials. Phase 2 trials most likely assessed sotagliflozin's safety and effectiveness in individuals with type 1 and type 2 diabetes. It's possible that these trials investigated dose-response connections and determined the ideal dosage for more investigation.

Sotagliflozin significantly lowered A1c and reduced weight compared to placebo in patients with type 2 diabetes whose metformin management was insufficient across a 12-to 24-week period.

Over a 12-week period, sotagliflozin reduced A1c by 0.5-0.7% as a monotherapy in patients with type 2 diabetes who had not taken any previous medication.

Over an 18–24 week period, the combination of sotagliflozin with insulin lowered bolus insulin dose and enhanced glycemic control in individuals with type 1 diabetes.

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Phase 3 Trials:

These extensive investigations are meant to verify the medication's safety and effectiveness in particular patient groups. They supply the information required for regulatory clearance. In order to evaluate sotagliflozin's impact on glycemic control, cardiovascular outcomes, and safety parameters, a significant number of patients with type 1 and type 2 diabetes were probably tested extensively during the drug's phase 3 studies.

When used as an adjuvant to insulin for a 24-week period, sotagliflozin significantly reduced A1c, glucose variability, and insulin dosage in individuals with type 1 diabetes compared to a placebo.

In patients with type 1 diabetes, sotagliflozin elevated the incidence of genital mycotic infections and diabetic ketoacidosis.

Sotagliflozin is being tested in phase 3 trials to treat diabetic kidney disease and heart failure.

Post-Marketing Surveillance:

Following approval, post-marketing surveillance keeps an eye on the efficacy and safety of the medication in real-world situations. Additional information on long-term results and uncommon adverse events is provided at this phase.

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SUBMITTED BY –

GOOTY SHANAZ

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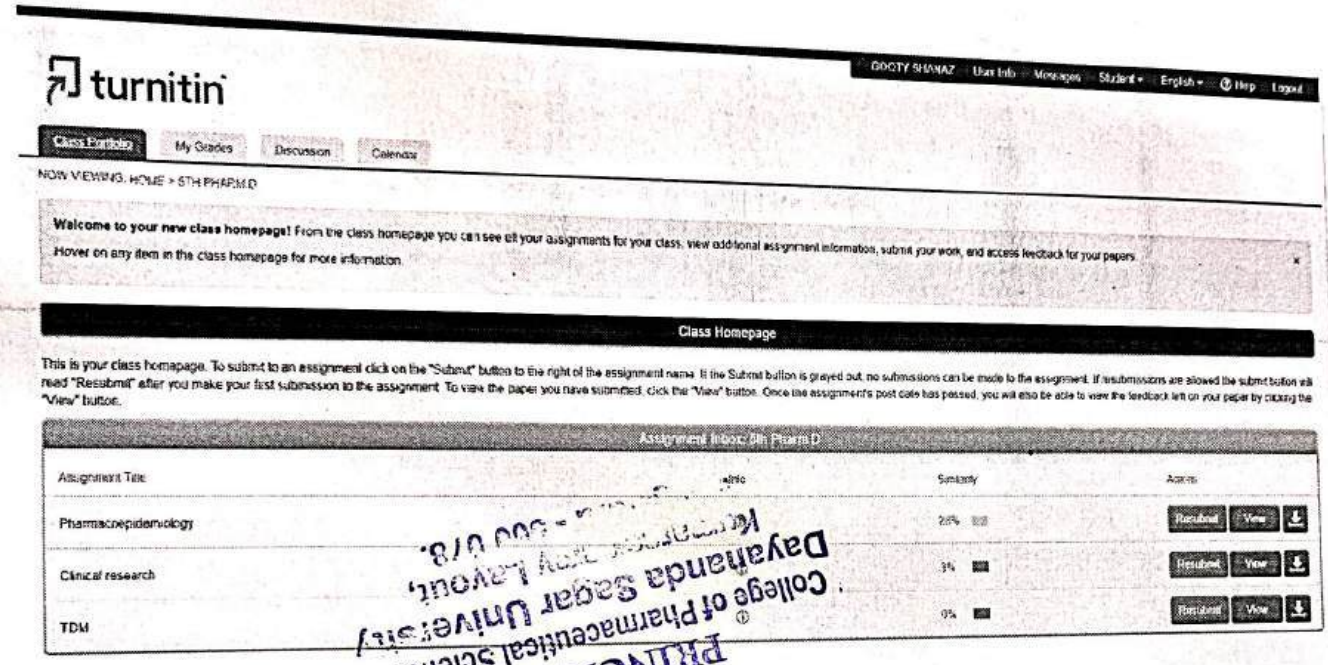

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CLINICAL RESEARCH

ASSIGNMENT: 02

TOPIC: PRE-CLINICAL AND CLINICAL STUDY DATA OF BEXAGLIFLOZIN

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SUBMITTED BY:

PIYALI DAS

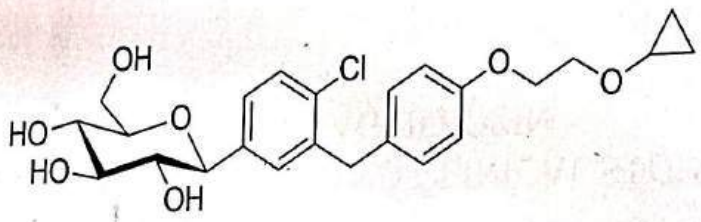
V PHARM-D

HSC19PD0015

INTRODUCTION:

Adults with type 2 diabetes are prescribed the medication brentavvy, which contains bexagliflozin, to improve glycemic management when paired with dietary changes and physical activity. When taken orally, it functions as an SGLT2 inhibitor to control blood sugar levels.

Bexagliflozin, an SGLT2 inhibitor, is an ingredient in BRENZAVVY tablets, which are intended for oral use. The following formula specifies the chemical makeup of bexagliflozin: (2S, 3R, 4R, 5S, 6R)-2-(4-chloroPhenyl-3-(4-(2-cyclopropoxyethoxy)benzyl)Tetrahydro-6-(hydroxymethyl)3,4,5-triol-2H-pyran. Its molecular weight is 464.94 g/mol and its formula is C24H29ClO7. The following is the structural representation of bexagliflozin:



Recommended dosage:

As stated in the Clinical Pharmacology section, the recommended dosage for BRENZAVVY is 20 mg taken orally once daily in the morning, with or without food. It's crucial to avoid chewing or crushing the tablet. If a dose is accidentally missed, it should be taken without doubling the next dose as soon as it is remembered.

WARNING AND PRECAUTIONS:

Ketoacidosis: Regardless of blood glucose levels, assess patients displaying metabolic acidosis symptoms for potential ketoacidosis. Stop the treatment, perform an evaluation, and start managing the situation right away if you suspect something. Think about the risk factors for ketoacidosis before starting. In clinical situations where a patient is at risk of ketoacidosis, they may require close observation and a temporary stop to their treatment.

Depletion of volume: May cause acute kidney damage. Prior to beginning

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BRENZAVVY, patients who are elderly, have low systolic blood pressure, have impaired kidney function, or are taking diuretics should have their volume status evaluated and corrected. Continue to be alert for symptoms and indicators.

Pyelonephritis and urirosepsis: Examine patients for urinary tract infection symptoms and administer timely treatment if required.

Hypoglycemia: When taking BRENZAVVY concurrently with insulin, think about reducing the dose to reduce the risk of hypoglycemia.
Serious cases of necrotizing fasciitis of the perineum, also known as **Fournier's gangrene**, have been documented in patients receiving SGLT2 inhibitor therapy. Assess patients who exhibit particular symptoms in the genital or perineal region, and provide the necessary care as soon as possible.

PRE-CLINICAL STUDY:

Preclinical evaluations of bexagliflozin included laboratory and animal studies prior to human trials. The goal of these studies was to fully investigate bexagliflozin's pharmacokinetics (absorption, distribution, metabolism, and excretion), pharmacodynamics (effects on the body), safety profile, and possible efficacy.
The main constituents of these preclinical studies included:
The majority of the glucose that is reabsorbed from the renal glomerular filtrate in the renal proximal tubule is done so by the sodium-glucose co-transporter 2 (SGLT2), which is inhibited by bexagliflozin. This inhibition lowers the renal threshold for glucose, which increases the amount of glucose excreted in urine, and reduces the renal reabsorption of filtered glucose.

Pharmacodynamics:

Urinary Volume and Glucose Excretion: Following both a single and multiple bexagliflozin administration, increases in urine volume and urinary glucose excretion (UGE) proportional to dosage were noted in adults with type 2 diabetes mellitus as well as in healthy individuals. According to analysis, bexagliflozin at a dose of 20 mg produces almost maximal UGE, which lasts even after repeated dosing.
Cardiac Electrophysiology: Bexagliflozin does not prolong the QTc interval significantly at five times the recommended dose.

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Pharmacokinetics:

The pharmacokinetics of bexagliflozin in adults with type 2 diabetes mellitus and healthy subjects are consistent. Following a fast, 134 ng/mL and 1,162 ng.h/mL were found to be the peak plasma concentrations (Cmax) and area under the curve (AUC0-∞), respectively. The medication has a limited plasma accumulation that reaches 20% after several doses and does not show time-dependent pharmacokinetics.

Absorption:

Peak plasma concentrations of bexagliflozin follow oral administration of BRENZAVVY and can be delayed if taken with food or medications that slow down gastric emptying. These concentrations occur between 2 and 4 hours post-dose. From 3 mg to 90 mg, there is a proportional increase in plasma Cmax and AUC with dosage.

Impact of Food: Compared to fasting, taking BRENZAVVY after a high-fat, high-calorie meal raises Cmax and AUC by 31% and 10%, respectively. We increase the median Tmax to five hours. These effects aren't thought to be clinically significant, though.

Distribution: Bexagliflozin exhibits little change in protein binding with renal or hepatic impairment and is largely bound to plasma proteins (93%) in plasma. There are 262 L in the distribution's apparent volume.

Metabolism: The primary metabolizer of bexagliflozin is UGT1A9, with CYP3A having a minor role. The primary metabolite found in plasma is 3'-O-glucuronide, which is pharmacologically inert and accounts for 32.2% of the AUC of the parent compound in tracer investigations. There shouldn't be any notable pharmacological effects from any of the metabolites.

Excretion: Bexagliflozin has an estimated 19.1 L/h oral clearance and a 12-hour elimination half-life. 91.6% of the input radioactivity was recovered in healthy subjects who received an oral [14C]-bexagliflozin solution; 51.1% of this radioactivity was found in feces (mostly as bexagliflozin) and 40.5% in urine (mostly as 3'-O-glucuronide). In the urine and feces, bexagliflozin accounted for 1.5% and 28.7%, respectively, of the input radioactivity

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recovered.

CLINICAL STUDY:

BRENZAVVY has undergone clinical trials both as a standalone treatment (Trial 1) and in combination with metformin for adults with type 2 diabetes mellitus (Trials 2, 3, and 4). Additionally, it has been assessed in adults with type 2 diabetes and moderate renal impairment (Trial 5) as well as in those with established cardiovascular disease (CVD) or at heightened risk for CVD (Trial 6).

Phase I trials: Phase I clinical trials of Bexagliflozin primarily aim to evaluate its pharmacokinetics, pharmacodynamics, safety, and tolerability in healthy individuals. Through the use of both single and multiple ascending dose protocols, these trials seek to determine the optimal dosage range for subsequent studies. Findings from these trials reveal favourable safety characteristics of Bexagliflozin, with reductions in fasting plasma glucose levels and enhanced excretion of glucose in urine showing dose-dependency. Phase 1 trials determine appropriate dosage ranges for further study.

Phase II trials: Phase II clinical trials for bexagliflozin aim to assess its safety and efficacy in individuals diagnosed with type 2 diabetes. These trials typically involve randomization and placebo control, examining various treatment durations and doses. Key effectiveness measures include alterations in body weight, blood pressure, fasting plasma glucose, and glycated haemoglobin (HbA1c) levels. Findings from Phase II trials of a comparable medication, dapagliflozin, suggest enhanced glycemic regulation and metabolic indicators in a consistent and dose-dependent manner. These trials offered significant insights into potential advantages and influenced the formulation of subsequent trial methodologies.

Phase III trials: Comprehensive Phase III trials conducted across multiple centres aim to verify the safety and efficacy of Bexagliflozin in various patients diagnosed with Type 2 Diabetes Mellitus (T2DM). These trials frequently involve comparing Bexagliflozin with alternative antidiabetic medications or standard treatments. Key objectives include reducing HbA1c levels, attaining glycemic targets, assessing cardiovascular outcomes, and monitoring safety parameters. Furthermore, the trials emphasize its beneficial effects on regulating blood pressure and promoting weight reduction.

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CONCLUSION:

The development and eventual application of bexagliflozin in clinical practice were greatly influenced by the clinical studies that ultimately established the drug's safety, efficacy, and tolerability profile for the treatment of type 2 diabetes mellitus. Both as a monotherapy and an adjunct pharmacological therapy for the treatment of type 2 diabetes, bexagliflozin seems to be safe and effective.

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Clinical Pharmacy assignment on Microbiological cultural sensitivity tests

by Lekhana T

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Submission date: 22-Feb-2024 11:32PM (UTC+0530)
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File name: Microbiological_cultural_sensitivity_tests.docx (112.83K)
Word count: 1234
Character count: 7231

ASSIGNMENT 2

CLINICAL PHARMACY

Microbiological cultural sensitivity tests

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Microbiological cultural sensitivity tests

Definition:

Microbiological culture: It is a method of multiplication of microorganisms that allows them to reproduce in predetermined cultural media in under-regulated laboratory settings.

Sensitivity test: A method performed to check the effectiveness of a drug against microorganisms to select the best drug regimen that is effective.

Microbiological cultural sensitivity test: A method to multiply microorganisms in a pre-determined cultural media with favorable conditions and tests performed to check the sensitivity of the organism towards the drug

Introduction:

Microbiological cultural sensitivity tests are also called Antimicrobial Susceptibility Testing (AST).

Infectious disease treatment and control, particularly those caused by a microbe that is drug-resistant, rely on susceptibility testing (sensitivity) to select effective drugs.
When the susceptibility of a causative organism has a chance of being predicted susceptibility testing will not be done.

- Metronidazole susceptibility in anaerobes.
- to nitrofurantoin and tetracyclines show susceptibility to proteus species.
- ampicillin-resistant in K. pneumoniae
- S. pyogenes are susceptible to antibiotics like penicillin.

Susceptibility tests on commensal organisms or contaminants should never be performed because clinicians might be misled and as a result, the patient might receive ant microbiological therapy that is unnecessary and ineffective treatment which can cause resistance and adverse effects to other potentially causative organisms.

Purpose:

The primary purpose of microbiological culture sensitivity tests is to identify the most effective antimicrobial agents for treating infections caused by specific microorganisms.

These tests help determine the susceptibility profile of microorganisms, indicating which antibiotics are likely to be effective and which may be ineffective. This information is crucial for tailoring antibiotic therapy to ensure optimal patient outcomes.

Procedure to collect the sample:

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- Sensitivity testing begins with a bacterial sample. The sample will be sent by the physician to the affected area. A physician can collect a sample from any infected region.
- The sample will be collected by the physician, it can be either urine, pus-filled wound, urine, etc. This sample will be sent to the laboratory, where it is put on a particular culture, where the bacteria will grow.
- The big groups of bacteria and bacterial colonies are observed which are then tested with antibiotics.
- These bacterial colonies may provide an intermediate response to antibiotics, or they can be resistant, or susceptible.

Techniques for testing susceptibility:

Techniques for susceptibility for antimicrobial testing in the laboratory include:

- A disc diffusion technique.
- A dilution technique

- **A dilution technique:**

  • Microbiology Reference Laboratories do semi-automated or manual dilution testing for epidemiology when a patient will not react to a previously deemed adequate regimen, while immunosuppression is prescribed or the relapses have occurred during treatment.

  • procedures for dilution will say about the minimum bactericidal concentration (MBC) antibiotic of the lower level and MIC (minimal inhibitory concentration).

  •A dilution test involves adding diluted antimicrobials agar medium or broth. A test microbes inoculum is introduced, the lowest concentration of antimicrobial is referred to as MIC which is required to prevent growth which will be seen after an overnight incubation.

  • the MIC values are compared to the known concentration of the drug in bodily fluids or the serum which helps to predict clinical response.

- **Susceptibility tests by disc diffusion method:**

Most laboratories utilize disc diffusion to assess antimicrobial susceptibility.
A disc of blotting paper is impregnated with a known volume and proper concentration of an antibiotic and then placed on a plate of susceptibility testing agar that has been uniformly infected with the test organism.

The antimicrobial diffuses from the disc into the media, inhibiting the development of the test organism at a distance from the disc that is proportional to the organism's susceptibility.

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The antimicrobial inhibits susceptible bacteria at a distance from the disc, while resistant strains have narrower zones of inhibition or grow up to the disc's border.

- **Diffusion technique of NCCLS Kirby-Bauer modified procedure:**

For each defined species, the validity of this rigorously standardized technique is dependent on employing discs with the appropriate content of antimicrobial, an inoculum that produces good growth, and a dependable agar of type Mueller Hinton.
every aspect of this test has to be followed.

NCCLS criteria are used for measuring the sizes of zones after an incubation period of 16-18 hours at 35°C. the relationship between MICs and zone sizes will generate them.

The NCCLS Kirby-Bauer technique should be used only for bacterial species that have been thoroughly evaluated. It is not ideal for slow-growing bacteria and requires specialized anaerobic incubation, nutrients, or CO2.

- **The Stokes disc diffusion:**

The Stokes disc diffusion approach involves inoculating both the control organisms and testing on the plate, same plate is used for both.. The test organism's sizes of zones are directly compared to those of the control,
This method is used in the laboratory and is less standardized than the previous test and is used when there is difficulty in when there is difficulty in finding out the exact amount of antimicrobials.

One way for laboratories that utilize the Stokes technique to switch to the the WHO-recommended Kirby-Bauer technique which is recommended by WHO is to employ extremely stable Rosco Diagnostic antibiotic tablets (Neo-Sensitabs) instead of not use paper which is less stable paper discs, and to instead use stable ROSCO diagnostics tablets of antibiotics.

Result interpretation:

After the bacterial cultures have grown and been tested with antibiotics, the physician can examine the results. These findings can aid in determining the right medication to treat your infection.

Susceptible

The physician would usually select an appropriate antibiotic from the report that was described as "susceptible," indicating that it can fight the bacterium.

Intermediate

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If no known medications are available in the susceptible category, you will be prescribed one from the "intermediate" group.
If you take an intermediate-group medicine, you will most likely need to take a higher dosage for a longer period. You may potentially encounter drug side effects.

if the resistance has been developed by the antibiotic it shouldn't be given for the treatment in the patient. The treatment will be determined by the physician based on the antibiotic which is efficient in preventing the bacterial infection.
the antibiotic combination has to be prescribed if the organism will show resistance to all types of common medications.

Drugs in this category may be more expensive and require intravenous administration. You will most likely have to take a combination of medications for an extended period of time.

Importance in Antimicrobial Stewardship:

Microbiological culture sensitivity tests play a crucial role in antimicrobial stewardship programs. These programs aim to promote the appropriate use of antibiotics, minimize the development of antimicrobial resistance, and optimize patient care. By providing specific information about the susceptibility of microorganisms, these tests aid in selecting the most effective and narrow-spectrum antibiotics, reducing the unnecessary use of broad-spectrum agents, and preserving the effectiveness of antibiotics.

Antimicrobial susceptibility tests limitation:

The susceptibility tests examine antibiotic action against germs in a laboratory setting (in vitro activity), rather than in the patient. As a result, an antibiotic that kills or inhibits an organism's growth in vitro cannot be presumed to be a successful treatment.

Choosing proper antimicrobial treatment also takes into account the clinical condition of the patient, or underlying or any comorbid condition (e.g., kidney disease or liver disease), the type of infection and place of the infection, the patient's age any history of hypersensitivity due to drug, and pregnant patient. It is also important to understand the parameters of drugs like their tissue diffusion, absorption rate, metabolic parameters, and elimination, as well as any potential adverse effects and impacts on the microbial flora of the patient.

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Clinical Pharmacy

Assignment 2

MICROBIOLOGICAL CULTURE SENSITIVITY TEST

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M. SEETHA LAKSHMI

HSC20PD0008

IV Pharm D

MICROBIOLOGICAL CULTURE SENSITIVITY TEST

Culture: Culture is a media using that, microbes that causes infection to people (like bacteria and fungi) can be determined and a particular microbe can be grown.
This sensitivity tests can be used to identify drugs(like antibiotic) to treat infections.
Culture and Sensitivity testing: Sample or smear of body fluid or tissue is introduced to a material that encourages the growth of microbes in order to create a culture. It is a negative culture if no microbes are growing. A positive culture is one in which pathogenic microorganisms proliferate. Microscope or chemical tests can be used to identify the type of microbes.
Numerous body fluids, including mucus, urine, saliva, blood, spinal fluid, or pus, can be taken for the culture and sensitivity test.

What does Sensitivity test mean?

This refers to levels of action of the chosen agents which are antimicrobial, used against infected bacterial strains.

Microbiological culture sensitivity tests
This technique involves growing microorganisms in a culture medium that has been pre-selected and optimized conditions, then testing is done to see how sensitive the organisms are to medications.

Typically, outcomes are explained in one of the following ways:

- Susceptible: Tested medicine either killed or inhibited the development of the fungi or bacteria that causes the infection. The use of medication may be a better option for healthy situation.
- Intermediate: A high dose of the medication might be effective.
- Resistant: The medication was unable to eradicate or prevent its growth of microbes that leads to infection. It wouldn't be an appropriate course of action for therapy.

Introduction:

- Almost of microorganisms that cause infectious diseases are medication resistant.
- As a result, a sensitivity test is performed to determine the appropriate antibiotic.
- It could also assist to identify the infection.

Nowadays, laboratories have many techniques on the basis of menu that lab tests offers. The disk diffusion techniques and minimum inhibitory concentration (MIC) are two of these strategies. Hospitals and health centers started to provide commercial systems that used genotypic and phenotypic characterisation of bacterial resistance.

The purpose of culture sensitivity test

- It may assist a doctor in choosing the appropriate medication for a particular patient.
- To restrict the improper medication usage in therapeutic settings.
- To compile epidemiological data about community-level microbe resistance that is relevant to public health.
- To demonstrate the shifting patterns in the nearby isolates.
- To get over the drug resistance caused by microbes.

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The collection of Specimens

Since a suspension of inoculum is prepared from a culture of well-isolated colonies, the specimen requirements for testing susceptibility using the disk diffusion method and minimum inhibitory concentration (MIC) methods have similar guidelines such as collecting samples for culture of bacteria. Typically, body fluids and discharge such as blood, urine, sputum, wounds, stool, and cerebrospinal fluid are sent for sensitivity testing and culture.

Identifying Bacteria

Commercial systems that perform special susceptibility testing may not necessarily need bacterial colonies in culture since they can use molecular approaches to identify resistant genes in order to detect resistance to certain antimicrobial medicines. The Xpert MTB/Rif assay, which assesses rifampicin is resistance or sensitivity directly from sample, is one example.

Note: To determine or test a pure compound's or an extract's in vitro antimicrobial activity, a range of scientific techniques can be applied. The most popular and fundamental techniques are the agar or broth dilution method and disk-diffusion methods. Many other techniques, including poisoned food method, are specifically employed for antifungal testing. The time-kill test and flow cyto-fluorometric methods are suggested to later investigations for the antimicrobial effect of a drug in detail. These methods offer information on the type of effects, whether bactericidal or bacteriostatic inhibitory, whether it is concentration based or time based, and the amount of cell damage that has happened to microbes used for test.

Limitations:

- It allows us for accessing antibiotic activity against germs only in laboratory circumstances, not in patients.
- Sensitivity testing approaches do not consider the patient's type and site of infection, medical condition, medication hypersensitivity or allergic reactions, or patient characteristics.

Sensitivity tests can be conducted by following method

- Diffusion and dilution techniques.

1. Diffusion technique:

1. Agar diffusion sensitivity test:

- On a sensitive agar inoculation plate containing a test organism, a known volume and suitable concentration of antibiotic is impregnated with a disc of blotting paper.
- The antimicrobials permeate from the disk into the media. After twenty-four hours, the media is checked for growth around the areas surrounding the media.
- The antimicrobial-induced zone of inhibition is compared to control.
- The quantity, the amount of moisture, PH, agar medium constituents, concentration, storage, and dose delivery all have an impact on the diffusion process.
- Agar diffusion sensitivity tests are performed using one of the following methods
  - Kirby-Bawer (KB)
  - ICS method
  - Stocks

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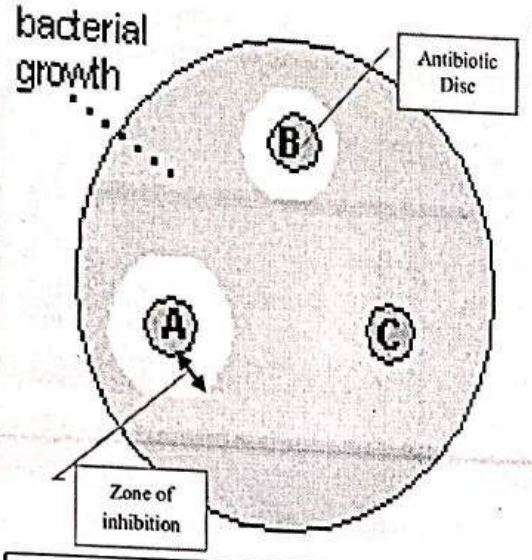
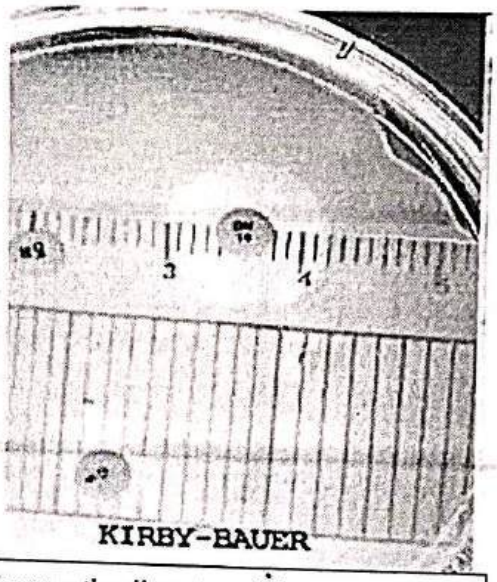
- The WHO and the National Committee for Clinical Laboratory Standards (NCCLS) both advice using a modified KB method.





a. A,B,C-are different antibiotic disc. b. Clear white color zone around the antibiotic disc is zone of inhibition. c. color zone in the remaining areas indicate growth of microorganism	Measure the diameter of the zone of inhibition by using the scale.

Merits:

- Technically, it's simple and produces repeatable results and materials and reagents are reasonably priced.
- It doesn't need the usage of costly apparatus.
- It produces categorical data that are easily understood by doctors and offers flexibility for the antibiotics that may be chosen for testing.

2. Dilution Sensitivity tests:

- Tests for dilution sensitivity often calculate the minimum bactericidal concentration or minimum inhibitory concentration needed to eradicate many germs.
- Agar or broth are now mixed with antibiotic dilutions.
- It is supplemented with a standard test organism inoculum.
- The least amount of antibiotic needed to stop observable growth is taken into account after one night.

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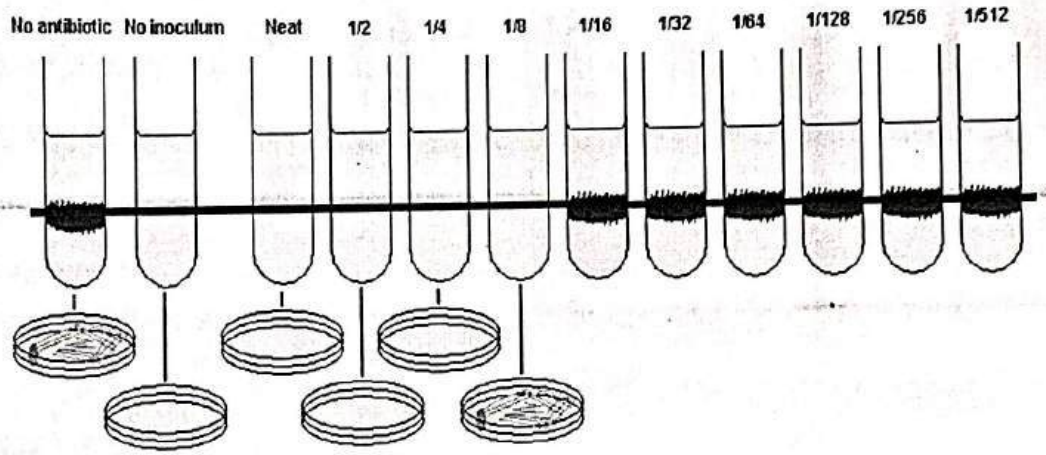
Antibiotics are diluted to various dilutions to test the MIC



- Test tubes – without red color – no microorganism growth
- Test tubes- Red color mark shows – growth of microorganism
- 1 - Represents agar media & 2,4,8,16,32 - Represents antibiotics.
- 1/2= one part of agar + 2 parts of antibiotic in one test tube.

Dilution method requirements:

- With great care, standardization
- An agar medium and broth
- Antimicrobial solution
- The duration of incubation and dilution

Standard specifications for sensitivity testing:

1. **Agar Sensitivity testing**
   - The three suitable mediums namely Gibco sensitivity testing agar no: 2, Iso sensitest agar, and Mueller Hinton agar that is also called MHA.
   - Composition
     - Casein hydrolysate containing 17.5g/l.
     - Meat infusion 2.0g/l is taken.
     - Agar-agar 13.0g/l
     - Starch 1.5g/l
2. **Antimicrobial disc:**
   - The manufacturer's recommended refrigeration temperature should be followed when storing this disc.
   - After the expiration date, this is not recommended to use.
   - Make sure the working stock disc is brought to the room temperature; do not leave it outside in the sun.

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ANTIMICROBIAL RESISTANCE:

- Bacteria can develop antibiotic resistance in a number of ways.
- Microbes develop resistance subsequent to a mutation in their DNA.
- The following changes might occur
  - genetic mutation, example: modified in their own DNA's structure.
  - genetic exchange, for example, when bacteria take up extra-chromosomal DNA from one another.
- Because genetic exchange can result in resistance to several medications, it is the common and prevalent cause of significant medical drug resistance.
- In genetic exchange, distinct, moveable, extra-chromosomal DNA components known as TRANSPOSONS are used to transmit resistance genes from one bacterial species to another.
- Transposons can be transferred between bacteria by conjugation, example direct physical mating.
  - Transduction, means via bacteriophages' support.
  - Transposition, is that of extra chromosomal DNA molecules carried on plasmids, which are transportable.

DRUG RESISTANCE

- It indicates a micro-organism's lack to respond to an antibiotic.
- Drug resistance is of three types namely Cross resistance, Acquired & Natural.

Natural resistance:

- Certain micro-organism has been resistant to some antimicrobial agent.
- They lack the metabolic process or the target site which is affected by the particular drug.
- Example, Penicillin G does not affect the bacilli which are gram negative.
- Mycobacterium tuberculosis is not sensitive to antibiotics like tetracyclines.

Acquired Resistance:

- It is the result of using AMA over time and causing an organism that was previously sensitive to develop resistance.

Cross Resistance:

- The ability to tolerate a typically hazardous drug after being exposed to the one that acts similarly is known as cross resistance.
- As an illustration, it is a phenomenon that impacts antibiotics and insecticides.

Applications

- To predict correctly if a bacterial isolate-caused infection would react therapeutically to a specific antibiotic treatment.
- Based on passive or active surveillance, this might be used as guidelines for chemotherapy or as an indicator of the formation and spread of resistance at the population level.

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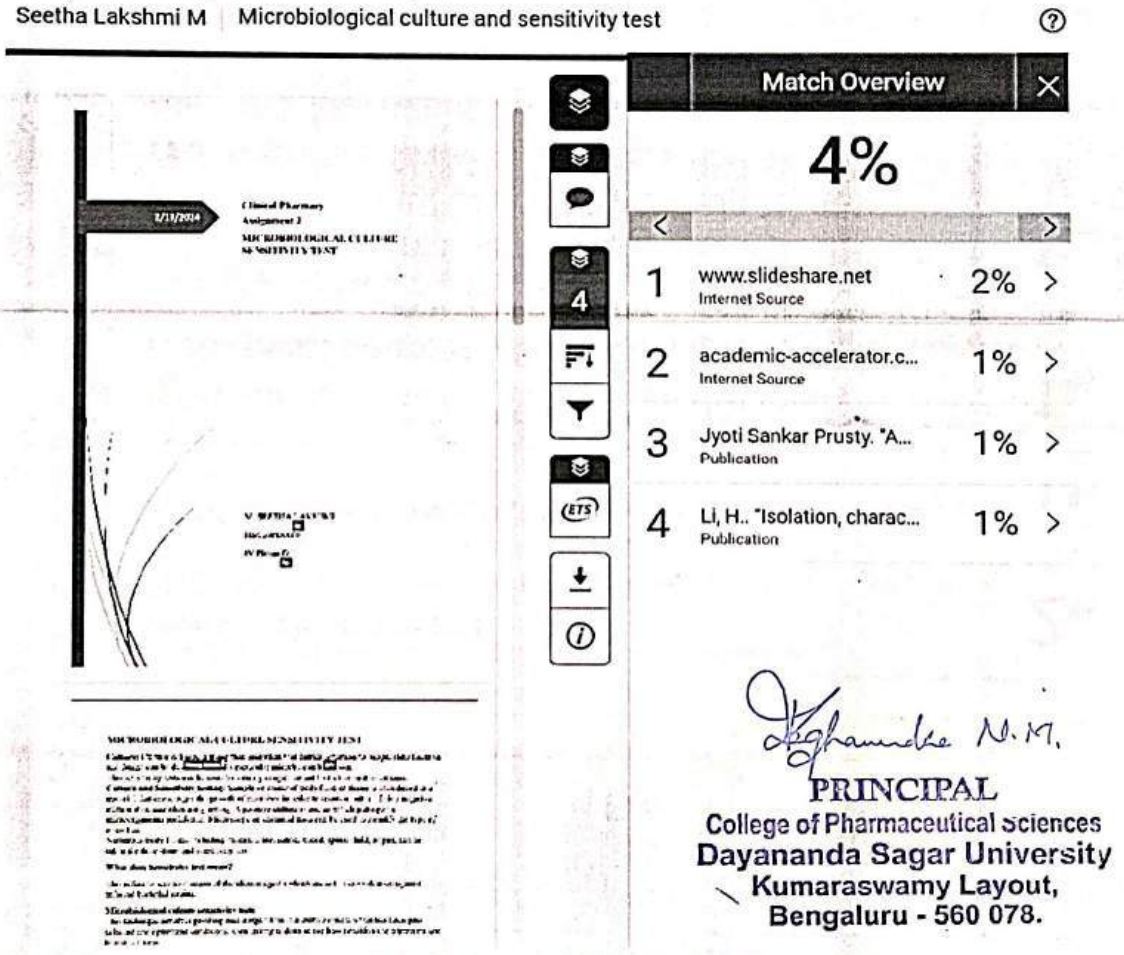

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Clinical research

Assingment -2

Name : Dhruvathara N

Class: 5th PharmD

USN No:HSC19PD0007

Topic: Preclinical and clinical study data on Sotagliflozin

Sotagliflozin

Sotagliflozin is a medication was primarily developed for Type 1 and Type 2 diabetes, belonging to the SGLT1/2 inhibitor class. It inhibits both SGLT1 and SGLT2, aiding glucose control. Primarily used in addition with insulin therapy, it has undergone clinical trials showing improved glycemic control. Common side effects include genital infections and gastrointestinal issues.

- Sotagliflozin brand names: Inpefa,zynquista etc
- It was first developed by Lexicon pharmaceuticals
- Sotagliflozin was first released in 2019 for medical use approved by European union
- Sotagliflozin was rejected by FDA as it concerned the increased chances of getting diabetic ketoacidosis
- Then later the lexicon reaches out to public and announces the FDA acceptance of the "New drug application" of Sotagliflozin for the treament of heart failure on May 27 ,2023

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Sotagliflozin's positive impact on heart failure is linked to its capacity to enhance cardiovascular outcomes by decreasing the combined occurrence of deaths resulting from medical aids for cardiovascular failure and emergency visits related to heart failure. The approval and supporting evidence for its effectiveness in heart failure are deemed credible and persuasive. The particular ways in which sotagliflozin produces its effects in heart failure are probably associated with its both obstruction of SGLT1 and SGLT2, resulting in advancements in cardiovascular and renal outcomes.

Pharmacokinetics of Sotagliflozin

Sotagliflozin as a sodium-glucose co-transporter 1/2 (SGLT1/2) inhibitor, follows distinct pharmacokinetic processes:

Absorption:When administered orally, it swiftly absorbs from the gastrointestinal tract, typically achieving peak plasma concentrations within 2 hours.

Distribution: The drug extensively spreads throughout the systemic circulation and diverse tissues, evident in its relatively high volume of distribution.

Metabolism: Sotagliflozin primarily undergoes metabolism through cytochrome P450 (CYP) enzymes. Specific details about the enzymes and metabolic pathways may vary.

Elimination: The elimination process involves contributions from both renal excretion and hepatic metabolism, leading to the

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removal of sotagliflozin and its metabolites. The primary route of elimination is through urine.

Pharmacodynamics of sotagliflozin

Sotagliflozin, functioning as a inhibits both sodium-glucose co-transporter 1/2 (SGLT1/2), influences glucose regulation through various mechanisms:

1. Urinary Glucose Excretion:Blocks SGLT2 in the kidneys, boosting the elimination of glucose in urine and reducing blood glucose levels.

2. Inhibition in the Gastrointestinal Tract:Suppresses SGLT1 in the gut, causing a delay in glucose absorption and lowering post-meal glucose levels.

3. Impacts on Weight and Blood Pressure: Contributes to weight loss and potentially improves blood pressure.

4. Investigation for Cardiovascular Benefits: Under scrutiny for potential advantages related to cardiovascular health, going beyond glycemic control.

In summary, sotagliflozin's inhibitor of both SGLT1 and SGLT2 presents a comprehensive strategy for managing glucose levels, particularly beneficial for individuals with type 1 diabetes.

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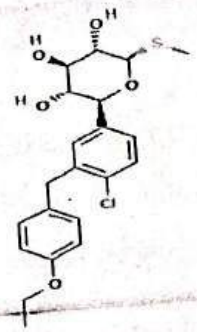
Preclinical studies



Lexicon Pharmaceuticals initiated a drug discovery program to assess multiple drug candidates targeting SGLT1 and SGLT2. Pharmacological studies confirmed that sotagliflozin, exhibiting dual activity against both, significantly improved glucose and A1C control compared to selective SGLT2 inhibitors, without causing gastrointestinal adverse effects. In vitro studies established sotagliflozin as a dual inhibitor with 20-fold selectivity for SGLT2 over SGLT1. Animal studies validated increased urinary glucose excretion, glucose delivery to the caecum, and enhanced postprandial release of GLP-1 and PYY, correlating with substantial reductions in postprandial glucose levels.

Animal studies

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Sotagliflozin has been tested in various animal studies, including rats, rabbits, and mice. These studies have shown that sotagliflozin can have effects on cardiac function, glucose and insulin levels, and renal development in these animal models. For example, in normoglycemic mouse models, sotagliflozin has been found to evoke pressure overload and thereby it may lead to reduce cardiac fibrosis and hypertrophy, as well as improve cardiac outcomes in the context of cardiac pressure overload. Additionally, sotagliflozin has been shown to improve glycemic control in diabetic mice without increasing hypoglycemic events. However, some studies have suggested that sotagliflozin may not have cardiovascular benefits in high-fat fed animals due to ineffective diuresis and natriuresis. These findings provide insights into the information about the effects of sotagliflozin in different and various animal models.

Clinical study sotagliflozin

- Phase 1 studies

Phase 1 trials of sotagliflozin involved assessing its pharmacokinetics and pharmacodynamics in healthy subjects, considering various doses, including up to 500 mg in liquid form. On day 7 after multiple-dose administration, the highest observed circulating concentration was 165 ng/mL, supporting a once-daily dosing schedule with a pharmacokinetic half-life of 29 hours.

The studies showed that sotagliflozins single dose(300 mg), resulted in increased 24-hour urinary glucose excretion (UGE)

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of 44 g. However, further dose escalation didn't increase UGE despite higher systemic exposure. The maximum Urinary glucose excretion on day 7 after multiple dosing was 36 g, reflecting a kidney-related SGLT2 effect. The observed lower Urinary glucose excretion with sotagliflozin compared to selective SGLT2 inhibitors might be attributed to intestinal SGLT1 inhibition, leading to lowers post lucch glucose levels and reduced glucose filtration by the kidney.

- Phase 2 studies

Phase 2a:

In a Phase 2a trial involving individuals with poorly controlled type 2 diabetes, sotagliflozin (150 mg or 300 mg once daily) exhibited notable improvements in fasting plasma glucose, glucose tolerance, and A1C over a 28-day period. Despite a moderate increase in urinary glucose excretion, it demonstrated substantial glycemic efficacy, indicating significant gastrointestinal SGLT1 inhibition. A study in healthy subjects, focusing on dose timing, revealed that taking sotagliflozin before breakfast maximized its impact on postprandial glucose, GLP-1, and PYY, suggesting potential benefits for type 1 diabetes. The study hinted at synergistic effects when combined with DPP4 inhibitors. Subsequent investigations explored sotagliflozin in combination with sitagliptin and its efficacy in type 2 diabetes with metformin, renal impairment, and type 1 diabetes, completing Phase 2 development.

Phase 2b:

In a dose-ranging study during Phase 2b, sotagliflozin demonstrated optimal glycemic efficacy at 200 mg once daily (qd), resulting in a reduction of A1C by 1.07%.

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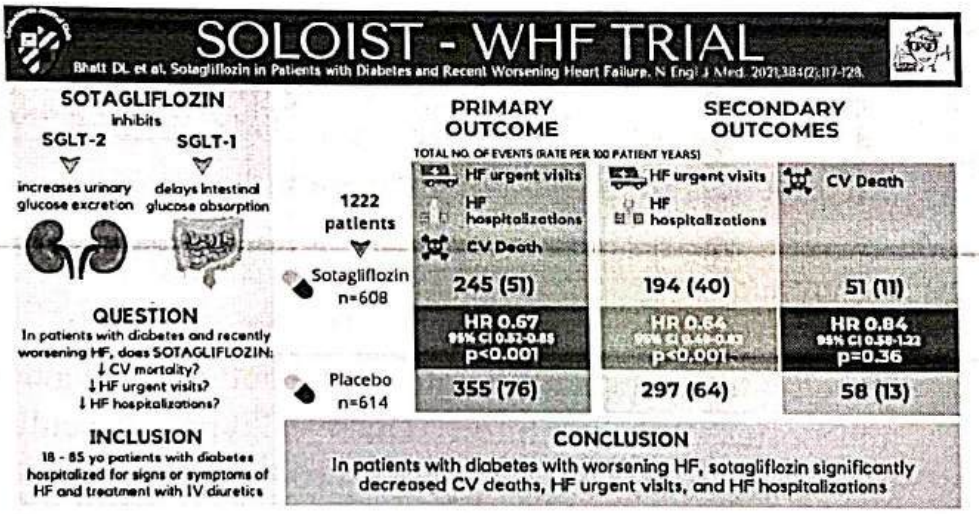
Additional SGLT1-mediated effects were observed at 400 mg qd without a notable increase in urinary glucose excretion (UGE). Safety analysis, involving around 20,000 doses, revealed favorable outcomes with a lower incidence of adverse events compared to the placebo. At 400 mg qd, sotagliflozin displayed a gastrointestinal safety profile similar to placebo, with a slight increase in genitourinary events. Importantly, the study suggested clinically relevant SGLT1 inhibition in the gastrointestinal tract and SGLT2 inhibition in the kidney at the 400 mg qd dosage, supporting its selection for subsequent Phase 2 studies.

- Phase 3



The Phase 3 trials, such as the SCORED and SOLOIST-WHF trials, have demonstrated the efficacy of sotagliflozin in reducing the risk of cardiovascular events and improving glycemic control in patients with heart failure and diabetes.The drug has shown promising results

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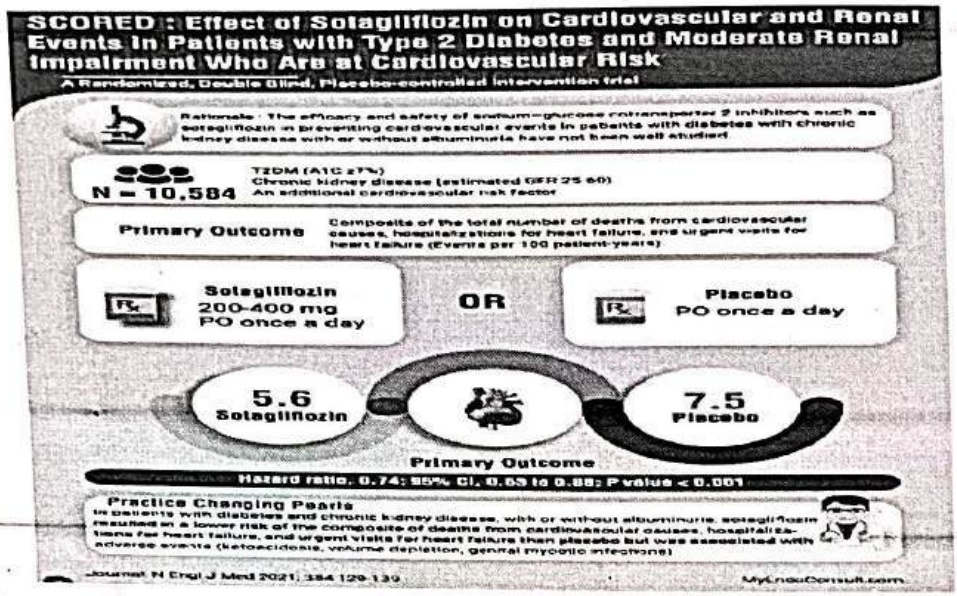
in these trials, leading to its approval for the treatment of heart failure and its ongoing evaluation for other indications



- Phase 4

Phase 4 of sotagliflozin is currently going on and further trials needs to be done inorder to get more information about the safety and effectiveness of the sotagliflozins real world effectiveness in the patient population .

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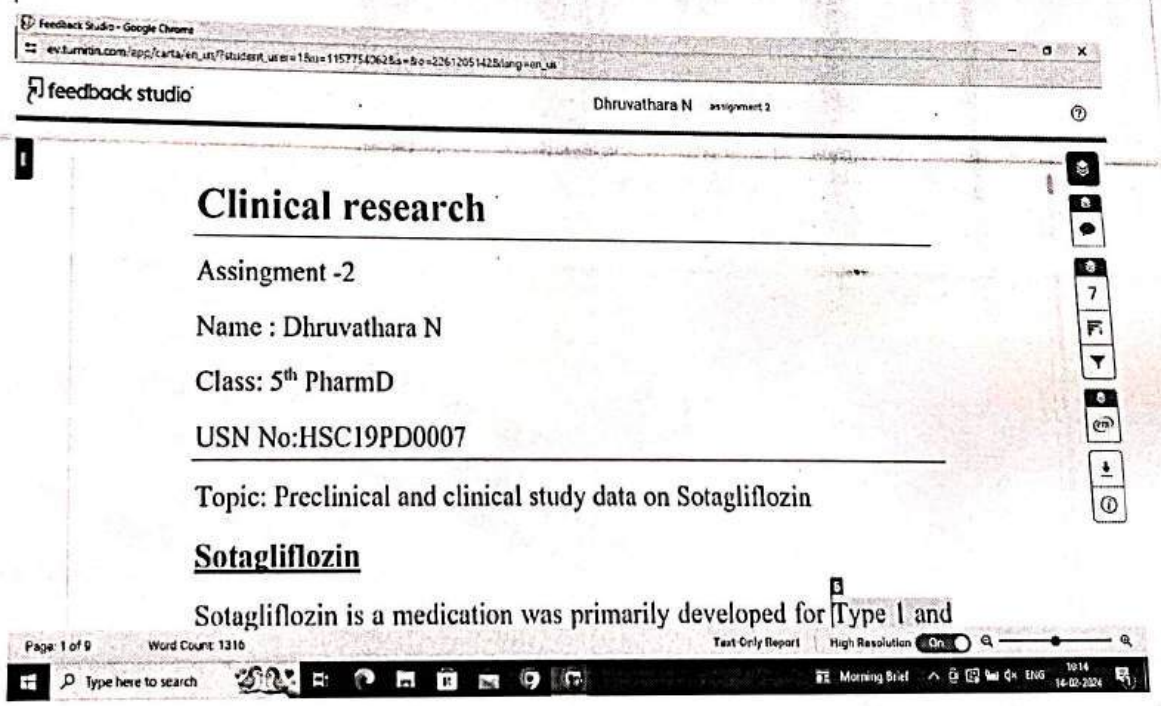

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- Sotagliflozin is an inhibitor of sodium-glucose cotransporter 2 (SGLT2) found as tablets intended for oral use and is not souble in water.
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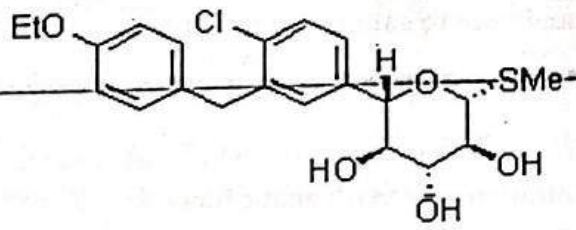

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- SGLT1 inhibition decreases the amount of salt and glucose that are absorbed in the colon, which almost certainly causes diarrhea.

- Exact action of sotagliflozin's is uncertain for cardio activity.

Pharmacokinetics

- At doses of 200–400 mg per day, sotagliflozin's plasma Cmax and AUC increased in a manner that was commensurate to the dose.
- Following sotagliflozin accumulation, the AUC time curve and Cmax rise from 0 by roughly 50–100%.

Absorption

- Sotagliflozin is estimated to have bioavailability of 25%, with a 90% confidence interval spanning from 16% to 39%. Approximately 50% of the total dose is attributed to enterohepatic circulation.
- •Tmax for single doses of 200 mg to 2000 mg is 1.25 to 3 hours; for multiple doses of 400 mg and 800 mg, it is 2.5 to 4 hours.
- Sotagliflozin's plasma exposure increases dramatically when taken with a high-calorie breakfast; AUC0 and Cmax increase by 50% and 149%, respectively. 400 mg of sotagliflozin given several times before breakfast (immediately, half an hour or an hour before) reliably affects levels of insulin, glucose after meals (PPG) and glucose excretion in urine (UGE).
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- After this dosage, sotagliflozin's mean Vd was 9000 L.

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Metabolism

- 400 mg of sotagliflozin was given once to healthy participants. A large amount of sotagliflozin was metabolized, mostly to sotagliflozin 3-O-glucuronide, which was responsible for 94.3% of the radioactivity detected in plasma.

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- After five days of once-daily dosing, steady state was usually reached.
- Population pharmacokinetic models anticipated that A CL/F that is comparable would be seen in individuals with type 2 diabetes mellitus and normal renal function.Specific

Populations

Renal Impairment

- In a specific PK investigation, sotagliflozin exposure was assessed in individuals with mild, moderate and normal renal function.
- Compared to patients with normal renal function, exposure to sotagliflozin after a single 400 mg dosage was roughly 70% .

Hepatic Impairment

- The area under the curve (AUC) of sotagliflozin was more than that of subjects with normal hepatic function by approximately three and six times, respectively, in those with moderate hepatic impairment (Child Pugh B) and severe hepatic impairment (Child Pugh C).

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CLINICAL STUDY

1. SOLOIST Study

- Studies looked at how sotagliflozin affected patients' clinical results while their hemodynamics were stable, evaluating if it reduces the likelihood of hospitalization for heart failure, urgent heart failure visits, and cardiovascular death overall.
- In the Patients with Study on Type 2 Diabetes After Severe Heart Failure, individuals with type 2 diabetes who experienced worsening heart failure and were hospitalized were divided into groups and participated in a randomized, double-blind, placebo-controlled trial.
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- Treatment began shortly after hospital discharge, with dosage adjustments occurring over time. Baseline demographics showed a predominantly White, older population with various comorbidities.
- The majority were on antihyperglycemic and heart failure medications. It was shown that sotagliflozin was more effective than a placebo at lowering the risk of the main composite outcome.

2. SCORED Study

- The purpose of the SCORED research was to determine if INPEFA lowers the risk of hospitalization for cardiac arrest, urgent heart failure visits, and sudden cardiac death in individuals with type 2 diabetes, mild renal impairment, and other cardiovascular risk factors.
- Out of 10,584 patients randomized, 5,292 received INPEFA, and 5,292 received a placebo. Dosage adjustments were made between four weeks and six months into therapy, ranging from 200 mg to 400 mg of sotagliflozin or a placebo. Most patients experienced dosage escalation, and the average duration of the uptitration period was 29 days.
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Phase 1 Trials:

- These pilot trials assess the drug's pharmacokinetics, pharmacodynamics, safety, and tolerability in healthy volunteers.
- Phase 1 trials most likely demonstrated sotagliflozin's ability to lower blood glucose levels without having a significant negative impact.
- The exposure to oral sotagliflozin was adequately absorbed and dose-proportionate. The mean half-life was 17 hours. In both type 2 diabetes patients and healthy volunteers, sotagliflozin increased urine glucose excretion in a dose-dependent manner, indicating inhibition of both SGLT1 and SGLT2.
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- Phase 2 trials usually involve a larger number of patients.
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Phase III trials

- The comprehensive studies seek to confirm the medication's safety and efficacy in certain patient populations, providing crucial information for regulatory approval.
- A significant number of people with type 1 and type 2 diabetes were probably enrolled in sotagliflozin phase 3 trials and subjected to extensive assessments to determine the drug's effects on blood sugar regulation, cardiovascular health, and safety precautions.
- When administered in conjunction with insulin, sotagliflozin dramatically decreased A1c levels, glucose swings, and the need for insulin in people with type 1 diabetes throughout a 24-week period.

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- After a drug is approved, post-marketing surveillance monitors its safety and effectiveness in actual clinical settings.
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Reference

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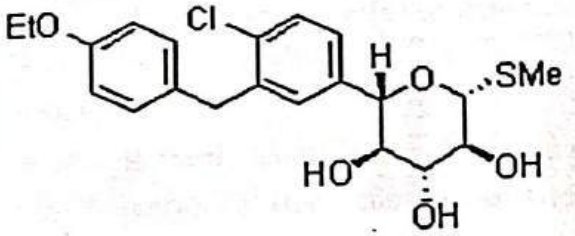

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Clinical research

Assingment -2

Name : Dhruvathara N

Class: 5th PharmD

USN No:HSC19PD0007

Topic: Preclinical and clinical study data on Sotagliflozin

Sotagliflozin

Sotagliflozin is a medication was primarily developed for Type 1 and Type 2 diabetes, belonging to the SGLT1/2 inhibitor class. It inhibits both SGLT1 and SGLT2, aiding glucose control. Primarily used in addition with insulin therapy, it has undergone clinical trials showing improved glycemic control. Common side effects include genital infections and gastrointestinal issues.

- Sotagliflozin brand names: Inpefa,zynquista etc
- It was first developed by Lexicon pharmaceuticals
- Sotagliflozin was first released in 2019 for medical use approved by European union
- Sotagliflozin was rejected by FDA as it concerned the increased chances of getting diabetic ketoacidosis
- Then later the lexicon reaches out to public and announces the FDA acceptance of the "New drug application" of Sotagliflozin for the treament of heart failure on May 27 ,2023

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Sotagliflozin's positive impact on heart failure is linked to its capacity to enhance cardiovascular outcomes by decreasing the combined occurrence of deaths resulting from medical aids for cardiovascular failure and emergency visits related to heart failure. The approval and supporting evidence for its effectiveness in heart failure are deemed credible and persuasive. The particular ways in which sotagliflozin produces its effects in heart failure are probably associated with its both obstruction of SGLT1 and SGLT2, resulting in advancements in cardiovascular and renal outcomes.

Pharmacokinetics of Sotagliflozin

Sotagliflozin as a sodium-glucose co-transporter 1/2 (SGLT1/2) inhibitor, follows distinct pharmacokinetic processes:

Absorption:When administered orally, it swiftly absorbs from the gastrointestinal tract, typically achieving peak plasma concentrations within 2 hours.

Distribution: The drug extensively spreads throughout the systemic circulation and diverse tissues, evident in its relatively high volume of distribution.

Metabolism: Sotagliflozin primarily undergoes metabolism through cytochrome P450 (CYP) enzymes. Specific details about the enzymes and metabolic pathways may vary.

Elimination: The elimination process involves contributions from both renal excretion and hepatic metabolism, leading to the

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removal of sotagliflozin and its metabolites. The primary route of elimination is through urine.

Pharmacodynamics of sotagliflozin

Sotagliflozin, functioning as a inhibits both sodium-glucose co-transporter 1/2 (SGLT1/2), influences glucose regulation through various mechanisms:

1. Urinary Glucose Excretion:Blocks SGLT2 in the kidneys, boosting the elimination of glucose in urine and reducing blood glucose levels.

2. Inhibition in the Gastrointestinal Tract:Suppresses SGLT1 in the gut, causing a delay in glucose absorption and lowering post-meal glucose levels.

3. Impacts on Weight and Blood Pressure: Contributes to weight loss and potentially improves blood pressure.

4. Investigation for Cardiovascular Benefits: Under scrutiny for potential advantages related to cardiovascular health, going beyond glycemic control.

In summary, sotagliflozin's inhibitor of both SGLT1 and SGLT2 presents a comprehensive strategy for managing glucose levels, particularly beneficial for individuals with type 1 diabetes.

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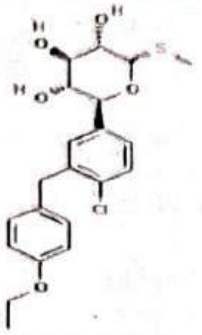
Preclinical studies



Lexicon Pharmaceuticals initiated a drug discovery program to assess multiple drug candidates targeting SGLT1 and SGLT2. Pharmacological studies confirmed that sotagliflozin, exhibiting dual activity against both, significantly improved glucose and A1C control compared to selective SGLT2 inhibitors, without causing gastrointestinal adverse effects. In vitro studies established sotagliflozin as a dual inhibitor with 20-fold selectivity for SGLT2 over SGLT1. Animal studies validated increased urinary glucose excretion, glucose delivery to the caecum, and enhanced postprandial release of GLP-1 and PYY, correlating with substantial reductions in postprandial glucose levels.

Animal studies

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Sotagliflozin has been tested in various animal studies, including rats, rabbits, and mice. These studies have shown that sotagliflozin can have effects on cardiac function, glucose and insulin levels, and renal development in these animal models. For example, in normoglycemic mouse models, sotagliflozin has been found to evoke pressure overload and thereby it may lead to reduce cardiac fibrosis and hypertrophy, as well as improve cardiac outcomes in the context of cardiac pressure overload. Additionally, sotagliflozin has been shown to improve glycemic control in diabetic mice without increasing hypoglycemic events. However, some studies have suggested that sotagliflozin may not have cardiovascular benefits in high-fat fed animals due to ineffective diuresis and natriuresis. These findings provide insights into the information about the effects of sotagliflozin in different and various animal models.

Clinical study sotagliflozin

- Phase 1 studies

Phase 1 trials of sotagliflozin involved assessing its pharmacokinetics and pharmacodynamics in healthy subjects, considering various doses, including up to 500 mg in liquid form. On day 7 after multiple-dose administration, the highest observed circulating concentration was 165 ng/mL, supporting a once-daily dosing schedule with a pharmacokinetic half-life of 29 hours.

The studies showed that sotagliflozins single dose(300 mg), resulted in increased 24-hour urinary glucose excretion (UGE)

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of 44 g. However, further dose escalation didn't increase UGE despite higher systemic exposure. The maximum Urinary glucose excretion on day 7 after multiple dosing was 36 g, reflecting a kidney-related SGLT2 effect. The observed lower Urinary glucose excretion with sotagliflozin compared to selective SGLT2 inhibitors might be attributed to intestinal SGLT1 inhibition, leading to lowers post lucch glucose levels and reduced glucose filtration by the kidney.

- Phase 2 studies

Phase 2a:

In a Phase 2a trial involving individuals with poorly controlled type 2 diabetes, sotagliflozin (150 mg or 300 mg once daily) exhibited notable improvements in fasting plasma glucose, glucose tolerance, and A1C over a 28-day period. Despite a moderate increase in urinary glucose excretion, it demonstrated substantial glycemic efficacy, indicating significant gastrointestinal SGLT1 inhibition. A study in healthy subjects, focusing on dose timing, revealed that taking sotagliflozin before breakfast maximized its impact on postprandial glucose, GLP-1, and PYY, suggesting potential benefits for type 1 diabetes. The study hinted at synergistic effects when combined with DPP4 inhibitors. Subsequent investigations explored sotagliflozin in combination with sitagliptin and its efficacy in type 2 diabetes with metformin, renal impairment, and type 1 diabetes, completing Phase 2 development.

Phase 2b:

In a dose-ranging study during Phase 2b, sotagliflozin demonstrated optimal glycemic efficacy at 200 mg once daily (qd), resulting in a reduction of A1C by 1.07%.

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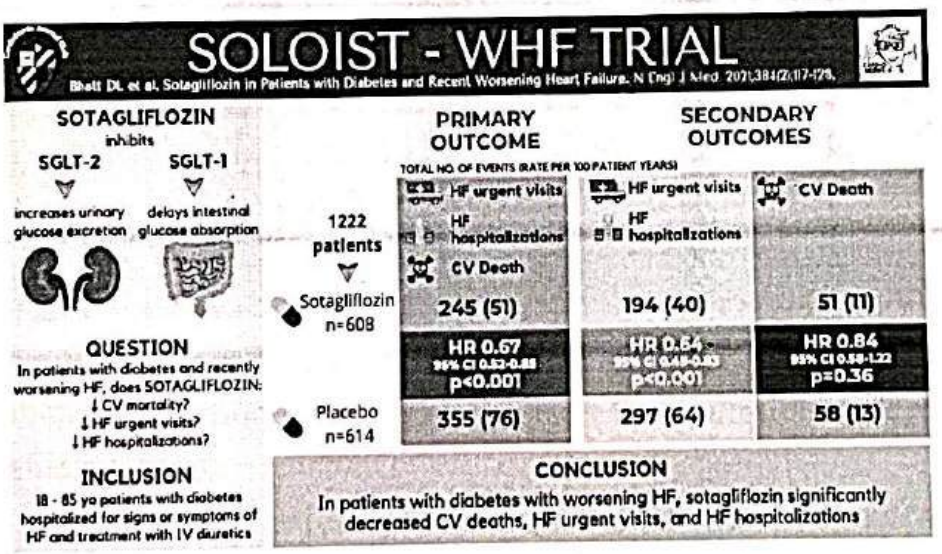
Additional SGLT1-mediated effects were observed at 400 mg qd without a notable increase in urinary glucose excretion (UGE). Safety analysis, involving around 20,000 doses, revealed favorable outcomes with a lower incidence of adverse events compared to the placebo. At 400 mg qd, sotagliflozin displayed a gastrointestinal safety profile similar to placebo, with a slight increase in genitourinary events. Importantly, the study suggested clinically relevant SGLT1 inhibition in the gastrointestinal tract and SGLT2 inhibition in the kidney at the 400 mg qd dosage, supporting its selection for subsequent Phase 2 studies.

- Phase 3



The Phase 3 trials, such as the SCORED and SOLOIST-WHF trials, have demonstrated the efficacy of sotagliflozin in reducing the risk of cardiovascular events and improving glycemic control in patients with heart failure and diabetes.The drug has shown promising results

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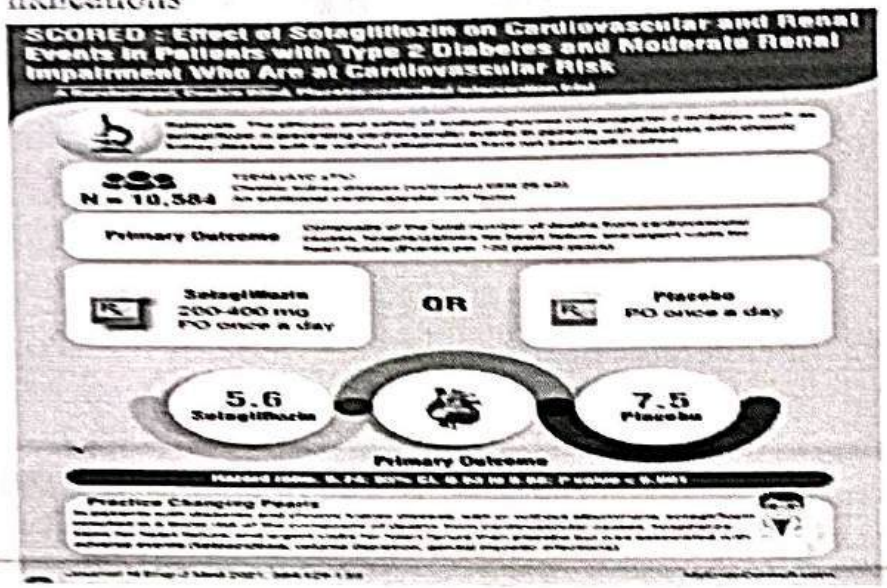
in these trials, leading to its approval for the treatment of heart failure and its ongoing evaluation for other indications



- Phase 4

  Phase 4 of sotagliflozin is currently going on and further trials needs to be done inorder to get more information about the safety and effectiveness of the sotagliflozins real world effectiveness in the patient population .

Reference:

1.Lapuerta P, Zambrowicz B, Strumph P, Sands A. Development of sotagliflozin, a dual sodium-dependent glucose transporter 1/2 inhibitor. Diabetes and Vascular Disease Research. 2015 Feb 17;12(2):101–10.

2. Pitt B, Bhatt DL, Szarek M, Cannon CP, Leiter LA, McGuire DK, et al. Effect of Sotagliflozin on Early Mortality and Heart Failure-Related Events: A Post Hoc Analysis of SOLOIST-WHF. JACC: Heart Failure [Internet]. 2023 Aug 1 [cited 2023 Sep 7];11(8, Part 1):879–89. Available from: https://www.sciencedirect.com/science/article/pii/S2213177923003013

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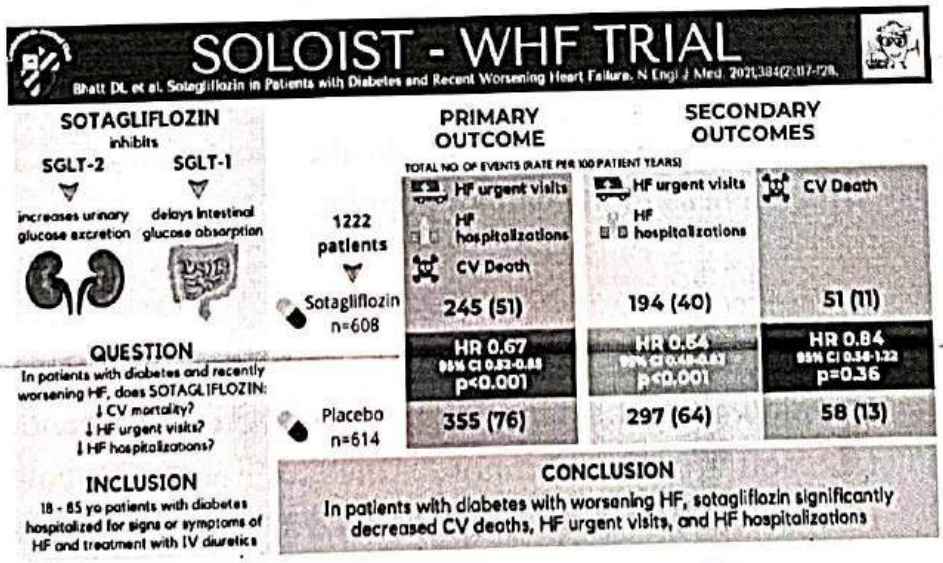

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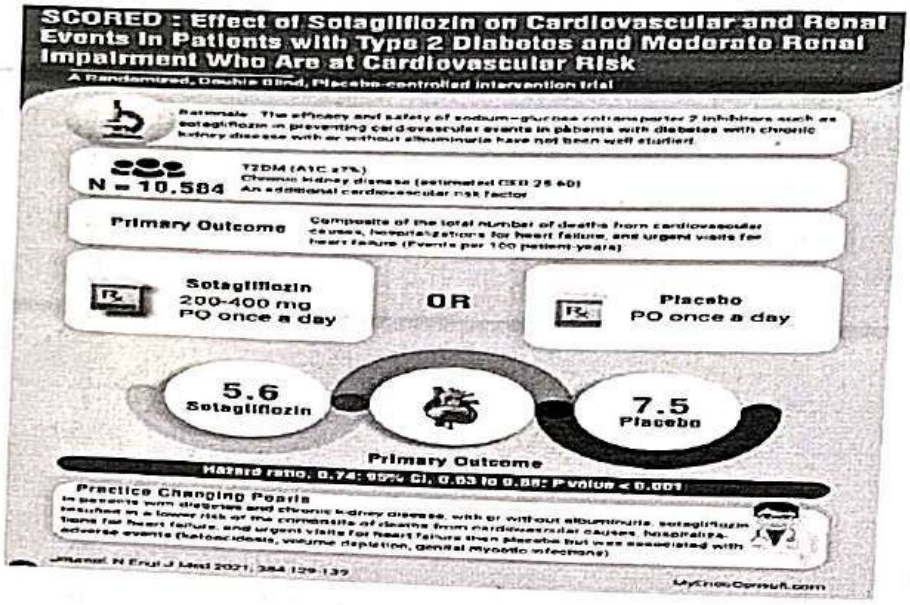

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3.Bhatt DL, Szarek M, Pitt B, Cannon CP, Leiter LA, McGuire DK, et al. Sotagliflozin in Patients with Diabetes and Chronic Kidney Disease. New England Journal of Medicine. 2020 Nov 16;

4. Cefalo CMA, Cinti F, Moffa S, Impronta F, Sorice GP, Mezza T, et al. Sotagliflozin, the first dual SGLT inhibitor: current outlook and perspectives. Cardiovascular Diabetology. 2019 Feb 28;18(1).

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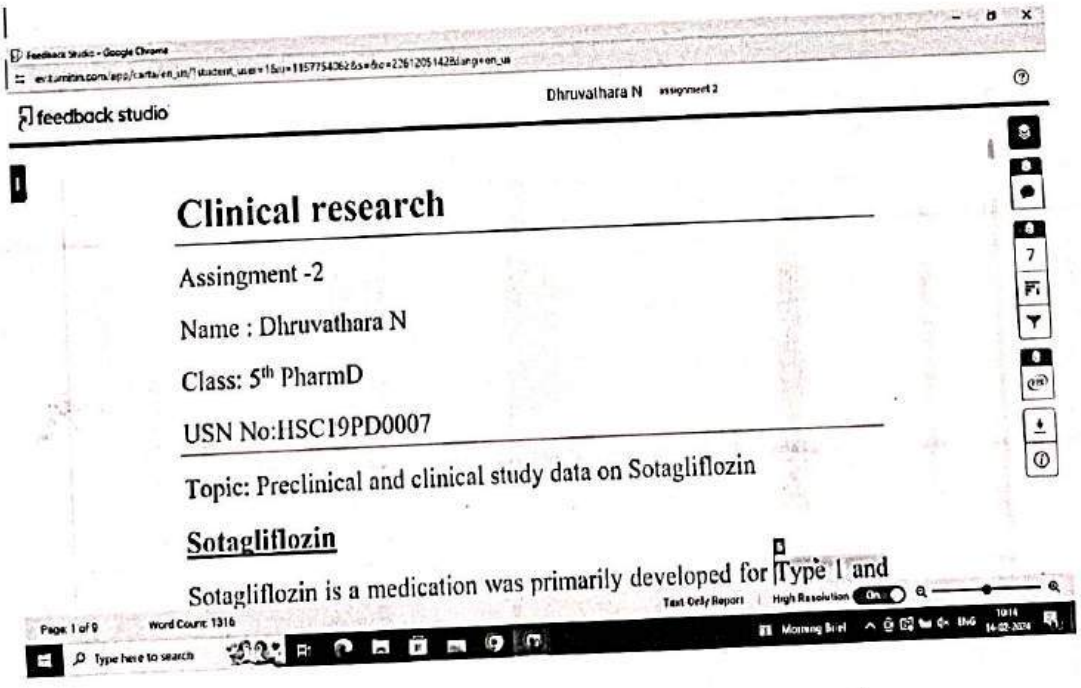
Thankyou



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➢ It is recommended to bring the working stock disc to room temperature and keep it out of direct sunlight.

ANTIMICROBIAL RESISTANCE

➢ There are multiple methods in which bacteria might develop resistance to antibiotics.
Microorganisms develop resistance after a genetic alteration.
➢ These changes can occur because of
i. Their own genetic mutation, which is an adjustment to their own DNA's structure.
ii. The genetic exchange, which occurs when extra-chromosomal DNA from bacteria is acquired.
iii. Because genetic exchange can result in resistance to several medications, it is the commonest cause of clinical drug resistance.
iv. Resistance genes engaged in genetic exchange are conveyed from one bacterial species to another through distinct, mobile, extra chromosomal DNA fragments referred to as transposons.
➢ Movement of transposons between bacteria can occur by:
- The bacteria will carry-out direct physical mating process which is known as conjugation.
- Transduction, or via bacteriophages' assistance.
- Transposition, or the addition of a chromosomal DNA molecule with the use of transferable plasmids.

DRUG RESISTANCE:

➢ It denotes the lack of response of a pathogen to an antimicrobial agent.

➢ They are of 3 types:

a) NATURAL RESISTANCE:

➢ Certain microorganisms have consistently shown resistance to specific antimicrobial agents because they do not have the drug's target location or metabolic pathway.
For example, penicillin G often has no effect on gram-negative bacteria.
➢ Tetracycline does not affect Mycobacterium tuberculosis.

b) ACQUIRED RESISTANCE:

➢ The organism which shows susceptibility to the antimicrobial agent in the beginning, will develop resistance to it due to prolonged use of the bactericidal agent, this is referred to as acquired resistance.

c) CROSS-RESISTANCE

➢ The ability to tolerate a typically hazardous drug because of exposure to a substance that acts similarly is known as cross-resistance.
➢ As an illustration, it is a phenomenon that impacts antibiotics and insecticides.

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1. Agar diffusion sensitivity-test

- Place, blotting paper cut in a disc shape on a sensitivity agar plate that has been infected with a test organism and impregnated with an adequate volume and concentration of antibiotic. From the disc, the antimicrobial diffuses into the media. The culture is checked for places of development surrounding the blotting paper disc after a 24-hour period.
- Sensitive strains experience growth inhibition up to a certain distance, whereas resistant strains experience, growth up to the disc's edge.
- The antimicrobial-induced zone of inhibition is contrasted with control.
- Volume, moisture content, pH, ingredients used in agar medium, concentration, storage, and dose administration all have an impact on the diffusion technique.
- Kirby-Bawer (KB), ICS, and Stocks methods are the methods used for agar diffusion sensitivity tests.
- The WHO advise using the modified K B technique.

2) DILUTION SENSITIVITY TESTS

- The concentration needed to kill the bacteria is frequently measured, and it's called the minimum inhibitory concentration (MIC).
- This is where antibacterial dilutions are introduced to the agar or broth.
- An extra standard test organism inoculum is made.
- The dilution procedure necessitates considering the lowest antibiotic needed to prevent noticeable development after overnight.

Requirements for a dilution technique:

- Thorough standardization
- Nutrient agar medium
- Antimicrobial solution
- Incubation duration
- Dilution duration

General requirements for sensitivity testing:

1. Sensitivity testing agar

- The media used for the testing includes Mueller Hinton agar, Iso sensitest agar and Gibco sensitivity testing agar no.2.
- Mueller Hinton agar (MHA).

Composition:

- Meat infusion 2.0 g/l
- Casein hydrolysate 17.5 g/l
- Starch 1.5 g/l
- Agar-agar 13.0 g/l

2. Antimicrobial disc:

- This disk ought to be stored in the refrigerator at the temperature recommended by the maker. It should not be utilized past its expiration date.

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by Jhanavi C

Submission date: 22-Feb-2024 09:43PM (UTC+0530)
Submission ID: 2298419423
File name: MICROBIOLOGICAL_CULTURE_SENSITIVITY_TESTS.docx (22.14K)
Word count: 735
Character count: 4206

MICROBIOLOGICAL CULTURE SENSITIVITY TESTS

SENSITIVITY TESTING

Sensitivity testing measures how active the chosen antimicrobial agent is against the bacterial strains that are causing the infection.

INTRODUCTION:

- Generally, the majority of bacteria that cause disease exhibit resistance to drugs.
- Therefore, a sensitivity-test is carried out to determine which antimicrobial medication is the best option.
- Identifying the pathogen might also be helpful.

LIMITATIONS:

- It facilitates the measurement of antimicrobial activity against bacteria only in laboratory settings, as opposed to patient settings.
- Sensitivity testing methods do not account for the patient's disease state, type of infection, the location of infection, hypersensitivity caused by drugs, adverse drug-related events, or personal characteristics.

- Microbial sensitivity testing can be done by

1) Diffusion method

2) Dilution method

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ASSIGNMENT 2

SOCIAL AND PREVENTIVE PHARMACY

PULSE POLIO PROGRAMEE

The polio is caused by poliovirus.It is a member of a large family known as Picornaviruses, Rhinoviruses.
Polio belongs to enteroviruses subgroup which consists 70 viruses of Intestine.
It is one of the smallest RNA viruses.
Incubation Period is 3 days.
Period of communicability is 10 days.
Favorable environment is in the Rainy Season.

SYMPTOMS

Non Paralytic Polio

- Fever
- Sore Throat
- Headache
- Vomiting
- Problem swelling

Paralytic Polio

- Loss of reflexes
- Severe spasm
- Muscle pain
- High fever

Pulse Polio is an immunisation campaign established by the government of India to eliminate poliomyelitis (polio) in India by vaccinating all children under the age of five years against the polio virus. The project fights polio through a large- scale, pulse vaccination programme and monitoring for poliomyelitis cases.

- Pulse Polio Immunization Campaign in India

1972-Vaccination against polio started with Expanded Programme on Immunization (EPI).

1985- The Universal Immunization Programme (UIP) was launched to cover all the districts of the country.

1992- UIP became a part of Child Survival And Safe Motherhood Program (CSSM)

1995- The Global Polio Eradication Initiative of the World Health Organization (1988), India launched Pulse Polio immunization program with Universal Immunization Program which aimed at 100% coverage.

1997- UIP became a part of Reproductive and Child Health Program (RCH)

2010- The number of reported cases of polio also declined from thousands during 1987 to 42 in 2010,

2011- The last reported cases of wild polio in India were in West Bengal and Gujarat on 13 January 2011

2014- On 27 March 2014, the World Health Organization (WHO) declared India a polio free country, since no cases of wild polio been reported in for five years.

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The WHO on February 24, 2012 removed india from the list of countries with active endemic wild polio virus transmission.
World Health Organization (WHO) defines the polio or Poliomyelitis (polio) is a highly infectious viral disease that largely affects children under 5 years of age.

- POLIO VACCINES ARE SAFE AND EFFECTIVE

  Pollo vaccines have been used over the world to protect now than 2 billion children from polic
  There is no cure for polio, it can only be prevented by immunization.

- WORLD POLIO DAY

Every year on 24 October, we observe World Polio Day to raise awareness of the importance of polio vaccination to protect every child from this devastating disease, and to celebrate the many parents, professionals and volunteers whose contributions make polio eradication achievable.

To ensure a polio-free future for everyone, efforts must continue to maintain high immunization coverage, implement high-quality surveillance to detect any presence of the virus, and prepare to respond in the event of an outbreak.

- STEPS INVOLVED

Set up of booths in all parts of India.
Initialising walk-in cold rooms, freezer rooms, deep freezers, ice-lined refrigerators and cold boxes for a steady supply of vaccine to booths.
Arranging employees, volunteers, and vaccines.
Ensuring vaccine vial monitor on each vaccine vial.
Immunising children with OPV on national immunisation days.
Identifying missing children from immunisation process.
Surveillance of efficiency.

The Pulse Polio Initiative was started with an objective of achieving hundred coverage under Oral Polio Vaccine.
It aimed to immunize children through improved social mobilization, plan mop-up operations in areas where poliovirus has almost disappeared and maintain high level of morale among the public.
Replacement of wild Poliovirus in the community.
Intensified Pulse Polio Immunization Programme.
All children under the 5 year should be vaccined.
There should be three zones- Low burden, middle burden, high burden
Wild Poliovirus transmission is limited to a Focal area.
To interrupt transmission of wild polio virus as soon as possible

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- PREVENTIVE PULSE POLIO

The Pulse Polio Immunization (PPI) aims at covering every indiv India. It aspires to reach even children in remote communities through an improved social mobilization plan.
Not a single child should miss the immunization and leaving no chance of polio occurrence.
Cases of acute flaccid paralysis (AFP) to be reported in time and stool specimens of them to be collected within 14 days. Outbreak response immunization (ORI) to be conducted as early as possible.
Maintaining a high level of surveillance.
Performance of good mop-up operations where polio has disappeared.

Once polio is eradicated, the world can celebrate not only the eradication of a disease but the delivery of a global public good something from which every person, regardless of race, sex, ethnicity, economic status or religious belief. can benefit for all time, no matter where they live.

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NONCLINICAL STUDIES FOR THE SAFETY EVALUATION OF PHARMACEUTICAL EXCIPIENTS

SUBMITTED BY:
G.SRI SAI DATTATREYA

SUBMITTED TO:
Dr. VANAJA K
PROFESSOR

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OSMOTIC ACTIVATED DRUG DELIVERY SYSTEM AND FEEDBACK REGULATED DRUG DELIVERY SYSTEM

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➤Submitted To:

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DAYANANDA SAGAR UNIVERSITY

2023-24 M Pharm 1st Sem Assignment

DRUG DELIVERY SYSTEMS

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ABBREVIATED NEW DRUG APPLICATION

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CONCEPT OF TOTAL QUALITY MANAGEMENT

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Undo Redo

SPIN – SPIN COUPLING

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Drug Delivery System

ASSIGNMENT - 1

Assignment On

VACCINE DELIVERY SYSTEMS

Vaccines, Uptake of antigens, Single shot vaccines,

Mucosal and Transdermal delivery of vaccines.

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Roshini cy

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Modern Pharmaceutical Analytical Techniques

Assignment – 1

Assignment on

IMMUNOLOGICAL ASSAYS

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Pharmaceutics

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Submitted to

Dr.K.B Premakumari

Professor

COPS - DSU

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ANTISENSE OLIGONUCLEOTIDES

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Molecular Pharmaceutics

ASSIGNMENT-1

TOPIC- Biochemical pathway and

Brain tumor targeting

SUBMITTED BY

Priyanka K B

M Pharm 2ND Sem

Dept. of Pharmaceutics

COPS, DSU

SUBMITTED TO

Dr. B. Wilson

Head of Department

Pharmaceutics

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Department of Pharmaceutics

College of Pharmaceutical Sciences

DAYANANDA SAGAR UNIVERSITY

NONCLINICAL STUDIES FOR THE SAFETY EVALUATION OF PHARMACEUTICAL EXCIPIENTS

SUBMITTED BY:
G.SRI SAI DATTATREYA

SUBMITTED TO:
Dr. VANAJA K
PROFESSOR

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OSMOTIC ACTIVATED DRUG DELIVERY SYSTEM AND FEEDBACK REGULATED DRUG DELIVERY SYSTEM

➤Submitted by:

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➤Submitted To:

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HOD

PHARMACEUTICS

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PERMEABILITY

IN-VITRO METHOD FOR DRUG PERMEATION

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CONCEPTS OF OPTIMIZATION

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TARGETED DRUG DELIVERY SYSTEMS

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ETHICAL GUIDELINES IN CLINICAL RESEARCH

Presented by,
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ETHICS

- ✓ A set of principles of right conduct.
- ✓ A theory or a system of moral values.
- ✓ The rules or standards governing the conduct of a person.

CODE OF ETHICS:

✓Nuremberg Code-1946
- First International document that describes permissible medical experimentation on humans.

✓Declaration of Helsinki-1964
-A set of 12 principles adopted by World Medical Association in 1964 to guide physicians.
-The declaration describes about medical care and research that gives direct benefit to the patient.
-This declaration should respect JUSTICE,RESPECT FOR PERSONS & BENEFICIANCE.

✓The Belmon Report-1979
-It summarizes the ethical principles identified by National Commission for the protection of Human subjects of biomedical and behavioral research.

✓ICH/GCP-International Conference on Harmonisation-Good Clinical practice
-They are intended to promote and protect Global public health by
-Reducing duplicate testing.
-Enhancing the economical use of resources.
-Eliminating delays.
- Maintenance of quality, safety and efficacy of new drugs and devices.

SEVEN REQUIREMENTS FOR ETHICAL RESEARCH

- Value
- Validity
- Fair Subject selection
- Favorable risk-benefit ratio
- Independent review
- Informed consent
- Respect for enrolled partcipants

STATEMENT OF SPECIFIC PRINCIPLES

ICMR has laid down specific principles in the following areas
-Drug trials
-Vaccine trials
-Trials on surgical procedures and medical devices
-Trials on diagnostic agents
-Trials with herbal medicines

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SPECIFIC PRINCIPLES INCLUDES

PRINCILES OF ESSENTIALITY :

It specifies that research is necessary for the advancement of knowledge and for the benefit of all members of the human species and for the ecological and environmental well being of the planet.

PRINCIPLES OF VOLUNTARIES,INFORMED CONSENT & COMMUNITY AGREEMENT :

It specifies that research volunteers retain the right to abstain from further participation in the research irrespective of any illegal or other obligation entered into them.

PRINCIPLES OF NON-EXPLOITATION

Research subjects are remunerated for their involvement in the research or experiment.

PRINCIPLES OF PRIVACY AND CONFIDENTALITY

It describes about the identity and records of the human subjects of the research should be kept confidential.

PRINCIPLES OF PRECAUTION & RISK MINIMISATION

Care and caution is taken at all stages of tfe research and experiment to ensure minimum risk and suffer from no irreversible adverse effects.

PRINCIPLE OF PROFESSIONAL COMPETENCE

Research should be conducted by qualified persons who act with total integrity and impartiality and mindful of ethical consideration.

PRINCIPLES OF ACCOUNTABILITY & TRANSPARENCY

Research will be conducted in a fair, honest, impartial and transparent manner.

PRINCIPLES OF THE MAXIMISATION OF THE PUBLIC INTEEST AND OF DISTRIBUTIVE SERVICE

Research conducted are used to benefit all man kind and not for least advantaged.

PRINCIPLE OF INSTITUTIONAL ARRANGEMENTS

Institutional arrangements are required to ensure that research reports, materials and data connected with the research are duly preserved and archived.

PRINCIPLE OF PUBLIC DOMAIN

Research and experimentation should be brought to public domain through scientific publications.

PRINCIPLES OF TOTALITY OF RESPONSIBILITY

Research or experiment is duly monitored and constantly subject to review and remedial action at all stages of the research and experiment.

PRINCIPLES OF COMPLIANCE

The spirit of these guidelines and directions are applicable for that area of research or experimentation are keenly observed and duly complied with it.

Terms of Reference :

- The IEC members should be made aware of their role and responsibilities as committee members.
- Any change in the regulatory requirements should be brought to their attention and they should be kept abreast of all national and international developments in this regard.
- The Terms of References should also include a statement on Terms of Appointment with reference to the duration of the term of membership, the policy for removal, replacement and resignation procedure etc. Each Committee should have its own operating procedures available with each member.

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Review Procedures :

- The Ethics Committee should review every research proposal on human subjects.
- It should ensure that a scientific evaluation has been completed before ethical review is taken up.
- The Committee should evaluate the possible risks to the subjects with proper justification, the expected benefits and adequacy of documentation for ensuring privacy, confidentiality and justice issues.
- **The ethical review should be done through formal meetings and should not resort to decisions through circulation of proposals.**

Submission of Application:

- The researcher should submit an appropriate application to the IEC in a prescribed format along with the study protocol at least three weeks in advance.
- The protocol should include the following:
  - Clear research objectives and rationale for undertaking the investigation in human subjects in the light of existing knowledge.
  - Recent curriculum vitae of the Investigators indicating qualification and experience.
  - Subject recruitment procedures.

- Inclusion and exclusion criteria for entry of subjects in the study.
- Precise description of methodology of the proposed research, including intended dosages and routes of administration of drugs, planned duration of treatment and details of invasive procedures if any.
- A description of plans to withdraw or withhold standard therapies in the course of research.
- The plans for statistical analysis of the study.
- Procedure for seeking and obtaining informed consent with sample of patient information sheet and informed consent forms in English and vernacular languages.

- Safety of proposed intervention and any drug or vaccine to be tested, including results of relevant laboratory and animal research.
- For research carrying more than minimal risk, an account of plans to provide medical therapy for such risk or injury or toxicity due to over-dosage should be included.
- Proposed compensation and reimbursement of incidental expenses.
- Storage and maintenance of all data collected during the trial.
- Plans for publication of results - positive or negative - while maintaining the privacy and confidentiality of the study participants.

- A statement on probable ethical issues and steps taken to tackle the same.
- All other relevant documents related to the study protocol including regulatory clearances.
- Agreement to comply with national and international GCP protocols for clinical trials.
- Details of Funding agency / Sponsors and fund allocation for the proposed work.

Decision Making Process :

- The IEC should be able to provide complete and adequate review of the research proposals submitted to them It should meet periodically at frequent intervals to review new proposals, evaluate annual progress of ongoing ones and assess final reports of all research activities involving human beings through a previously scheduled agenda, amended wherever appropriate.

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- The decision must be taken by a broad consensus after the quorum requirements are fulfilled to recommend / reject / suggest modification for a repeat review or advice appropriate steps. The Member Secretary should communicate the decision in writing.

- A member must voluntarily withdraw from the IEC while making a decision on an application which evokes a conflict of interest which should be indicated in writing to the chairperson prior to the review and should be recorded so in the minutes.

- If one of the members has her/his own proposal for review, then the member should not participate when the project is discussed.

- The discontinuation of a trial should be ordered if the IEC finds that the goals of the trial have already been achieved midway results are obtained.

- In case of premature termination of study, notification should include the reasons for termination along with the summary of results conducted till date

- The following circumstances require the matter be brought to the attention of IEC :
  - any amendment to the protocol form the originally approved protocol with proper justification;
  - serious and unexpected adverse events and remedial steps taken to tackle them;
  - any new information that may influence the conduct of the study.

- If necessary, the applicant/investigator may be invited to present the protocol or offer clarifications in the meeting. Representative of the patient groups or interest groups can be invited during deliberations to offer their viewpoint.

- Subject experts may be invited to offer their views, but should not take part in the decision making process. However, her/his opinion must be recorded.

- Meetings are to be minuted which should be approved and signed by the Chairperson.

Record Keeping :

- All documentation and communication of an IEC are to be dated, filed and preserved according to written procedures. Strict confidentiality is to be maintained during access and retrieval procedures.

- Records should be maintained for the following :

- The Constitution and composition of the IEC;
- The curriculum vitae of all IEC members;
- standing operating procedures of the IEC;
- national and international guidelines;

- copies of the Protocol, data collection formats, CRFs, investigational brochures etc. submitted for review;
- all correspondence with IEC members and investigators regarding application, decision and follow up;
- agenda of all IEC meetings;
- minutes of all IEC meetings with signature of the Chairperson;
- copies of decisions communicated to the applicants;
- record of all notification issued for premature termination of a study with a summary of the reasons;
- final report of the study including microfilms, CDs and Video-recordings.

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Special Considerations :

- While all the above requirements are applicable to biomedical research as a whole irrespective of the speciality of research, there are certain specific concerns pertaining to specialised areas of research which require additional safe guards / protection and specific considerations for the IEC to take note of.
- Examples of such instances are research involving children, pregnant and lactating women, vulnerable subjects and those with diminished autonomy besides issues pertaining to commercialisation of research and international collaboration. The observations and suggestions of IEC should be given in writing in unambiguous terms in such instances.

Essential Information on Confidentiality for Prospective Research Subjects Safeguarding confidentiality:

- The investigator must safeguard the confidentiality of research data, which might lead to the identification of the individual subjects.
- Data of individual subjects can be disclosed only in a court of law under the orders of the presiding judge or in some cases may be required to communicate to drug registration authority or to health authority.
- Therefore, the limitations in maintaining the confidentiality of data should be anticipated and assessed.

Compensation for Participation:

- Subjects may be paid for the inconvenience and time present, and should be reimbursed for expenses incurred, in connection with their participation in research. They may also receive free medical services.
- All payments, reimbursement and medical services to be provided to research subjects should be approved by the IEC.

Care should be taken :

- when a guardian is asked to give consent on behalf of an incompetent person, no remuneration should be offered except a refund of out of pocket expenses;
- when a subject is withdrawn from research for medical reasons related to the study the subject should get the benefit for full participation;
- when a subject withdraws for any other reasons he/she should be paid in proportion to the amount of participation.

Selection of Special Groups As Research Subject :

Pregnant or nursing women :

- As a general rule, pregnant or nursing women should not be subjects of any clinical trial except such trials as are designed to protect or advance the health of pregnant or nursing women or foetuses or nursing infants.
- Research related to termination of pregnancy: Pregnant women who desire to undergo Medical Termination of Pregnancy (MTP) could be made subjects for such research as per The Medical Termination of Pregnancy Act, GOI, 1971.

- Research related to pre-natal diagnostic techniques: In pregnant women such research should be limited to detect the foetal abnormalities or genetic disorders as per the Prenatal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, GOI, 1994 and not for sex determination of the foetus.

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Children:

Before undertaking trial in children the investigator must ensure that -

- children will not be involved in research that could be carried out equally well with adults;
- the purpose of the research is to obtain knowledge relevant to health needs of children. For clinical evaluation of a new drug the study in children should always be carried out after the phase III clinical trials in adults. It can be studied earlier only if the drug has a therapeutic value in a primary disease of the children;
- a parent or legal guardian of each child has given proxy consent;

- The assent of the child should be obtained to the extent of the child's capabilities such as in the case of mature minors, adolescents etc;
- research should be conducted in settings in which the child and parent can obtain adequate medical and psychological support;
- f. interventions intended to provide direct diagnostic, therapeutic or preventive benefit for the individual child subject must be justified in relation to anticipated risks involved in the study and anticipated benefits to society;

Vulnerable groups :

- Effort may be made to ensure that individuals or communities invited for research be selected in such a way that the burdens and benefits of the research are equally distributed.
- research on genetics should not lead to racial inequalities;
- persons who are economically or socially disadvantaged should not be used to benefit those who are better off than them;
- rights and welfare of mentally challenged and mentally differently able persons who are incapable of giving informed consent or those with behavioral disorders must be protected.

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Drug Information Query

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CONTENT

- Definition
- Types of drug information resources.
- Searching of the database
- Methodology
- Application

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Drug information means providing clinically relevant information on any aspect of drug use relating to individual patients, or general information on how best to use drugs for populations.

Drug information service
The term can be applied to any activity where information about drug use is transferred, and includes patient-related aspects of pharmaceutical care.

Drug information centre
It is an area where pharmacists (or other health professionals) specialise in providing information to health professionals or the public. The unique aspect of the drug information centre is that it draws together a range of information resources and makes these accessible to people who know how to make the best use of them.

4

- **Information** about drugs is available in a wide range of formats, media types and levels of quality.
- The internet has enlarged the scope of information available to much of the world's population and has vastly improved access to information for health professionals.
- However, the range of quality is as varied as the volume of information available.
- **Medical research** is often reported in the **media before** there is an opportunity for **critical analysis** and before the new information can be placed in a clinical perspective.

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- While it is important for drug information pharmacists to be aware of the nature of free drug information, they should have access to sources which have acceptable standards of quality and reliability.
- They should also respect the intellectual property rights of the authors and publishers.
- There are provisions within the copyright laws which allow access to material required for research or private study, but this does not allow further distribution without permission.

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DRUG INFORMATION SOURCES

- **Information sources** have traditionally been categorised as **primary, secondary or tertiary**, according to the nature of the content and speed of publication.
- However, the most important point is to **distinguish primary sources (original reports) from all other sources (reviews).**
- Electronic formats, and ready access to updates, have blurred the divisions previously applied to secondary and tertiary sources.

Secondary sources consist of reviews of primary reports.

Journals

They often publish a mixture of primary and secondary reports but there are also journals which are devoted to reviews of previously published material.

Reviews

- It can be informal, often by a single author recognised as a specialist in the field.
- These provide a **personal perspective** of the
- literature and can include **comments** on how the **author might apply the information in practice**. This type of report is sometimes called a **'narrative review'.**

- This term may appear in the title to distinguish it from a more formal analysis, referred to as a **'systematic review'.**
- **In a systematic review**, the authors (usually a team) use a rigorous (and defined) method to search for all relevant information **(including unpublished studies)** and select those studies which meet criteria for **scientific quality.**

- The selected studies are then analysed and conclusions drawn.
- In many cases, the results of a number of studies are merged using a process called **'meta-analysis'**.
- This process aims to create the **equivalent of one large study with greater statistical power** than the separate studies.

There are a number of electronic knowledge systems which can be considered as **secondary sources** of information.

- These include Drugdex **(Micromedex, USA)** and International Pharmaceutical Abstracts **(American Society of Health-System Pharmacists**, USA).
- These systems are electronic, include summaries of the primary reports and are updated regularly.

- **Secondary sources** provide a **condensed and refined view of primary data** and are often used in drug information practice to provide rapid responses to clinical questions.
- However, published reviews may not include recent primary reports, and narrative reviews may reflect the authors' clinical perspective and limited access to the relevant information.

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Tertiary Resources

Tertiary resources are summaries of the primary and secondary published literature.

- Printed textbooks are the main example and these are characterized by a slow rate of revision compared to secondary sources.
- Although they are revised less frequently, these texts tend to be more comprehensive and should undergo a more thorough review and editing process than secondary sources.

- Many major textbooks are now published electronically as well as in print, so sections can be updated progressively rather than waiting for a complete revision at the time of printing (usually every 3–5 years).
- In **drug information practice**, a **tertiary text** will usually be **consulted first as a quick reference** and, if necessary, **secondary and primary sources** are then checked for a more complete response.

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Journals

- Most of the important research and clinical experience is published in scientific journals (or 'periodicals').
- Because of the large volume of information, there is continuing effort to improve our ability to locate the most relevant information and access the full text of the documents.

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- An increasing number of open-access journals which are usually only published electronically (to minimise costs).
- Most of the research and review articles published in reputable journals have undergone peer review.

Peer review

It involves anonymous reviews from experts in the field who advise on whether the material warrants publication and how it could be improved with additional details, mode of presentation or interpretation of the results.

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- Peer review is generally accepted as the best approach to maintaining the quality of scientific publications but it can only provide a limited perspective (usually from a few individuals).
- Sometimes, incorrect information is published (and later corrected) or incorrect information is deliberately submitted for publication (scientific fraud) and it is not detected by the editors or the peer review process.

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- This process helps the journal editors select material which is of an acceptable standard and to improve the quality of how the information is presented to readers.
- This usually involves anonymous reviews from experts in the field who advise on whether the material warrants publication and how it could be improved with additional details, mode of presentation or interpretation of the results.

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Bibliographic Databases

- These services are sometimes called **indexing and abstracting services** because
- They provide a **copy of the published abstract of primary and secondary reports, together with an indexed database** to help locate relevant reports.
- The **Iowa Drug Information Service (IDIS)** also includes the full text of articles from around 200 medical and pharmaceutical journals.
- **Medline and Embase** are the largest and most frequently used bibliographic databases.

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Medline

- It is produced by the **US National Library of Medicine** and uses US conventions for **indexing and journal coverage.**
- It is available free of charge in the form of **PubMed** and has traditionally been used in medical and educational institutions.

Embase

- It has a European perspective and has more comprehensive indexing (including drug terms) than Medline.

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- **Embase** is only available by **subscription.**
- These databases are used to **locate published literature** (primary and secondary) and the indexing allows searches to be broad or focused.
- The databases can directly link to the full text of journal articles but only some **full-text articles** will be available **free of charge.**

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Searching the computerized database!

Journal articles within databases are labelled with a range of information which characterizes each article and allows users to locate relevant articles.

- the **title** (and authors' abstract, if available),
- the **authors' names,**
- their **institution, the journal name** and specifics about how and where it was published.
- **indexing terms** are usually added by the database publisher to help users locate useful material.
- In general, these terms can be called '**keywords**' but they are most useful when they are selected from a controlled and structured list.

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- In Medline, these are called **Medical Subject Headings (MeSH).**
- The main advantage of having a controlled list of headings is that there should be only one term for each concept. This creates a standard term for each disease and drug (regardless of variations in spelling) but means that new or less important concepts may not have a subject heading.
- In this case, the indexer will select **the closest term (usually a more general term)** to describe a concept.

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- **Trees**

Searches for groups of related terms are linked together in 'trees'.

- **Branches**

The tree structure lists general terms at the top with 'branches' for groups of related terms, with the most specific terms at the end of the branch.

- **Explosion**

Searching for related terms within a hierarchical list of headings is called an 'explosion', and the process provides considerable power and flexibility for the user.

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- It is usually necessary to combine two or more concepts to provide a focused search.
- This can be done with the Boolean operators 'AND', 'OR' and 'NOT'.
- **Example**: liver diseases **OR** bile duct diseases **AND** non-steroidal anti-inflammatory drugs.
- The **'NOT'** operator is rarely used as it can exclude articles which have relevant headings as well as the heading that we exclude.

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- **Medline** is available in many formats including the **open-access version called PubMed.**
- This format defaults to **a simplified search** process which creates **reasonable quality searches** based on simple words or **phrases** provided by **the user.**

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Examples:

- National Institute for Health and Clinical Excellence, UK
- (www.nice.org.uk)
- National Prescribing Centre, UK (www.npc.co.uk)
- National Prescribing Service, Australia (www.nps.org.au)
- Canadian Agency for Drugs and Technologies in Health (www.cadth.ca)

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Search tools for clinical guidelines include:

- National Guideline Clearinghouse, USA (www.guidelines.gov)
- National Library for Health, UK (www.library.nhs.uk).
- Product information is available for approved drugs in many countries including: DailyMed, USA (dailymed.nlm.nih. gov/dailymed)
- European Medicines Agency (www.emea.europa.eu)
- Medicines.org.uk, UK (www.medicines.org.uk).

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Tertiary Resources

Tertiary resources are summaries of the primary and secondary published literature.

- Printed textbooks are the main example and these are characterized by a slow rate of revision compared to secondary sources.
- Although they are revised less frequently, these texts tend to be more comprehensive and should undergo a more thorough review and editing process than secondary sources.

- Many major textbooks are now published electronically as well as in print, so sections can be updated progressively rather than waiting for a complete revision at the time of printing (usually every 3–5 years).
- In **drug information practice**, a **tertiary text** will usually be **consulted first as a quick reference** and, if necessary, **secondary and primary sources** are then checked for a more complete response.

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Journals

- Most of the important research and clinical experience is published in scientific journals (or 'periodicals').
- Because of the large volume of information, there is continuing effort to improve our ability to locate the most relevant information and access the full text of the documents.

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- An increasing number of open-access journals which are usually only published electronically (to minimise costs).
- Most of the research and review articles published in reputable journals have undergone peer review.

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Peer review

It involves anonymous reviews from experts in the field who advise on whether the material warrants publication and how it could be improved with additional details, mode of presentation or interpretation of the results.

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- Peer review is generally accepted as the best approach to maintaining the quality of scientific publications but it can only provide a limited perspective (usually from a few individuals).
- Sometimes, incorrect information is published (and later corrected) or incorrect information is deliberately submitted for publication (scientific fraud) and it is not detected by the editors or the peer review process.

- This process helps the journal editors select material which is of an acceptable standard and to improve the quality of how the information is presented to readers.
- This usually involves anonymous reviews from experts in the field who advise on whether the material warrants publication and how it could be improved with additional details, mode of presentation or interpretation of the results.

Bibliographic Databases

- These services are sometimes called **indexing and abstracting services** because
- They provide a **copy of the published abstract of primary and secondary reports, together with an indexed database** to help locate relevant reports.
- The **Iowa Drug Information Service (IDIS)** also includes the full text of articles from around 200 medical and pharmaceutical journals.
- **Medline and Embase** are the largest and most frequently used bibliographic databases.

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Medline

- It is produced by the **US National Library of Medicine** and uses US conventions for **indexing and journal coverage.**
- It is available free of charge in the form of **PubMed** and has traditionally been used in medical and educational institutions.

Embase

- It has a European perspective and has more comprehensive indexing (including drug terms) than Medline.

- **Embase** is only available by **subscription.**
- These databases are used to **locate published literature** (primary and secondary) and the indexing allows searches to be broad or focused.
- The databases can directly link to the full text of journal articles but only some **full-text articles** will be available **free of charge.**

Searching the computerized database!

Journal articles within databases are labelled with a range of information which characterizes each article and allows users to locate relevant articles.

- the **title** (and authors' abstract, if available),
- the **authors' names,**
- their **institution, the journal name** and specifics about how and where it was published.
- **indexing terms** are usually added by the database publisher to help users locate useful material.
- In general, these terms can be called '**keywords**' but they are most useful when they are selected from a controlled and structured list.

- In Medline, these are called **Medical Subject Headings (MeSH).**
- The main advantage of having a controlled list of headings is that there should be only one term for each concept. This creates a standard term for each disease and drug (regardless of variations in spelling) but means that new or less important concepts may not have a subject heading.
- In this case, the indexer will select **the closest term (usually a more general term)** to describe a concept.

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- **Trees**

Searches for groups of related terms are linked together in 'trees'.

- **Branches**

The tree structure lists general terms at the top with 'branches' for groups of related terms, with the most specific terms at the end of the branch.

- **Explosion**

Searching for related terms within a hierarchical list of headings is called an 'explosion', and the process provides considerable power and flexibility for the user.

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- It is usually necessary to combine two or more concepts to provide a focused search.
- This can be done with the Boolean operators 'AND', 'OR' and 'NOT'.
- **Example:** liver diseases **OR** bile duct diseases **AND** non-steroidal anti-inflammatory drugs.
- The **'NOT'** operator is rarely used as it can exclude articles which have relevant headings as well as the heading that we exclude.

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- **Medline** is available in many formats including the **open-access version called PubMed.**
- This format defaults to a **simplified search** process which creates **reasonable quality searches** based on simple words or **phrases** provided by **the user.**

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Examples:

- National Institute for Health and Clinical Excellence, UK
- (www.nice.org.uk)
- National Prescribing Centre, UK (www.npc.co.uk)
- National Prescribing Service, Australia (www.nps.org.au)
- Canadian Agency for Drugs and Technologies in Health (www.cadth.ca)

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Search tools for clinical guidelines include:

- National Guideline Clearinghouse, USA (www.guidelines.gov)
- National Library for Health, UK (www.library.nhs.uk).
- Product information is available for approved drugs in many countries including: DailyMed, USA (dailymed.nlm.nih. gov/dailymed)
- European Medicines Agency (www.emea.europa.eu)
- Medicines.org.uk, UK (www.medicines.org.uk).

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School of Health Sciences
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Concept of health and disease

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CONTENT

- Concept of health
- Concept of disease
- Concept of prevention

~~Preventive Medicine~~

Preventive medicine developed as a specialty only after **Louis Pasteur propagated in 1873 the germ theory of disease** followed by discovery of causative agents of typhoid, pneumonia, tuberculosis, cholera and diphtheria within the next decade.

- It gained further impetus during subsequent years from the following developments:

• Development of several specific disease preventive measures before the turn of the century **(antirabies ~~treatment, cholera vaccine, diphtheria antitoxin~~ and antityphoid vaccine).**

- Discovery and development of **antiseptics and disinfectants.**

• Discovery of modes of transmission of diseases caused by germs. Transmission of malaria, yellow fever and sleeping sickness had been elucidated before the turn of the century.

- It may be said in retrospect that when public health gained roots with the passage of the Public Health Act, the emphasis was on environmental sanitation alone.

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Social Medicine

It is defined as the **study of the man as a social being in his total environment**. It is concerned with the health of groups of individuals as well as individuals within groups.

- The term social medicine gained currency in Europe around 1940.
- In 1949, a separate department of Social Medicine was started at Oxford by Professor Ryle. The **concept** of **social medicine** is based upon realization of the following facts:

a) **Suffering of man is not due to pathogens alone**. It can be partly considered to be due to social causes (social etiology).

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- The consequences of disease are not only physical (pathological alterations due to pathogens) but also social (social pathology).

• **Comprehensive therapeutics** has to include social remedies in addition to medical care (social medicine).

• Social services are often needed along with medical care services.

- **Interest in social medicine** began to **decline** with the **development of epidemiology.** The Royal Commission on Medical Education substituted in 1968 the term social medicine by community medicine in its report (Todd Report).

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Concept of health

- The **WHO (1948)** has attempted to construct a positive definition of **Health** and has described Health as ***"a state of complete physical, mental and social wellbeing and not merely an absence of disease or infirmity.***
- Later on (1978), it has been added as to lead a **"socially and economically productive life".** This is an all encompassing definition and clearly places health on a higher pedestal in comparison to disease.
- This definition, however, refers to an ideal state which one strives to achieve, though one may not be able to do so.

Determinants of Health

- What is it that results in good health, optimum health or positive health?
- It is certain that the health status cannot be the result of one particular activity.
- Many influences have a bearing on health.
- **The influences which affect health and well-being are called determinants of health.**

Some of these determinants are:

- ***Genetic configuration:*** The health of a population or an individual is greatly dependent upon the **genetic constitution of populations.** These genetic factors may be overshadowed by other factors but still play a substantial role.
- **Genetic traits** related to certain enzymes. **(e.g. G-6-PD deficiency) or HLA markers (e.g. diabetes)** can lead to a change in health status.

- ***Level of development:***

Economic and social development helps to improve health status. Such development potentially removes many deleterious factors in the external environment of man. However, affluence can also bring many problems in its wake. **These are related to the lifestyle adopted by the affluent.**

- ***Lifestyle:*** **Contemporary Western society is nearing the pinnacle** of socioeconomic development. This has led to improved health facilities and increased health awareness. With improved literacy and better

employment opportunities now available, many of the health problems confronting the less developed countries have been erased.

- However, sedentary lifestyles an overambitious outlook, excessively aggressive competition, lack of regular exercise, excessive consumption of alcoholic beverages and smoking, etc. have brought non-communicable diseases like diabetes, hypertension, myocardial infarction, etc. to the forefront.

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- Similarly, **mental health** has also been compromised.
- Efforts are now under way to tackle development related problems in the West.
- An example is the "**sin taxes**" imposed by the US government in April 1993, markedly **raising the prices of alcohol and cigarettes, aimed at reducing their consumption.**

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❖ ***Environment:***

- The physical, social and biological environment of man is a very important determinant of health.
- Poor environmental sanitation, inadequate safe drinking water, excessive levels of atmospheric pollution, etc. are important determinants in the physical environment affecting health.

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❖ ***Health infrastructure:***

- Accessible and acceptable health facilities have a direct bearing on health status.
- If **primary health care facilities are available in the vicinity** and such facilities are utilized by the population, the health of individuals and communities is bound to improve.

Indicators of Health

- An index is an **objective measure of an existing situation.**
- Indices are generally defined as **relative numbers expressing the value** of a certain quantity as compared with another.
- In relation to health trends, the term ***indicator*** **is to be preferred to** ***index*** as indices are much more precise.

Types of Indicators

Indicators can be categorized as vital and behavioral.

I. VITAL INDICATORS

These encompass:

- ***Mortality indicators:***

Crude death rate; infant mortality rate; maternal mortality rate; perinatal mortality rate, etc.

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- ***Morbidity indicators:*** Incidence and prevalence of infectious disease. An example of incidence indicator is the number of new cases of pulmonary tuberculosis in a given year in a defined population.
- ***Disability Indicators:*** These play a supportive role to other vital indicators. These include sickness absenteeism rates; paralytic poliomyelitis rate; blindness prevalence rate, etc.

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- *Service indicators:* These indicators **reflect the provision of health facilities**. Examples are proportion of population served by PHC/subcenters; doctor population ratio; proportion of population having access to safe drinking water; literacy rate, etc.
- *Composite indicators:* These indicators encompass many facets and hence provide a better measure.

- **Expectation of life, growth rate, physical quality of life index, etc.** are all **comprehensive indicators**.
- The **Physical Quality of Life Index (PQLI)** has gained popularity in recent times.
- It consists of three components: **Infant mortality rate, life expectancy at one year of age and basic literacy,** in population above 15 years of age.

- **All three components** are adequate for **international and intercultural comparisons** because no society wants to let its infants die and all people want to live longer and to have access to basic literacy.
- For each component, the performance of individual countries is placed **on a scale of 0-100, where '0' represents an absolutely defined 'worst' performance and '100' represents an absolutely defined best performance.**

- The three indicators are averaged after scaling, giving equal weightage to each component. Thus **the final PQLI measure is also scaled from 0-100.**
- The index shows **changes in performance overtime,** even projecting into the future.
- The **PQLI is not meant to rank countries.**

- It is meant to show where a country is placed in relation to the ultimate objective of "PQLI 100". It thus affords a country a chance to improve and bridge the gap.
- Thus the **PQLI is a dynamic indicator and is sensitive to changes in the health** situation.
- The **PQLI for India in mid 80's** was **43** while it was **94** for the **USA.**

II. BEHAVIORAL INDICATORS

- These measure **utilization of services** provided, rates of **compliance** and an **attitude** of populations.
- Utilization rates indicate whether the health facilities provided are **adequate, relevant, accessible and acceptable.**
- **Hospital occupancy rates, proportion of population** receiving antenatal care, proportion of population visiting primary health centers, etc., are all important indicators of utilization.

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- The health services all over the world, since 1981, were geared towards **achieving the goal of Health for All** by 2000 AD. The WHO has defined some indicators to measure progress.
- The suggested *HFA indicators* are as follows:

a. Health policy indicators: Which reveal the level of political commitment towards health for all.

b. Social and economic indicators:

Related to health: These indicate the overall development perspectives in a country.

c. Indicators of the provision of health care: These reflect the actual implementation of the stated policy.

d. Health status indicators: These indicate the benefit accruing to the population.

Concept of disease

Nature of Disease

- Disease is easier to appreciate and less abstract than health. Whereas **health** denotes **a perfect harmony of the different body systems, disease** denotes **an aberration of this harmony.**
- This **aberration** may range from a **biochemical disturbance to severe disability or death.**
- Even a psychological dysfunction may be classified as disease.

- It is important to understand the difference between the terms disease and illness.
- **Disease** may be defined as the **biophysiological phenomena** which manifest themselves **as changes in and malfunction of the human body.**

- Illness, on the other hand, is the experience of being sick. Disease refers to occurrence of something, i.e. body changes and malfunction. Illness refers to experience of something, i.e. being sick.
- **Profound changes and malfunction may occur in the body without their being experienced by the patient.** A classical example is hypertension, labelled as "the silent killer".

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- **Blood pressure** may be markedly **increased,** yet an individual **may not have any symptoms.**
- Such **a person has hypertensive disease**, but he does not feel he has any illness. Conversely, a person may feel **ill without having a disease.**
- For example, snake bite by a nonpoisonous snake may result in palpitation, perspiration, fainting and even death.
- The reason is that strong emotion or belief, in this case about the snake being poisonous, can result in illness.

- Another example is that of a person fainting or going into trance or frenzy under the belief that he is possessed by a spirit.
- Thus people may feel ill in the absence of disease, just as they can have disease without feeling ill.

Cause of Disease

- The concept of disease has evolved constantly over the ages:

(i) In the **"miasma" phase**, disease was attributed to bad air and elements. Specific causes of diseases were unknown in this era.

(ii) This was followed by the **"germ" phase** during which specific pathogens were recognised as the cause of disease.

- This phase marked a watershed in the concept of disease and the hunt for pathogens was carried out on a war footing.
- This gave an impetus to set up isolation wards and big hospitals.

Concept of prevention

Concepts of Prevention

The concepts of prevention as enunciated by **Leavell and Clark** have stood the test of time. The basic framework worked out by them has practical utility even today.

The **four phases of prevention** are:

(i) Primary prevention
(ii) Secondary prevention
(iii) Tertiary prevention.

These phases are further categorized into five levels of prevention as follows:

A. Primary prevention
- Health promotion
- Specific protection

B. Secondary prevention
- Early diagnosis and treatment

C. Tertiary prevention
- Disability limitation
- Rehabilitation.

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The **five *levels* of prevention** as listed above can be restated in practical terms and **recategorized as the following four methods of prevention:**

1. Measures to eliminate or attack the agents of disease
2. Methods to attack the channels of transmission
3. Methods to reduce contact of the agent and the susceptible host
4. Methods to augment host defence mechanisms.

Primordial Prevention

- It has come from a Latin word '**primordium**' **means beginning.** It means prevention at a stage, when the risk factors have not yet developed.
- **Primordial prevention is aimed to eliminate the development of risk factors,** while **primary prevention** is aimed to **reduce the risk of exposure. Primordial prevention** is achieved by **health education.**
- Example being, information is imparted to school children for adopting and maintaining healthy lifestyles.

Primary Prevention

- The process of primary prevention is limited to the period before the onset of clinical disease in an individual. Thus *activities directed to prevent the occurrence of disease in human populations* fall in this category.
- These activities are related to health promotion and specific protection.

Health promotion:

Health promotion is an all embracing entity which goes much beyond prevention of only specific disease. It is the means to attain a state of "positive health", or, at least, "freedom from disease".

- Health promotion concerns activities within as well as outside the health sector. Examples of *activities within the health sector* are;

- Health education to increase awareness of health problems so that populations identify their health needs and become familiar with preventive strategies and the health facilities available.
- This is the only component which has a long-term and lasting benefit.

- Health education can also **improve compliance with advice, medication and follow-up.**
- Improved protected water supply systems. These again have a long-term impact.
- Improvement of environmental sanitation.
- Inculcation of healthy habits.
- Family life education.

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- ***Specific protection:*** Specific protection has benefitted to a great extent by improved modern day medical technology. Technological break-throughs have provided adequate and appropriate tools for prevention.
- However, specific protection dates back to 1753 when James Lind advocated the use of citrus fruits to seamen in order to prevent scurvy.

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- Active immunization by vaccines against measles, polio, diphtheria, pertussis, tetanus, hepatitis B, etc.
- Passive immunization by gamma globulins for tetanus, rabies, viral hepatitis, etc.
- Nutritional supplementation in mid-day school meal program; ICDS program, etc. to prevent against PEM.

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- Specific nutrient supplementation by vitamin A, iron and iodine (as iodised salt).
- Chemoprophylaxis with chloroquine to prevent against malaria in travellers to endemic areas.
- Use of protective goggles in industry.
- Chlorination of water supplies, etc.

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Secondary Prevention

- *Secondary prevention* comes into play after the disease process has been initiated in the human host.
- The aim of such an approach is to minimize the spread of disease and to reduce the serious consequences. This is achieved through **early diagnosis and treatment.**

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- Early diagnosis and prompt initiation of treatment can be undertaken at various levels:

a. In the general population or in an age specific population.

b. In captive groups, such as school children, jail inmates and industrial workers.

c. In a hospital or clinical setting.

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Secondary Prevention

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- **Early diagnosis and prompt initiation of treatment** can be undertaken **at various levels:**

a. In the general population or in an age specific population.

b. In captive groups, such as school children, jail inmates and industrial workers.

c. In a hospital or clinical setting.

- *Lead time* refers to the time gained in the natural history of an evolving chronic disease when diagnosis is made early.
- It means that if **carcinoma cervix** is detected during the pre-symptomatic period, the ultimate prognosis may be better. Thus early diagnosis and prompt treatment can play a very important role.
- Prompt initiation of treatment should be backed up by efforts to improve compliance and reduce default.

- Screening for disease is an important step, both in the general population and in high risk groups.
- This is especially useful in diseases like leprosy, tuberculosis, carcinoma cervix, diabetes, etc.

- *Tertiary Prevention*
- Tertiary prevention **acts at the stage where disease has got established in the individual**. It is a costly venture, though recent efforts at community based rehabilitation have tried to bring down the costs.
- Tertiary prevention can be applied at the last two levels of prevention.

These are:

a. Disability limitation:

- Here the **disease has progressed significantly and has caused some loss of function of a temporary or permanent nature.**
- The idea is to provide relief to the affected individual so that a total handicap can be prevented. This mode of prevention can be illustrated by the **example of leprosy.**

- Leprosy can lead to irreversible ocular damage and blindness when left untreated.
- If multidrug therapy is instituted even after some ocular damage has occurred, total blindness can still be prevented.

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b. Rehabilitation: Rehabilitation can be considered as a preventive measure in that if effectively utilized, it can **prevent further social drift of the affected individual.**

- ***Social drift*** is the phenomenon of going down the social ladder due to loss of ability to generate income caused by disease.

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- **Rehabilitation** is an extremely costly venture. The aim of rehabilitation is to integrate the affected individual in the community by optimizing his functional ability. **It involves psychological, vocational and social and educational intervention.**
- ***Psychological rehabilitation*** is of acute importance as, immediately after experiencing a handicap, the hitherto normal individual may not be able to cope up with the new stress situation. This is known as *crisis intervention.*

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- The individual needs to be made to understand the importance of life and how he can cope with the new situation.
- If the handicapped have to lead a normal life and are to be accepted by the members of the family and the community, ***vocational rehabilitation*** is very important.
- Creating job opportunities and training the handicapped for such jobs go a long way in alleviating their suffering.
- Legislation to accord preferential treatment to the handicapped is also needed.

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- ***Social rehabilitation*** is extremely important to provide adequate support to the handicapped individual.
- The family members should be taught to maintain social support and involve the disabled in domestic affairs.
- Stigma attached to disease should be tackled by effective education.

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Dr. Ghanwate N.M.

ETHICAL GUIDELINES IN CLINICAL RESEARCH

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ETHICS

- ✓ A set of principles of right conduct.
- ✓ A theory or a system of moral values.
- ✓ The rules or standards governing the conduct of a person.

CODE OF ETHICS:

✓Nuremberg Code-1946
- First International document that describes permissible medical experimentation on humans.

✓Declaration of Helsinki-1964
-A set of 12 principles adopted by World Medical Association in 1964 to guide physicians.
-The declaration describes about medical care and research that gives direct benefit to the patient.
-This declaration should respect JUSTICE,RESPECT FOR PERSONS & BENEFICIANCE.

✓The Belmon Report-1979
-It summarizes the ethical principles identified by National Commission for the protection of Human subjects of biomedical and behavioral research.

✓ICH/GCP-International Conference on Harmonisation-Good Clinical practice
-They are intended to promote and protect Global public health by
-Reducing duplicate testing.
-Enhancing the economical use of resources.
-Eliminating delays.
- Maintenance of quality, safety and efficacy of new drugs and devices.

SEVEN REQUIREMENTS FOR ETHICAL RESEARCH

- Value
- Validity
- Fair Subject selection
- Favorable risk-benefit ratio
- Independent review
- Informed consent
- Respect for enrolled partcipants

STATEMENT OF SPECIFIC PRINCIPLES

ICMR has laid down specific principles in the following areas
-Drug trials
-Vaccine trials
-Trials on surgical procedures and medical devices
-Trials on diagnostic agents
-Trials with herbal medicines

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SPECIFIC PRINCIPLES INCLUDES

PRINCILES OF ESSENTIALITY :

It specifies that research is necessary for the advancement of knowledge and for the benefit of all members of the human species and for the ecological and environmental well being of the planet.

PRINCIPLES OF VOLUNTARIES INFORMED CONSENT & COMMUNITY AGREEMENT :

It specifies that research volunteers retain the right to abstain from further participation in the research irrespective of any illegal or other obligation entered into them.

PRINCIPLES OF NON-EXPLOITATION

Research subjects are remunerated for their involvement in the research or experiment.

PRINCIPLES OF PRIVACY AND CONFIDENTIALITY

It describes about the identity and records of the human subjects of the research should be kept confidential.

PRINCIPLES OF PRECAUTION & RISK MINIMISATION

Care and caution is taken at all stages of the research and experiment to ensure minimum risk and suffer from no irreversible adverse effects.

PRINCIPLE OF PROFESSIONAL COMPETENCE

Research should be conducted by qualified persons who act with total integrity and impartiality and mindful of ethical consideration.

PRINCIPLES OF ACCOUNTABILITY & TRANSPARENCY

Research will be conducted in a fair, honest, impartial and transparent manner.

PRINCIPLES OF THE MAXIMISATION OF THE PUBLIC INTEEST AND OF DISTRIBUTIVE SERVICE

Research conducted are used to benefit all man kind and not for least advantaged.

PRINCIPLE OF INSTITUTIONAL ARRANGEMENTS

Institutional arrangements are required to ensure that research reports, materials and data connected with the research are duly preserved and archived.

PRINCIPLE OF PUBLIC DOMAIN

Research and experimentation should be brought to public domain through scientific publications.

PRINCIPLES OF TOTALITY OF RESPONSIBILITY

Research or experiment is duly monitored and constantly subject to review and remedial action at all stages of the research and experiment.

PRINCIPLES OF COMPLIANCE

The spirit of these guidelines and directions are applicable for that area of research or experimentation are keenly observed and duly complied with it.

Terms of Reference :

- The IEC members should be made aware of their role and responsibilities as committee members.
- Any change in the regulatory requirements should be brought to their attention and they should be kept abreast of all national and international developments in this regard.
- The Terms of References should also include a statement on Terms of Appointment with reference to the duration of the term of membership, the policy for removal, replacement and resignation procedure etc. Each Committee should have its own operating procedures available with each member.

Review Procedures :

- The Ethics Committee should review every research proposal on human subjects.
- It should ensure that a scientific evaluation has been completed before ethical review is taken up.
- The Committee should evaluate the possible risks to the subjects with proper justification, the expected benefits and adequacy of documentation for ensuring privacy, confidentiality and justice issues.
- **The ethical review should be done through formal meetings and should not resort to decisions through circulation of proposals.**

Submission of Application:

- The researcher should submit an appropriate application to the IEC in a prescribed format along with the study protocol at least three weeks in advance.
- The protocol should include the following:
  - Clear research objectives and rationale for undertaking the investigation in human subjects in the light of existing knowledge.
  - Recent curriculum vitae of the Investigators indicating qualification and experience.
  - Subject recruitment procedures.

- Inclusion and exclusion criteria for entry of subjects in the study.
- Precise description of methodology of the proposed research, including intended dosages and routes of administration of drugs, planned duration of treatment and details of invasive procedures if any.
- A description of plans to withdraw or withhold standard therapies in the course of research.
- The plans for statistical analysis of the study.
- Procedure for seeking and obtaining informed consent with sample of patient information sheet and informed consent forms in English and vernacular languages.

- Safety of proposed intervention and any drug or vaccine to be tested, including results of relevant laboratory and animal research.
- For research carrying more than minimal risk, an account of plans to provide medical therapy for such risk or injury or toxicity due to over-dosage should be included.
- Proposed compensation and reimbursement of incidental expenses.
- Storage and maintenance of all data collected during the trial.
- Plans for publication of results - positive or negative - while maintaining the privacy and confidentiality of the study participants.

- A statement on probable ethical issues and steps taken to tackle the same.
- All other relevant documents related to the study protocol including regulatory clearances.
- Agreement to comply with national and international GCP protocols for clinical trials.
- Details of Funding agency / Sponsors and fund allocation for the proposed work.

Decision Making Process :

- The IEC should be able to provide complete and adequate review of the research proposals submitted to them It should meet periodically at frequent intervals to review new proposals, evaluate annual progress of ongoing ones and assess final reports of all research activities involving human beings through a previously scheduled agenda, amended wherever appropriate.

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- The decision must be taken by a broad consensus after the quorum requirements are fulfilled to recommend / reject / suggest modification for a repeat review or advice appropriate steps. The Member Secretary should communicate the decision in writing.

- A member must voluntarily withdraw from the IEC while making a decision on an application which evokes a conflict of interest which should be indicated in writing to the chairperson prior to the review and should be recorded so in the minutes.

- If one of the members has her/his own proposal for review, then the member should not participate when the project is discussed.

- The discontinuation of a trial should be ordered if the IEC finds that the goals of the trial have already been achieved midway results are obtained.

- In case of premature termination of study, notification should include the reasons for termination along with the summary of results conducted till date

- The following circumstances require the matter to be brought to the attention of IEC :
  - any amendment to the protocol form the originally approved protocol with proper justification;
  - serious and unexpected adverse events and remedial steps taken to tackle them;
  - any new information that may influence the conduct of the study.

- If necessary, the applicant/investigator may be invited to present the protocol or offer clarifications in the meeting. Representative of the patient groups or interest groups can be invited during deliberations to offer their viewpoint.

- Subject experts may be invited to offer their views, but should not take part in the decision making process. However, her/his opinion must be recorded.

- Meetings are to be minuted which should be approved and signed by the Chairperson.

Record Keeping :

- All documentation and communication of an IEC are to be dated, filed and preserved according to written procedures. Strict confidentiality is to be maintained during access and retrieval procedures.

- Records should be maintained for the following :

- The Constitution and composition of the IEC;
- The curriculum vitae of all IEC members;
- standing operating procedures of the IEC;
- national and international guidelines;

- copies of the Protocol, data collection formats, CRFs, investigational brochures etc. submitted for review;
- all correspondence with IEC members and investigators regarding application, decision and follow up;
- agenda of all IEC meetings;
- minutes of all IEC meetings with signature of the Chairperson;
- copies of decisions communicated to the applicants;
- record of all notification issued for premature termination of a study with a summary of the reasons;
- final report of the study including microfilms, CDs and Video-recordings.

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Special Considerations :

- While all the above requirements are applicable to biomedical research as a whole irrespective of the speciality of research, there are certain specific concerns pertaining to specialised areas of research which require additional safe guards / protection and specific considerations for the IEC to take note of.
- Examples of such instances are research involving children, pregnant and lactating women, vulnerable subjects and those with diminished autonomy besides issues pertaining to commercialisation of research and international collaboration. The observations and suggestions of IEC should be given in writing in unambiguous terms in such instances.

Essential Information on Confidentiality for Prospective Research Subjects Safeguarding confidentiality:

- The investigator must safeguard the confidentiality of research data, which might lead to the identification of the individual subjects.
- Data of individual subjects can be disclosed only in a court of law under the orders of the presiding judge or in some cases may be required to communicate to drug registration authority or to health authority.
- Therefore, the limitations in maintaining the confidentiality of data should be anticipated and assessed.

Compensation for Participation:

- Subjects may be paid for the inconvenience and time present, and should be reimbursed for expenses incurred, in connection with their participation in research. They may also receive free medical services.
- All payments, reimbursement and medical services to be provided to research subjects should be approved by the IEC.

Care should be taken :

- when a guardian is asked to give consent on behalf of an incompetent person, no remuneration should be offered except a refund of out of pocket expenses;
- when a subject is withdrawn from research for medical reasons related to the study the subject should get the benefit for full participation;
- when a subject withdraws for any other reasons he/she should be paid in proportion to the amount of participation.

Selection of Special Groups As Research Subject :

Pregnant or nursing women :

- As a general rule, pregnant or nursing women should not be subjects of any clinical trial except such trials as are designed to protect or advance the health of pregnant or nursing women or foetuses or nursing infants.
- Research related to termination of pregnancy: Pregnant women who desire to undergo Medical Termination of Pregnancy (MTP) could be made subjects for such research as per The Medical Termination of Pregnancy Act, GOI, 1971.

- Research related to pre-natal diagnostic techniques: In pregnant women such research should be limited to detect the foetal abnormalities or genetic disorders as per the Prenatal Diagnostic Techniques (Regulation and Prevention of Misuse) Act, GOI, 1994 and not for sex determination of the foetus.

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Children:

Before undertaking trial in children the investigator must ensure that -

- children will not be involved in research that could be carried out equally well with adults;
- the purpose of the research is to obtain knowledge relevant to health needs of children. For clinical evaluation of a new drug the study in children should always be carried out after the phase III clinical trials in adults. It can be studied earlier only if the drug has a therapeutic value in a primary disease of the children;
- a parent or legal guardian of each child has given proxy consent;

- The assent of the child should be obtained to the extent of the child's capabilities such as in the case of mature minors, adolescents etc;
- research should be conducted in settings in which the child and parent can obtain adequate medical and psychological support;
- f. interventions intended to provide direct diagnostic, therapeutic or preventive benefit for the individual child subject must be justified in relation to anticipated risks involved in the study and anticipated benefits to society;

Vulnerable groups :

- Effort may be made to ensure that individuals or communities invited for research be selected in such a way that the burdens and benefits of the research are equally distributed.
- research on genetics should not lead to racial inequalities;
- persons who are economically or socially disadvantaged should not be used to benefit those who are better off than them;
- rights and welfare of mentally challenged and mentally differently able persons who are incapable of giving informed consent or those with behavioral disorders must be protected.

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School of Health Sciences
College of Pharmaceutical Sciences

Drug Information Query

Presented by,
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Dept. of Pharmacy practice,
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1

CONTENT

- Definition
- Types of drug information resources.
- Searching of the database
- Methodology
- Application

Drug information means providing clinically relevant information on any aspect of drug use relating to individual patients, or general information on how best to use drugs for populations.

Drug information service
The term can be applied to any activity where information about drug use is transferred, and includes patient-related aspects of pharmaceutical care.

Drug information centre
It is an area where pharmacists (or other health professionals) specialise in providing information to health professionals or the public. The unique aspect of the drug information centre is that it draws together a range of information resources and makes these accessible to people who know how to make the best use of them.

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- **Information** about drugs is available in a wide range of formats, media types and levels of quality.
- The internet has enlarged the scope of information available to much of the world's population and has vastly improved access to information for health professionals.
- However, the range of quality is as varied as the volume of information available.
- **Medical research** is often reported in the **media before** there is an opportunity for **critical analysis** and before the new information can be placed in a clinical perspective.

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- While it is important for drug information pharmacists to be aware of the nature of free drug information, they should have access to sources which have acceptable standards of quality and reliability.
- They should also respect the intellectual property rights of the authors and publishers.
- There are provisions within the copyright laws which allow access to material required for research or private study, but this does not allow further distribution without permission.

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DRUG INFORMATION SOURCES

- **Information sources** have traditionally been categorised as **primary, secondary or tertiary**, according to the nature of the content and speed of publication.
- However, the most important point is to **distinguish primary sources (original reports) from all other sources (reviews).**
- Electronic formats, and ready access to updates, have blurred the divisions previously applied to secondary and tertiary sources.

Secondary sources consist of reviews of primary reports.

Journals

They often publish a mixture of primary and secondary reports but there are also journals which are devoted to reviews of previously published material.

Reviews

- It can be informal, often by a single author recognised as a specialist in the field.
- These provide a **personal perspective** of the
- literature and can include **comments** on how the **author might apply the information in practice.** This type of report is sometimes called a **'narrative review'.**

- This term may appear in the title to distinguish it from a more formal analysis, referred to as a **'systematic review'.**
- In a **systematic review**, the authors (usually a team) use a rigorous (and defined) method to search for all relevant information **(including unpublished studies)** and select those studies which meet criteria for **scientific quality.**

- The selected studies are then analysed and conclusions drawn.
- In many cases, the results of a number of studies are merged using a process called **'meta-analysis'.**
- This process aims to create the **equivalent of one large study with greater statistical power** than the separate studies.

There are a number of electronic knowledge systems which can be considered as **secondary sources** of information.

- These include Drugdex **(Micromedex, USA)** and International Pharmaceutical Abstracts **(American Society of Health-System Pharmacists**, USA).
- These systems are electronic, include summaries of the primary reports and are updated regularly.

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- **Secondary sources** provide a **condensed and refined view of primary data** and are often used in drug information practice to provide rapid responses to clinical questions.
- However, published reviews may not include recent primary reports, and narrative reviews may reflect the authors' clinical perspective and limited access to the relevant information.

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Tertiary Resources

Tertiary resources are summaries of the primary and secondary published literature.

- Printed textbooks are the main example and these are characterized by a slow rate of revision compared to secondary sources.
- Although they are revised less frequently, these texts tend to be more comprehensive and should undergo a more thorough review and editing process than secondary sources.

- Many major textbooks are now published electronically as well as in print, so sections can be updated progressively rather than waiting for a complete revision at the time of printing (usually every 3–5 years).
- In **drug information practice, a tertiary text** will usually be **consulted first as a quick reference** and, if necessary, **secondary and primary sources** are then checked for a more complete response.

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Journals

- Most of the important research and clinical experience is published in scientific journals (or 'periodicals').
- Because of the large volume of information, there is continuing effort to improve our ability to locate the most relevant information and access the full text of the documents.

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- An increasing number of open-access journals which are usually only published electronically (to minimise costs).
- Most of the research and review articles published in reputable journals have undergone peer review.

Peer review

It involves anonymous reviews from experts in the field who advise on whether the material warrants publication and how it could be improved with additional details, mode of presentation or interpretation of the results.

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- Peer review is generally accepted as the best approach to maintaining the quality of scientific publications but it can only provide a limited perspective (usually from a few individuals).
- Sometimes, incorrect information is published (and later corrected) or incorrect information is deliberately submitted for publication (scientific fraud) and it is not detected by the editors or the peer review process.

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- This process helps the journal editors select material which is of an acceptable standard and to improve the quality of how the information is presented to readers.
- This usually involves anonymous reviews from experts in the field who advise on whether the material warrants publication and how it could be improved with additional details, mode of presentation or interpretation of the results.

Bibliographic Databases

- These services are sometimes called **indexing and abstracting services** because
- They provide a **copy of the published abstract of primary and secondary reports, together with an indexed database** to help locate relevant reports.
- The **Iowa Drug Information Service (IDIS)** also includes the full text of articles from around 200 medical and pharmaceutical journals.
- **Medline and Embase** are the largest and most frequently used bibliographic databases.

Medline

- It is produced by the **US National Library of Medicine** and uses US conventions for **indexing and journal coverage.**
- It is available free of charge in the form of **PubMed** and has traditionally been used in medical and educational institutions.

Embase

- It has a European perspective and has more comprehensive indexing (including drug terms) than Medline.

- **Embase** is only available by **subscription.**
- These databases are used to **locate published literature** (primary and secondary) and the indexing allows searches to be broad or focused.
- The databases can directly link to the full text of journal articles but only some **full-text articles** will be available **free of charge.**

Searching the computerized database!

Journal articles within databases are labelled with a range of information which characterizes each article and allows users to locate relevant articles.

- the **title** (and authors' abstract, if available),
- the **authors' names**,
- their **institution, the journal name** and specifics about how and where it was published.
- **indexing terms** are usually added by the database publisher to help users locate useful material.
- In general, these terms can be called '**keywords**' but they are most useful when they are selected from a controlled and structured list.

- In Medline, these are called **Medical Subject Headings (MeSH).**
- The main advantage of having a controlled list of headings is that there should be only one term for each concept. This creates a standard term for each disease and drug (regardless of variations in spelling) but means that new or less important concepts may not have a subject heading.
- In this case, the indexer will select **the closest term (usually a more general term)** to describe a concept.

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- **Trees**

Searches for groups of related terms are linked together in 'trees'.

- **Branches**

The tree structure lists general terms at the top with 'branches' for groups of related terms, with the most specific terms at the end of the branch.

- **Explosion**

Searching for related terms within a hierarchical list of headings is called an 'explosion', and the process provides considerable power and flexibility for the user.

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- It is usually necessary to combine two or more concepts to provide a focused search.
- This can be done with the Boolean operators 'AND', 'OR' and 'NOT'.
- **Example**: liver diseases **OR** bile duct diseases **AND** non-steroidal anti-inflammatory drugs.
- The '**NOT**' operator is rarely used as it can exclude articles which have relevant headings as well as the heading that we exclude.

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- **Medline** is available in many formats including the **open-access version called PubMed.**
- This format defaults to a **simplified search** process which creates **reasonable quality searches** based on simple words or **phrases** provided by **the user.**

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Examples:

- National Institute for Health and Clinical Excellence, UK
- (www.nice.org.uk)
- National Prescribing Centre, UK (www.npc.co.uk)
- National Prescribing Service, Australia (www.nps.org.au)
- Canadian Agency for Drugs and Technologies in Health (www.cadth.ca)

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Search tools for clinical guidelines include:

- National Guideline Clearinghouse, USA (www.guidelines.gov)
- National Library for Health, UK (www.library.nhs.uk).
- Product information is available for approved drugs in many countries including: DailyMed, USA (dailymed.nlm.nih. gov/dailymed)
- European Medicines Agency (www.emea.europa.eu)
- Medicines.org.uk, UK (www.medicines.org.uk).

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College of Pharmaceutical Sciences(COPS), School of Health Sciences, Dayananda Sagar University, Bangalore

Academic year: 2023-2024

Program: Pharm D

Year/Semester: Fifth year

Course: Clinical research

Course Code: 15PD501

* Indicates required question

1. Email *

_____

2. USN number * 1 point

_____

3. E mail ID * 1 point

_____

4. 1. Lifetime of patent. * 1 point

Mark only one oval.

- ◯ 50 years
- ◯ 40 years
- ◯ 20 years

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5. 2. The characteristics of an ideal drug candidate is *

Mark only one oval.

- ◯ High selectivity and potency
- ◯ Good oral bioavailability
- ◯ All of the above

6. 3. The phase of the clinical trial which is known as Micro-dosing * 1 point

Mark only one oval.

- ◯ Phase 0
- ◯ Phase 1
- ◯ Phase 3

7. 4. The phase of the clinical trial which is known as Therapeutic confirmatory trial. * 1 point

Mark only one oval.

- ◯ Phase 0
- ◯ Phase 1
- ◯ Phase 3

8. 5. The type of drug application in which the preclinical and clinical data were not required to establish safety and effectiveness. * 1 point

Mark only one oval.

- ◯ New Drug Application (NDA)
- ◯ Investigational New Drug Application (IND)
- ◯ Abbreviated New Drug Application (ANDA)

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Academic year: 2023-2024

Program: Pharm D

Year/Semester: Fourth year

Course: Clinical pharmacy

Course Code: 15PD304

Choose the most appropriate answer from the options below.

* Indicates required question

1. Email *

_____

2. USN number * 0 points

_____

3. E mail ID *

_____

4. 1. Drug therapy monitoring include * 1 point

Mark only one oval.

- ◯ Medication chart review
- ◯ Pharmacist interventions
- ◯ All of the above

Raghavendra N.M.

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5. 2.. Any event or circumstance involving drug treatment that interferes or potentially interferes with the patient achieving an optimum outcome of medical care. * 1 point

Mark only one oval.

- ◯ Adverse Drug Reaction
- ◯ Drug interaction
- ◯ Drug Related Problem

6. 3. Annotations to the treatment chart is known as * 1 point

Mark only one oval.

- ◯ Adverse Drug Reaction
- ◯ Adverse event
- ◯ Medication Chart endorsement

7. 4. The review of the patient's progress for the purpose of assessing the therapeutic outcome is known as * 1 point

Mark only one oval.

- ◯ Medication chart review
- ◯ Pharmacist interventions
- ◯ Clinical review

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5. Any activity where information about drug use is transferred, and includes patient-related aspects of pharmaceutical care is known as * 1 point

Mark only one oval.

- ◯ Poison Information Service
- ◯ Drug Information Service
- ◯ Poison information centre

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CLINICAL PHARMACY

LAB RECORD

IV YEAR PHARM. D.

COLLEGE OF
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Department of Pharmacy Practice

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Roll No : H3C20PD0018

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Laboratory Certificate

This is to certify that **Mr./Miss/Mrs.**.....SHEMA NANOJ..... bearing the **Reg. No**...HSC20PD0018.... has satisfactorily completed a course of experiments in practical prescribed by the **College of Pharmaceutical Sciences** for the **IV Pharm. D** class during the year **2023 – 2024.**

31/05/24

Signature of the Teacher

31/05/24.

Signature of the Head of the Department

Date :

College of Pharmaceutical Sciences
No.
Date.
Dayananda Sagar University

Date :

Signature of Examiners

1.

2.

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Signature of Student

Signature of Teacher

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Artificial Intelligence: A Promising Tool to Manage Clinical Studies during Fertility

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Received Date: November 17, 2023 *Published Date: December 5, 2023*

ABSTRACT

Artificial intelligence (AI) may be an additional catalytic instrument to manage several diseases and disorders. This review article aims to address the significant intervention of AI to manage fertility-associated clinical symptoms. Several challenges in pregnancy research lie in the necessity to consider the welfare and interests of fertile parents. In addition to that, there are several challenges to developing, designing and delivering the new drugs intended for pregnant women. Some of the AI tools perform specific subtasks within the clinical trial design process to enhance the overall performance of clinical trials. Thus, by adhering to the AI approach which can be gradually integrated into the clinical trial ecosystem. This review has also examined the difficulties that emerge when conducting trials that are intended for use during pregnancy and childhood and further, AI techniques can act as potential strategies for mitigating adverse drug reactions during trial sessions. However, Various ethical and regulatory guidelines are set up for effective trial management.

Keywords- Artificial intelligence, Clinical Trials, Fertility, Pharmacodynamics, Pharmacokinetics

INTRODUCTION

Medical Trials, commonly known as Clinical Trials are research investigations prospectively conducted on human participants, with a focus on biomedical and behavioural aspects [1]. Its purpose is to address particular inquiries regarding novel treatments and established interventions that require additional investigation and comparison by producing information regarding the dosage, effectiveness and safety of new treatments [2]. Healthcare practitioners and other decision-makers in the field rely on clinical trial findings to guide their healthcare practices. Deficiencies in trial design, analysis, data collection and evaluation can undermine the reliability and applicability of the results, making the outcome challenging [3]. Having a solid base of clinical trial design is crucial to interpret and assess the accuracy, credibility and applicability of the results. To achieve this, it's necessary to have a well-defined research background and appropriate criteria for selecting individuals, defining outcomes and structuring the study [4]. This helps in minimising confounding factors and other sources of differences. The Good Clinical Practice (GCP) guidelines were established to ensure an ethical and scientifically rigorous standard at every phase of the trial; synchronising with regulatory authorities [5]. Two critical factors that can lead to the failure of a clinical trial are the selection of the patient cohort and the recruitment methods employed. This failure of a trial can be attributed to the inability to enrol the most suitable patients, as well as a deficiency in the necessary technical infrastructure to manage the complexities for the conduction of the trial [6]. Particularly in the later stages of a clinical trial, the absence of dependable and efficient systems for monitoring patient adherence, patient tracking and detecting clinical endpoints can lead to significant disruptions and challenges [7]. This review has also examined the difficulties that emerge when conducting trials that are intended for use during pregnancy and childhood and further, AI techniques can act as potential strategies for mitigating adverse drug reactions during Trial sessions [8].

The National Institute of Health (NIH)

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states that Clinical trials or Medical Trials encompass a series of research procedures that are conducted to gather data on the safety and effectiveness of a particular intervention [9]. They are purposefully assigned to more than one human subject to evaluate the influence of the treatments on health-related biomedical or behavioural results in a prospective manner [10]. Despite certain constraints, they are the foundation of evidence-based medicine and are widely regarded as the most credible source of evidence regarding the effectiveness of medical interventions [11]. The NIH categorises clinical trials into five distinct types based on their specific goals and objectives. They comprise of:

- Prevention trials aim to explore methods of preventing the onset of a disease or its reappearance.
- Screening trials that concentrate on strategies for identifying specific diseases or disorders.
- Diagnostic trials assess tests and procedures used for diagnosing a specific medical condition.
- Treatment trials that involve the comparison of practical and theoretical treatments, which can include active pharmaceutical ingredients, methods or devices to determine their efficacy and therapeutic activities.
- Quality of life trials that explore treatments specifically aimed at improving the well-being and overall quality of life of individuals, particularly those with chronic diseases [12].

GCP serves as a set of outlining the responsibilities of individuals involved in research and can enhance the quality and uniformity of trial procedures. GCP principles are frequently employed in modern clinical studies involving human subjects, to safeguarding the safety and well-being of the participants. While the process of conducting a well-designed clinical trial might seem simple, it is grounded in rigorous methodology and guided by essential ethical principles by carrying the potential for exposing their participants to unforeseen risks and the extraction of different information from flawed clinical trials may unknowingly harm patients [13]. These tests are enrolled on a predetermined hypothesis and number of patients ensuring they have enough statistical power to detect the results. Pre-clinical trials in labs and animal models are conducted before actual clinical trials. The first phase of trial, i.e., Phase I trials are the initial trials that involve human subjects and are designed to assess the safety and determine the highest tolerated dose of a therapeutic approach. These trials are predominantly employed in studies of pharmaceutical agents for disease treatment with small groups of patients who are administered increasing doses of an open-label drug. Phase II trials are conducted with a specified population and are designed to evaluate the effectiveness of the treatment. It can also involve comparing different results amongst themselves to determine the most promising options for further evaluation in further trials. Phase III studies are Randomised Controlled Trials (RCTs) that comprise a significantly huge number of patients in different comparison groups, aiming to unquestionably assess the effectiveness of the treatment within a specific population that involves the assessment of a clinically significant impact and determine whether the benefits of the intervention outweigh the associated risks [14].

A phase III trial requires a well-structured control group and statistical power to effectively evaluate the designated primary outcome. The size of the trial, depending on its design, can however significantly influence its statistical power. A larger trial is better equipped to detect even minor differences between groups, although such differences may not always be clinically significant [14, 15].

ADAPTIVE TRIAL DESIGN

Different trial designs are employed based on the context and objectives of the study. The distinctions between these design types are not always rigid, as some trials may exhibit characteristics of more than one design. The Food and Drug Administration described adaptive design as one that "allows for prospectively planned modifications to one or more aspects of the design based on accumulating data from subjects in the trial [16]. Adaptive trials have the potential to enhance efficiency and therapeutic activity compared to traditional or more conventional trial designs. As a result, adaptive trials can enable clinical questions to be addressed in a shorter period with fewer candidates compared to the opposite. Although they have their potential sources of

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bias, therefore careful and thoughtful design must be implemented. Various adaptations are enforced, out of which, the most common include adaptive randomisation, flexible sample size re-estimation, biomarker adaptive design, multi-arm platform and sequential design [17].

CLINICAL STUDIES

Clinical Trials involve the interpretation, interventions and evaluation of drugs in human subjects for the treatment or prevention of disease (acute or chronic) [18]. The Pre-clinical investigations are carried out before Clinical trials that encompass animal studies as well as assessments of drug manufacturing and the purity of the products. Nonetheless, Animal studies explore:

- Evaluation of the drug safety at dose intervals that are approximately equivalent to human exposures.
- The pharmacokinetics and pharma ecodynamics of the drugs are analysed in animals [19].

For further investigation of drugs in human subjects, this data must be submitted to Investigational New Drug (IND) for approval [20]. As safety is the utmost priority, it is obvious for the phases of a clinical trial to be carefully designed, focussing on the safety and maximum tolerated dose (MTD) of a drug along with its pharmacokinetics and pharmacodynamics in humans [21].

Phase I Trials

The Phase I trials or "dose-escalation" or "human pharmacology" studies represent the initial phase in which a new investigational agent is tested in human subjects. These studies are typically conducted in an open-label fashion and involve a small number of volunteers, including both "healthy" individuals and those with the targeted disease. The determination of the MTD, which is the highest drug dose before the occurrence of dose-limiting toxicity, can be achieved through various statistical models. During this phase, the pharmacokinetic and pharmacodynamic properties of the drugs are assayed, enabling the assessment of factors like absorption, distribution, metabolism and elimination, bioavailability, half-life, route of administration (oral, topical, parenteral etc.) and toxicity.

The evaluation of a drug's efficacy and safety is carried out through a multi-step process that scrutinises every aspect of the new molecule, and this process continues even after the drug's approval and introduction to the market. Phase I studies typically span several months in duration. If the drug is found to be non-toxic at the Phase I stage and has an acceptable safety profile, it can then advance to Phase II studies [22].

Phase II Trials

Phase II trials or "therapeutic exploratory" trials, are typically larger in scale compared to the above and are conducted in subjects who are diagnosed with the medical condition of a concerned drug target. They are formulated to test safety, pharmacokinetics (how the body processes the drug) and pharmacodynamics (the drug's effects on the body). They are also to provide answers to critical questions that are vital for planning Phase III trials, the next stage of clinical development. It includes calculations of optimum doses, their frequencies and route of administration. Nonetheless, the limited number of participants and the primary focus on safety concerns and efficacy within a Phase II trial often restrict its statistical power [23]. As a result, this limitation underscores the need for a subsequent Phase III trial, which typically involves a larger and more diverse patient population to provide more robust and statistically significant results [14].

Phase III Trials

A phase III trial or "therapeutic confirmatory" "comparative efficacy" or "pivotal trial" is typically initiated based on prior studies that have demonstrated the safety and potential effectiveness of the drug. It is assayed on a large, diverse group of individuals for better representation of the broader patient population for whom the drug is intended for demonstration, comprehension, identification and estimation of adverse drug reactions [24]. This underscores the importance of Phase IV trials, which focus on identifying and assessing less common drug reactions that may not have been evident in the earlier phases. This is also one of the reasons why the Food and Drug

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Administration suggests multiple phase III Trials to evaluate and enhance its potency and therapeutic activity [25].

Phase IV Trials

Phase IV Trials or "post-marketing" or "therapeutic use" are done after Phase III. This is the final stage of Clinical Trials. It is conducted as a condition for drug approval, serving to provide additional post-market data on safety and efficacy in real-world usage [26]. They are monitoring studies conducted on FDA-approved drugs to further evaluate their safety, effectiveness, and potential long-term effects such as identification of uncommon adverse effects, assessment of the cost and effectiveness of drugs in situations where the diseases, dosage or patient populations may either closely resemble or significantly differ from the subjects in the initial research [27].

CLINICAL TRIALS IN PREGNANT WOMEN AND FOETUS

Pregnancy deals with a wide spectrum of emotional, physiological and pathological conditions [28]. For each trial, the team is required to perform preparatory tasks concerning the information requirements along with the communication preferences of active subjects [29]. During gestation, the mother, the foetus and the placenta are three distinct yet closely interconnected components [30]. Significant alterations in maternal physiology can fundamentally disrupt both pharmacokinetics and pharmacodynamics, frequently leading to unexpected outcomes [31, 32]. Pregnant women and foetuses should not be denied clinical care solely based on their perceived vulnerability. The primary and distinctive challenge in pregnancy research lies in the necessity to consider the welfare and interests of two (or more) participants: the mother and her foetus [33]. This should be the foundational basis for designing new drugs intended for pregnant women or offspring [34]. Given the broad spectrum of potential treatments, it's essential to apply these principles with careful consideration [35].

CLINICAL TRIALS IN CHILDREN

Safe and efficacious data for numerous medications utilised in children are surprisingly lacking [36]. Children often miss out on treatment that relies on the same quality of information used for adult treatment because medications are not thoroughly researched or studied for use in paediatric populations [37]. As a consequence, children might not respond to certain medications, therefore, it can lead to treatment delays, withholding of treatments or the administration of ineffective doses to children [38]. Therefore, there are regulatory, ethical and scientific motives for addressing the knowledge that concerns the effectiveness and safety of medications in children of all age groups, by conducting more rigorous and profound trials [39]. Exquisite features of Paediatric clinical trials require techniques that include suitable infrastructure along with paediatric competence. The requirement of developing expertise to enhance the efficiency of processes and ensure the timely delivery of data is important [40].

Access to networks should be established to provide a pool of potential subjects for recruitment and to connect investigators with the necessary professional support to master the challenges of paediatric clinical trials [41]. While current regulations and initiatives are making strides in enhancing the extent of progress, the scarcity lies in lack of funding, the distinctiveness of children as a patient population and specific ethical concerns quantitatively and qualitatively [42].

ARTIFICIAL INTELLIGENCE (AI)

The continually rising expenses associated with the process of discovering and developing new drugs pose a substantial obstacle for the pharmaceutical sector, considered the most stringent regulations and a strong aversion to risk [43]. Therefore, innovative approaches for merging studies along with preclinical testing are required. Moreover, Clinical trials are essential for closing the knowledge gap before the initial human exposures; thereby sound decisions should be made [44]. It can be done by infusion of techniques that require a methodical and gradual approach to implementation [45]. Even though AI has the potential to influence various aspects of clinical trial design, ranging from initial planning to the actual implementation, it is destined to encounter significant challenges. Instead, data scientists

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and medical scientists should collaborate to jointly design. AI tools that are well-suited for a specific subtask within the clinical trial design process offer the most significant potential for enhancing the overall performance of clinical trials. Before its adoption, this AI technology should undergo testing alongside the current technology it seeks to substitute - demonstrating and benchmarking the additional value it adds in various ways- definable, looped, ethical and scalable. By adhering to this approach, AI can be gradually integrated into the clinical trial ecosystem, one step at a time. It'll help in faster and easier conduction of trials, simultaneously decreasing the failure rates and Research and Development costs [46]. Numerous pharmaceutical and AI companies have initiated collaborative efforts to explore this path in Healthcare [47].

CONCLUSION

Clinical trials are research studies conducted to evaluate the safety and effectiveness of medical treatments, interventions and therapies in humans. They are a crucial part of healthcare as they focus on the overall aspects of the treatment through a particular drug (s). Clinical Trials are conducted to study the drug and its effects starting from a narrow to broader spectrum wherein it is divided into several phases. Various ethical and regulatory guidelines are set up for effective trial management. The results of clinical trials play a significant role in determining whether a treatment receives regulatory approval for public use.

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Harnessing AI and Machine Learning in Pharmaceutical Quality Assurance

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Abstract

Pharmaceutical quality control is revolutionizing thanks to artificial intelligence and machine learning, which improves productivity, accuracy, and regulatory compliance. This paper delves into the diverse applications of artificial intelligence and machine learning in pharmaceutical quality control, encompassing supply chain management, real-time monitoring, data integrity, predictive analytics and improved analytical methodologies. Machine learning algorithms are used in predictive maintenance and process optimization to reduce equipment downtime and guarantee constant production quality. AI-driven Process Analytical Technology tools and anomaly detection models can facilitate real-time monitoring of critical quality attributes, allowing prompt remedial actions. AI-powered audit-ready tools and automated documentation improve data integrity and expedite regulatory standard compliance.

Additionally, AI-based chemometric models enable reliable QC procedures, and machine learning algorithms enhance spectroscopic and imaging data analysis. Artificial intelligence improves supply chain traceability and risk management, guaranteeing the quality of raw materials and final goods. The potential advantages of AI and ML in pharmaceutical quality control are significant, notwithstanding obstacles including data quality, regulatory compliance, integration, and ethical considerations. Future developments in AI technology and stakeholder collaboration should significantly improve quality control procedures and guarantee the most significant patient safety and product quality.

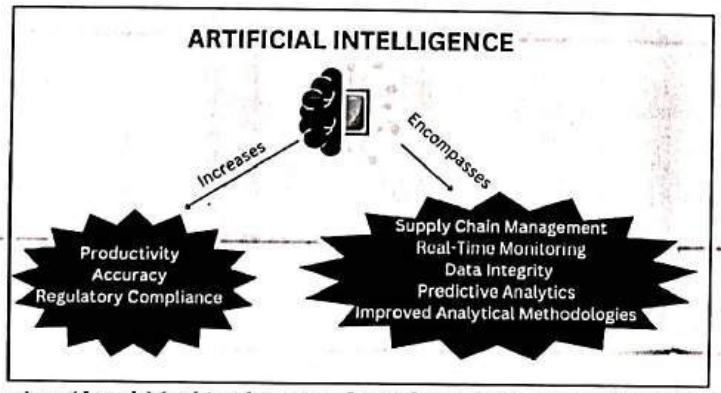

Figure: *Leveraging AI and Machine learning for Enhanced Pharmaceutical Quality Assurance*

Keywords- Artificial Intelligence (AI), Critical Quality Attributes (CQAs), Machine Learning (ML), Process Analytical Technology (PAT), Quality Control (QC)

INTRODUCTION

Strict regulatory frameworks are in place to govern the pharmaceutical business, ensuring

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the quality, safety, and efficacy of drugs [1-3]. A crucial component of pharmaceutical production is quality control (QC), which includes all procedures and techniques used to guarantee that goods fulfil predetermined requirements for quality [4, 5]. Even if they work well, traditional quality control systems can be labour-intensive, time-consuming, and prone to human mistakes. Pharmaceutical quality control (QC) has seen a revolution in recent years thanks to the integration of artificial intelligence (AI) and machine learning (ML), which has improved efficiency, accuracy, and compliance [6-10]. While machine learning (ML), a subset of artificial intelligence (AI), uses statistical models and algorithms to help computers learn from data and make decisions, AI itself refers to the emulation of human intelligence by computer systems [11-13]. Numerous uses of these technologies, including supply chain management, real-time monitoring, data integrity, predictive analytics, and improved analytical procedures, have been found in pharmaceutical quality control [14-17].

Predictive Analytics and Process Optimization

Predictive Maintenance

Predictive maintenance is one of the critical uses of AI and ML in pharmaceutical quality control [18]. By analyzing data from equipment sensors, predictive maintenance uses machine learning algorithms to forecast when a machine is likely to break [19, 20], and businesses can reduce downtime and ensure continuous production without sacrificing quality by doing maintenance procedures proactively, which involves anticipating equipment breakdowns before they occur [21, 22].

Predictive maintenance models use historical data on equipment performance, failure trends, and environmental factors to forecast future failures. ML algorithms, for instance, can examine vibration data from a pump to find trends that indicate impending failures. Businesses may prolong equipment life, prevent unplanned breakdowns, and maintain consistent output quality by planning maintenance tasks based on these projections [23, 24].

Process Optimization

Process optimization identifies the most productive and efficient production techniques by analyzing historical production data using machine learning models [25, 26]. Temperature, pressure, mixing times, and other variables can all be analyzed by ML algorithms to find the best combinations that reduce variation and enhance product consistency [27]. For instance, consistency in producing solid dosage forms, like tablets, depends heavily on the blending procedure [28, 29). To minimize variability and guarantee a consistent distribution of active pharmaceutical ingredients (APIs), machine learning (ML) algorithms can evaluate data from previous batches to determine the ideal mixing duration and speed [30-32].

Real-Time Monitoring and Quality Assurance

Process Analytical Technology (PAT)

Process Analytical Technology (PAT) is a system that uses real-time measurements of critical quality attributes (CQAs) to develop, analyze, and regulate pharmaceutical production processes. Wasalathanthri [33-35] real-time CQA monitoring is made possible by AI-driven PAT tools, guaranteeing that the manufacturing process stays within predetermined bounds [36-38].

AI and ML improve PAT because they offer sophisticated data analysis tools. For example, PAT frequently uses spectroscopy to track CQAs [39-41]. Machine learning algorithms can analyze real-time spectrophotometric data to identify deviations from the intended quality standards. Consistent product quality can be ensured by making quick adjustments to the manufacturing process based on this real-time feedback [42, 43].

Anomaly Detection

Anomaly detection is another crucial use of AI and ML in pharmaceutical quality control [44, 45]. ML algorithms can predict possible quality concerns before they become more severe by detecting deviations from regular production processes [46, 47]. Models for detecting anomalies use data from various sensors and devices to find trends that point to unusual activity [48, 49].

For instance, machine learning algorithms can keep an eye on variables like pH,

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temperature, and oxygen concentrations in bioreactors during the production of biopharmaceuticals [50]. The models can identify deviations in these parameters, which can notify operators about possible problems and facilitate timely corrections [51, 52].

Data Integrity and Compliance

Automated Documentation

In pharmaceutical manufacturing, data integrity is a basic need that guarantees the accuracy, consistency, and dependability of all data about the manufacture and quality control of pharmaceuticals [53-55]. By automating the documentation process, AI technologies can improve data integrity and lower the possibility of human error [56, 57].

Automated documentation systems use artificial intelligence (AI) to collect and store data from various sources, including manual input, production equipment, and lab instruments [58, 59]. These solutions guarantee that all information is correctly captured and kept in a legally compliant way [60]. AI, for instance, can be used to automate the recording of quality control test results, guaranteeing that all relevant information is recorded and kept in an electronic manner that conforms to legal specifications [61, 62].

Audit Readiness

A crucial part of producing pharmaceuticals is conducting regulatory audits to meet other regulatory requirements, such as Good Manufacturing Practices (GMP) [63]. By arranging and evaluating vast amounts of data, artificial intelligence (AI) can expedite the audit process and simplify proving compliance to regulatory agencies [64, 65].

AI-powered audit preparedness technologies can detect compliance problems by analyzing data from various sources, including equipment logs, batch records, and QC test results [66]. These technologies can also provide audit reports, which thoroughly summarise the compliance situation and point out areas that need attention [67]. Artificial intelligence lessens the workload for quality assurance teams and guarantees that businesses are always ready for regulatory audits by automating these operations [68].

Enhanced Analytical Techniques

Spectroscopy and Imaging

In pharmaceutical quality control, spectroscopy and imaging are crucial methods for examining substances' physical and chemical makeup [69, 70]. By offering sophisticated data analysis skills, ML improves the detection of contaminants and guarantees the consistency of pharmaceutical products, hence augmenting these procedures [71, 72]. ML algorithms, for instance, can evaluate spectral data from near-infrared (NIR) spectroscopy to locate and measure APIs and excipients in a drug formulation [73, 74]. These algorithms can identify minute alterations in spectral patterns that could indicate contaminants or compositional changes [75]. Similar to this, machine learning (ML) can be used to interpret imaging data from methods like mass spectrometry and high-performance liquid chromatography (HPLC), yielding more accurate and trustworthy results [76, 77].

Chemometrics

Chemometrics studies chemical data analysis using statistical and mathematical techniques [78, 79]. Complex chemical data can be analyzed using AI-based chemometric models, which makes it easier to create reliable QC procedures [80, 81]. By recognizing patterns and correlations in chemical data, these models make it possible to forecast quality attributes based on the characteristics of raw materials and process variables [82, 83].

For instance, ML algorithms can analyze HPLC data to determine whether a pharmaceutical formulation has contaminants [84-86]. Chemometric models can provide real-time product quality forecasts by constructing predictive models based on past data, allowing for proactive QC actions [87, 88].

Supply Chain Management

Traceability

Pharmaceutical supply chain management relies heavily on traceability to ensure that raw materials and final goods fulfil quality requirements [89-91]. AI enhances traceability by giving businesses real-time supply chain awareness, allowing them to monitor the flow of goods and materials from suppliers to final consumers [92].

Blockchain and Internet of Things (IoT)

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sensors are two examples of technology AI-powered traceability systems employ to collect and store data at every supply chain step [93, 94]. By offering a comprehensive and transparent supply chain record, these systems guarantee that all raw materials and finished goods satisfy legal and quality criteria.

Risk Management

Machine learning (ML) algorithms can evaluate and reduce supply chain risks, including those related to raw material quality and supplier dependability. By examining data from diverse sources, including supplier performance records and quality test results, machine learning models can detect possible hazards and offer suggestions for their mitigation [94, 95].

For instance, ML algorithms might examine past supplier performance data to find trends pointing to dependability problems. Companies should take proactive steps to guarantee the quality of raw materials by identifying high-risk suppliers and looking for alternative sources or stepping up inspections.

FUTURE PROSPECTS

There is much promise for using AI and ML in pharmaceutical quality control. Further improvements in QC procedures are anticipated because of developments in AI technologies like deep learning and natural language processing. By enabling proactive quality control procedures and lowering the likelihood of quality problems, these technologies can produce more accurate and dependable predictions.

Cooperation between technology businesses, pharmaceutical companies, and regulatory agencies will be crucial to fully utilizing AI and ML. Together, these parties can create best practices and recommendations for applying AI and ML in pharmaceutical quality control, ensuring these tools are used sensibly and successfully.

To identify potential quality issues and optimize production processes, deep learning systems, for instance, may examine complicated data from numerous sources, including genomic data, clinical trial results, and real-world evidence. Research articles and regulatory documents are examples of unstructured data that can be analyzed using natural language processing to provide essential insights for quality control procedures.

Moreover, pharmaceutical quality control may gain even more advantages from combining AI and ML with cutting-edge technologies like blockchain and the Internet of Things. Blockchain technology can guarantee the integrity and transparency of data throughout the supply chain, while IoT sensors can offer real-time data on environmental conditions and manufacturing operations [96].

CONCLUSION

Pharmaceutical quality control is changing due to AI and ML, which provide notable gains in productivity, precision, and regulatory compliance. Using these technologies, pharmaceutical firms can improve supply chain management, data integrity, predictive analytics, real-time monitoring, and analytical approaches. The potential benefits of AI and ML are significant, even though issues remain resolved, including data quality, regulatory compliance, integration, and ethical considerations.

We anticipate a future where QC processes are more resilient, dependable, and capable of guaranteeing the highest standards of product quality and patient safety as the pharmaceutical sector embraces AI and ML. Cooperation amongst technology suppliers, pharmaceutical companies, and regulatory agencies will be crucial to fully realize this potential and guarantee the ethical and efficient application of AI and ML in pharmaceutical quality control.

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Quality Control in Precision Medicine for Alzheimer's Disease

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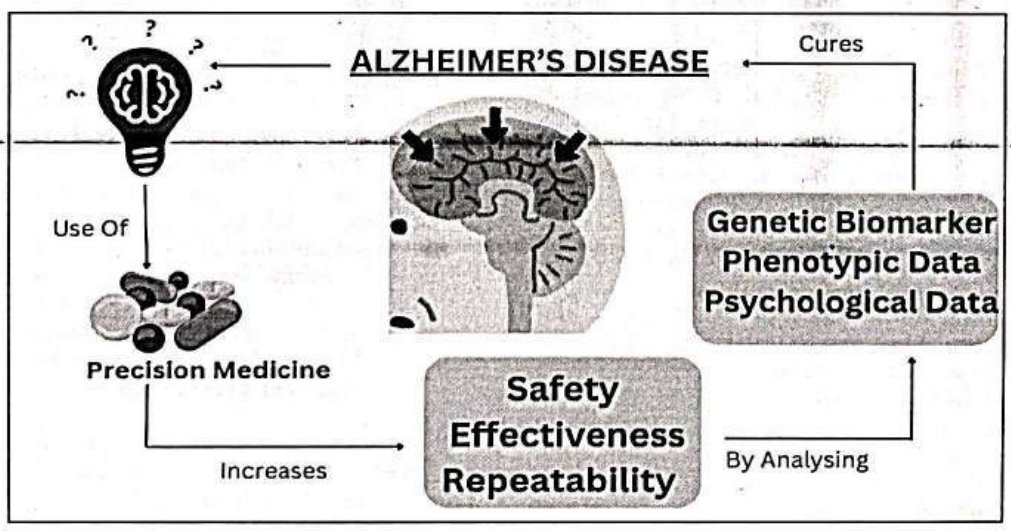
Abstract

In precision medicine, quality control guarantees the safety, effectiveness, and repeatability of customized therapy interventions for Alzheimer's (AD). Precision medicine seeks to personalize patient care using genetic, biomarker, phenotypic, and psychological data to inform medical decisions and treatments. This strategy requires stringent quality control procedures at several levels, including treatment monitoring, genetic data integrity, biomarker validation, and diagnostic accuracy in the context of Alzheimer's disease. The foundation of diagnostic accuracy uses fluid biomarkers, neuroimaging methods, and validated cognitive evaluations to identify and categorize Alzheimer's subtypes reliably. Strict processes are used in biomarker validation to verify the accuracy and precision of biomarkers, including tau and amyloid-beta proteins, in identifying the beginning and course of disease. Comprehensive sequencing and bioinformatics analysis are used to maintain the integrity of genomic data, guaranteeing that genetic variations linked to AD are correctly detected and interpreted.

To maximize therapy outcomes, adaptive management techniques are required for therapeutic monitoring, which includes ongoing evaluation of patients' responses to customized treatment plans. Furthermore, uniform rules and regulatory frameworks are necessary to uphold high clinical practice and research standards. To improve diagnostic precision, biomarker reliability, genetic accuracy, and therapeutic efficacy, integrated cross-disciplinary efforts are crucial, as this abstract emphasizes the complex nature of quality control in precision medicine for Alzheimer's disease. Precision medicine can reach its full potential in offering individualized, successful care for people with Alzheimer's disease with strict quality control procedures.



Keywords- Alzheimer's Disease (AD), Cerebro Spinal Fluid (CSF), Precision medicine, Quality Control (QC), Standard Operating Procedures (SOPs)

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INTRODUCTION

The novel concept of precision medicine, which aims to customize medical care to each patient's unique traits, has demonstrated considerable potential in treating Alzheimer's disease (AD) [1-6]. Alzheimer's disease is a neurological disease that progresses over time and presents a significant challenge because of its intricate etiology and individual differences in progression [7-10]. With the development of precision medicine, there is a promise for more individualized, effective care [11-14]. However, maintaining these precision medicine techniques' quality control (QC) is essential to their success [15-17].

UNDERSTANDING ALZHEIMER'S DISEASE

Amyloid-beta plaques and neurofibrillary tangles build up in the brain during Alzheimer's disease, which causes memory loss and cognitive impairment [18-21]. A confluence of behavioural, environmental, and genetic variables contributes to the aetiology [22, 23]. Personalized approaches to treatment are necessary due to the diversity in illness development, despite the identification of various biomarkers and genetic variables, including the APOE ε4 allele [24-26].

PRECISION MEDICINE IN ALZHEIMER'S DISEASE

When it comes to Alzheimer's disease, precision medicine is used for phenotypic, psychological, genetic, and biomarker traits to inform personalized treatment regimens [27, 28]. This strategy consists of:

- **Genomic Profiling:** Finding genetic variations linked to the development and risk of Alzheimer's disease is known as genomic profiling [29, 30].
- **Biomarker Analysis:** Blood and cerebrospinal fluid (CSF) biomarkers are used to track the development of an illness and discover it early [31, 32].
- **Imaging Methods:** Advanced neuroimaging to see brain shrinkage, tau tangles, and amyloid plaques [33-35].
- **Pharmacogenomics:** Customizing medication regimens according to a patient's genetic composition to increase effectiveness and minimize side effects [36, 37].
- **Lifestyle and Environmental Factors:** Including individualized dietary, exercise, and mental health advice [27].

QUALITY CONTROL IN PRECISION MEDICINE

Quality control in precision medicine for Alzheimer's Disease encompasses several critical aspects:

Standardization of Biomarkers

It is crucial to guarantee the accuracy and consistency of biomarker assessments. This includes:

- ***Validation of Biomarkers:*** Strict validation procedures are used to ensure that biomarkers correctly represent the state and course of the disease [38-40].
- ***Standard Operating Procedures (SOPs):*** To reduce variability, SOPs should be developed for sample handling, collection, storage, and analysis [41-43].
- ***Inter-Laboratory Consistency:*** To maintain consistency between laboratories, regular proficiency testing and standardization initiatives are necessary [44, 45].

Genomic Data Quality

Accurate risk assessment and treatment planning depend on high-quality genetic data:

- ***Ordering Accuracy:*** To guarantee accurate genetic variant detection, sophisticated sequencing technology and reliable bioinformatics pipelines are used [46-48].
- ***Standardized Protocols:*** Standardized protocols for interpreting genomic data encompass categorizing variations with unknown significance (VUS) [49-52].
- ***Data Security and Privacy:*** Preserving patient privacy by guaranteeing the security and confidentiality of genetic data [53-55].

Clinical Trial Integrity

Enough clinical studies must be conducted to assess the safety and effectiveness of precision medicine therapies.

- ***Trial Design:*** Adaptive trial designs improve trial efficiency by allowing alterations based on interim outcomes [56-58].

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- ***Patient Stratification:*** Ensuring homogeneity within trial groups by using specific criteria for patient selection [59-61].

Clearly defining pertinent and meaningful outcome measures is necessary to gauge interventions' effectiveness [62-64] precisely.

Pharmacogenomics Considerations

When it comes to customizing medication therapy for Alzheimer's disease, pharmacogenomics is essential:

- ***Drug-Gene Interactions:*** Determining and confirming how drugs interact with one another to affect side effects and treatment response [65-68].
- ***Dosage Optimization:*** It recommends dose modifications based on genetic profiles to optimize therapeutic effects [69-72].
- ***Monitoring and Reporting:*** To improve pharmacogenomic recommendations, methods for tracking patient reactions and reporting adverse events should be implemented [73-76].

Ethical and Regulatory Oversight

Legal and ethical frameworks must guide the application of precision medicine:

- Getting patients' informed consent involves ensuring they are entirely aware of the advantages, disadvantages, and nature of precision medicine techniques [77-80].
- ***Regulatory Compliance:*** Following the guidelines provided by organizations like the FDA and EMA for the use and approval of instruments in precision medicine [81-84].
- ***Ethical Considerations:*** addressing potential prejudice based on genetic information, data exchange, and genetic testing [85-87].

CHALLENGES AND FUTURE DIRECTIONS

Precision medicine in Alzheimer's disease holds great potential, but there are still several issues that need to be resolved.

- **Disease Complexity:** Because Alzheimer's disease is complex, a thorough understanding of the many biochemical processes and interactions involved is necessary [88-90].
- **Data Integration:** Integrating various data sets—genomic, proteomic, imaging, and clinical—to give a comprehensive picture of the illness is known as data integration [91-93].
- **Scalability:** Creating precision medicine instruments that are affordable and scalable so they can be extensively used in clinical settings [94-97].
- **Patient Diversity:** Ensuring that various populations and demographic groupings can benefit from precision medicine techniques [98-101].

CONCLUSION

The foundation of effective precision medicine for Alzheimer's disease is quality control. We may improve the efficacy and dependability of personalized drugs by instituting strict guidelines for biomarker validation, genetic data quality, clinical trial integrity, pharmacogenomic considerations, and ethical and regulatory control. The care of Alzheimer's disease will change due to ongoing research, and efforts to improve precision medicine techniques and solve obstacles will be essential to enhancing patient outcomes and quality of life.

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ప్రజావాణి

DH

COLLEGE OF PHARMACEUTICAL SCIENCES

ManipalHospitals

CARE WARRIORS

Organizes

CPR Awareness Program

Learn life saving skills from the experts

On 30th October 2023
Time: 11:00 am

Venue: Dr. CD Sagar Building
College of Pharmaceutical Sciences, DSU
Kumaraswamy Layout, Bengaluru- 560111

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DAYANANDA SAGAR UNIVERSITY

School of Health Sciences

College of Pharmaceutical Sciences

Kumaraswamy Layout, Bengaluru-560111, Karnataka, India

Date: 23-10-2023

Circular No COPS/NSS-23/10/2023

CIRCULAR

This is to inform that a workshop on "CPR awareness" will be held at COPS, DSU on 30/10/2023 at 11:30 AM. Health experts from Manipal Hospitals are going to teach our Pharm D students the techniques to carry out CPR. The event will be supported by the Deccan Herald, Prajavani media and sideways 6 event management.

Pharm D students and staff members are cordially invited to actively engage in this extensive awareness effort and contribute to its resounding success.

NSS Coordinator

(Dr. K.Sunil Kumar)

Principal 23/10/23

[Dr. N.M. Raghavendra]

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Date 31.10.2023

EVENT REPORT

CPR AWARENESS PROGRAM

RLT COPS NSS 31.10.2023

Date and time of Event: 30th October, 2023, 11.00 AM

Venue: Dr. CD Sagar Building

About the Event: (100 words)

A workshop on "CPR awareness" was conducted at COPS, DSU on 30/10/2023. Pharm D students received instruction from health specialists from Manipal Hospitals on the proper methods for performing CPR. The event received support from Deccan Herald, Prajavani media, and sideways 6 event management. Cardiopulmonary resuscitation (CPR) improves the chances of survival during cardiac arrest, a condition characterized by the cessation of heart function or insufficient blood circulation to the brain and other essential organs. With approximately 500,000 cases of cardiac arrest occurring annually, CPR plays a crucial role in increasing the odds of survival. It is not limited to healthcare professionals and emergency responders. Bystanders taking action can significantly increase the likelihood of survival, with CPR potentially increasing or even tripling the probability of survival.

No. of students Participated: 45

Faculty Coordinator:

Dr. K.Sunil Kumar (COPS)

Outcomes:

1. Survival rates from sudden cardiac arrest vary significantly across the globe. In countries with higher CPR training rates and public awareness, survival rates are notably better. By implementing widespread CPR training programs and increasing public awareness, more individuals can become potential lifesavers in their communities.

2. CPR is a simple yet effective technique that can be performed by individuals with minimal training. Its accessibility and ease of use make it a vital intervention, particularly in areas with limited access to advanced medical facilities.

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3. Cardiac arrest is a significant public-health-concern, contributing to a considerable burden of disease globally. By implementing CPR training initiatives, public health authorities can make a profound impact on cardiac arrest outcomes

4. Integrating CPR training into school curriculums can create a generation of future lifesavers. Teaching children basic CPR skills not only prepares them to respond to emergencies but also instills a sense of responsibility towards the well-being of others.

5. In many regions, health disparities contribute to varying health outcomes. By implementing targeted CPR training programs in underserved communities, health organizations can address some of these disparities and work towards achieving health equity.

Summary:

CPR awareness Program started at 11:00 AM by welcoming the medical specialists from the Manipal Hospital to COPS, DSU. NSS coordinator introduced the medical team to the staff members and students of COPS. The experts briefed about the significance of CPR in saving lifes during cardiovascular complications. A female expert taught the students how to carry out chest compressions and mouth to mouth resuscitations by using a CPR dummy. Later individual students practiced CPR chest compression techniques and resuscitation with the dummy. Principal of COPS, Dr. NM Raghavendra, praised student's participation in the training, and said, "Anyone can suffer from cardiac arrest at any given point in time and enhanced knowledge and training will aid in administering the right procedures and save a life." The event was concluded by NSS coordinator by giving vote of thanks and expressing to the medical experts, event managers, Principal and the participants.

Raghavendra N.M.
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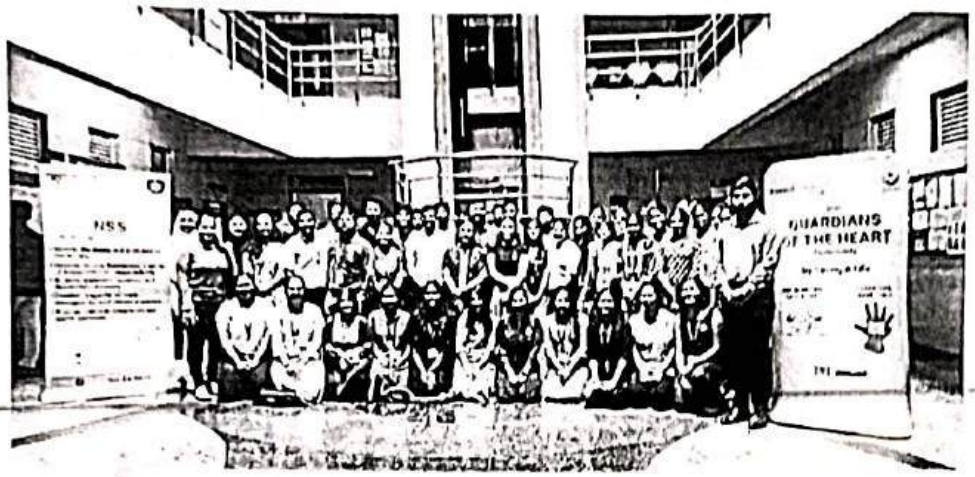

Photo 3: COPS team with medical experts and event management team during CPR awareness program.

Feedback:

Social Media Links:

1. DSU News : https://t.ly/4H1FU
2. LinkedIn: https://shorturl.at/ckvMN
3. Facebook : https://shorturl.at/lvNZ9
4. Instagram: https://shorturl.at/fjzNT
5. Twitter: https://shorturl.at/ahoRY

K. Sunil Kumar

Signature of the Event Coordinator

Dr. K.Sunil Kumar (COPS)

Signature of the Principal

[Dr. N.M. Raghavendra]

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Geotagged Photo-1: Medical expert from the Manipal Hospitals demonstrating CPR procedure to the students and staff members of COPS.

Geotagged Photo 2: Medical expert providing training to the student of Pharm D, COPS to perform CPR with a dummy.

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Ref: COPS/DSU/AC-30-10-2023 Date: 30-10-2023

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Date: 22-07-2024

EVENT REPORT

EVENT: Industry visit to DiponEd Research Internatioal, Bengaluru

REF: COPS-PH-CEUTICS_22.07.24

Date and time of Event: 22nd July 2024, 9.00 AM-4.00 PM

About the Event: (100 words): The 4th semester M.Pharm students and eight faculty members, Dr. B. Wilson, Dr. Vanaja, Dr. Sajeev, Dr. Josephine, Dr. Manjula, Dr. Prema Kumari, Dr. Shanaz Banu and Ms. Seema from the Department of Pharmaceutica and Pharmacology, College of Pharmaceutical Sciences, Dayananda Sagar University, Bengaluru, visited DiponEd Research International, Bengaluru on 22/07/2024 as part of a One- day industry visit. The main objective of the event was to update the students on the technologies used in the Formulation Development and Bioanalytical laboratories and gain an insight on the recent advances in Formulation development which would help the students get innovative ideas in research.

No. of students Participated: 18

Faculty Coordinator

1. Dr. B. Wilson, Professor, Department of Pharmaceutics

Outcomes

1. The visit gave an opportunity for the students and faculty members to update themselves on various formulation development, bioanalytical inititiatives and best practices at a pharmaceutical industry
2. An interaction with the scientists to learn about the various technologies in formulation development and bioanalysis
3. To strengthen academia- industry interaction

Summary

A team of twenty three M.Pharm students and six faculty members from the Department of Pharmaceutics and Pharmacology, College of Pharmaceutical Sciences, Dayananda Sagar University, Bengaluru, visited DiponEd Research International on 22/07/2024 as part of a One-day industrial visit coordinated by Dr. B. Wilson, Professor of Pharmaceutics.

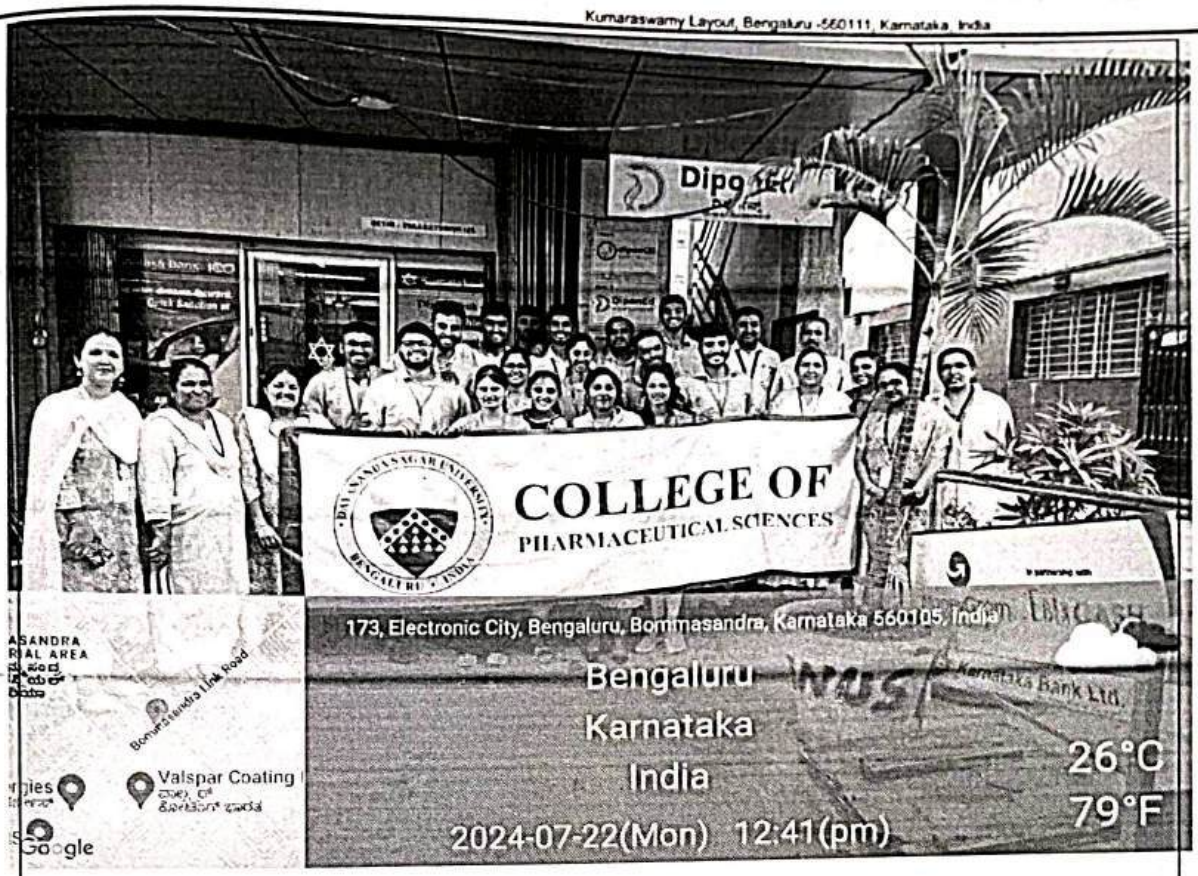
DiponEd Research International is a Contract Research Organization, manufacturing novel commercial products and is located in Bommanahalli, Bengaluru, India.

The main objectives of the visit are as follows.

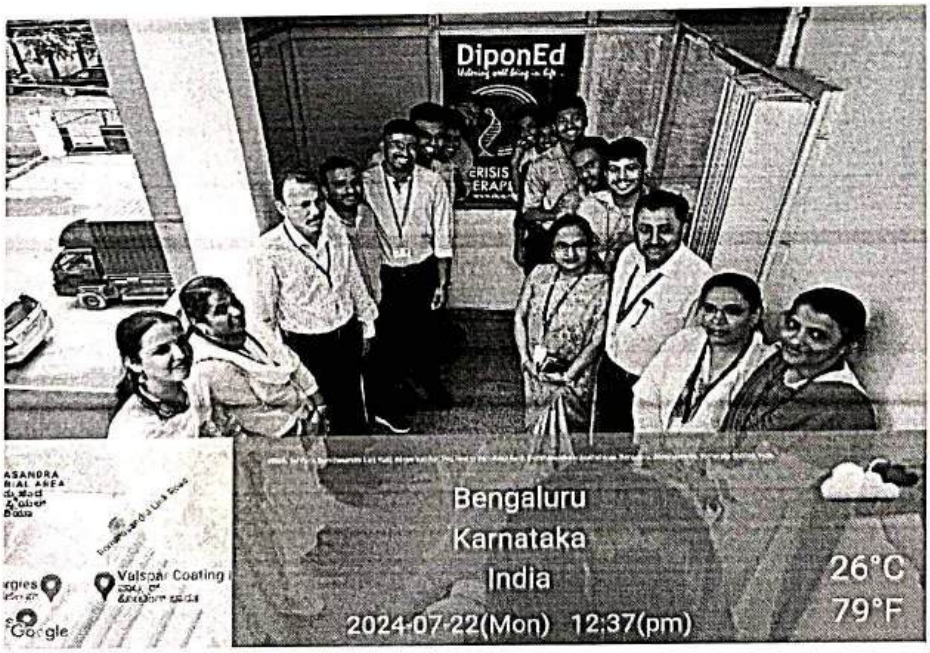
1. To create an awareness amongst the students about the choice of career in the pharmaceutical industry as they get an opportunity to visit the various departments and units.
2. To interact with the scientists and be aware of the latest technologies in the industry
3. To experience the working environment of the industry
4. To have an insight on the various instruments used in the various departments

The students visited the Formulation Development and Bioanalytical departments and the working principles of sophisticated instruments like HPLC, LC-MS, and operation techniques of HPLC and LC-MS were were explained to the students by Dr. S. Muralidharan, Principal Scientist. The visit was useful and students expressed their happiness for a wonderful experience at the industry.

Industrial visit at Anthem Biosciences, Bengaluru



Students and faculty members at DiponEd Research International.



Students and faculty members at DiponEd Research International.

Feedback

#		I would like to express my sincere thanks for arranging the industrial visit to DiponEd Research International. We were very happy and grateful for the explanations offered by Dr. S. Muralidharan about sophisticated instruments like HPLC, LC-MS and various aspects of formulation development. This visit provided us with a practical insight into the industry and inspired us to further explore the field of formulation development.
#		The industrial visit to DiponEd Research International was highly informative and valuable for us. Dr. S. Muralidharan, did an exceptional job explaining the working principles of HPLC, LC-MS and different aspects of formulation development. We highly appreciate his expertise and ability to make the complex principles understandable. We were enlightened and left with a greater understanding of these instruments and their applications in the industry.

Social Media Links

1. DSU News : https://bit.ly/3Lc87Gm
2. LinkedIn : https://rb.gy/ahhzd
3. Facebook : https://rb.gy/74v5k
4. Instagram: https://rb.gy/pf5d5
5. Twitter: https://rb.gy/cs2uo

Signature of the Event Coordinator

1. Dr. B. Wilson, Professor, Department of Pharmaceutics

Signature of the Principal

PRINCIPAL
Dr. N. Raghavendra
College of Pharmaceutical Sciences
Dayananda Sagar University
Kumaraswamy Layout,
Bengaluru - 560 078.

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

MANOJ SN

for successfully completing the course

Fundamentals of Spectroscopy

with a consolidated score of **50** %

Online Assignments	20.31/25	Proctored Exam	30/75

Total number of candidates certified in this course: **207**

Prof. M. S. Santhanam
Dean, International Relations and Outreach
IISER Pune

Jan-Apr 2024

(12 week course)

PRINCIPAL
College of Pharmaceutical Sciences
Dayananda Sagar University
Harohalli

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras

IISER - Indian Institute of Science Education and Research Pune

FREE ONLINE EDUCATION swayam शिक्षित भारत, उन्नत भारत

Roll No: NPTEL24CY14S952300234 To verify the certificate No. of credits recommended: 3 or 4

Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

MANDARA G R

for successfully completing the course

Current Regulatory Requirements for Conducting Clinical Trials in India for Investigational New Drugs/New Drug (Version 3.0)

with a consolidated score of **61** %

Online Assignments	18.33/25	Proctored Exam	42.75/75

Total number of candidates certified in this course: **596**

Devendra Jalihal

Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Jul-Sep 2023

(8 week course)

PRINCIPAL
College of Pharmaceutical Sciences
Dayananda Sagar University
Bangalore

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras

Indian Institute of Technology Madras

FREE ONLINE EDUCATION swayam शिक्षित भारत, उन्नत भारत

Roll No: NPTEL23GE38S44640215

To verify the certificate

No. of credits recommended: 2 or 3

Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

DARSHAN GOWDA B S

for successfully completing the course

Research Methodology

with a consolidated score of 81 %

Online Assignments	22.5/25	Proctored Exam	58.5/75

Total number of candidates certified in this course: 2928

Devendra Jalihal

Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Feb-Apr 2024

(8 week course)

Prof. Andrew Thangara
NPTEL Coordinator
IIT Madras

Indian Institute of Technology Madras

swayam

Roll No: NPTEL24GE21S652300684 To verify the certificate No. of credits recommended: 2 or 3

Jaghavendra N.M.

PRINCIPAL
College of Pharmaceutical Sciences
Jayanand Sagar University
Hoshiarpur

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

Elite

TOP TOPPER 5%

This certificate is awarded to

MATEEN AHMED P

for successfully completing the course

Health Research Fundamentals

(NIE-ICMR e-Certificate course: NIeCer 101)

with a score of **87** %

Online Assignments	22.75/25	Proctored Exam	63.75/75

Total number of candidates certified in this course: **659**

Dr. Manoj Murhekar
Scientist 'G' & Director
ICMR-National Institute of Epidemiology, Chennai

Dr Rajiv Bahl,
Secretary to Government of India,
Department of Health Research and Director General,
Indian Council of Medical Research, New Delhi, India

PRINCIPAL
College of Pharmaceutical Sciences
Dayananda Sagar University
Harohalli

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras

icmr INDIAN COUNCIL OF MEDICAL RESEARCH

NIE NATIONAL INSTITUTE OF EPIDEMIOLOGY

Jan-Mar 2024

(8 week course)

FREE ONLINE EDUCATION swayam शिक्षित भारत, उन्नत भारत

Roll No: NPTEL24HS34S446602812

To verify the certificate

No. of credits recommended: 2 or 3

DAYANANDA SAGAR UNIVERSITY
School of Health Sciences
College of Pharmaceutical Sciences

P. VIVAX MALARIA WITH THROMBOCYTOPENIA AND UNCONTROLLED TYPE 2 DIABETES MELLITUS

Presented by
AYESHA AKBAR SHARIEF
HSC21PD007
Doctor of Pharmacy, 3rd year
College of Pharmaceutical Sciences,
Dayananda Sagar University.

CONTENT

- Patient demographics
- Subjective evidence
- Objective evidence
- Assessment
- Plan
- Discharge summary
- Follow up
- Pharmacist intervention
- Patient counselling

PATIENT DEMOGRAPHICS

Name: Mrs. Manjula

Age: 46

Sex: Female

DOA: 16/09/2023

DOD: 21/09/2023

Weight: 67 kg

Height: 164 cm

BMI: 24.9 kg/m^2

SUBJECTIVE EVIDENCE

- Complaints of the patient:

c/o

- Fever moderate to high with chills and rigors for 4-5 day
- Vomiting for 4-5 days, increased since 1 day (5-6 times today)
- Hematuria since 2 days (3 episodes)
- Burning sensation while passing urine
- Headache since morning

H/o travel to Andhra Pradesh (2 weeks ago)

- Past medical history:

k/c/o

- Type 2 Diabetes mellitus
- S/p Hysterectomy 4 years ago for fibroid uterus

SUBJECTIVE EVIDENCE

- Past medication history: Not Available
- Social history: Nil
- Allergy: Nil

Physical Examination:
Appears to be flushed and dehydrated
Blackish coloration and Mild Redness +ve on the Sacral region

VITALS

	16/09	17/09	18/09	19/09	20/09	21/09	NORMAL
BP	90/60	110/63	100/60	130/80	130/70	130/80	120/80mmHg
PULSE	143	86	82	72	80	86	72/min
TEMP	101.9	100.7	N	N	N	N	98.6F
SpO2	98%	99 %	96 %	98 %	95%	95%	95% or above

P	I	C	C	K	L	E
✖	✖	✖	✖	✖	✖	✖

CLINICAL EXAMINATIONS

- CVS: S1S2 +ve, Tachycardia
- RS: reduced air entry
- GIT: Soft, Tenderness –ve, mild diffuse, bowel sounds +ve
- CNS: No NFD, no neck stiffness

- Pain score- 9
- Fluid volume deficit observed due to vomiting

OBJECTIVE EVIDENCE

S. No.	Lab Parameter	Observed Value						Normal Range
		11/09	12/09	13/09	14/09	15/09	16/09	
1.	PLT	14000	26000	24000	43000	1.02L	1.38L	1.5L – 4.5L/mcl
2.	RBC	4.20						4.5-5.1 x 10^6/ mm3
3.	Hb	11.8						12.3 – 16.0 g/dl
4.	PCV	34.9%						36-47%
5.	GRBS	206	256	273	330	265	158	70 – 140 mg/dl

OBJECTIVE EVIDENCE

- Urine Analysis

Sl. No	Lab parameters	Observed value	Normal range
1.	RBC in urine	4-5	Less than 3 RBCs/hpf
2.	Pus cells	4-5	0 – 5 pus cells
3.	Ketone bodies	Trace amounts	Negative or trace amounts
4.	Protein	Positive +ve	Negative or trace amounts

OBJECTIVE EVIDENCE

Sl. No	Lab parameters	Observed value	Normal range
1.	HbA1c	10.8	≥ 6.5%

Sl. no	Tests done	Result
1.	Dengue IgM	-ve
2.	Smear test	Plasmodium vivax +ve - Ring forms and Gametocyte were seen
3.	MP QBC	+ve

ASSESSMENT

Based on the subjective and objective evidence, The patient was diagnosed with

- Plasmodium vivax Malaria
- Thrombocytopenia
- Uncontrolled Type 2 Diabetes Mellitus

CLINICAL PROGRESS

17/09	18/09	19/09	20/09	21/09
Fever spike (100.7F); Chills +ve; Fatigue +ve hypovolemia	No fever; No bleeding manifestation	Afebrile; symptomatically better	Patient doing good. Redness and discoloration reduced.	R abdominal pain; nausea +ve; Dry cough

Review with culture & sensitivity of blood on 21/09
- No growth in aerobic culture on the 5th Day.

PLAN

TREATMENT GOALS

Patient-Specific:

- To alleviate the symptoms that the patient is experiencing.
- To understand and reduce the skin manifestation
- To provide effective care and comfort to the patient

Disease Specific:

- To Avoid the recurrence of such infections
- To inhibit the growth and action of the parasite
- To limit preventable events by maximizing patient adherence
- To monitor and manage the patient's blood glucose levels
- To increase the platelet levels back to normal

PLAN

TREATMENT CHART: STAT MEDICINES(given at ED)

S.NO	DRUG NAME	DOSE	ROA
1.	INJ NORADRENALINE	1gm	IV
2.	INJ PARACETAMOL	1 gm	IV
3.	INJ PAN	40mg	IV
4.	INJ EMESET	4mg	IV
5.	INJ HYDROCORT	100 mg	IV

TREATMENT CHART: IV FLUID CHART

S. NO	IV FLUID	FLOW RATE	DURATION
1.	IVF NS/RL	IV@ 100ml/hr	17/09 – 21/09

TREATMENT CHART

Sl.no	Name of the drug		Dose	Freq.	ROA	Duration
	Brand name	Generic name				
1.	INJ XONE	Ceftriaxone	2gm	1-0-1	IV	17/09 – 21/09
2.	INJ HYDROCORT	Hydrocortisone	400 mg	1-1-1	IV	17/09 – 20/09
3.	TAB DOLO	Paracetamol	650 mg	S-O-S	P/o	17/09 – 19/09
4.	INJ FALCIGO	Artesunate	120 mg	0-12-24th hr	IV	17/09 – 21/09
5.	TAB DOXYCYCLINE	Doxycycline	100 mg	1-0-1	P/O	18/09 – 21/09

Sl.no	Name of the drug		Dose	Freq	ROA	Duration
	Brand name	Generic name				
6.	INJ H. INSULIN	Huminsulin	30/70	1-1-1	S/c	17/09 – 18/09
7.	INJ HUMAN MIXTARD	Soluble insulin 30% + isophane insulin 70%	30/70	10-0-10	S/c	18/09 – 21/09
8.	6 UNITS OF RDP					
9.	INJ AVIL	Pheniramine	1 amp		IV	17/09
10.	INJ CORDARONE	Amiodarone	150 mg		IV	17/09

DISCHARGE SUMMARY

Sl No	Name of the drug		Dose	ROA	Freq	Duration
	Brand name	Generic name				
1.	TAB PRIMAQUINE	Primaquine	15 mg	P/O	1-0-0	X 15 DAYS
2.	TAB DOXY	Doxycycline	100 mg	P/O	1-0-1	X 3 DAYS
3.	TAB PAN	Pantoprazole	40 mg	P/O	1-0-1	X TC
4.	TAB ZINCOVIT	Multivitamin; Multimineral		P/O	1-0-0	X TC
5.	INJ HUMAN ACTRAPID	Human insulin	40IU	P/O	20-0-10	X TC

- No growth in aerobic culture on the 5th Day.

The patient is symptomatically better, and hemodynamically stable and hence, is being discharged

FOLLOW UP

Review with culture & sensitivity of blood in a week

PHARMACIST INTERVENTION

- The concurrent use of 2 antibiotics (Ceftriaxone and Doxycycline) was not well established.
- Concurrent use of insulin and corticosteroids may result in reduced blood glucose lowering effect of insulin. Hence, monitor.
- Use of Noradrenaline and hydrocortisone is said to have increased tachycardia in some cases. Hence, monitor.
- The 400mg dose of hydrocortisone was not justified.
- On 21/09, the patient experienced right-sided abdominal pain and dry cough, which might not have been resolved.
- The Kidney function tests must be performed and assessed

PATIENT COUNSELLING

Disease-related:

- Malaria is a disease caused by a parasite. The parasite is spread to humans through the bites of infected mosquitoes. People who have malaria usually feel very sick with a high fever and shaking chills.
- Thrombocytopenia is a common feature in human malaria. Thrombocytopenia induced by malaria is due to a shortened life span in the peripheral blood. Some interaction is present between platelets and malaria plasmodia or parasitized red cells.
- Hyperglycemia is blood glucose greater than 125 mg/dL while fasting and greater than 180 mg/dL 2 hours postprandial.

Drug-related:

Tab. Primaquine must be taken after food to minimize gastric irritation.
Tab. Doxycycline is advised to be taken with adequate fluid and with food.
Tab. Zincovit should be taken after breakfast at the same time every day.
Inj. Human Actrapid should be taken 15-20mins before meals.

PATIENT COUNSELLING

Lifestyle modifications:

- Ingest plenty of fluids and get plenty of rest.
- A balanced diet consisting of cereals, pulses, vegetables, fruits, milk and milk products, fish (stew), chicken (soup/stew), etc that provides adequate nutrition as well as maintains fluid balance which is recommended for malarial patients.
- Wear full-sleeved protective clothing.
- Spray insect repellants on your exposed skin. The recommended repellent contains 20-35% N N, N-Diethyl-meta-toluamide (DEET).
- Use mosquito nets while sleeping.
- Install screens on doors and windows.

PATIENT COUNSELLING

Use of Natural remedies:

1. **Krishna Musali:** Golden eye grass in English. Although there aren't many studies suggesting its benefits, it can help boost immunity and overall well-being.
2. **Coconut water:** Coconut water can help prevent dehydration caused by vomiting in malaria.
3. **Apple Cider Vinegar:** Apple cider vinegar can help reduce symptoms of fever in malaria. For using it as a Home remedy for malaria, one can dilute apple cider vinegar, then soak a cloth and put it on the forehead or calves.
4. **Datura:** Datura leaves can be used as natural remedies for malaria as leaves of datura can be used for relieving fever.

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4. https://www.webmd.com/
5. Drug Interaction Checker - Find Interactions Between Medications (webmd.com)
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7. https://sprintmedical.in/blog/best-home-remedies-of-malaria

Dr. Ghanendra N.M.

THANK YOU

TITLE: SEVERE OSTEOARTHRITIS RIGHT HIP WITH MILD SYNOVITIS

PRESENTED BY:
HUMERA HAMEED
DOCTOR OF PHARMACY , IIIrd YEAR.
COLLEGE OF PHARMACEUTICAL SCIENCES,
DAYANANDA SAGAR UNIVERSITY

CONTENT

- Pharmacist Intervention
- Patient counseling
- References

CONTENT

- Patient demographics
- Subjective evidence
- Objective evidence
- Assessment
- Plan
- Discharge summary
- Follow up

PATIENT DEMOGRAPHICS

Name: Mrs. Sarojini

Age : 74 years

Sex : Female

DOA – 31/08/2023

DOD – 04/09/2023

Body Weight : 70+ kg

SUBJECTIVE EVIDENCE

Complaints of the patient: c/o right hip osteoarthritis (since 5 months), difficulty in walking and difficulty in sitting cross leg.

Past Medical History: h/o Wheezing , HTN , s/p PTCA - MI , known case of COPD.

Allergy: No Food or Drug allergies.

OBJECTIVE EVIDENCE

Physical examination: GENERAL : Patient is moderately built and nourished , Afebrile , SPO2 – 98% on room air.

Vital Signs:

SL.NO.	VITALS	31/08/2023	NORMAL
1	BP	130/90 mmHg	120/80mmHg
2	PR	80 bpm	72 bpm

OBJECTIVE EVIDENCE

P✖	I✖	C✖	C✖	K✖	L✖	E✖

SYSTEMS: CVS: S1S2+ve, No murmur

RS: B/L , NVBS+ve

CNS: conscious, alert, oriented, NFND

P/A: soft, no organomegaly, bowel sounds+ve.

Other diagnostic test : X-ray

Provisional Diagnosis: Right hip Osteoarthritis

OBJECTIVE EVIDENCE

HAEMOGRAM

SL.NO:	LABORATORY PARAMETERS	OBSERVED VALUE	NORMAL RANGE
1	Haemoglobin	11.3 g/dL	12.1 – 15.1g/dL
2	TLC	8860/ microlitres	4000 – 11000/microlitres

DIFFERENTIAL COUNT

SL.NO:	LABORATORY PARAMETERS	OBSERVED VALUE	NORMAL RANGE
1	Erythrocyte Sedimentation Rate	85mm/hr	3 – 65mm/hr

RENAL FUNCTION TEST

SL.NO:	LABORATORY PARAMETERS	OBSERVED VALUE	NORMAL RANGE
1	Serum creatinine	1.3mg/dL	0.5 – 1.2mg/dL

SERUM ELECTROLYTES

SL.NO:	LABORATORY PARAMETERS	OBSERVED VALUE	NORMAL RANGE
1	Na+	137mEq/L	135 – 145mEq/L
2	K+	4.4mmol/L	3.6 – 5.2mmol/L

Based on the above mentioned subjective and objective evidences , the case was diagnosed as SEVERE OSTEOARTHRITIS IN THE RIGHT HIP WITH MILD SYNOVITIS.

Dr Ghanudke N.M.

TREATMENT GOALS:

PATIENT SPECIFIC:

- Reducing the difficulty to walk and sit.
- Reducing the pain

DISEASE SPECIFIC:

- Increasing the hemoglobin level
- Reduction in the Inflammation (ESR)
- To reduce the serum creatinine level and to bring back to the normal range.

SURGERY:

- Right total hip replacement arthroplasty uncemented done on 01/09/2023.

STAT MEDICATIONS:

1) Tab. Amlodipine 5mg P/O
2) Inj. Cefuroxime 1.5gm IV

TREATMENT CHART

Sl.no	Generic name	Dose	Route of administration	Frequency	Duration
1	Pantoprazole	40mg	IV	1-0-1	1/09 – 4/09
2	Ringer's Lactate Solution	75ml/hr	IV		3/09 – 3/09
3	Enoxaparin	(0.4ml (each)) 40mg	S/C	@ 6pm	1/09 – 3/09
4	Cefuroxime	1.5gm	IV	1-0-1	2/09 – 3/09
5	Formoterol + Budesonide	20mcg/ 0.5mg	Nebulization	1-0-1	2/09 – 4/09

TREATMENT CHART

Sl.no	Generic name	Dose	Route of administration	Frequency	Duration
6	Ondansetron	4mg	IV	SOS	
7	Paracetamol	1gm	IV	For every 8th hourly	2/09 – 4/09
8	Metoclopramide	10mg	IV	1-0-1	2/09 – 4/09
9	Tramadol + Paracetamol	50mg	P/O	SOS	
10	Aspirin + Rosuvastatin + Clopidogrel	75mg+ 20mg+ 75mg	P/O	0-0-1	3/09 – 4/09

TREATMENT CHART

Sl.no	Generic name	Dose	Route of administration	Frequency	Duration
11	Olmesartan Medoxomil	20mg	P/O	1-0-0	2/09 – 3/09
12	Acebrophylline – Acetylcystine	100mg+ 600mg	P/O	1-0-1	3/09 – 4/09
13	Ferrous Ascorbate + Folic Acid	100mg +1.5mg	P/O	0-1-0	2/09 – 4/09
14	Tab . Newbona Plus		P/O	0-1-0	3/09 – 3/09

CLINICAL PROGRESS

DAY 1 – 1/09/2023
- Pulse rate – 72bpm
- Blood pressure – 120/70mmHg
- Afebrile
- SPO2 – 98%

DAY 2 – 2/09/2023
- Pulse rate – 100/min
- Blood pressure – 100/60mmHg
- SPO2 – 98%
- Serum creatinine and ESR increased
- Hb decreased.

AT 4pm, pain at operated site , episode of vomiting , and vitals were stable.
❖ Started epidural infusion IV at 75ml/hr

CLINICAL PROGRESS

DAY 3 – 3/09/2023
- Patient was well and stable but with slight decrease in electrolytes.

DAY 4 – 4/09/2023
- Mobility well
- Complaint of constipation
- ESR , Serum Creatinine normal but slight decrease in Electrolytes.

AT 11:05am, Patient well , mobility well , stable.
Patient wanted discharge.
Hence, was discharged.

Dr Ghanuke N.M.

Sl.no	Generic Name	Dose	Route of administration	Frequency	Duration
1	Cefuroxime	500mg	P/O	1-0-1	1 week
2	Tramadol + Paracetamol	18.75mg + 162.5mg	P/O	1-0-1	1 week
3	Domperidone + Pantoprazole	30mg + 40mg	P/O	1-0-1	To continue
4	Ferrous Ascorbate + Folic Acid	100mg +1.5mg	P/O	0-1-0	1 month
5	Tab . Newbona Plus		P/O	0-1-0	1 month
6	Aspirin + Rosuvastatin + Clopidogrel	75mg+20mg+ 75mg	P/O	0-0-1	To continue

DISCHARGE SUMMARY

SLno	Generic Name	Dose	Route of administration	Frequency	Duration
7	Cilnidipine + Metoprolol succinate + Telmisartan	10mg + 50mg + 40mg	P/O	1 – 0 – 0	To continue
8	Formoterol + Budesonide	6mcg + 400mcg	Inhalation , 1puff	1 – 0 - 1	To continue
9	Tiotropium	9mcg	Inhalation , 1puff	1 – 0 - 1	To continue

FOLLOW UP

- Monitor vitals .
- Review in OPD after 8 -10 days or 4 – 6 weeks .

PHARMACIST INTERVENTION

- Past medication history was not available in the case file.
- The therapy of Rozagold/Roseday Gold should be monitored as the concurrent use of Aspirin and clopidogrel in the combination may lead to GI bleeding.

PATIENT COUNSELLING

Regarding disease: Osteoarthritis is a degenerative joint condition that occurs in the cartilage surface of the synovial joints and the associated proliferation of cartilage and bone represented by failure of joints.

- It cause pain, stiffness , swelling affecting the person's ability to move freely.
- Synovitis is the inflammation of the synovial joints.

Regarding drugs: Tab. Cefuroxime to be taken after food.

- Tab. Domperidone + pantoprazole to be taken 30 mins before food.
- Tab. Roseday gold should be taken at night.

PATIENT COUNSELLING

Regarding lifestyle modifications:

- ❑ Reduction of excessive joint loading.
- ❑ Dietary counseling to reduce the loading of the joints.
- ❑ Avoid complete immobilization.
- ❑ Inclusion of Physical exercises i.e., walking with walker , Deep breathing etc.
- ❑ Involving the heat and cold compression, Physical Therapy also known as Thermotherapy.
- ❑ Aquatic exercises i.e., heated upto 32-36 degree Celsius.
- ❑ Increasing the intake of dietary fibre.
- ❑ Avoid alcohol consumption.
- ❑ Avoid Criss crossing of legs , sitting on the floor and sitting on low chair.
- ❑ Adherence to the treatment given.

THANK YOU!

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Dipiro's Pharmacotherapy – A Pathophysiologic Approach , 12th edition
https://www.micromedix.com
https://go.drugbank.com
https://www.1mg.com

Dr Ghamande N.M.

SYSTEMIC LUPUS ERYTHEMATOSUS

Presented by: Niharika gowda
PHARM D 3RD YEAR
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PATIENT DEMOGRAPHIC DETAILS

* NAME	:	XYZ
* AGE	:	62 YEARS
* SEX	:	FEMALE
*UHID NO	:	30279168
* D.O.A	:	15/02/20
* D.O.D	:	20/02/20

SUBJECTIVE EVIDENCE:

A 62 years old female patient admitted to the hospital with the c/o

- Multiple joint pain since 4 days.
- Difficulty in walking since 4 days.

H/O Generalized weakness.

- Butterfly shaped rashes across the nose and cheeks get rashes when under the sun.

PAST MEDICAL HISTORY:

Hypertension since 5 years

PAST MEDICATION HISTORY/ALLERGY

Tab telma 40mg 1-0-1
No known drug or food allergies

SOCIAL HISTORY

Diet : Veg
Bowel and bladder : Normal

Dr Ghanendra N.M.

OBJECTIVE EVIDENCE

SYSTEMS:

1. CVS : S1 and S2 + no murmur
2. RS : Bilateral sound+, normal vesicular breath.
3. CNS: NFND
4. Per abdomen : bowel sounds+.

VITALS:

BLOOD PRESSURE : 140/90mmHg.
PLUS RATE : 70bpm.
RR : 22cpm.
TEMPERTURE : normal

LAB INVESTIGATIONS:

- Haemoglobin : 9.2 g/dl
- TC : 2.7×10 ×3mm cub.
- ESR : 37mm/hr.
- Sodium :120mg/dl
- **Rheumatoid factor : 64.01 IU/ml**

OTHER INVESTIGATIONS:

1. Antinuclear Antibody (ANA) Test by ANA panel test has been done

. Presence of ANA has been detected or shown positive.

2. Anti-double standard DNA antibody test has been done (ELISA). (92IU/ml) which confirms Presences of anti ds DNA antibody.

ASSESSMENT:

- Based on subject and object evidence the patient is diagnosed by Systemic lupus erythematosus.

TREATMENT GOALS:

PATIENT SPECIFIC:

- Treating joint pain symptoms
- Reducing the weakness
- Reducing the rashes.

DISEASE SPECIFIC:

- Treating the anemic condition by increasing the hemoglobin count.
- Monitoring the inflammation in body and rheumatoid factor .
- Protecting organs and tisses from further damages and improve quality of life.

TREATMENT PLAN

S .NO	BRAND NAME	GENERIC NAME	DOSE ROA	FREQUENCY	DURATION
1.	Tab.wysolone	Prednisolone	10mg	1-0-0	6 Days
2.	Tab imuran	Azathioprine	50mg	1-1-1	6 Days
3.	Tab shelcal	Calcium+vit D3	1tab	1-0-0	6 Days
4.	Tab voltaron	Diclofenac	75mg	1-0-0	6 Days
5.	Syp. Haem UP	Iron and folic acid	1tabel spoon	1-0-0	6 Days
6.	Tab. Pan	Pantaprazole	40mg,	1-0-0	6 Days

CLINICAL PROGRESS

- Day 1 : 15/2/20
  multiple joint pain, BP : 140/90mmHg, Hb: 9.2g/dl
  ESR: 37mm/hr.
- Day 2 : 16/2/20
  patient is conscious and oriented
  reduced in weakness. ESR: 32mm/hr
- Day 3 : 17/2/20
  Hb : 11.5g/dl , ESR : 25mm/hr
- Day 4 : 18/2/20
  decreased joint pain, Hb: 11.7g/dl.
- Day 5 : 19/2/20
  reduced rashes on the face, RR: 15cpm,
  patient is discharged.

DRUGS ON DISCHARGE:

S.NO	BRAND NAME	GENERIC NAME	DOSE, ROA	FREQUENCY	DURATION
1.	Tab wysolone	Prednisolone	10mg	1-0-0	For two weeks
2.	Tab shelcal	Calcium+vit D	1 tab	1-0-0	For two weeks
3.	Syp.haem UP	Iron +folic acid	1 tsp	1-0-1	For two weeks
4.	Tab voltaren SR	Diclifenac	75mg	1-0-0	For two weeks

Dr. Khandke N.M.

FOLLOW UP

- Review with doctor XYZ in OPD after 1 week with CBC reports.
- In case of fever / vomiting / loose stools / bleeding manifestations please call emergency XYZ.

PHARMACIST INTERVENTION:

POINTS TO PHYSICIAANS:

- The patient is having hypertension since 5 years

And they prescribed Prednisone to the patient as a first line.

- as we know corticosteroid increases the water retention and blood pressure.

Indication: It can be replaced or used with corticosteroid as a combination therapy to reduces the effect of corticosteroids on the blood pressure.

- As the patient have HTN since 5 years they didn't prescribe any anti-hypertesive drug during treatment and discharge medication.
- URIN ANALYSIS should have been done because elevation in the anti-dsDNA antibody and sodium can be an indication of lupus nephritis.

PATIENT COUNSELLING

1. Regarding disease:

SLE is an autoimmune disease in which the immune system attacks its own tissues, causing widespread inflammation and tissue damage in the affected organs.

1. Autoimmune Nature: Lupus is characterized by the presence of autoantibodies, which are antibodies that target and attack the body's own cells and tissues.
2. Multi-Organ Involvement: Lupus can affect multiple organs, including the skin, joints, kidneys, heart, lungs, brain, blood cells, and other tissues.
3. Symptoms: Common symptoms of lupus include fatigue, joint pain, skin rashes (such as the characteristic butterfly rash on the face),

PATIENT COUNSELLING REGARDING MEDICINES

- Tab Wysolone may decrease alertness, affect the vision or causes feel sleepy and dizzy. Do not drive or do anything that requires mental alertness. Before taking dissolve it in glass of water and have it.
- Tab voltaren SR may causes stomach to prevent that Take it with food or milk to prevent upset stomach.

PATIENT COUNSELLING REGARDING DIET AND LIFESTYLE:

- Avoid being in the Sun for a long period of time because Sunlight can cause a lupus rash to flare.
- Always wear a sunscreen.
- Avoid stress.
- Aim for well balance diet that includes plenty of fruits(oranges,pineapples), vegetables(leafy greens,beets,mushroom) and whole grains.
- Wild-caught fish, msny types of wild seafood provide omega-3 fats that helps reduce inflammation levels,

THANK YOU

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- 2018 Saudi Journal of Medicine & Medical Sciences.
- A Case of Systemic Lupus Erythematosus Presenting as Autoimmune Myelofibrosis.

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Assessing Lipid Metabolism to Investigate the Genetic Similarity Between Alzheimer's Disease and Metabolic Syndrome

Project Report submitted to Dayananda Sagar University,

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"DEVELOPMENT OF COLORIMETRY METHOD FOR VIGABARTIN : A FAST AND COST-EFFECTIVE APPROACH"

The Project report submitted to

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DETECTION OF COLIFORMS IN VARIOUS SAMPLES OF POTABLE WATER BY MPN METHOD.

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COMPUTER AIDED DRUG DESIGN OF GUANINE DERIVATIVES FOR ANTI-CANCER ACTIVITY

The project report submitted to College of Pharmaceutical Sciences

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DEVELOPMENT OF A SELF EMULSIFIED FORMULATION FOR HERBAL DRUGS

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Formulation and Evaluation of Synergistic Effect of Herbal Disinfectant

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CLOTRIMAZOLE-LOADED SOLID LIPID NANOPARTICLES (SLNS) AS A POTENTIAL CARRIER FOR ORAL CANDIDIASIS TREATMENT

The Project report submitted to

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FORMULATION, CHARACTERIZATION, AND SOLUBILITY STUDIES OF CEFUROXIME-SALICYLIC ACID CO-CRYSTAL

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FORMULATION, CHARACTERIZATION, AND SOLUBILITY STUDIES OF IBUPROFEN-SALICYLIC ACID CO-CRYSTAL

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ISOLATION, IDENTIFICATION, AND MOLECULAR DOCKING OF PHYTOCHEMICAL PRESENT IN *Dalbergia coromandeliana* STEM EXTRACT

Project report submitted to Dayananda Sagar University,

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FORMULATION AND EVALUATION OF A TOPICAL CREAM FOR FOOT INFECTION MANAGEMENT

The project report submitted to

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FORMULATION AND EVALUATION OF ITRACONAZOLE LOADED BIGEL.

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FORMULATION AND EVALUATION OF FLOATING MICROSPHERES CONTAINING FRUIT EXTRACT OF *Fragaria ananassa*

Project report submitted to Dayananda Sagar University,

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EXPLORING THE NOVEL PHARMACOLOGICAL TARGETS AND MOLECULAR DOCKING STUDIES OF SOME FLAVONOIDS FOR THE TREATMENT OF PARKINSON'S DISEASE

The Project report submitted to

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FORMULATION AND EVALUATION OF *Basella alba* HYDROGEL FOR THE TREATMENT OF MOUTH ULCER

Project report submitted to Dayananda Sagar University,

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FORMULATION AND EVALUATION OF TOPICAL ANTI-INFLAMMATORY GEL OF *ARTEMISIA PALLENS*

Project report submitted to Dayananda Sagar University,

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Formulation and Evaluation of Floating Microparticles Containing Candesartan for the Management of Hypertension

The project report submitted to College of Pharmaceutical Sciences
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EVALUATION OF THE PROTECTIVE EFFECT OF QUERCETIN-LOADED NANO PARTICLES AGAINST DEXTRAN SODIUM SULFATE-INDUCED ULCERATIVE COLITIS IN MALE WISTAR RATS

Dissertation submitted to the

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Docking, Synthesis and Evaluation of Novel Isoxazoles as acetyl cholinesterase inhibitors in the treatment of Alzheimer's disease

Dissertation submitted to College of Pharmaceutical Sciences

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2023-2024

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"A STUDY ON PHARMACODYNAMIC AND PHARMACOKINETIC DRUG INTERACTION BETWEEN NAPROXEN AND ST, JOHN'S WORT"

Dissertation submitted to

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AN EXPLORATION OF THE ANTIPARKINSONIAN EFFECTS OF ZINDA TILISMATH, A TRADITIONAL UNANI MEDICINE

Dissertation submitted to College of Pharmaceutical Sciences,

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"DESIGN SYNTHESIS AND EVALUATION OF NOVEL CHALCONE DERIVATIVES FOR THE TREATMENT OF ALZHEIMER's DISEASE"

Dissertation submitted to

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"PHYTOCHEMICAL AND PHARMACOLOGICAL EVALUATION OF *ABUTILON HIRTUM* FOR TREATMENT OF EXPERIMENTALLY INDUCED ALZHEIMER'S DISEASE"

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"DESIGN, SYNTHESIS AND EVALUATION OF PYRROLE CHALCONES AS ANTI-PARKINSONIAN AGENTS"

Dissertation submitted to College of Pharmaceutical Sciences

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September – 2024

"EVALUATION OF SITE-SPECIFIC DELIVERY OF METHANOLIC EXTRACT OF *OROXYLUM INDICUM* LEAVES AGAINST DEXTRAN SULFATE SODIUM INDUCED CROHN'S DISEASE"

Dissertation submitted to the

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Harohalli

"EVALUATION AND FORMULATION OF ACACIA CATECHU LOADED NANOCARRIERS FOR DEXTRAN SULFATE INDUCED CROHN'S DISEASE"

Dissertation submitted to the

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In partial fulfillment of the requirements for the Degree of

MASTER OF PHARMACY

IN

PHARMACOLOGY

BY

PRAJNA T K

HSC22MPL004

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BENGALURU, KARNATAKA

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"ANTI FERTILITY ACTIVITY OF *CITRUS LIMETTA* SEEDS EXTRACT ON FEMALE ALBINO MICE"

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DAYANANDA SAGAR UNIVERSITY 2024

PRINCIPAL
College of Pharmaceutical Sciences
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Harohalli

EVALUATION OF THE PROTECTIVE EFFECT OF QUERCETIN-LOADED NANO PARTICLES AGAINST DEXTRAN SODIUM SULFATE-INDUCED ULCERATIVE COLITIS IN MALE WISTAR RATS

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BENGALURU, KARNATAKA

2023-24

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Docking, Synthesis and Evaluation of Novel Isoxazoles as acetyl cholinesterase inhibitors in the treatment of Alzheimer's disease

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AN EXPLORATION OF THE ANTIPARKINSONIAN EFFECTS OF ZINDA TILISMATH, A TRADITIONAL UNANI MEDICINE

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DAYANANDA SAGAR UNIVERSITY 2024

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"Knowledge and Attitude of Postpartum Depression in Pregnant Women in a Tertiary Care Hospital"

By
Anushka A Palankar
Devaki R
Dhruvathara N
Piyali Das

Project Submitted to the

Dayananda Sagar University, Karnataka

In partial fulfillment of the requirements for the degree of

Doctor of Pharmacy
In
The Department of Pharmacy Practice

Under the Guidance of
Dr. Lita Susan Thomas
Pharm.D.
Assistant Professor
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Under the Co-guidance of
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Department of Obstetrics and Gynecology
Dr. Chandramma Dayananda Sagar Institute of Medical Education & Research (CDSIMER)

Evaluated
T. Vitthya
(Dr. T. Vitthya)
22/06/24

COLLEGE OF PHARMACEUTICAL SCIENCES

College of Pharmaceutical Sciences
Dayananda Sagar University
Bengaluru,Karnataka, India
2023- 2024

"A cross-sectional observational study on the severity and management of anemia in tertiary health care center"

By:
Harikishan Singh
Naina Shalvi Tigga
Shekhar Choudhury

Project Submitted to the Dayananda Sagar University, Karnataka, Bengaluru

In partial fulfillment of the requirements for the degree of

Doctor of Pharmacy In
The Department of Pharmacy Practice

Under the Guidance of
Dr. Mahadevamma L., M. Pharm,Ph.D.
Associate Professor and HOD

Under the Co-Guidance of
Dr. Mohammed Mufassil
Associate Professor
Department of General Medicine
Dr. Chandramma Dayananda Sagar Institute of Medical Education & Research (CDSIMER)

Evaluated
T. Vitthya
(Dr. T. Vitthya)
22/06/24

COLLEGE OF PHARMACEUTICAL SCIENCES

College of Pharmaceutical Sciences
Dayananda Sagar University
Bengaluru Karnataka - India
2023 - 2024

PRINCIPAL
College of Pharmaceutical Sciences
Dayananda Sagar University
Harohalli

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EVALUATION OF THE PROTECTIVE EFFECT OF QUERCETIN-LOADED NANO PARTICLES AGAINST DEXTRAN SODIUM SULFATE-INDUCED ULCERATIVE COLITIS IN MALE WISTAR RATS

Dissertation submitted to the

College of Pharmaceutical Sciences, Dayananda Sagar University

In partial fulfilment of the requirements for the Degree of

MASTER OF PHARMACY

IN

PHARMACOLOGY

BY

BHAVANA B R

HSC22MPL001

Under the guidance of

Dr. GEETHA K M

Professor and HOD

DEPARTMENT OF PHARMACOLOGY

COLLEGE OF PHARMACEUTICAL SCIENCE,

DAYANANDA SAGAR UNIVERSITY

BENGALURU, KARNATAKA

2023-24

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Docking, Synthesis and Evaluation of Novel Isoxazoles as acetyl cholinesterase inhibitors in the treatment of Alzheimer's disease

Dissertation submitted to College of Pharmaceutical Sciences

Dayananda Sagar University, Bengaluru, Karnataka

COLLEGE OF PHARMACEUTICAL SCIENCES

In partial fulfilment of the requirement for the Degree of

Master of Pharmacy

IN

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SHRUTI CHATTERJEE

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PROFESSOR AND HOD

HEAD OF DEPARTMENT OF PHARMACOLOGY

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BENGALURU, KARNATAKA

2023-2024

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PRINCIPAL
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SYNTHESIS AND EVALUATION OF PYRAZOLE DERIVATIVES AS POSSIBLE ANTI DEPRESSANTS

Dissertation submitted to College of Pharmaceutical Sciences
Dayananda Sagar University, Bengaluru, Karnataka

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2024

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"PHARMACOLOGICAL EVALUATION OF POLYMERIC MICELLES OF *CITRUS AURANTIUM L.* PEEL FOR HEPATOPROTECTIVE ACTIVITY"

Dissertation submitted to College of Pharmaceutical Sciences
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2024

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PRINCIPAL
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"SYNTHESIS OF COUMARIN DERIVATIVES AND ASSESSMENT OF NEUROPROTECTIVE EFFECT AGAINST NEUROLEPTIC DRUG INDUCED NEURODEGENERATION"

Dissertation submitted to the

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2023-24

"SYNTHESIS AND EVALUATION OF BENZIMIDAZOLE DERAVATIVE AS MAO-B INHIBITOR FOR THE MITIGATION OF PARKINSONS DISEASE"

Dissertation submitted to the

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PHARMACOLOGY

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BENGALURU, KARNATAKA

2023-2024

PRINCIPAL

College of Pharmaceutical Sciences

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SYNTHESIS AND EVALUATION OF BENZIMIDAZOLE DERIVATIVES AS ANTI-ALZHEIMER'S MOLECULES

Dissertation submitted to the
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In partial fulfilment of the requirements for the Degree of
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BENGALURU, KARNATAKA
2023-24

INVESTIGATION OF DRUG-DRUG INTERACTION BETWEEN LOSARTAN AND CARBAMAZEPINE BY PHARMACODYNAMIC AND PHARMACOKINETIC METHODS

Dissertation Submitted To
College of Pharmaceutical Sciences, Dayananda Sagar University,
Bengaluru, Karnataka
In partial fulfilment of the requirements for the Degree of
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IN
PHARMACOLOGY
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2023 - 2024

PRINCIPAL
College of Pharmaceutical Sciences
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"A STUDY ON PHARMACODYNAMIC AND PHARMACOKINETIC DRUG INTERACTION BETWEEN NAPROXEN AND ST, JOHN'S WORT"

Dissertation submitted to

College of Pharmaceutical Sciences, Dayananda Sagar University,

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In partial fulfilment of the requirements for the Degree of

MASTER OF PHARMACY

IN

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September- 2024

AN EXPLORATION OF THE ANTIPARKINSONIAN EFFECTS OF ZINDA TILISMATH, A TRADITIONAL UNANI MEDICINE

Dissertation submitted to College of Pharmaceutical Sciences,

Dayananda Sagar University, Banglore, Karnataka

COLLEGE OF
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In partial fulfilment of the requirement for the Degree of

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SEPTEMBER -2024

PRINCIPAL
College of Pharmaceutical Sciences
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"DESIGN SYNTHESIS AND EVALUATION OF NOVEL CHALCONE DERIVATIVES FOR THE TREATMENT OF ALZHEIMER's DISEASE"

Dissertation submitted to

Dayananda Sagar University

Bengaluru, Karnataka

In partial fulfillment of the requirements for the Degree of

MASTER OF PHARMACY

in

PHARMACOLOGY

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Department of Pharmacology

Under the Co-guidance of

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Professor & Vice principal

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BENGALURU, KARNATAKA

2024

"PHYTOCHEMICAL AND PHARMACOLOGICAL EVALUATION OF *ABUTILON HIRTUM* FOR TREATMENT OF EXPERIMENTALLY INDUCED ALZHEIMER'S DISEASE"

Dissertation submitted to

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In partial fulfillment of the requirements for the Degree of

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2024

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"DESIGN, SYNTHESIS AND EVALUATION OF PYRROLE CHALCONES AS ANTI-PARKINSONIAN AGENTS"

Dissertation submitted to College of Pharmaceutical Sciences

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September – 2024

"EVALUATION OF SITE-SPECIFIC DELIVERY OF METHANOLIC EXTRACT OF *OROXYLUM INDICUM* LEAVES AGAINST DEXTRAN SULFATE SODIUM INDUCED CROHN'S DISEASE"

Dissertation submitted to the

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In partial fulfillment of the requirements for the Degree of

MASTER OF PHARMACY

IN

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2023-24

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CLINICAL PHARMACY

Subject in-charge :
Dr. Lita Susan Thomas

DONE BY:

Ankitha . P
Ardra Pramod
Diya . J
Jhanavi . C
Afzha Mariam k.F

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CASE STUDY-01

Mr. SA, a 59 year's old author is taken to Emergency department by his daughter due to increase fatigue, weakness confusion and drowsiness. Mr SA is 185cm tall, weight 83 kg and has a 15-year history of type 2 diabetes mellitus and hypercholesterolaemia. He is under the care of the diabetes clinical at the hospital management of charcot's arthropathy of the foot and diabetic foot ulcer.

He also has a 5-year history of ischaemic heart disease and underwent coronary artery bypass grafting one year ago.

He drink's half-a-bottle of red wine per day and smoke a pipe, he is allergic to penicillin,

His current medication are:

- Metformin tablet 850 mg t.d.s
- Rasigiltazone tablet 2mg bd
- Atorvastatin tablets 40m o.d
- Esetimibe tablets 10mg.od
- Amlodipine tablets 10mg o.d
- Furosemide 40 mg.od
- Aspirin 75mg tablets o.d
- perindopril 4mg
- Gabapentin 600mg
- Isosorbide mononitrate slow release tablets 60mg.od
- Glyceryl trinitrate spray sublingually 400-800 micro —organ's p.r.n

On examination, he appears confused and disoriented and clinically dehydrated, he has an inflamed, malodorous foot ulcer with copious purulent slough.
Dorsalis pedis and posterior tibial pulses were palpable suggesting adequate arterial supply to the foot.
On close inspection, the wound is deep penetrating to the ligaments and muscle but a probe-to bone test for osteomyelitis with a steel probe is negative.

The area surrounding the ulcer appear cellulitic
His vital signs are recorded as follows.

- Heart rate 117 bpm
- Temperature 38.8°c
- Respiratory rate 23 breaths per minute
- Blood pressure 92/59 mmHg.
- Oxygen saturation 96%.

A urine dipstick indicates a urinary glucose of > 56mmol/L but is negative for nitrites and leucocyte esterase.
The patient's most recent microbiology results from one month previously.

Wound swab from foot ulcer

Enterococcus faecalis +++
lactose fermenting coliforms +++
planned investigations include

- blood cultures
- wound culture
- blood glucose
- creatinine
- urea and electrolytes and full blood count.

- C- reactive protein
- Liver function test
- Arterial blood gases
- X-ray
- Magnetic resonance imaging of x-ray inconclusive.

The patient is diagnosed with hyperosmolar non-ketotic (HONK) syndrome secondary to infection of a diabetic foot ulcer and the treatment plan is as follows.

- Sodium chloride 0.9% IV, 1L per hour initially
- Insulin (Actrapid) IV, 12 unit's bolus then 8 unit's per hour after first litre of saline
- Piperacillin - tazobactam IV .4.5 g.t.d.s
- Co-codamol 30/500 mg two tablets q.d.s prn
- Cyclizine IV. 50mg t.d.s prn.
- Enoxaparin S.C 40 mg o.d.

Laboratory findings

Reported within 12 hours of admission.

Blood glucose 34mmol/L (3-7.8 mmol/L)
Creatinine 186 micromol/L [Estimated creatinine clearance 28ml/min]
WCC 11.2 x 10^9/L (4-11 x 10^9/L)
Neutrophils 7.6 x 10^9/L [2-7.5 x 10^9/L]
C-reactive protein 110mg/L (<10mg/L)
Blood culture positive for Gram-positive cocci in both bottles.
Magnetic resonance imaging does not indicate osteomyelitis.

(1) What is the significance of these laboratory findings?

Hyperglycaemia supports a diagnosis of "HONK syndrome" and severe hyperglycaemia has been shown to have deleterious effect on immune system.
It is a significant predictor of infections

- Serum creatinine indicates mild renal impairment which may influence the choice and monitoring of antibiotic

→ leucocytosis is an indication of infection but this may be one of the absent in patient's with diabetes.

→ ESR is usually raised.

→ Raised C- reactive protein is consistent with infection

→ Gram-positive bacteraemia is a predictor of poor outcome and prompt treatment with gram positive antibiotics active against MRSA is critical

→ If osteomyelitis is ruled out, then shorter courses of antibiotic therapy are likely to be required for successful clinical outcome.

② Critically appraise the management options in this case.

⇒ Debridement and drainage are critically aspects of management of the infected diabetic foot ulcer and delayed debridement of necrotic or infected tissue and drainage of purulent collections

→ Increases the risk of amputation.

→ wound management is also extremely important, and use of vacuum foam dressing may be required to remove Exudate and slough and promote granulation.

Medicated dressing such as hydrofibre dressing impregnated with silver provide a local antiseptic effect where poor blood supply may limited antibiotic penetration.

→ The identification of gram-positive cocci in the blood culture in this case mandates use of reliable gram-positive cover such as vancomycin or teicoplanin.

one of the newer agents: linezolid, daptomycin or tigecycline, these medications suitable for patient with penicillin allergy.

→ The patient has mild renal impairment but vancomycin may still be used providing appropriate dose adjustment are made and therapeutic drug monitoring is carried out.

→ The severity of infection suggests that gram negative cover would also be prudent. Gentamicin is associated with increased nephrotoxicity in combination with vancomycin and ciprofloxacin offers an alternative option's

→ A malodorous wound is consistent with an anaerobic infection requiring suitable anaerobe cover such as metronidazole or clindamycin.

(3) Outline a pharmaceutical care plan for this patient with infected diabetic foot ulcer including advice to the clinician.

Establish the nature of the patients penicillin allergy and of a history of type 1.

→ Hypersensitivity is suspected, suggested an alternative regimen to the clinician to incorporate MRSA cover such as vancomycin plus ciprofloxacin plus metronidazole.

→ do not delay treatment to allow time for a deep tissue specimen to be taken, advise on a suitable starting dose and dose interval for vancomycin + to achieve a trough serum concentration in the range 10–15mg/L.

→ monitor the patient's response to therapy and streamline the antibiotic regimen when microbiology results from a suitable clinical specimen become available

→ Infections limited to soft tissue will required between 7 and 10 days of intravenous therapy, followed by an additional 14 days of oral therapy (total duration 2 weeks).

If MRSA is isolated intravenous therapy, vancomycin must not be switched to oral vancomycin which has negligible absorption from the GIT.

→ Oral agents may be selected from rifampicin tetracyclines fusidic acid co trimoxazole depending on susceptibility data and a combination of two agents is recommended.

Oral linezolid monotherapy is an effective alternative

COLLEGE OF
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2.3.1 Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences

The College of Physiotherapy provides an effective platform for students to develop latest skills, knowledge, attitude, values to shape their behaviour in the correct manner. College conduct innovative programs which stimulate the creative ability of students and provide them a platform to nurture their problem-solving skills and ensure participative learning.

The institute focuses on the student-centric methods of enhancing lifelong learning skills of students. Faculty members make efforts in making the learning activity more interactive by adopting the below-mentioned student-centric methods.

The courses were created with the goal of teaching students how to apply academic concepts in a practical setting. Students will be able to comprehend the practical application and analyse and evolve new techniques thanks to the teaching methodology. These interventions help students improve their employability, abilities, and general growth. For interactive, participatory, and problem-solving learning, we use a variety of approaches.

College of Physiotherapy has included practical, project works, Hospital and industry training programs as a part of the curriculum to enhance the learning experiences of the students enrolled.

- Experiments in practical are designed based on the present patients' needs and as a part and extension of the theory syllabus. The students carry out the practical after theoretical learning to understand the subject well and troubleshooting during the practical hours.
- College of physiotherapy has prepared practical lab manuals –year wise to meet the requirements as per the norms
- Industrial Visits to engage them in experiential learning while visiting the organization.
- Regular Assignments based on problems
- Case studies Discussion
- Class presentations and Debates
- Participation in Inter college events

Principal
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COLLEGE OF
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II PG PRESENTATION LIST

BATCH 2022-2024

ACADEMIC YEAR- 2023-2024

To,

The Principal,

College of Physiotherapy,

Dayananda Sagar University, Bangalore

Dear Madam,

Subject: Submission of Case Presentations, Seminar and Recent advances presented by the post graduate students in the academic year 2023-2024

I am writing to formally submit the case presentations, seminar reports, and recent advances copies prepared by the second-year postgraduate students of the [Your Department] for the academic year 2023-2024.

As part of their curriculum, the students have diligently worked on these presentations and reports, ensuring they meet the academic standards required by the institution. Enclosed with this letter is the list of students along with their respective topics and submission dates for your kind perusal.

I kindly request you to review and acknowledge the receipt of these documents

Class Coordinator

PG Coordinator

Principal
College of Physiotherapy,
Dayananda Sagar University,
Bangalore, 560078

Sr.	USN	Student	Presentation		
			Seminar	Recent Advances	Case Presentations
1	HSC21MWH001	FOUZIYA BANU	Chronic pelvic pain assessm and management	Recent advances in diastasis recti muscle and pelvic floor muscle training	1)postnatal(normal vaginal delivery) 2)Postnatal(LSCS) 3)Antenatal (1st trimester) 4)PCOS 5)Post-operative (hysterectomy) 6)Post-operative (cervical cancer) 7)Postnatal(LSCS) 8)Postnatal(Viginal delivery) 9)Antenatal (3rd trimester) 10)Antenatal(3rd trimester)
2	HSC22MCB001	HAKIM TANEEM FATIMA ZAFER	1) Physiotherapy in School and Environmental issues in child health 2) Ergonomic Approach to Lifting and Handling Workspace and Environment 3) Preventive and Safety Measures in Industries	Recent Advances in Upper and Lower Limb Orthotics	1) Transradial Amputation 2) COPD 3) Cerebral Palsy 4) DMD 5) Frozen Shoulder 6) PFL Tear 7) Spastic CP 8) Stroke 9) TKR 10) Lumbar Radiculopathy
3	HSC22MCB002	SHREYA SHANBHAG	Work-related musculoskeletal disorders	Community awareness programs	
4	HSC22MCB003	SEEMA SIDDIQUA	1.Community medicine approaches in rehabilitation health delivering models, therapy, intervention on Quality of life 2. theories of aging 3. gait in elderly	1.NGO'S 2.recent advances in assistive technology	1. both bones #-post op 2. Both both ul # post-op rehab 3. si joint dysfunction 4. frozen shoulder 5. Parkinson's disease 6. post-op IT # right 7. 1st MCP # post op 8. ACL # post op 9. TKR post-op 10. OA knee b/l 11. medial epicondylitis 12. MCA -stroke 13. low back pain 14. PFPS
5	HSC22MNS001	C MOHAMMED SHOAIB	Cerebrovascular accidents	Recent advancements in SCI	1. Cervical Radiculopathy 2.Pudendal Nerve entrapment 3. Tension-type headache 4. Polytrauma 5.Cervical Canal Stenosis 6. Inflammatory Myositis 7. Parkinson's disease 8. Medial Epicondylitis
6	HSC22MNS002	CHILIA KAYINA	Basic evaluation tools in Neurology	Recent advancements in foot drop	1. Cerebral Palsy 2. Cervical Spondylitis 3. Hemiplegic CP 4. DMD 5. Erbs Palsy
7	HSC22MNS003	GIRIJA S	Gullen-Barre Syndrome	Recent advancements in multiple sclerosis	1. TKR- right 2. Both bone fracture 3. Stroke 4. Peripheral amyotrophy 5. Moya Moya disease 6. Sensory motor polyneuropathy 7. Right hemiplegia 8. Left ischemic stroke 9. Plantar fascitis 10. Left piriformis syndrome
8	HSC22MNS004	KABOM PADU	Disorders of movements	Recent advancements in CP	1)Axonal type of sensori-motor radiculo neuropathy 2)c1-c7 laminectomy 3) PCA stroke

					4) GBS 5) muscular dystrophy 6)COPD 7)TKR 8) THR 9)L3-L4 Stenosis 10) radial nerve injury
9	HSC22MNS005	PRAGNYA JAHNAVI	Meningitis	Recent advancements in Facial nerve palsy	1. CVA 2. COPD 3. Wilsons disease 4. Mysthenia gravis 5. Decompressive craniectomy 6. Encephalitis
10	HSC22MNS006	SMRITY RAI title of the study - Effectiveness of LSVT BIG and Strength Training on balance, physical activity and risk of fall in elderly population. A Quasi-Experimental Study.	Facilitatory and Inhibitory techniques	Recent advancements in imaging technology in neuro conditions	1. B/L OA knee 2. MCA stroke 3. progressive supranuclear palsy 4. TBI (post-OP) 5. Parkinson's disease 6. right tibial fracture(post OP) 7. right hemiparesis (ischemic stroke) 8. Parkinson's disease 9. TBI (post-OP) 10. CVA
11	HSC22MNS007	SURUCHI	Encephalitis	Recent advancements in autism	1. CVA 2. COPD 3. Wilsons disease 4. Mysthenia gravis 5. Decompressive craniectomy 6. Encephalitis 7. DMD 8. Multiple Sclerosis 9. Copd 10. Viral encephalitis
12	HSC22MNS008	ATTARDE JIDNYASA GOPAL	Reflex Maturation	Recent advancements in vestibular disorder	1. Cerebral Palsy 2. Cervical Spondylitis 3. Hemiplegic CP 4. DMD 5. Erbs Palsy 6. MCA stroke 7. Rt Hemiplegia 8. CP 9. Global Developmental Delay 10. Diplegic CP
13	HSC22MNS009	SYED KAUSAIN PASHA	Development in paediatrics	Recent advancements in brachial plexopathy palsy	11. Cervical Spondylitis 12. Hemiplegic CP 13. DMD 14. Erbs Palsy 15. MCA stroke 16. Rt Hemiplegia
14	HSC22MSS001	AKSHATA B BASTI	Role of Physiotherapy in Overhead Injuries Prevention	Recent advancements in the rehabilitation of Amputation	1Rt Humerus shaft fracture 2Distal radius fracture 3Chondromalacia patella 4 ankle pain 5 Rt neck of femur fracture post op 6 low back pain 7 post op patella fracture 8 post of tibial fracture 9 sciatica 10 post of total knee arthroplasty
15	HSC22MSS002	MAHIMA SOTRA	-	-	-
16	HSC22MSS003	MOUMITA DUTTA ROY	Positional release techniques	Recent advancements in aquatic therapy on pain and function in individuals with fibromyalgia	1. Cerebral Palsy 2. Frozen shoulder 3. Pneumonia 4. COPD 5. Mechanical low back pain 6. IVDP 7. THR 8. Cervical radiculopathy 9. TKR 10. CABG
17	HSC22MSS004	NEMAT JAHAN ARA	Osteopathic and Chiroprac schools of thought	Recent advancements in post-fracture rehabilitation	1.OA Knee 2.Hip arthroplasty 3.plantar fascitis 4.cervical radiculopathy

					5.ACL tear 6.Lumbar radiculopathy 7.Frozen shoulder 8..IT fracture 9.Total knee replacement 10.Bicipital tendinitis
18	HSC22MSS005	NIPAN RABHA	Cyriax school of thought	Efficacy of manual therapy in treating chronic low back pain	1. Hoffa's fat pad syndrome 2. Frozen shoulder 3. ACL rupture 4. PCL rupture 5. Both bone fracture 6. Mechanical low back pain 7. PIVD 8. COPD 9. THR 10. Rotator cuff impingement
19	HSC22MSS006	RAFIKA SIDDIQUI	Muscle Energy Techniques	Recent advances in chronic pain management	1. ACL 2. IVDP 3. PLANTAR FASCIITIS 4. TKR 5. BIMALLEOLAR FRACTURE 6. AVN 7. FROZEN SHOULDER 8. IT FRACTURE 9. TENNIS ELBOW(TENNIS PLAYER) 10. CERVICAL RADICULOPATHY
20	HSC22MSS007	SANCHITA CHATTERJEE	Models of pain and disabili basic molecular biology, an pain deconstruction into pathological mechanisms	Recent advancements in rehabilitation after TKR, implants, and protocols according to the implants	1. IT fracture 2. NOF fracture 3. ACL reconstruction surgery 4. TKR 5. PIVD 6. Both bone fracture 7. Post immobilization stiffness of ankle jt 8. Plantar fasciitis 9. Cervical radiculopathy 10. Mechanical low back pain
21	HSC22MSS008	THOMMANDRA SAI KARTHIK	Oxygen uptake and debt	Recent advancements in ACL tear and physiotherapy protocols	1. Below knee amputation 2. Elbow Stiffness 3. Stroke (MCA) 4. Right Below knee amputation, Left lower limb gangrene 5. Transfemoral amputation 6. Meniscus tear 7. Both bone fracture upper limb 8. Total knee Replacement
22	HSC22MSS009	BANOLE SAYALI PRASHANT	Sports Nutrition	Recent advancements in training for contact and non-contact sports	1. Below knee amputation 2. Elbow Stiffness 3. Stroke (MCA) 4. Right Below knee amputation, Left lower limb gangrene 5. Transfemoral amputation 6. Meniscus tear 7. Both bone fracture upper limb 8. Total knee Replacement 9. PIVD 10. Rotator cuff impingement 11. Rheumatoid Arthritis
23	HSC22MSS010	BHANUSREE C	1.Exercise ECG testing an monitoring 2. Effect of exercise on menstrual and performanc	Recent advancements in Bioengineering	1.TA rupture 2. Pa shoulder 3. Bankart's lesion 4. Patella fracture 5. acl tear 6. Plantar fascitis 7. Shaft of Humerus fracture with bone grafting 8. IT fracture 9. 5th metatarsal fracture 10. Lateral epicondylitis
24	HSC22MSS011	BHAVESH A LULLA	Human energy transfers during exercises	Recent advancements in protocols on sprint	1. badminton injuries 2. stroke 3 ta rupture vesoma 4 ACLR vesoma

				performance in sprinters	5 tennis elbow 6 aclr Cdsimer 7 frozen shoulder 8 plantar fasciitis 9 low backache 10 IT fracture
25	HSC22MSS012	E REDDY SAI	Aerobic and Anaerobic training	Role of sports physiotherapist in concussion management and return to play protocols	1. IT hip fracture 2. Right leg both bone fracture 3. Left clavicle and humerus shaft fracture 4. right femur shaft fracture 5. Right PA Shoulder 6. Hamstring strain in tennis player 7. ankle sprain in badminton player 8. ACL tear post-op rehab in badminton player 9. Lattismus dorsi strain in tennis player 10. Low back pain in volleyball player
26	HSC22MSS013	IRIVICHETTY SAI CHANDANA	Sports performance	Recent advancements in training in ankle sprain, prevention, and rehabilitation	1.Both bone fracture lower limb 2.ACL tear 3.Frozen shoulder 4.Both bone fracture upper limb 5.IT Fracture 6.Trapezitis 7.Tennis elbow 8.Total hip replacement 9.Total knee replacement 10.Lumbar radiculopathy
27	HSC22MSS014	JAISHREE P	Principles of injury prevention, diagnosis treatment. and rehabilitatio	Kinesiotaping technique in the management of Rotator cuff injuries	1 COPD 2 stroke 3 ta rupture 4 aclr vesoma 5 tennis elbow 6 aclr Cdsimer 7 frozen shoulder 8 plantar fasciitis 9 low backache 10 it fracture
28	HSC22MSS015	KUNJAL RAJAN SAMTANI	Sports training for special and vulnerable population	Augmented reality in rehabilitation	1.IVDP 2.ACL rupture 3.Tennis Elbow 4.Frozen shoulder 5.Plantar Fasciitis 6.IT fracture 7.Neck of Femur Fracture 8.Distal end of Radius Fracture 9.Metararsalgia 10. Acl + Pcl + Meniscal injury grade 2 in vesoma in a basketball player
29	HSC22MSS016	MONSAMOHAN T.K	Sports training in children	Recent advancements in wearable technologies in sports physiotherapy	1. Flatfoot 2. ACL 3. LBP 4. Rotator cuff injury 5. Badminton player injury 6. COPD 7. IT fracture 8. CVA 9. Frozen shoulder 10. QL strain

30	HSC22MWH001	POTLAPALLY ANUSHA	Physiotherapy following Gynaecological surgeries		1. Postnatal case(ftnd+rmle) 2. Post op (LSCS) 3. Antenatal case(third trimester) 4. Antenatal case (PCOS) 5. Post op case (myomectomy) 6. Post op(TAH+BSO) 7. Antenatal case (infertility) 8. Postnatal case (vavd+rmle) 9. Post op case (LSCS) 10. Postnatal case (frnd + rmle
31	HSC22MWH002	VARSHA V KUMAR	Early intervention in high-ri infants, Bone Mineral Density in Women, Anatomy of female reproductive system	Recent advances in maternal and foetal responses to exercises on perinatal outcomes	11. Postnatal case(ftnd+rmle) 12. Post op (LSCS) 13. Antenatal case(third trimester) 14. Antenatal case (PCOS) 15. Post op case (myomectomy) 16. Post op(TAH+BSO) 17. Antenatal case (infertility) 18. Postnatal case (vavd+rmle) 19. Post op case (LSCS) 20. Postnatal case (frnd + rmle)

Sr.	USN	Student	Dissertation title	Guide Name
1	HSC21MWH001	FOUZIYA BANU	Clinical validation and correlation of modified self reporting menstrual distress screening questionnaire v menstrual distress questionnaire	Dr Srihari sharma K N
2	HSC22MCB001	HAKIM TANEEM FATIMA ZAFER	EFFECT OF THE BASE CONCEPT, CORE STRENGTHENING AND ERGONOMIC ADVICE ON MECHANICAL LOW BACK PAIN IN MANUFACTURING INDUSTRY WORKERS - A RANDOMIZED CONTROL TRIAL	Dr Sunjyoth H S
3	HSC22MCB002	SHREYA SHANBHAG	Designing an adjustable and compact ergonomic cha for homemakers and development of a prototype	Dr Srihari sharma K N
4	HSC22MCB003	SEEMA SIDDIQUA	Assessment of activity limitation and participation restriction in the elderly population with symptomatic knee OA using the ICF: A Cross Sectional Study.	Dr Srihari sharma K N
5	HSC22MNS001	C MOHAMMED SHOAIB	COMPARISON OF EFFECTS OF CERVICAL SPINE MOBILIZATION AND TEMPOROMANDIBULAR JOINT MOBILIZATION ON PAIN AND FUNCTIONAL IMPROVEMENT IN PEOPLE WITH CERVICOGENIC HEADACHE - A COMPARISON STUDY.	Dr Sunjyoth H S
6	HSC22MNS002	CHILIA KAYINA	Effect of digital detox regime combined with aerobic exercise on digital addiction in young adults- a quasi experimental study	Dr Srihari sharma K N
7	HSC22MNS003	GIRIJA S	COMBINED EFFECTIVENESS ON RESISTANCE TRAINING AND BALANCE TRAINING ON MUSCLE STRENGTH, PHYSICAL PERFORMANCE AND ANKLE STABILITY IN SUBJECTS WITH SARCOPENIA	Dr Sunjyoth H.S
8	HSC22MNS004	KABOM PADU	THE EFFECTIVENESS OF PROGRESSIVE MUSCL RELAXATION TECHNIQUE AMONG SMOKERS WITH ANXIETY AND DEPRESSION-QUASI EXPERIMENTAL TRIAL	Dr Sunjyoth H S
9	HSC22MNS005	PRAGNYA JAHNAVI	Effectiveness of neurobic exercise program on mild-moderate psychological distress in community dwelli old aged adults	Dr Sunjyoth H S
10	HSC22MNS006	SMRITY RAI	Effectiveness of lee silverman voice treatment big an strength training on balance, physical activity and risk of fall in elderly population: a quasi experimental stud	Dr Sunjyoth H S
11	HSC22MNS007	SURUCHI	Effects of retrowalking training on kinesiophobia and cognition in geriatric subjects- quasi experimental study	Dr Sathya Guruprasad
12	HSC22MNS008	ATTARDE JIDNYASA GOPAL	Effectiveness of Shaker Exercise in the treatment of Dysphagic Children with Cerebral Palsy: Randomise Control Trail	Dr Sunjyoth H S
13	HSC22MNS009	SYED KAUSAIN PASHA	Effect of task oriented exercise program on care give burden of children with cerebral palsy	Dr Vinod Kumar K C

14	HSC22MSS001	AKSHATA B BASTI	EFFECT OF ACTIVE RELEASE TECHNIQUE VERSUS POSITIONAL RELEASE THERAPY IN SUBJECTS WITH PIRIFORMIS SYNDROME- A QUASI EXPERIMENTAL STUDY	Dr Vinod Kumar K C
15	HSC22MSS002	MAHIMA SOTRA	Not completed	Dr Vinod Kumar K C
16	HSC22MSS003	MOUMITA DUTTA ROY	Effect of 6-week Dynamic neuromuscular stabilizatio training on pain, disability and quality of life of patient with mechanical low back pain : A Randomised controlled trial	Dr Sathya Guruprasad
17	HSC22MSS004	NEMAT JAHAN ARA	EFFECTIVENESS OF BOTH MUSCLE ENERGY TECHNIQUE (MET) AND KINESIO TAPE VERSUS MUSCLE ENERGY TECHNIQUE (MET) ALONE ON PAIN AND DISABILITY AMONG PATIENTS WITH UPPER CROSS SYNDROME- A COMPARATIVE STUDY.	Dr Vinod Kumar K C
18	HSC22MSS005	NIPAN RABHA	Effect of ankle joint self-mobilization combined with chronic ankle instability rehabilitation training protoco on dynamic balance and severity of functional ankle instability among recreational football players with chronic ankle instability	Dr Vinod Kumar K C
19	HSC22MSS006	RAFIKA SIDDIQUI	Comparing the effectiveness of closed kinetic chain exercise and resistance training exercise on OA knee population with sarcopenia.	Dr Sathya Guruprasad
20	HSC22MSS007	SANCHITA CHATTERJEE	EFFECTIVENESS OF MAITLAND MOBILISATION WITH AND WITHOUT KINESIOTAPING ON PAIN AND UPPER LIMB FUNCTION IN PATIENTS WITH CARPAL TUNNEL SYNDROME – QUASI - EXPERIMENTAL STUDY	Dr Vinod Kumar K C
21	HSC22MSS008	THOMMANDRA SAI KARTHIK	Effectiveness of progressive dynamic balance trainin with and without kinesiotaping on physical function, balance and quality of life in total knee arthroplasty	Dr Vinod Kumar K C
22	HSC22MSS009	BANOLE SAYALI PRASHANT	Effectiveness of Southeast Missouri (SEMO) Agility drill along with Ladder drill exercises versus Zig-Zag drill along with Ladder drill exercises on Agility in Recreational Badminton Players : Randomized Controlled Trial	Dr Sathya Guruprasad
23	HSC22MSS010	BHANUSREE C	Effectiveness of proprioceptive neuromuscular facilitation technique and black burn exercises on typ 1 scapular dyskinesia in recreational badminton players : A non randomised comparative study	Dr Srihari sharma K N
24	HSC22MSS011	BHAVESH A LULLA	EFFECTIVENESS OF WOBBLE BOARD VS UNIAXIAL ROCKER BOARD IN BALANCE TRAININ AND FUNCTIONAL RECOVERY IN PATIENTS WITH SUBACUTE GRADE 2 ANKLE INVERSION SPRAIN	Dr Vinod Kumar K C
25	HSC22MSS012	E REDDY SAI	EFFECT OF INDIAN CLUBBELL & KETTLEBELL SWINGING ON UPPER BODY MUSCLES - A QUASI-EXPERIMENTAL STUDY	Dr Sathya Guruprasad
26	HSC22MSS013	IRIVICHETTY SAI CHANDANA	Effectiveness of myofascial release with kinesiotaping versus myofascial release alone improving flexibility,strength and sprint performance among recreational football playe with hamstring tightness-Randomised controlle trial	Dr Vinod Kumar K C
27	HSC22MSS014	JAISHREE P	ASSESSING THE KNOWLEDGE, ATTITUDE, PERCEPTION, AND PRACTICE ON EFFECTIVENESS OF MENSTRUAL CYCLE HEALT BENEFITS ON FEMALE SPORTS PLAYERS.	Dr Sathya Guruprasad
28	HSC22MSS015	KUNJAL RAJAN SAMTANI	A study on effectiveness of conventional exercises with plyometric training vs conventional exercises among recreational fast bowlers for enhancing bowlin speed and strength- a comparative study	Dr Vinod Kumar K C
29	HSC22MSS016	MONSAMOHAN T.K	EFFECTIVENESS OF AEROBIC STEPPER EXERCISE TRAINING TO ENHANCE	Dr Srihari sharma K N

			SECTIONAL STUDY	
31	HSC22MWH002	VARSHA V KUMAR	ASSESSING THE EFFECTIVENESS OF EDUCATION AND TRAINING REGARDING BREASTFEEDING PRACTICES AMONG PRIMIPAROUS MOTHERS WITH SPECIAL REFERENCE TO ASSESSING KNOWLEDGE, ATTITUDE AND PRACTICES – AN INTERVENTIONAL STUDY.	Dr Srihari sharma K N

29. HSC22MSS016 Monsamohan T.K — Effectiveness of aerobic stepper exercise training to enhance co-ordination and Proprioception in recreational foot ball players - Randomized waitlisted control trial. — Dr. Srihari sharma K N

30. HSC22MWH001 Potlapally Anusha — Assessing the knowledge, Perception and practice among gynaecologists about vaginal dilator therapy as a novel pelvic floor Rehabilitation approach in the management of dyspareunia: A cross sectional Study. — Dr Srihari sharma K N.

CASE PRESENTATION

AKSHATA B BASTI

DEMOGRAPHIC DATA

- NAME - Madhavadhas V
- AGE :- 35years
- GENDER - Male
- ADDRESS :- Harohalli
- OCCUPATION :- Production engineering
- MARITAL STATUS - Married
- HAND DOMINANCE :- Right hand
- DATE OF ADMISSION :- 05-02-2024
- DATE OF EXAMINATION :-08-02-2024

- Chief complaints :- Patient complains of pain and difficulty hand movements the since 2 months.

HISTORY OF PRESENT ILLNESS

Patient was apparently alright 2months back , on 2 -2-24 while playing badminton he slip and fall on his back with his left hand out stretched and wrist extended there was pain and swelling present , there was no history of bleeding and he was conscious ,so he came to CDSIMER by 2wheeler with his friend on same day and here x ray and plaster was done , and patient was adviced to come back on 5-2-24 and got admitted here and on 6-2-24 he underwent open reduction internal fixation with plating and now the patient complaints of pain restrictions in the and movement so now the patient referred for physiotherapy for the same.

Pain history:-

Onset - gradual

Precipitating factor- movements[wrist flexion and extension]

Quality of pain – dull aching

Relieving factor –rest and medication

Site of pain- distal and medial side of left forearm

Temporal variation- nil

NPRS Scale

- On activity:- 6/10
- At rest:-2/10

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Surgical history -Underwent open reduction internal fixation with plating
Medical history -not significant

Personal history - Diet – mixed
Appetite-adequate
Sleep-undisturbed
Bowel & Bladder-regular and independent
Habits-nil

General physical examination patient is 35 years old moderately built ,conscious cooperative well oriented to time place and person

Socioeconomic status -according to modified kuppuswamy scale patient falls under middle upper middle class II

On observation
Posture:-Normal
Gait:- not affected
Swelling : not present
Skin colour:-normal
Scars - present
On palpations
Tenderness - present grade 2
Warmth -present

Examination		
Movements	**Right**	**Left**
shoulder flexion	complete and painfree	complete and painfree
shoulder extension	complete and painfree	complete and painfree
shoulder abduction	complete and painfree	complete and painfree
shoulder adduction	complete and painfree	complete and painfree
Internal rotation	complete and painfree	complete and painfree
External rotation	complete and painfree	complete and painfree

Elbow	**right**	**left**
Elbow flexion	complete and painfree	complete and painfree
Elbow extension	complete and painfree	complete and painfree
Forearm supination	complete and painfree	complete and painfree
Forearm pronation	complete and painfree	complete and painfree
Wrist flexion	complete and painfree	complete and painfree
Wrist extension	complete and painfree	complete and painfree
Ulnar deviation	complete and painfree	complete and painfree
Radial deviation	complete and painfree	complete and painfree

Passive Range of Motion	Right	Left	[Normal range]
Shoulder flexion	170	160	[0-180]
Shoulder extension	55	45	[0-60]
Shoulder adduction	175	170	[0-180]
Shoulder abduction	175	130	[0-180]
Medial rotation	68	55	[0-70]
Lateral rotation	80	65	[0-90]

Active flexion	R/N	L/N	[0-150]
Elbow extension	130	120	[0-150]
Forearm supination	80	45	[0-80]
Forearm pronation	80	45	[0-80]
Wrist flexion	70	30	[0-80]
Wrist extension	80	30	[0-70]
Radial deviation	15	10	[0-20]
Ulnar deviation	25	15	[0-30]

Active range of motion	Right	Left	Passive range of
Shoulder flexion	170	150	[0-180]
Shoulder extension	55	40	[0-60]
Shoulder adduction	175	125	[0-180]
Shoulder abduction	175	125	[0-180]
Medial rotation	58	50	[0-70]
Lateral rotation	80	60	[0-90]

Elbow flexion	130	115	[0-150]
Elbow extension	130	115	[0-150]
Forearm supination	60	40	[0-80]
Forearm pronation	60	40	[0-80]
Wrist flexion	70	24	[0-80]
Wrist extension	60	26	[0-70]
Radial deviation	16	10	[0-20]
Ulnar deviation	25	10	[0-30]

Manual muscle testing(according to MRC grading)	Right	Left
Shoulder flexors	4/5	3/5
Shoulder extensors	4/5	3/5
Shoulder adductors	4/5	3/5
Shoulder abductors	4/5	3/5
Internal rotators	4/5	3/5
External rotators	4/5	3/5

Elbow flexors	4/5	3/5
Elbow extensors	4/5	3/5
Forearm supinators	4/5	3/5
Forearm pronators	4/5	3/5
Wrist flexors	4/5	3/5
Wrist extensors	4/5	3/5

Differential diagnosis:-

Scaphoid fracture

TFCC tear or perforation[triangular fibrocartilage complex]

Radiocarpal ligament injury

galeazzi fracture[fracture to the distal 2/3rd of radius

Slide 17

a1 aksha, 25-06-2023

Problem list :- pain at wrist
wrist movements restriction
reduced grip strength

Investigations :-
X- ray

X ray of left forearm and wrist
Pre operative on 2-2-24

- Pre operative on 5-2-24

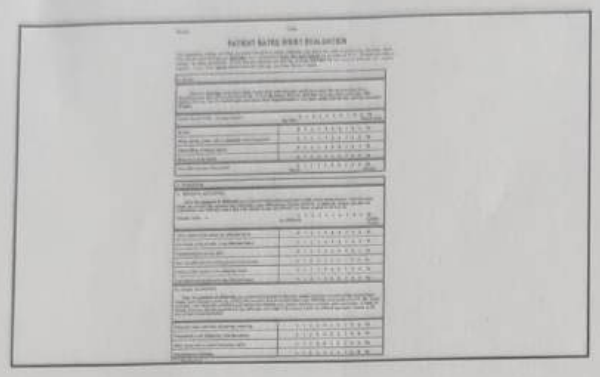
Diagnosis :- Left distal radius fracture

Aims of treatment
- To reduce pain
- Maintain range of motion
- Improve range of motion
- Improve the strength of muscle
- To reduce stiffness
- Back to work

Short term goals
- To decrease pain
- To maintain range of motion
- Managing oedema and finger stiffness

Long term goals
- To increase the range of motion
- To strengthen muscles of elbow and shoulder
- To help for going back to work

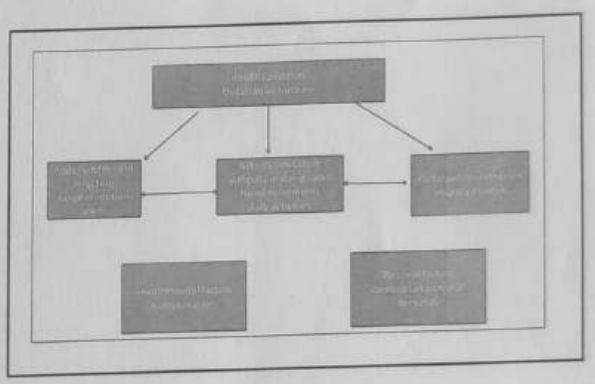
Quick DASH Score	NO DIFFICULTY	MILD DIFFICULTY	MODERATE DIFFICULTY	SEVERE DIFFICULTY	UNABLE
1. Open a tight or new jar	1	2	3	4	5
2. Do heavy household chores (e.g., wash walls, floors)	1	2	3	4	5
3. Carry a shopping bag or briefcase	1	2	3	4	5
4. Wash your back	1	2	3	4	5
5. Use a knife to cut food	1	2	3	4	5
6. Recreational activities in which you take some force or impact through your arm, shoulder or hand (e.g., golf, hammering, tennis, etc.)	1	2	3	4	5
7. During the past week, to what extent has your arm, shoulder or hand problem interfered with your normal social activities, with family, friends, neighbours or groups?	1	2	3	4	5
8. During the past week, were you limited in your work or other regular daily activities as a result of your arm, shoulder or hand problem?	1	2	3	4	5
9. Arm, shoulder or hand pain	1	2	3	4	5
10. Tingling (pins and needles) in your arm, shoulder or hand	1	2	3	4	5
11. During the past week, how much difficulty have you had sleeping because of the pain in your arm, shoulder or hand? (circle number)	1	2	3	4	5



https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8343619/

- Rehabilitation Following Surgically Treated Distal Radius Fractures: Do Immobilization and Physiotherapy Affect the Outcome?

Treatment
Ice pack for pain
Active range of motion for shoulder
Active range of motion for elbow
Active range of motion for wirst
strenthening exercise for elbow
incentric muscle strengthening
Pronator Quadratus muscle strenghtening



NAME OF THE ARTICLE	OBJECTIVE	CONCLUSION
1 Physiotherapy intervention practice patterns used in rehabilitation after distal radial fracture	To identify the type and frequency of interventions used by physiotherapists in rehabilitating patients after a distal radial fracture; and, to examine whether any patient or therapist characteristics had an effect on the frequency of interventions administered.	Exercise and advice were the most frequently administered interventions for patients after a distal radial fracture irrespective of physiotherapist or patient factors. During rehabilitation, these interventions aim to restore wrist mobility and are consistent with both fracture management principles and a self management approach.

NAME OF THE ARTICLE	OBJECTIVE	CONCLUSION
2 Cross-Education for Improving Strength and Mobility After Distal Radius Fractures: A Randomized Controlled Trial	To evaluate the effects of cross-education (contralateral effect of unilateral strength training) during recovery from unilateral distal radius fractures on muscle strength, range of motion (ROM), and function.	Strength training for the nonfractured limb after a distal radius fracture was associated with improved strength and ROM in the fractured limb at 12 weeks postfracture. These results have important implications for rehabilitation strategies after unilateral injuries.

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4

2.3.1 Student centric methods, such as experiential learning, participative learning & problem solving methodologies are used for enhancing their learning experiences

S.No	Subject Name	Semester	Student Centric Methods
1.	21AM3612 / - Advanced Data Science	V	Assignments, Group Presentation
2	21AM3607 / Machine Learning for Healthcare	VI	Experiential / Research Assignments

CHAIRPERSON
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(Artificial Intelligence and Machine Learning)
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Karnataka
04/09/2023

SCHOOL OF
ENGINEERING

VI Semester B. Tech Mid Semester Examination – I

21AM3612 - ADVANCED DATA SCIENCE

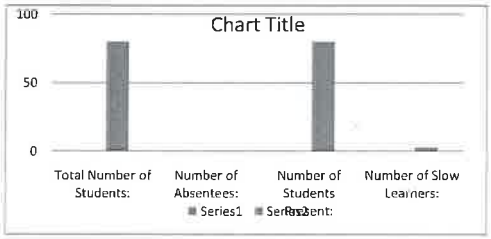
Date: : 20/03/2024Time: 9:30 am to 10:45 am

Department: AIML

		Mapped PO	PO1	PO1	PO1	PO1	PO1, PO2	PO1, PO2	PO1,PO 2	PO1,PO 2	
		Mapped CO	CO1	CO1	CO1	CO1	CO2	CO2	CO2	CO2	
		Mapped BTL	L2	L3	L2	L4	L2	L3	L2	L5	
		Maximum Marks	5M	5M	4M	6M	5M	5M	5M	5M	40M
#	USN	Name	Q1.a	Q1.b	Q2.a	Q2.b	Q3.a	Q3.b	Q4.a	Q4.b	Total
1	ENG21AM0004	AKSHATH VIJAY KUMAR	5	5	4	3.5	4	3.5	4.5	3.5	33
2	ENG21AM0005	ALISHA ALIAS	5	5	4	5	5	5	5	5	39
3	ENG21AM0006	AMARJYOTI PANDA	5	4.5	4	5	5	5	5	5	38.5
4	ENG21AM0009	ANEESH BHARANI P MITTADAR	5	2.5	3	2	0	0	0	0	12.5
5	ENG21AM0010	ANIRUDH SAJITH	5	5	4	5	2	5	4	5	35
6	ENG21AM0011	ANUJ DWIVEDI	5	5	3.5	4.5	5	5	5	5	38
7	ENG21AM0014	ATHARVA NILESH TALELE	4	1	1	5	0	0	0	3	14
8	ENG21AM0015	AYUSH AGRAWAL	5	5	4	4	5	5	5	5	38
9	ENG21AM0016	BHARAT A KARIGOUDAR	5	4	4	3.5	5	4.5	4	0	30
10	ENG21AM0017	BHAVYA SHARMA	4	4	3	4.5	3	5	4	5	32.5
11	ENG21AM0019	BODDU BHARATH SIVA SAI	5	5	4	5.5	5	5	5	2	36.5
12	ENG21AM0021	CHALLA JAYA KARTHIK	5	4.5	4	3	5	5	5	5	36.5
13	ENG21AM0022	CHANDAN DINESH NERALGI	4.5	3.5	4	1	5	5	3.5	5	31.5
14	ENG21AM0025	CHINTHAKAYALA YOGESWARA SAI	5	4	4	4	5	5	5	5	37
15	ENG21AM0026	CHIRAG ANIL	5	4	3.5	0	5	5	4	5	31.5
16	ENG21AM0027	CHIRANTH SHRI HARI	5	5	4	3.5	4	5	0	5	31.5
17	ENG21AM0028	DARSHAN ANAND	5	4.5	4	4.5	5	5	5	4	37
18	ENG21AM0029	DEEPANSHI MISHRA	5	5	4	5	5	5	5	5	39
19	ENG21AM0033	DIKSHA SINHA	5	4	4	5	5	5	5	4	37
20	ENG21AM0036	ELURI NAGA YASWANTH KUMAR	5	3	4	3	5	5	5	3.5	33.5
21	ENG21AM0037	G NANDHA KUMAR	5	2	4	3	4	5	0	0	23
22	ENG21AM0038	G MOWLISH	5	5	4	5	5	5	5	2	36
23	ENG21AM0040	GANGOTHRI R	5	3	4	6	4	5	5	5	37
24	ENG21AM0041	GAURAV NARASIMHA MURTHY	5	1.5	3.5	0	4	5	4	2.5	25.5
25	ENG21AM0042	GOPAL KATTIMANI	4	3.5	4	5	2.5	4.5	5	4	32.5
26	ENG21AM0043	GOWTHAM S	5	4.5	4	3	4	4.5	5	0	30
27	ENG21AM0044	GRISHMA REDDY ALLA	2.5	2	4.5	3	4	5	1.5	0	22.5
28	ENG21AM0045	GURRAM NAVITHA	5	4	4	4.5	5	4	4	1	31.5
29	ENG21AM0046	HARSH MANALEL	5	5	4	6	5	5	4	5	39
30	ENG21AM0048	HARSHITH PATEL B V	5	5	4	6	5	5	5	5	40
31	ENG21AM0049	HARSHITHA NC GOWDA	2.5	5	4	2	5	5	3.5	5	32
32	ENG21AM0053	K NAGESHWARI DURGA	5	5	4	4.5	5	5	5	5	38.5
33	ENG21AM0054	KARAN A	3.5	5	4	2	5	3	5	1	28.5
34	ENG21AM0056	KESHAV SAIRAM	5	5	4	4.5	5	5	5	5	38.5
35	ENG21AM0058	KOLISETTY DHANUSH GURU PAVAN	5	5	3	1.5	2	0	0.5	0	17
36	ENG21AM0059	KOUSHIK B M	5	5	3	4.5	5	5	5	2.5	35
37	ENG21AM0060	KUNJAN KUMAR SINGH	5	5	4	5	5	5	5	5	39
38	ENG21AM0062	L C TARUN	5	3.5	3	3	3	4	5	4.5	31
39	ENG21AM0068	M SHANKAR	5	4.5	4	4	5	4.5	5	5	37
40	ENG21AM0069	MALIPEDDA KARTHIK SAI	3.5	0	4	2	0	0	0	0	9.5
41	ENG21AM0070	MATAM MAHESH	5	5	4	4.5	5	5	3.5	5	37
42	ENG21AM0075	MOHITH N	5	5	4	3.5	5	4.5	5	5	37
43	ENG21AM0078	NARAYAN KULSHRESTHA	5	5	3	1	5	5	5	5	34

44	ENG21AM0081	NITISHA S	5	5	4	5	5	5	5	5	39
45	ENG21AM0082	OJJALA SOWMYANATH SHARMA	4.5	5	4	3	5	5	3	2.5	32
46	ENG21AM0085	POORNIMA M NERALE	5	4	4	5	5	5	5	5	38
47	ENG21AM0087	PRAJWAL	5	5	4	2	5	5	5	1.5	32.5
48	ENG21AM0091	RAGHAVENDRA R	5	5	4	6	5	5	0	3.5	33.5
49	ENG21AM0092	RAKSHITH S	5	5	4	5.5	5	5	5	0.5	35
50	ENG21AM0094	REDDIMALLI HEMANTHKUMAR REDDY	5	5	4	2	5	4.5	4	1	30.5
51	ENG21AM0095	RISHITHA KATTIPALLEM	5	5	3	3	2	5	3.5	0	26.5
52	ENG21AM0096	RITUL BHOJ	4	0	3	2	5	1.5	1	0	16.5
53	ENG21AM0097	ROHAN JOHN VARGHESE	5	5	4	4.5	5	5	4	0	32.5
54	ENG21AM0101	RUPAM SINGH	5	5	4	4	5	5	3.5	5	36.5
55	ENG21AM0103	S SHREYAS	5	4.5	4	3.5	5	5	5	5	37
56	ENG21AM0104	SAGAR U	5	5	4	4.5	5	5	4.5	5	38
57	ENG21AM0106	SAI SRI HARSHA REDDY K	5	4.5	3.5	4.5	5	5	2	4	33.5
58	ENG21AM0107	SAKSHI ARCHANA	5	5	4	6	5	4.5	5	5	39.5
59	ENG21AM0108	SANDA REDDY SAI CHANDAN	2	5	4	4.5	5	5	5	5	35.5
60	ENG21AM0109	SANJAY KUMARAN	5	2	4	3	5	5	1	5	30
61	ENG21AM0112	SAYLI PANKAJ BANDE	5	5	4	6	5	5	5	5	40
62	ENG21AM0115	SHREE AARTHE P	4.5	5	4	4.5	5	5	5	5	38
63	ENG21AM0116	SHREERAMA D S	5	5	4	5	5	5	5	5	39
64	ENG21AM0117	SHRIYANS SHRINIWAS ARKAL	5	5	4	5.5	5	5	5	5	39.5
65	ENG21AM0119	SHRUSTI VEERABASAYYA GOUDAR	5	5	4	6	5	5	5	5	40
66	ENG21AM0120	SHRUTI NIGAM	5	5	4	4	5	5	5	5	38
67	ENG21AM0121	VINAY R	5	5	4	5	5	5	5	5	39
68	ENG22AM3005	SRI BHARATH SHARMA PERALA	5	5	4	5.5	5	5	5	5	39.5
69	ENG22AM3011	TENZIN LHUDUP BHUTIA	4.5	5	4	5.5	5	5	5	5	39
70	ENG22AM3013	VAIBHAV RANJAN	5	5	3	3.5	5	5	5	5	36.5
71	ENG22AM3014	VARUN KUTTAPPA	5	5	3	3.5	5	5	4.5	5	36
72	ENG22AM3015	VENKAT B S	5	5	4	4	5	5	3.5	4	35.5
73	ENG22AM3016	VIJAY S	5	5	4	4	5	5	5	5	38
74	ENG22AM3017	VISHAL V	5	0	4	2.5	0	5	2	0	18.5
75	ENG22AM3018	VISHAL VIJAY	5	5	3	5	4.5	5	5	5	37.5
76	ENG22AM3019	Y CHAITANYA SHIVA SRINIVAS	5	5	4	6	5	5	5	5	40
77	ENG22AM3020	G YOGESH YADAV	5	5	2.5	5.5	5	5	4.5	1	33.5
78	ENG22AM3021	YUDHAJIT JANA	5	5	3.5	6	5	5	5	5	39.5
79	ENG22AM3023	THALLAKA DINESH KUMAR REDDY	5	5	4	6	5	5	5	1.5	36.5
80	ENG20AM0020	DHANUSH S	5	5	3.5	5	3	4.5	1	0	27

Total Number of Students:	80
Number of Absentees:	0
Number of Students Present:	80
Number of Slow Learners:	3



SCHOOL OF
ENGINEERING

V Semester B. Tech Mid Semester Examination – I

21AM3612 - ADVANCED DATA SCIENCE

Date: : 24/04/2024Time: 9:30 am to 10:45 am

Department: AIML

		Mapped PO	PO1, PO2,PO 9,PO10	PO1, PO2,PO 9,PO10	PO1, PO2,PO 9,PO10	PO1, PO2,PO 9,PO10	PO1, PO2,PO 9,PO10	PO1, PO2,PO 9,PO10	PO1,PO 5	PO1,PO 5	
		Mapped CO	CO2	CO2	CO2	CO3	CO3	CO3	CO4	CO4	
		Mapped BTL	L2	L3	L4	L3	L5	L4	L6	L3	
		Maximum Marks	5M	5M	5M	5M	5M	5M	5M	5M	40M
#	USN	Name	Q1.a	Q1.b	Q2.a	Q2.b	Q3.a	Q3.b	Q4.a	Q4.b	Total
1	ENG21AM0004	AKSHATH VIJAY KUMAR	5	1	3.5	5	5	5	6	4	34.5
2	ENG21AM0005	ALISHA ALIAS	6	4	5	5	5	5	6	4	40
3	ENG21AM0006	AMARJYOTI PANDA	6	4	3.5	5	5	4.5	6	4	38
4	ENG21AM0009	ANEESH BHARANI P MITTADAR	2	4	3	0	3	3	4.5	3.5	23
5	ENG21AM0010	ANIRUDH SAJITH	5	4	5	5	5	2	6	3.5	35.5
6	ENG21AM0011	ANUJ DWIVEDI	5.5	4	5	5	5	3.5	5	3	36
7	ENG21AM0014	ATHARVA NILESH TALELE	3	2	2	1.5	5	1.5	3	3	21
8	ENG21AM0015	AYUSH AGRAWAL	5	4	5	5	4	5	6	3.5	37.5
9	ENG21AM0016	BHARAT A KARIGOUDAR	4	4	4	3.5	4	5	6	3.5	34
10	ENG21AM0017	BHAVYA SHARMA	5.5	3	3.5	4.5	5	3.5	4	4	33
11	ENG21AM0019	BODDU BHARATH SIVA SAI	5	4	3.5	5	5	4.5	6	4	37
12	ENG21AM0021	CHALLA JAYA KARTHIK	6	4	5	5	5	5	5	4	39
13	ENG21AM0022	CHANDAN DINESH NERALGI	6	4	5	5	5	5	6	3.5	39.5
14	ENG21AM0025	CHINTHAKAYALA YOGESWARA SAI	5	4	5	5	5	5	5	4	38
15	ENG21AM0026	CHIRAG ANIL	4	4	3.5	5	5	3	4	4	32.5
16	ENG21AM0027	CHIRANTH SHRI HARI	5.5	3	5	5	5	5	3	4	35.5
17	ENG21AM0028	DARSHAN ANAND	5	1	4	3.5	5	5	6	4	33.5
18	ENG21AM0029	DEEPANSHI MISHRA	6	4	5	5	5	5	6	4	40
19	ENG21AM0033	DIKSHA SINHA	5.5	4	3	5	5	5	6	4	37.5
20	ENG21AM0036	ELURI NAGA YASWANTH KUMAR	5	4	3.5	5	5	5	5	4	36.5
21	ENG21AM0037	G NANDHA KUMAR	4.5	4	3.5	4	5	5	4.5	4	34.5
22	ENG21AM0038	G MOWLISH	6	4	5	5	5	3	2.5	4	34.5
23	ENG21AM0040	GANGOTHRI R	6	3.5	5	4	4	3	2.5	4	32
24	ENG21AM0041	GAURAV NARASIMHA MURTHY	5.5	4	3.5	5	5	4.5	5.5	4	37
25	ENG21AM0042	GOPAL KATTIMANI	5	4	3.5	5	5	5	6	4	37.5
26	ENG21AM0043	GOWTHAM S	5.5	4	3.5	5	5	3	4.5	4	34.5
27	ENG21AM0044	GRISHMA REDDY ALLA	4	4	3.5	4.5	4	1	5	3.5	29.5
28	ENG21AM0045	GURRAM NAVITHA	6	4	5	4.5	5	4.5	4	4	37
29	ENG21AM0046	HARSH MANALEL	5.5	4	5	5	5	5	5	4	38.5
30	ENG21AM0048	HARSHITH PATEL B V	5.5	4	5	5	5	5	5.5	4	39
31	ENG21AM0049	HARSHITHA NC GOWDA	6	4	5	5	5	5	3.5	4	37.5
32	ENG21AM0053	K NAGESHWARI DURGA	3.5	4	3.5	5	5	3.5	5	4	33.5
33	ENG21AM0054	KARAN A	5	1	5	0	5	5	5	4	30
34	ENG21AM0056	KESHAV SAIRAM	6	4	3.5	5	5	4	5	4	36.5
35	ENG21AM0058	KOLISETTY DHANUSH GURU PAVAN	5	4	3.5	5	5	5	4	3	34.5
36	ENG21AM0059	KOUSHIK B M	6	4	5	5	5	5	4.5	4	38.5
37	ENG21AM0060	KUNJAN KUMAR SINGH	6	3	5	5	5	5	4.5	4	37.5
38	ENG21AM0062	L C TARUN	4	1	2.5	5	5	5	6	3	31.5
39	ENG21AM0068	M SHANKAR	4	4	5	5	5	5	6	4	38

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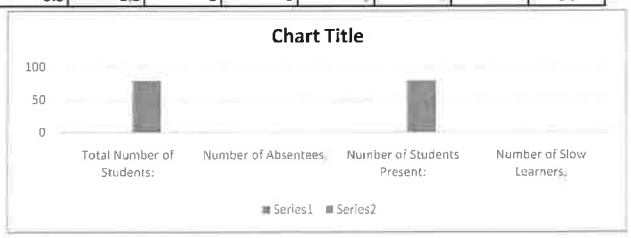
40	ENG21AM0069	MALIPEDDA KARTHIK SAI	3.5	0	0	0	5	4	4	3	19.5
41	ENG21AM0070	MATAM MAHESH	6	4	5	5	5	3	5	4	37
42	ENG21AM0075	MOHITH N	6	3	4	5	5	5	4.5	4	36.5
43	ENG21AM0078	NARAYAN KULSHRESTHA	4	4	3	0	5	5	6	4	31
44	ENG21AM0081	NITISHA S	5	4	5	5	5	5	5	4	38
45	ENG21AM0082	OJJALA SOWMYANATH SHARMA	4.5	4	3.5	5	5	3	4	4	33
46	ENG21AM0085	POORNIMA M NERALE	5	4	3.5	5	5	5	4.5	4	36
47	ENG21AM0087	PRAJWAL	5.5	4	3.5	5	5	4.5	4.5	4	36
48	ENG21AM0091	RAGHAVENDRA R	5.5	4	5	4.5	5	3	6	3	36
49	ENG21AM0092	RAKSHITH S	5	4	4	1	5	5	4.5	4	32.5
50	ENG21AM0094	REDDIMALLI HEMANTHKUMAR REDDY	5	4	3.5	5	5	5	6	4	37.5
51	ENG21AM0095	RISHITHA KATTIPALLEM	5.5	4	3.5	5	5	5	5.5	4	37.5
52	ENG21AM0096	RITUL BHOJ	4.5	4	2.5	5	5	5	4	4	34
53	ENG21AM0097	ROHAN JOHN VARGHESE	5.5	4	3.5	5	5	5	5	4	37
54	ENG21AM0101	RUPAM SINGH	5.5	4	5	5	5	5	6	4	39.5
55	ENG21AM0103	S SHREYAS	3	4	3.5	5	5	4	4	3.5	32
56	ENG21AM0104	SAGAR U	4.5	4	3.5	5	5	5	5	4	36
57	ENG21AM0106	SAI SRI HARSHA REDDY K	5	4	3.5	1	5	5	4.5	4	32
58	ENG21AM0107	SAKSHI ARCHANA	6	4	5	5	5	5	6	4	40
59	ENG21AM0108	SANDA REDDY SAI CHANDAN	5.5	4	3.5	5	5	5	4.5	3.5	36
60	ENG21AM0109	SANJAY KUMARAN	2.5	0	2	2	5	5	4.5	3	24
61	ENG21AM0112	SAYLI PANKAJ BANDE	6	4	3.5	5	5	5	6	4	38.5
62	ENG21AM0115	SHREE AARTHE P	6	4	5	5	5	5	6	4	40
63	ENG21AM0116	SHREERAMA D S	6	4	5	5	5	5	4.5	4	38.5
64	ENG21AM0117	SHRIYANS SHRINIWAS ARKAL	5	4	5	5	5	5	6	4	39
65	ENG21AM0119	SHRUSTI VEERABASAYYA GOUDAR	6	4	5	5	5	5	6	3.5	39.5
66	ENG21AM0120	SHRUTI NIGAM	6	4	4	5	5	5	6	4	39
67	ENG21AM0121	VINAY R	6	4	5	5	5	5	6	4	40
68	ENG22AM3005	SRI BHARATH SHARMA PERALA	4.5	4	5	5	5	5	6	4	38.5
69	ENG22AM3011	TENZIN LHUDUP BHUTIA	5	4	3.5	5	5	5	6	4	37.5
70	ENG22AM3013	VAIBHAV RANJAN	5	4	3.5	5	5	5	4.5	4	36
71	ENG22AM3014	VARUN KUTTAPPA	5	4	3	5	5	5	4.5	4	35.5
72	ENG22AM3015	VENKAT B S	3.5	4	3.5	5	5	3	5	4	33
73	ENG22AM3016	VIJAY S	6	4	5	5	5	5	6	4	40
74	ENG22AM3017	VISHAL V	5.5	4	2.5	5	5	5	6	4	37
75	ENG22AM3018	VISHAL VIJAY	4.5	4	5	5	5	3	4.5	4	35
76	ENG22AM3019	Y CHAITANYA SHIVA SRINIVAS	6	4	5	5	5	5	6	4	40
77	ENG22AM3020	G YOGESH YADAV	4	4	3.5	5	5	5	6	4	36.5
78	ENG22AM3021	YUDHAJIT JANA	5	4	5	5	5	5	6	4	39
79	ENG22AM3023	THALLAKA DINESH KUMAR REDDY	4.5	5	4	5	5	5	6	4	38.5
80	ENG20AM0020	DHANUSH S	4	3.5	3.5	5	5	5	6	4	36

Total Number of Students:	80
Number of Absentees:	0
Number of Students Present:	80
Number of Slow Learners:	0



#	USN	Name	ASSIGNMENT 1	ASSIGNMENT 2	SEMINAR	TOTAL	MSE MARKS	TOTAL COMPONENTS(60 M)	
1	ENG21AM0004	AKSHATH VIJAY KUMAR	5	5	10	20	34	54	
2	ENG21AM0005	ALISHA ALIAS	5	5	10	20	39.5	59.5	
3	ENG21AM0006	AMARJYOTI PANDA	5	5	10	20	38	58	
4	ENG21AM0009	ANEESH BHARANI P MITTADAR		5	10	15	18	33	
5	ENG21AM0010	ANIRUDH SAJITH	5	5	10	20	35	55	
6	ENG21AM0014	ATHARVA NILESH TALELE	5	5	10	20	18	38	
7	ENG21AM0015	AYUSH AGRAWAL	5	5	10	20	38	58	
8	ENG21AM0016	BHARAT A KARIGOUDAR	5	5	10	20	32	52	
9	ENG21AM0017	BHAVYA SHARMA		5		5		5	
10	ENG21AM0019	BODDU BHARATH SIVA SAI	5	5	10	20	37	57	
11	ENG21AM0021	CHALLA JAYA KARTHIK	5	5	10	20	38	58	
12	ENG21AM0022	CHANDAN DINESH NERALGI	5	5	10	20	36	56	
13	ENG21AM0025	CHINTHAKAYALA YOGESWARA SAI	5	5	10	20	37.5	57.5	
14	ENG21AM0026	CHIRAG ANIL	5	5	10	20	32	52	
15	ENG21AM0027	CHIRANTH SHRI HARI	5	5	10	20	33.5	53.5	
16	ENG21AM0028	DARSHAN ANAND	5	5	10	20	35	55	
17	ENG21AM0029	DEEPANSHI MISHRA	5	5	10	20	39.5	59.5	
18	ENG21AM0033	DIKSHA SINHA	5	5	10	20	37	57	
19	ENG21AM0036	ELURI NAGA YASWANTH KUMAR	5	5	10	20	35	55	
20	ENG21AM0037	G NANDHA KUMAR	5	5	10	20	29	49	
21	ENG21AM0038	G MOWLISH	5	5	10	20	35	55	
22	ENG21AM0040	GANGOTHRI R	5	5	10	20	34.5	54.5	
23	ENG21AM0041	GAURAV NARASIMHA MURTHY	5	5	10	20	31	51	
24	ENG21AM0042	GOPAL KATTIMANI	5	5	10	20	35	55	
25	ENG21AM0043	GOWTHAM S	5	5	10	20	32	52	
26	ENG21AM0044	GRISHMA REDDY ALLA	5	5	10	20	26	46	
27	ENG21AM0045	GURRAM NAVITHA	5	5	10	20	34	54	
28	ENG21AM0046	HARSH MANALEL	5	5	10	20	39	59	
29	ENG21AM0048	HARSHITH PATEL B V	5	5	10	20	39.5	59.5	
30	ENG21AM0049	HARSHITHA NC GOWDA	5	5	10	20	35	55	
31	ENG21AM0053	K NAGESHWARI DURGA	5	5	10	20	36	56	
32	ENG21AM0054	KARAN A	5	5	10	20	29	49	
33	ENG21AM0056	KESHAV SAIRAM	5	5	10	20	37.5	57.5	
34	ENG21AM0058	KOLISETTY DHANUSH GURU PAVAN	5	5	10	20	26	46	
35	ENG21AM0059	KOUSHIK B M	5	5	10	20	37	57	
36	ENG21AM0060	KUNJAN KUMAR SINGH	5	5	10	20	38	58	
37	ENG21AM0062	L C TARUN	5	5	10	20	31	51	
38	ENG21AM0068	M SHANKAR	5	5	10	20	38	58	
39	ENG21AM0069	MALIPEDDA KARTHIK SAI	5			5	14.5	19.5	
40	ENG21AM0070	MATAM MAHESH	5	5	10	20	37	57	
41	ENG21AM0075	MOHITH N	5	5	10	20	37	57	
42	ENG21AM0078	NARAYAN KULSHRESTHA	5	5	10	20		20	
43	ENG21AM0081	NITISHA S	5	5	10	20	38.5	58.5	
44	ENG21AM0082	OJJALA SOWMYANATH SHARMA	5	5	10	20	32.5	52.5	
45	ENG21AM0085	POORNIMA M NERALE	5	5	10	20	37	57	
46	ENG21AM0087	PRAJWAL	5	5	10	20	34	54	
47	ENG21AM0091	RAGHAVENDRA R	5	5	10	20		20	
48	ENG21AM0092	RAKSHITH S	5	5	10	20	34	54	
49	ENG21AM0094	REDDIMALLI HEMANTHKUMAR REDDY	5	5	10	20	34	54	
50	ENG21AM0095	RISHITHA KATTIPALLEM	5	5	10	20	32	52	

51	ENG21AM0096	RITUL BHOJ	5	5	10	20	25	45
52	ENG21AM0097	ROHAN JOHN VARGHESE	5	5	10	20	35	55
53	ENG21AM0101	RUPAM SINGH	5	5	10	20	38	58
54	ENG21AM0103	S SHREYAS	5	5	10	20	34.5	54.5
55	ENG21AM0104	SAGAR U	5	5	10	20	37	57
56	ENG21AM0106	SAI SRI HARSHA REDDY K	5	5	10	20	33	53
57	ENG21AM0107	SAKSHI ARCHANA	5	5	10	20	40	60
58	ENG21AM0108	SANDA REDDY SAI CHANDAN	5	5	10	20	36	56
59	ENG21AM0109	SANJAY KUMARAN	5	5	10	20	27	47
60	ENG21AM0112	SAYLI PANKAJ BANDE	5	5	10	20	39	59
61	ENG21AM0115	SHREE AARTHE P	5	5	10	20	39	59
62	ENG21AM0116	SHREERAMA D S	5	5	10	20	39	59
63	ENG21AM0117	SHRIYANS SHRINIWAS ARKAL	5	5	10	20	39	59
64	ENG21AM0119	SHRUSTI VEERABASAYYA GOUDAR	5	5	10	20	40	60
65	ENG21AM0120	SHRUTI NIGAM	5	5	10	20	38.5	58.5
66	ENG21AM0121	VINAY R	5	5	10	20	39.5	59.5
67	ENG22AM3005	SRI BHARATH SHARMA PERALA	5	5	10	20	39	59
68	ENG22AM3011	TENZIN LHUDUP BHUTIA	5	5	10	20	38	58
69	ENG22AM3013	VAIBHAV RANJAN	5	5	10	20	36	56
70	ENG22AM3014	VARUN KUTTAPPA	5	5	10	20	36	56
71	ENG22AM3015	VENKAT B S	5	5	10	20	34	54
72	ENG22AM3016	VIJAY S	5	5	10	20	39	59
73	ENG22AM3017	VISHAL V	5	5	10	20	28	48
74	ENG22AM3018	VISHAL VIJAY	5	5	10	20	36	56
75	ENG22AM3019	Y CHAITANYA SHIVA SRINIVAS	5	5	10	20	40	60
76	ENG22AM3020	G YOGESH YADAV	5	5	10	20	35	55
77	ENG22AM3021	YUDHAJIT JANA	5	5	10	20	39	59
78	ENG22AM3023	THALLAKA DINESH KUMAR REDDY	5	5	10	20	37.5	57.5
79	ENG20AM0020	DHANUSH S	5	5	10	20	31.5	51.5

GROUP PRESENTATION

Objective

The primary objective of incorporating student group activities in the data science subject is to enhance collaborative learning, foster problem-solving skills, and encourage hands-on experience with real-world data science tools and techniques. These activities aim to bridge the gap between theoretical knowledge and practical applications, allowing students to work collectively on data-driven challenges and build their proficiency in data analysis, visualization, and model development.

Summary

Student group activities in the data science curriculum are designed to improve learning outcomes by promoting active engagement and teamwork. These activities typically involve tasks such as data cleaning, exploratory data analysis, feature engineering, and the development of predictive models using programming languages like Python or R. Students work collaboratively on projects that simulate real-world scenarios, such as analyzing datasets to extract meaningful insights, building machine learning models, or developing dashboards for data visualization.

Through these activities, students not only enhance their technical skills but also develop critical soft skills like communication, collaboration, and project management. The group setting fosters peer-to-peer learning, where students can share diverse perspectives and approaches to problem-solving. Overall, these activities prepare students to tackle complex, interdisciplinary problems in data science and equip them with the confidence and competence needed for professional success in the field.

SCHOOL OF ENGINEERING

Dayananda Sagar University

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
(Artificial Intelligence & Machine Learning)

Course Name: MachineLearning for Healthcare**Course Code:**21AM3607

Faculty Name: Dr. Vinutha N

Rubrics for MLHC Assignment 2

Assignment 2 - Write a Technical/Research Paper related to Healthcare using Machine Learning/Deep Learning/Natural Language Modeling Technique – 10 M

	Good (4/2M)	Average (2/1M)	Poor (0M)
4M Detailed Explanation/ Implementation of XAI technique on Healthcare Data	Detailed Explanation/ Implementation of XAI technique on healthcare data	Explanation/ Implementation of XAI technique on healthcare data	No properExplanation/ Implementation of XAI technique on healthcare data
2M Graphical Results /Interpretation	Graphical Results /Interpretation are well explained	Graphical Results /Interpretation are explained	Graphical Results /Interpretation are not explained
4M Technical Paper/Research Paper	Good Technical Paper/Research Paper	Average Technical Paper/Research Paper	Poor Technical Paper/Research Paper

SCHOOL OF ENGINEERING

Dayananda Sagar University
School of Engineering
Kudlu Gate, Hosur Road, Bengaluru 560068
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

Team no	Topic	Name	USN	Knowledge and understanding (2M)	Explainable AI (XAI) in healthcare (4M)	Python Code of XAI technique on Healthcare Data and Graphical Output (4M)	Marks
1	Interpretable AI in Clinical Practice: Empowering Healthcare Professionals with SHAP and LIME	Sayli Pankaj Bande	ENG21AM0112	2	4	4	10
		Yudhajit Jana	ENG22AM3021	2	4	4	10
		Shrusti Veerabasayya Goudar	ENG21AM0119	2	4	4	10
		Sayam Runawal	ENG21AM0111	2	4	4	10
2	Exploring Explainable AI Concepts in Healthcare	LAKSHMIPATHI CHETHAN REDDY	ENG21AM0063	2	4	4	10
3	Incorporating XAI with Deep Learning Techniques	Dhanya sv	ENG21AM0032	2	4	4	10
		Nitisha S	ENG21AM0081	2	4	4	10
		Poornima	ENG21AM0085	2	4	4	10
		Harshith patel B V	ENG21AM0048	2	4	4	10
4	STROKE DETECTION USING XG BOOST	BHOOMIKA S MURTHY	ENG21AM0018	2	4	4	10
		LAVANYA d	ENG21AM0065	2	4	4	10
		Kusha s	ENG22AM1003	2	4	4	10
5	APPLICATIONS OF EXPLAINABLE ARTIFICIAL INTELLIGENCE IN MACHINE LEARNING FOR HEALTHCARE	Rohan John Varghese	ENG21AM0097	2	4	4	10
		Mohammed Zufishan	ENG21AM0074	2	4	4	10
		Tarun Reddy.R	ENG22AM3009	2	4	4	10
		Vishal Vijay	ENG22AM3018	2	4	4	10
6	Explainable AI concepts in Healthcare	Sindhuja S	ENG22AM3018	2	4	4	10
		Shree Aarthe	ENG21AM0115	2	4	4	10
		Vishal V	ENG22AM3017	2	4	4	10
7	Explainable AI used in the field of health care	Bhargav Vinay N	ENG20AM0016	2	4	4	10
		Dhanush S	ENG20AM0020	2	4	4	10
8	Thoughts on the Application of SHAP (SHapley Additive exPlanations) in Medical Machine Learning	Dinakar Nayak N	ENG21AM0034	2	4	4	10
		Gangothri R	ENG21AM0040	2	4	4	10
		Gurram Navitha	ENG21AM0045	2	4	4	10
		Chethan F K	ENG21AM0023	2	4	4	10
9	XAI IN HEALTHCARE	Divith B S	ENG21AM0035	2	4	4	10
		Harsh Manalel	ENG21AM0046	2	4	4	10
		Ashish Patil	ENG21AM0013	2	4	4	10
10	diabetes prediction	Mithesh C	ENG21AM0072	2	4	4	10
		MOKSHITHA M	ENG21AM0076	2	4	4	10
		PRADEEP K	ENG21AM0086	2	4	4	10
		RUCHITHA GOWDA S	ENG21AM0100	2	4	4	10
11	diabetes prediction using random forest (SHAP)	misala manjunath reddy	ENG21AM0071	2	4	4	10
		nithin kumar reddy	ENG21AM0080	2	4	4	10
		shankar m	ENG21AM0068	2	4	4	10
		Challa Jaya Karthik	ENG21AM0021	2	4	4	10
12	Explainable AI used in the field of health care	Palakondu Sreiya	ENG21AM0084	2	4	4	10
		Palakondu Bhavani	ENG21AM0083	2	4	4	10
13	MACHINE LEARNING IN HEALTH CARE	Amridasri Madhanraj	ENG21AM0008	2	4	4	10
		Sai Bhavya sree	ENG21AM0105	2	4	4	10
		Patrick Rozario	ENG21AM0066	2	4	4	10
		Juvvi Sai Akshitha	ENG21AM0052	2	4	4	10
14	XAI IN HEALTHCARE	NEELAM NIKHIL	ENG21AM0079	2	4	4	10
		RAGHAVENDRA R	ENG21AM0091	2	4	4	10
		SRIKEERTHI BANDI	ENG22AM3006	2	4	4	10
		SRINIDHI R	ENG22AM3007	2	4	4	10
15	Brain Tumour Detection using CNN (LIME)	A Lavaneshwar	ENG21AM0001	2	4	4	10
		Devnath G	ENG21AM0030	2	4	4	10
		Kushal J	ENG21AM0061	2	4	4	10
		M R ARUN	ENG21AM0067	2	4	4	10
16	Explainable AI in Healthcare	Karan A	ENG21AM0054	2	4	4	10
		Vijay s	ENG22AM3016	2	4	4	10
		Deva dharshan	ENG21AM0102	2	4	4	10
		Sagar u	ENG21AM0104	2	4	4	10
17	"Comparative Analysis of Predictive Models with and without Explainable AI using LIME in Psychiatry"	Shashank M	ENG21AM0114	2	4	4	10
		Lavanya J	ENG22AM1005	2	4	4	10
		T Lokesh reddy	ENG22AM3012	2	4	4	10
		Manobhiram Bhatter	ENG22AM3022	2	4	4	10
18	Medicine recommendation system	Tenzin Ludup	ENG22AM3011	2	4	4	10
		Sanjay Kumaran	ENG21AM0109	2	4	4	10
19	kidney stone detection using deep learning	Pulya Satya Sri Asrith	ENG21AM0090	2	4	4	10
		Prathit panda	ENG21AM0088	2	4	4	10
20	Maintaining Healthcare Records Project	Anurag	ENG21AM0012	2	4	4	10
21	Explainable AI Concepts in Healthcare	Ayush Agrawal	ENG21AM0015	2	4	4	10
22	Explainable AI Concepts in Healthcare	Shree Aarthe	ENG21AM0115	2	4	4	10
		Sindhuja S	ENG22AM3004	2	4	4	10
		Vishal V	ENG22AM3017	2	4	4	10

SCHOOL OF ENGINEERING

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

Team no	Topic Name	Name	usn	Detailed Explanation/ Implementation of XAI technique on Healthcare Data (4M)	2M Graphical Results /Interpretation	Technical Paper/Research Paper 4M	Marks
1	Advancing Brain Tumor Detection with Deep Learning and VGG-16 Ensemble Analysis	Dhanya sv	ENG21AM0032	4	2	4	10
		Nitisha S	ENG21AM0081	4	2	4	10
		Poornima	ENG21AM0085	4	2	4	10
		Harshith patel B V	ENG21AM0048	4	2	4	10
2	Stroke Detection Using XGBoost	Kusha S	ENG22AM1003	4	2	4	10
		LAVANYA D	ENG21AM0065	4	2	4	10
		Bhoomika S Murthy	ENG21AM0018	4	2	4	10
3	Demystifying Healthcare AI: Applications of Explainable Artificial Intelligence	Rohan John Varghese	ENG21AM0097	4	2	4	10
		Mohammed Zufishan	ENG21AM0074	4	2	4	10
		Tarun Reddy.R	ENG22AM3009	4	2	4	10
		Vishal Vijay	ENG22AM3018	4	2	4	10
4	Explainable AI in Healthcare	Ronak Das	ENG21AM0099	4	2	4	10
5	Early Cardiovascular Disease Detection from ECG Signals: LSTM vs. CNN	Bhargav Vinay N	ENG20AM0016	4	2	4	10
		Dhanush S	ENG20AM0020	4	2	4	10
6	HEALTHCARE AND UNEXPLAINABLE AI ON HEALTHCARE WITH PYTHON CODE SNIPPET	Dinakar Nayak N	ENG21AM0034	4	2	4	10
		Gangothri R	ENG21AM0040	4	2	4	10
		Gurram Navitha	ENG21AM0045	4	2	4	10
		Chethan F K	ENG21AM0023	4	2	4	10
7	Leveraging Machine Learning in Healthcare	DIVITH B S	ENG21AM0035	4	2	3	9
		HARSH MANALEL	ENG21AM0046	4	2	3	9
		ASHISH PATIL	ENG21AM0013	4	2	3	9
8	Enhancing Interpretability in Diabetes Detection:	Adnan	ENG21AM0003	4	2	4	10
		Mithesh C	ENG21AM0072	4	2	4	10
		MOKSHITHA M	ENG21AM0076	4	2	4	10
		PRADEEP K	ENG21AM0086	4	2	4	10
		RUCHITHA GOWDA S	ENG21AM0100	4	2	4	10
9	diabetes prediction using random forest (SHAP)	misala manjunath reddy	ENG21AM0071	4	2	4	10
		nithin kumar reddy	ENG21AM0080	4	2	4	10
		shankar m	ENG21AM0068	4	2	4	10
		Challa Jaya Karthik	ENG21AM0021	4	2	4	10
10		Palakondu Sreiya	ENG21AM0084	4	2	4	10
		Palakondu Bhavani	ENG21AM0083	4	2	4	10
11	Depression Detection using LSTM and CNN (19 CHANNEL EEG SIGNAL	Amridasri Madhanraj	ENG21AM0008	4	2	4	10
		Sai Bhavya sree	ENG21AM0105	4	2	4	10
		Patrick Rozario	ENG21AM0066	4	2	4	10
		Juvvi Sai Akshitha	ENG21AM0052	4	2	4	10
12	Pneumonia Detection using CNN based feature extraction	NEELAM NIKHIL	ENG21AM0079	4	2	4	10
		RAGHAVENDRA R	ENG21AM0091	4	2	4	10
		SRIKEERTHI BANDI	ENG22AM3006	4	2	4	10
		SRINIDHI R	ENG22AM3007	4	2	4	10
13	Melanoma Cancer Detection (VGG-16, MobileNet, CNN)	A Lavaneshwar	ENG21AM0001	4	2	3	9
		Devnath G	ENG21AM0030	4	2	3	9
		Kushal J	ENG21AM0061	4	2	3	9
		MR ARUN	ENG21AM0067	4	2	3	9
14	Pneumonia detection	Karan A	ENG21AM0054	4	2	4	10
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		T Lokesh reddy	ENG22AM3012	4	2	3	9
		Manobhiram Bhatter	ENG22AM3022	4	2	3	9
16	Heart disease prediction	Shree Aarthe	ENG21AM0115	4	2	4	10
		Sindhuja S	ENG22AM3004	4	2	4	10
		Vishal V	ENG22AM3017	4	2	4	10
17	Kidney Stone Detection through Deep Learning	Pulya Satya Sri Asrith	ENG21AM0090	4	2	4	10
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		Ayush agarwal	ENG21AM0015	4	2	4	10
18	Maintaining Healthcare Records Project	Anurag	ENG21AM0012	2	0	0	2
19	Augmenting Medical Diagnostics with AI: A Dual Approach Using RAG-Based Chatbots and Nano GPT Models	Yudhajit Jana	ENG22AM3021	4	2	4	10
		Sayli Pankaj Bande	ENG21AM0112	4	2	4	10
		Shrusti Veerabasayya Goudar	ENG21AM0119	4	2	4	10
		Sayam Adesh Runwal	ENG21AM0111	4	2	4	10
20	Medicine recommendation system	Sanjay Kumaran	ENG21AM0109	4	2	3	9
		Tenzin Ludup	ENG22AM3011	4	2	3	9

CHAIRPERSON 11/9/23
Dept of CSE
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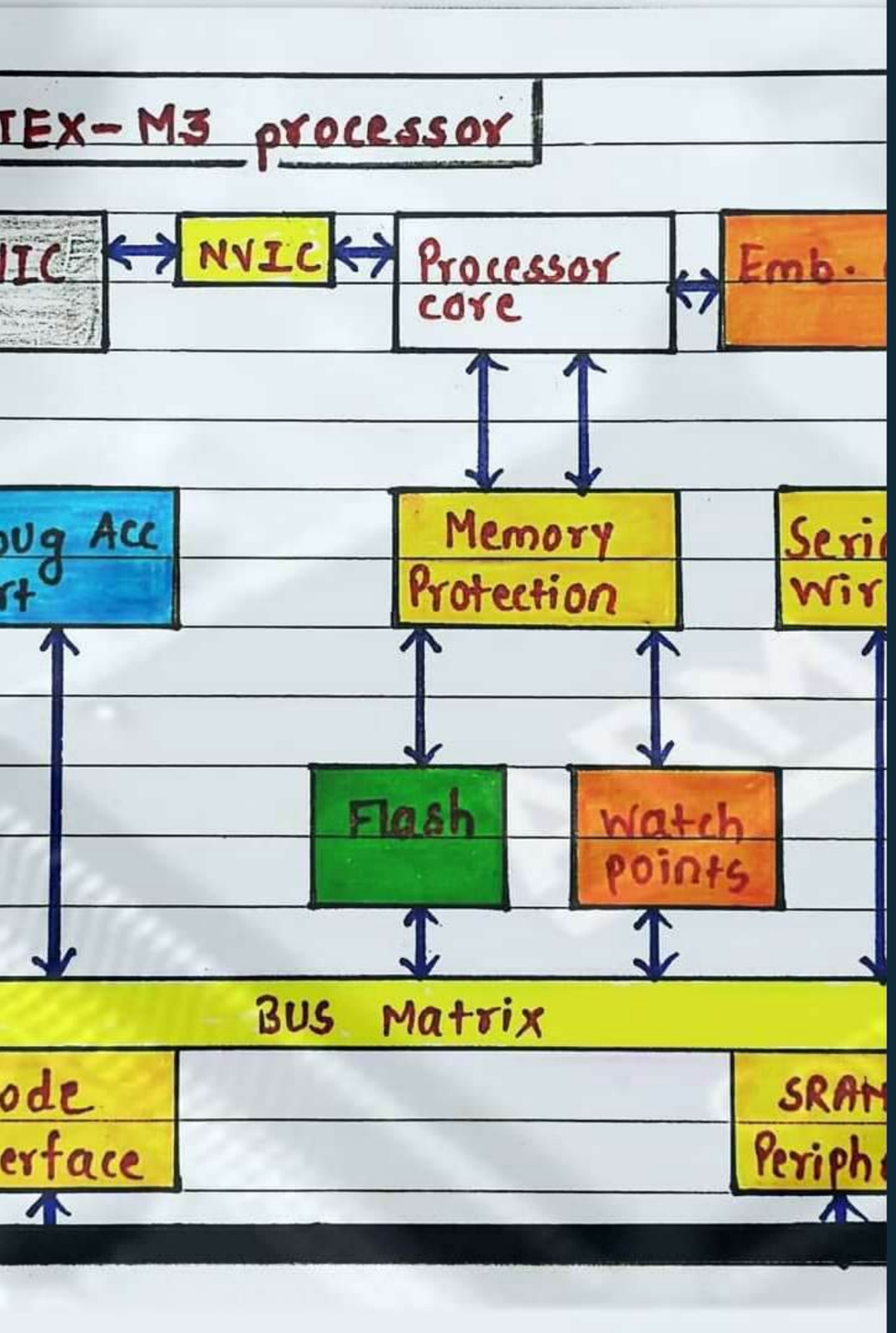
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Main Road
Ramanagara
Karnataka



Operational Modes and Privilege Levels in Cortex M3

Lalith Kishore B	ENG22CS0087
S G Sumanth	ENG22CS0140
Sai Kumar Jadhav	ENG22CS0145
Smriti Sanjay Eligar	ENG22CS0172

Architectural Features

1

ARMv7-M

Optimized for low-latency interrupts and microcontroller apps.

2

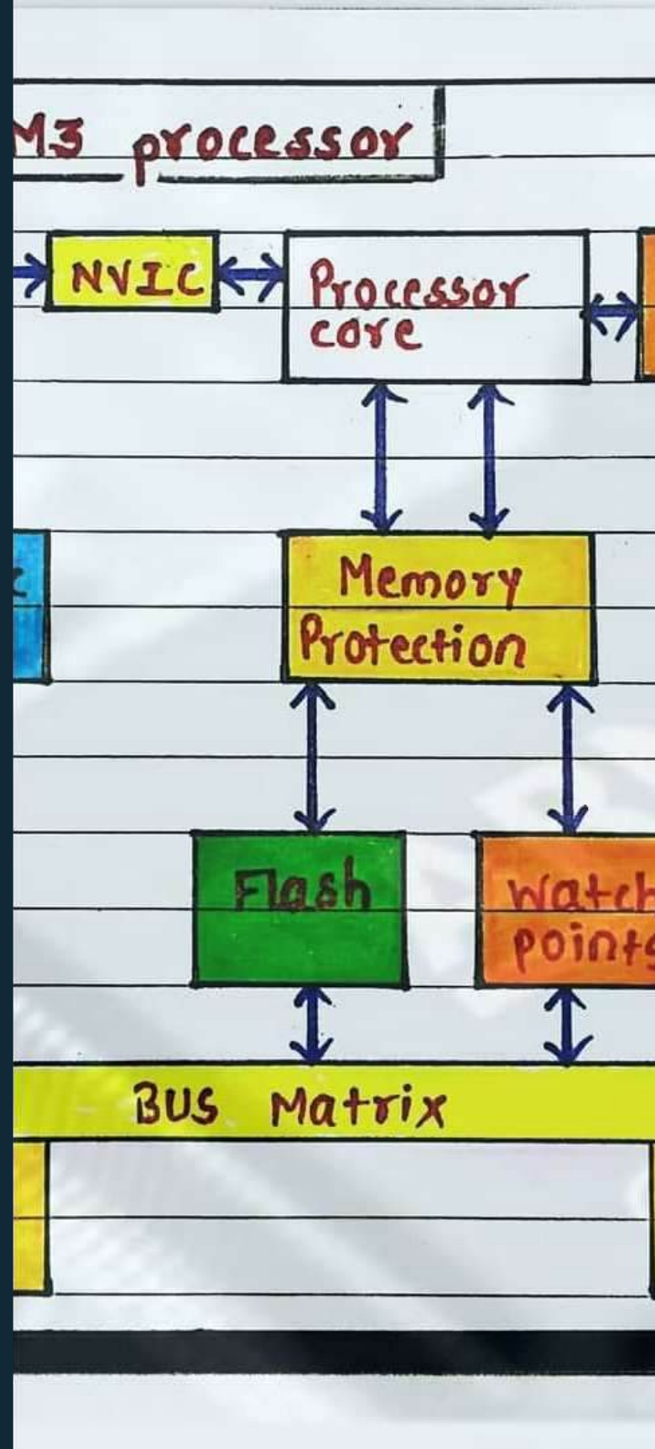
Thumb-2 Instruction Set

Combines 16-bit and 32-bit instructions for high density and performance.

3

Nested Vectored Interrupt Controller

Efficient handling of multiple interrupts with low latency.



Performance and Efficiency

High Performance

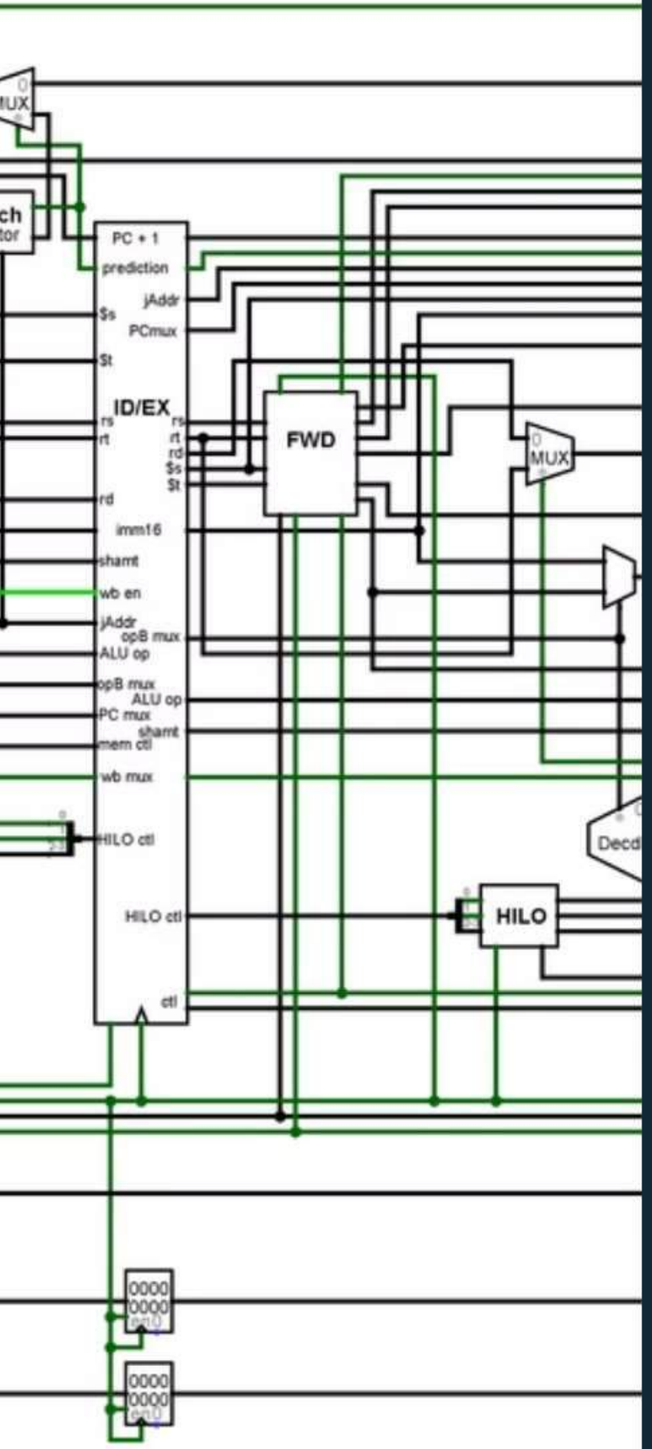
Typically runs up to 100 MHz.

Power Efficient

Suitable for battery-powered devices.

Simplified Programming

Eases software development with a simplified model.



32 – Bit Processor

1 **Wider Data Path**

Provides more processing power than 8-bit or 16-bit.

2 **Larger Address Space**

Enables access to more memory.

3 **Thumb-2 Instruction Set**

Combines 16-bit and 32-bit instructions for efficiency.

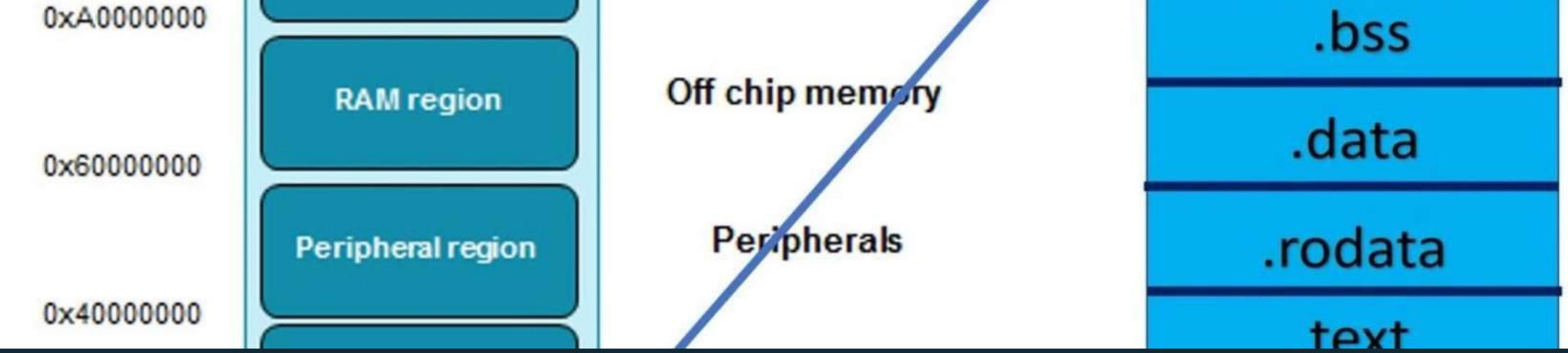
Debugging and Security

Debug and Trace

Helps developers optimize and troubleshoot their code.

Memory Protection Unit

Enhances system reliability and security.



Interrupt Handling

1

Low Latency

Efficient processing of multiple interrupts.

2

Nested Vectored Interrupt Controller

Supports low-latency interrupt handling.

3

Optimized for Microcontrollers

Ideal for real-time embedded applications.

Embedded Applications

Industrial

Factory automation, motor control, and more.

Medical

Diagnostic equipment, patient monitoring, and more.

Consumer

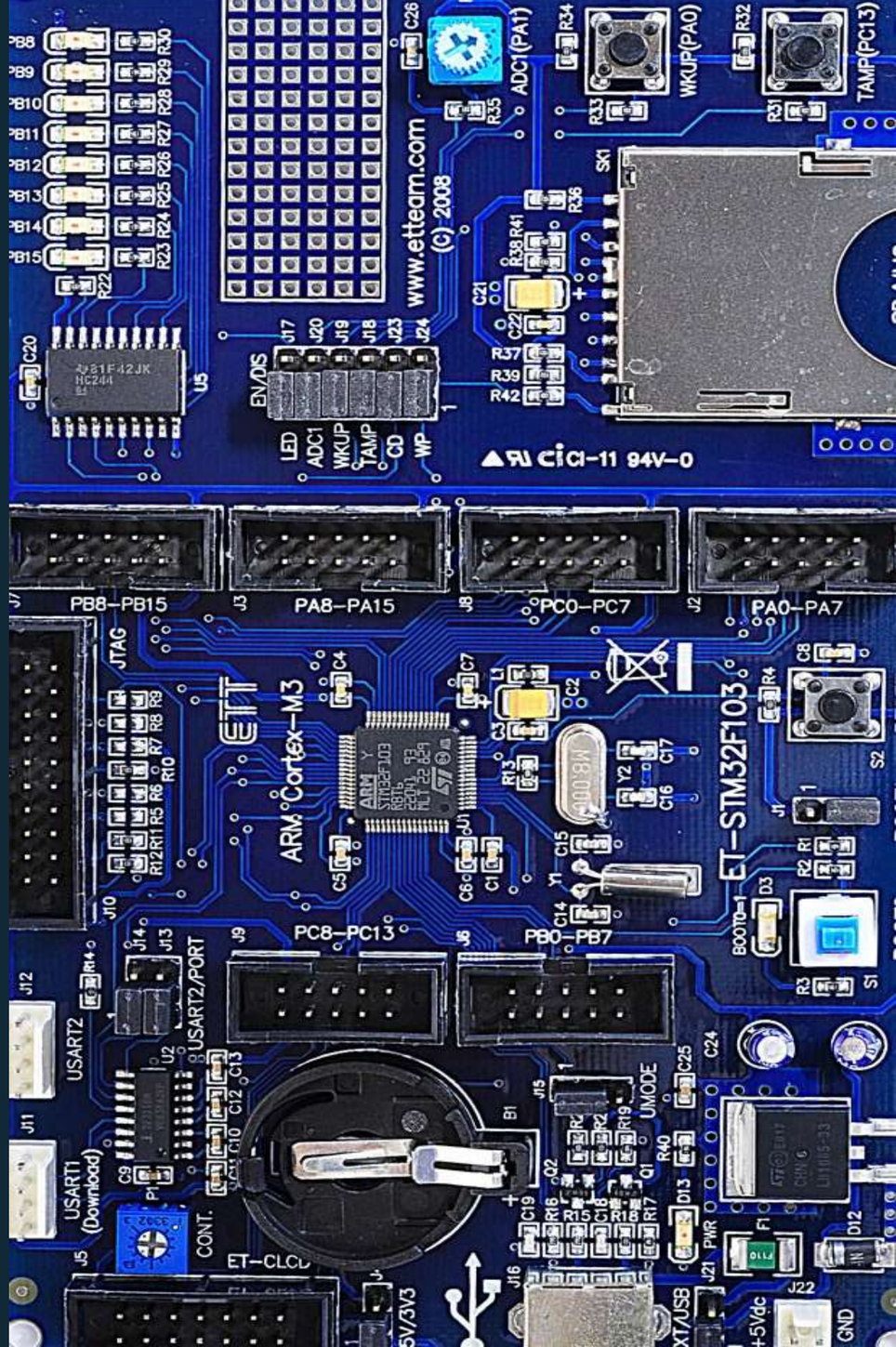
Wearables, home automation, and more.

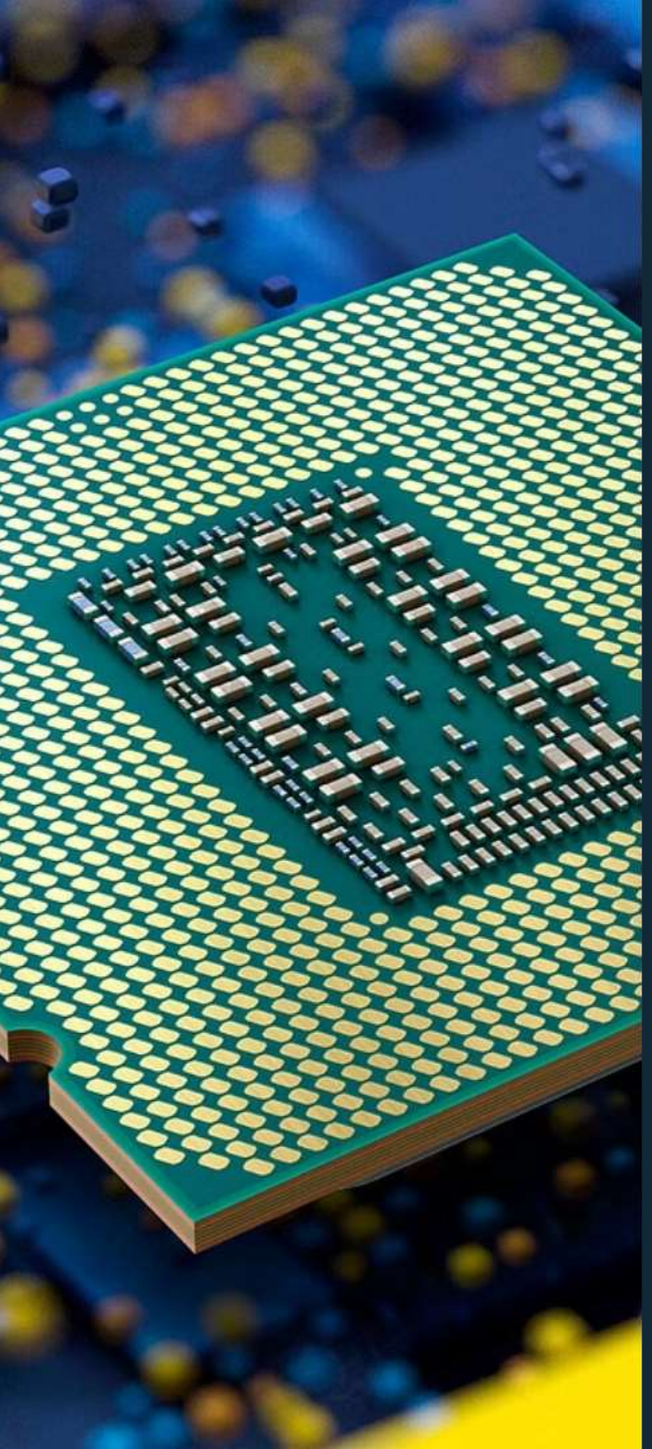
Cortex M3 – Processor Programming Model

- Programmers Model
- Memory Model
- Exception Model
- Fault Handling
- Power Management

Cortex-M3 Programmer's Model

Understand the secure and efficient execution environment of the Cortex-M3 processor.





Modes of Operation

1

Thread Mode

Main execution environment for applications.

2

Handler Mode

Handles exceptions and unexpected events.

Privilege Levels

Unprivileged

Restricted access to protect system integrity.

Privileged

Full control for critical system functions.

Unprivileged Restrictions

1 **Limited Instructions**

Restricted access to critical registers.

2 **Restricted Resources**

Limits on system components and peripherals.

3 **Potential Memory/Peripheral Limits**

Restricted access to protect other parts.

Privileged Capabilities

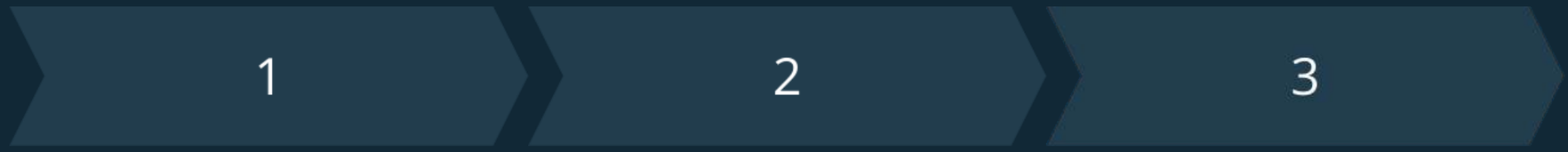
Full Access

Complete control over instructions and resources.

Critical Functions

Handles system-level tasks and drivers.

Switching Privilege Levels



Thread Mode

Privilege level controlled by CONTROL register.

Handler Mode

Always executes at privileged level.

Supervisor Call

Unprivileged software can request privileged access.

Layered Security

Sandbox

Unprivileged software operates in a safe environment.

Controlled Access

Privileged software provides limited access to resources.

Stable Environment

Fosters secure and reliable embedded system development.

Exceptions and Interrupts

Thread Mode	Unprivileged execution
Handler Mode	Privileged exception handling

Privilege Separation

Application Software

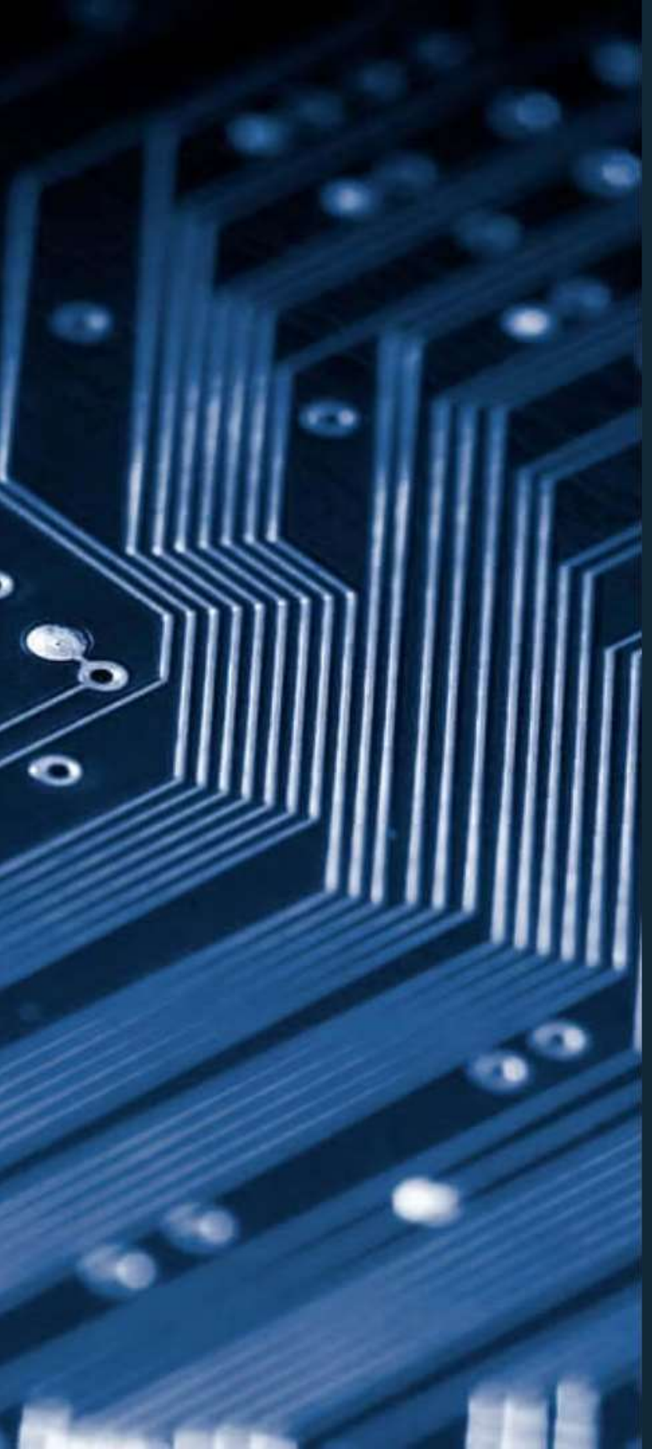
Runs in unprivileged Thread mode.

Operating System

Operates in privileged Handler mode.

Controlled Interaction

Supervisor call enables limited privileged access.



Secure Embedded Systems

1 **Robust Architecture**

Cortex-M3 model ensures system integrity.

2 **Efficient Execution**

Optimized for real-time embedded applications.

3 **Trusted Environment**

Enables development of secure embedded software.

THANK YOU

INDUSTRY VISIT TO IBM

The Department of Computer Science Engineering at Dayananda Sagar University successfully organized an industry visit to IBM on 5th September 2024. The visit aimed to provide faculty members with exposure to ongoing research projects and innovations in cutting-edge fields like Artificial Intelligence (AI), Cloud Computing, Quantum Computing, and Cybersecurity.

Following Faculty members attended the Industry Visit.

1. Dr. Girisha G S - Professor and Chairperson
2. Dr. Basavaraj N Hiremath - Professor
3. Dr. Senthil Kumar - Professor
4. Dr. Mouleeswaran SK - Associate Professor
5. Dr. Savitha Hiremath - Associate Professor
6. Prof. Nandini K - Assistant Professor
7. Mr. Nagendra - Communication Lead

The primary goal of the industry visit was to observe IBM's ongoing projects in key technology areas such as AI, cloud computing, quantum computing, and cybersecurity. This experience provided valuable exposure for faculty members, inspiring new academic and career perspectives for both them and their students. The visit allowed the faculty to interact with IBM researchers and engineers, gaining practical insights into these technologies, exploring collaboration opportunities, and networking with experts in the field. Faculty members had the opportunity to interact with the IBM experts to discuss the industry's future trends and opportunities.

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DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

SCHOOL OF
ENGINEERING

Lab Manual

C -PROGRAMMING FOR PROBLEM SOLVING

23EN1102

COMPUTER SCIENCE & ENGINEERING

(ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)

2023-2024

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF ENGINEERING
Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara District, Karnataka – 562 112

Department of Computer Science & Engineering

Object Oriented Programming (23EN1202)
List of Laboratory Experiments

Total Contact Hours: 26

SEM-2

Following are experiments to be carried out using Python programming language.

1A. Develop a program to read and print values of variables of different data types.

1B. Develop a program to calculate the bill amount for an Item given its quantity sold, value, discount and tax.

2A. Develop a program to calculate the roots of a quadratic equation using conditional statements.

2B. Develop a program to find the sum of squares of even numbers.

3A. Develop a program to use a lambda function with an ordinary function.

3B. Develop a program where a sub-function is defined in one module and called by code in another module.

4A. Develop a program that encrypts a message by adding a key value to every character. Hint: If key=3 then the string "HelloWorld" encrypted as "KhoorZruog"

4B. Develop a program that takes user name and PAN number as input, validate the information using isX function and print the details.

5A. Develop a program that reads a file line by line. Each line read from the file is copied to another file with line numbers specified at the beginning of the line.

5B. Develop a program that fetches data from a specified URL and writes in a file.

6A. Write a program that prompts the user to enter a filename. Open the file and print the frequency of each word in it.

6B. Develop a program to illustrate 5 built-in methods of List, Tuple, Set and dictionaries.

7A. Develop a program to deposit or withdraw money in a bank account.

7B. Develop a program that has a class person. Inherit a class Faculty from Person which also has a class Publications.

8A. Develop a program that overloads the operator + so that it can add two objects of class Fraction.

8B. Develop a program to create subclasses of Exception class to handle exceptions in a better way.

Open ended experiments

1. Make a class Book with members, title, author, publisher and ISBN number. The functions of the class should read and display the data.

2. Develop an abstract class Vehicle. Derive three classes Car, Motorcycle and Truck from it. Define appropriate methods and print the details of the vehicle.

3. Develop a program to generate a simple calculator and an year wise calendar.

4. Develop a program to find the resolution of an given Image.

Chairman
Dept of Computer Science and Engineering
Dayananda Sagar University
Kudlu Gate Service Road, Bengaluru

Dr. Girisha G S 16/2/24

Chairperson, Dept of CSE

Certificate

Name: Preena Sadrani Class: A3

Roll No: 44 USN: 23UGENG1220 Exam No:

Institution School of Engineering, Dayananda Sagar University

This is certified to be the bonafide work of the student in the C Programming & Problem Solving *Laboratory during the academic year 2023 / 2024.*

No. of practicals certified 10 *out of* 10 *in the subject of* CPPS

.....
Teacher In-charge

.....
Examiner's Signature

.....
Principal

Date: .....

Institution Rubber Stamp

(N.B: The candidate is expected to retain his/her journal till he/she passes in the subject.)

Index

S. No.	Name of the Experiment	Page No.	Date of Experiment	Date of Submission	Remarks
1.	a) Swapping two variables	1	6|10|23	29|12|23	
	b) Calculate Simple Interest	2	6|10|23	29|12|23	
	c) Factorial of given number.	3	6|10|23	29|12|23	
2.	Generate the roots of a quadratic equations.	4	13|10|23	29|12|23	
3.	a) Check if given no. is a palindrome.	6	20|10|23	29|12|23	
	b) Calculate 'n' th power of given no.	7	20|10|23	29|12|23	
4.	a) Generate the 'Fibonacci' series for 'n' positions.	8	27|10|23	29|12|23	
	b) Calculate greatest GCD.	10	27|10|23	29|12|23	
5.	Simple Calculator.	11	10|11|23	29|12|23	
6.	a) Calculate the length	13	17|11|23	29|12|23	
	b) Concatenate string	14	17|11|23	29|12|23	
	c) In-place reversal of the string.	16	24|11|23	29|12|23	
7.	Sort the number.	17	24|11|23	29|12|23	
8.	Search for given no. in an array.	19	1|12|23	29|12|23	

Index

S. No.	Name of the Experiment	Page No.	Date of Experiment	Date of Submission	Remarks
9.	Use a function to swap two numbers.	21	22/12/23	29/12/23	
10.	Parse a simple arithmetic expression.	22	22/12/23	29/12/23	

Date 6/10/23

Expt. No. 1a.

Page No. ①

1a.) Write a program to read two whole numbers, store them into two variables. Print values along with the variable name where they are stored. Then, write logic to swap the contents of the two variables and again print values with the variable names.

Ans:

```
#include <stdio.h>
void main()
{
 int a, b, temp;
printf("Enter the values of a, b");
scanf("%d %d", &a, &b);
 temp = a;
 a = b;
 b = temp;
printf("After swapping a, b is %d %d", a, b);
}
```

Teacher's Signature

• 1a) Output –

① Enter the values of a, b
40 26
After swapping a, b is 26 40.

② Enter the values of a, b
-21 90
After swapping a, b is 90 -21.

• Algorithm –

Step 1 :- Start.

Step 2 :- Read a and b value.

Step 3 :- Swap a and b.

Step 4 :- Write a & b values.

Step 5 :- Stop.

1b) Write a C program to calculate simple interest for a given term, interest rate and principal value. The term, interest rate and principal are to be given as the input by the user and the simple interest amount has to be printed out.

Ans.

```
# include < stdio.h >
void main()
{
float principal, term, rate, simple_interest;
printf ("Enter the principal amount");
scanf ("%f", & principal);
printf ("Enter the term value");
scanf ("%f", & term);
printf ("Enter the rate of interest");
scanf ("%f", & rate);
simple_interest = (principal x term x Rate) / 100 ;
printf ("The simple interest is %f", simple_interest);
}
```

Teacher's Signature _____

16.) Output -

① Enter the principal amount 1580550
Enter the term value 3
Enter the rate of interest 6.2

The Simple Interest is 293982.312500

- Algorithm -

Step 1 :- Start

Step 2 :- Read values of principle, term and rate.

Step 3 :- Compute simple_interest = (principle * term * rate) /100

Step 4 :- Print simple_interest

Step 5 :- Stop.

DAYANANDASAGARUNIVERSITY

KUDLU GATE, BANGALORE – 560114

Bachelor of Technology
in
COMPUTER SCIENCE AND ENGINEERING

BCDL Mini Project Report

(Smart Contract for Insurance)

By

HARSHITHA S- ENG21CS0154
KAVANA N- ENG21CS0184

Under the supervision of

Prof. Mohammed Khurram J

Associate Professor

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING,
SCHOOL OF ENGINEERING
DAYANANDA SAGAR UNIVERSITY

(2023-2024)

DAYANANDA SAGAR UNIVERSITY

School of Engineering

Department of Computer Science & Engineering

Kudlu Gate, Bangalore –560068
Karnataka, India

CERTIFICATE

This is to certify that the BCDL Mini Project titled **"Smart Contract for Insurance"** carried out by **Harshitha S (ENG21CS0154) Kavana N (ENG21CS184)** bonafide students of Bachelor of Technology in Computer Science and Engineering at the School of Engineering, Dayananda Sagar University, Bangalore in partial fulfillment for the award of degree in Bachelor of Technology in Computer Science and Engineering, during the year **2024-2025**.

Prof. Mohammed Khurram J,	**Dr. Girisha G S,**	**Dr. Uday Kumar Reddy**
Assistant Professor	Chairman CSE	Dean
Dept. of CSE,	School of Engineering	School of Engineering
School of Engineering	Dayananda Sagar	Dayananda Sagar
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P3/5/24

DATE

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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BANGALORE - 560068

MINI PROJECT REPORT

ON

"Blockchain Music Player"

Introduction to Blockchain and Distributed Ledger(20CS3506)

6th SEMESTER

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE & ENGINEERING

Submitted by

DHIREN (ENG21CS0115)

ARMAN NV (ENG21CS0054)

Under the supervision of

Mohammed Khurram J

Assistant Professor, Department of CSE

DAYANANDA SAGAR UNIVERSITY

School of Engineering, Kudlu Gate, Bangalore-560068

CERTIFICATE

This is to certify that MR.DHIREN CR, MR.ARMAN NV, bearing USN **ENG21CS0115 , ENG21CS0054** *has satisfactorily completed his/her Mini Project as prescribed by the University for the 6th semester B.Tech. programme in Computer Science & Engineering during the year at the School of Engineering, Dayananda Sagar University, Bangalore.*

Date: 13/05/24

13/5/24

Signature of the faculty in-charge

Max Marks	Marks Obtained

Signature of Chairman

Department of Computer Science & Engineering

UAV management using SDN and Reinforcement learning

Geetika Mehta,
Neha D Jagtap, Gagandeep BR
8th semester
Computer Science and Engineering
Dayananda Sagar University
Bangalore
Karnataka, India

***Abstract*—Unmanned Aerial Vehicles (UAVs) are increasingly used in various applications, from surveillance to delivery services. Efficient management of UAVs is crucial for optimizing their performance and ensuring safe and reliable operations. In this project, we propose a UAV management system using Software Defined Networking (SDN) and reinforcement learning (RL) techniques. The system leverages the Gym library to define a custom UAV environment and implements a Q-learning algorithm for autonomous decision-making.**

The UAV environment consists of states representing different locations and actions corresponding to movement commands for the UAV. The RL agent learns to select actions based on observed states and rewards, while SDN-based routing logic is used to translate actions into network operations. Through iterative training episodes, the system adapts its routing policies to optimize UAV movement and enhance network efficiency. This project provides a framework for integrating SDN and RL in UAV management, with potential applications in diverse real-world scenarios such as surveillance, monitoring, and search-and-rescue operations.

Keywords*—*Unmanned Aerial Vehicles (UAVs), Software Defined Networking (SDN), Reinforcement Learning (RL), Autonomous decision-making, Network operations, Surveillance

I. Introduction

Unmanned Aerial Vehicles (UAVs) have emerged as versatile tools for various applications, including surveillance, monitoring, and delivery services. Efficient management of UAVs is essential to optimize their performance, ensure safety, and enhance operational effectiveness. Traditional approaches to UAV management often face challenges in dynamically adapting to changing environments and optimizing resource utilization. In response to these challenges, this project proposes a novel UAV management system leveraging Software Defined Networking (SDN) and reinforcement learning (RL) techniques.

SDN offers a centralized and programmable approach to network management, enabling dynamic control and configuration of network resources. By integrating SDN principles into UAV management, we can achieve greater flexibility, scalability, and adaptability in routing and communication. Additionally, RL provides a powerful framework for autonomous decision-making, allowing UAVs to learn and optimize their behavior based on interactions with the environment.

In this project, we aim to design and implement a UAV management system that combines the benefits of SDN and RL. The system will utilize the Gym library to define a custom UAV environment, where states represent different locations and actions correspond to movement commands for the UAV. The RL agent will learn to select actions based on observed states and rewards, while SDN-based routing logic will translate these actions into network operations.

Through iterative training episodes, the UAV management system will adapt its routing policies to optimize UAV movement, enhance network efficiency, and achieve desired mission objectives. This project holds significant promise for revolutionizing UAV operations, with potential applications in surveillance, monitoring, search-and-rescue operations, and beyond. By harnessing the synergy between SDN and RL, we can unlock new possibilities for autonomous and intelligent UAV management in dynamic and challenging environments.

II. Problem Statement

In recent years, the deployment of Unmanned Aerial Vehicles (UAVs) has gained significant traction across various industries, including surveillance, disaster management, and environmental monitoring. To effectively manage and optimize UAV operations, there is a growing need for intelligent systems capable of autonomously routing UAVs in dynamic environments. In this context, the objective of this project is to develop a UAV management system leveraging Software-Defined Networking (SDN) principles and reinforcement learning (RL) techniques.

The management of Unmanned Aerial Vehicles (UAVs) in dynamic environments poses significant challenges related to efficient routing, resource allocation, and adaptability to changing conditions. Traditional approaches to UAV management often lack the ability to dynamically optimize routing decisions and effectively utilize network resources, leading to suboptimal performance and increased operational costs.

To address these challenges, there is a need for a novel UAV management system that leverages Software Defined Networking (SDN) and reinforcement learning (RL) techniques. Such a system should be capable of autonomously learning and adapting routing policies based on real-time environmental data, while efficiently controlling and managing network resources to ensure reliable and responsive communication between UAVs and ground stations.

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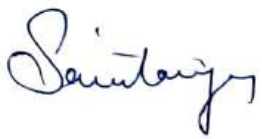
Seminar Topic list SNA

				Team number	topic
1	DSU-B.Tech-CSE	ENG20CS0007	ABHISHEK S SHETTY	Team 11	Software defined network : Future of networking
2	DSU-B.Tech-CSE	ENG20CS0038	ARAVIND BHAT	Team 11	Software defined network : Future of networking
3	DSU-B.Tech-CSE	ENG20CS0045	ATHARVA SANJAY MAHAJAN		
4	DSU-B.Tech-CSE	ENG20CS0047	AYUSH KUMAR		
5	DSU-B.Tech-CSE	ENG20CS0051	B SRI SHARAN	Team 8	Smart traffic management system for emergency vehicles
6	DSU-B.Tech-CSE	ENG20CS0053	BASANT NARAYAN		
7	DSU-B.Tech-CSE	ENG20CS0056	BHAGYALAXMI N KULKARNI		
8	DSU-B.Tech-CSE	ENG20CS0064	BHUVAN N R		Energy-efficient clustering and routing algorithm for large-scale SDN-based IoT monitoring
9	DSU-B.Tech-CSE	ENG20CS0073	CHANDRASHEKAR SARASETTI		Energy-efficient clustering and routing algorithm for large-scale SDN-based IoT monitoring
10	DSU-B.Tech-CSE	ENG20CS0074	CHETAN R		Energy-efficient clustering and routing algorithm for large-scale SDN-based IoT monitoring
11	DSU-B.Tech-CSE	ENG20CS0092	DISHANT HIRPARA	Team 12	Heart Disease Prediction Using SDN
12	DSU-B.Tech-CSE	ENG20CS0096	EKTA AGARWAL		
13	DSU-B.Tech-CSE	ENG20CS0101	GAGAN DEEP B R	team 6	UAV management using SDN and reinforcement learning
14	DSU-B.Tech-CSE	ENG20CS0105	GEETIKA MEHTA	team 6	UAV management using SDN and reinforcement learning
15	DSU-B.Tech-CSE	ENG20CS0107	HARIOM TIWARI	Team 12	Heart Disease Prediction Using SDN
16	DSU-B.Tech-CSE	ENG20CS0187	MANJE GOWDA D B	Team 14	Traffic Engineering in Software-Defined Networking: Measurement and Management
17	DSU-B.Tech-CSE	ENG20CS0206	MOHIT KUMAR	Team 1	Fog-Enabled IoT Platforms an SDN-Based Solution
18	DSU-B.Tech-CSE	ENG20CS0227	NEHA D JAGTAP	team 6	UAV management using SDN and reinforcement learning
19	DSU-B.Tech-CSE	ENG20CS0243	P PRITHVI REDDY	Team 10	Social Networks Information Diffusion
20	DSU-B.Tech-CSE	ENG20CS0257	PRAGHNA H K	Team 15	
21	DSU-B.Tech-CSE	ENG20CS0262	PRANAV PADAKI	Team 10	Social Networks Information Diffusion
22	DSU-B.Tech-CSE	ENG20CS0264	PRATHAM CHAVAN		
23	DSU-B.Tech-CSE	ENG20CS0272	R DINAKAR	Team 14	
24	DSU-B.Tech-CSE	ENG20CS0274	RAGHAVENDRA PRAKASH JAMAKHANDI	Team 9	
25	DSU-B.Tech-CSE	ENG20CS0275	RAJESH PANIGRAHI	Team 9	
26	DSU-B.Tech-CSE	ENG20CS0276	RAJESH V PATIL	Team 9	
27	DSU-B.Tech-CSE	ENG20CS0281	RAPARLA DHANUNJAY	Team 7	Network Traffic managament using MiniNet and SDN

28	DSU-B.Tech-CSE	ENG20CS0282	RAQEEB N	Team 16	SDN-enabled Framework for Resilient Traffic Routing in 5G Networks
29	DSU-B.Tech-CSE	ENG20CS0288	REETHIKA A	Team 16	SDN-enabled Framework for Resilient Traffic Routing in 5G Networks
30	DSU-B.Tech-CSE	ENG20CS0295	ROHAN YADAV		
31	DSU-B.Tech-CSE	ENG20CS0297	RUBY SEHER	Team 7	Network Traffic management using MiniNet and SDN
32	DSU-B.Tech-CSE	ENG20CS0308	SAI SHREENIDHI SATISH	Team 10	Social Networks Information Diffusion
33	DSU-B.Tech-CSE	ENG20CS0315	SANDEEP KUMAR PRADHAN	Team 8	Smart traffic management system for emergency vehicles
34	DSU-B.Tech-CSE	ENG20CS0318	SANIYA FATHIMA	Team 15	
35	DSU-B.Tech-CSE	ENG20CS0323	SATYAM ANAND	Team 12	Heart Disease Prediction Using SDN
36	DSU-B.Tech-CSE	ENG20CS0327	SHAAN MEHIRAJ KHAN		
37	DSU-B.Tech-CSE	ENG20CS0331	SHARAN KALBURGI	Team 2	Latency based Re-Enforcement Learning over Cognitive Software Defined 5G Networks
38	DSU-B.Tech-CSE	ENG20CS0332	SHAREEBA N	Team 3	Network Traffic Management using Dijkshta
39	DSU-B.Tech-CSE	ENG20CS0335	SHERMEEN ULFAT	Team 5	Traffic Classification in Software Defined Networks using Machine Learning
40	DSU-B.Tech-CSE	ENG20CS0337	SHRAVAN KUMAR R	Team 2	Latency based Re-Enforcement Learning over Cognitive Software Defined 5G Networks
41	DSU-B.Tech-CSE	ENG20CS0339	SHRAVANA	Team 5	Traffic Classification in Software Defined Networks using Machine Learning
42	DSU-B.Tech-CSE	ENG20CS0342	SHREY NAHAR A	Team 2	Latency based Re-Enforcement Learning over Cognitive Software Defined 5G Networks
43	DSU-B.Tech-CSE	ENG20CS0344	SHREYA NAGA SAI MALEPATY	Team 3	Network Traffic Management using Dijkshta
44	DSU-B.Tech-CSE	ENG20CS0345	SHREYA S	Team 5	Traffic Classification in Software Defined Networks using Machine Learning
45	DSU-B.Tech-CSE	ENG20CS0347	SHREYAS SHET	Team 1	Fog-Enabled IoT Platforms an SDN-Based Solution
46	DSU-B.Tech-CSE	ENG20CS0348	SHRINIDHI NAYAK	Team 4	SDN Traffic Classification using Deep Learning
47	DSU-B.Tech-CSE	ENG20CS0358	SRIRAKSHA P	Team 4	SDN Traffic Classification using Deep Learning
48	DSU-B.Tech-CSE	ENG20CS0360	SRUSHTI B YALGUDRI	Team 7	Network Traffic management using MiniNet and SDN
49	DSU-B.Tech-CSE	ENG20CS0369	SUMEET ANGADI	Team 1	Fog-Enabled IoT Platforms an SDN-Based Solution
50	DSU-B.Tech-CSE	ENG20CS0373	SURAVI R	Team 3	Network Traffic Management using Dijkshta
51	DSU-B.Tech-CSE	ENG20CS0375	SWATI PRIYA	Team 4	SDN Traffic Classification using Deep Learning
52	DSU-B.Tech-CSE	ENG20CS0389	UDAY KUMAR A	Team 8	Smart traffic management system for emergency vehicles
53	DSU-B.Tech-CSE	ENG20CS0390	UDAY NARAYAN GAUTAM		
54	DSU-B.Tech-CSE	ENG20CS0400	VANDANA W M	Team 15	

55	DSU-B.Tech-CSE	ENG20CS0403	VARUNESH A		
56	DSU-B.Tech-CSE	ENG20CS0405	VEDANT NAIK	Team 14	Traffic Engineering in Software-Defined Networking: Measurement and Management
57	DSU-B.Tech-CSE	ENG20CS0414	VIVEK BELAGALI		
58	DSU-B.Tech-CSE	ENG21CS1018	SHARANESH PRABHU UPASE	Team 14	Traffic Engineering in Software-Defined Networking: Measurement and Management



INDUSTRIAL VISIT, SERC, IISC-BENGALURU

The Department of Computer science and Engineering, SoE, DSU, organized one day industrial Visit to Super Computer Education and Research Centre (SERC), Indian Institute of Science (IISc) on 6th September,2024, for the 5th semester students a total of 60 students accompanied by 2 Faculty members. And coordinated by Dr George Fernandez I. Indian Institute of Science (IISc) is a public institute for research and higher education in science, engineering, design, and management.

It is a premier scientific research institute in India and has been continuously ranked first in the university category for the last three years in the NIRF rankings (by the Government of India). It is located in Bangalore, India, and was established in 1909 with active support from Jamshedji Tata and H.H. Sir Krishnaraja Wodeyar IV, the Maharaja of Mysore. It is also locally known as the "Tata Institute" . It was granted the Deemed University status in 1958. Central Computing Facilities provided by IISc The Computer Centre, established in 1970 as a central computing facility, became Supercomputer Education and Research Centre (SERC) in 1990 to provide state-of-the art computing facility to the faculty and students of the Institute. SERC is created and fully 2 funded by the Ministry of Human Resource Development (MHRD) to commemorate the platinum jubilee of the Institute. It houses India's first Petascale supercomputer CrayXC-40 and also the fastest supercomputer in India. Apart from functioning as a central computing facility of IISc, the SERC is engaged in education and research programs in areas relating to supercomputer development and application.

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The Centre is also involved in several sponsored research projects in collaboration with several high-profile government and private agencies.

PARAM Pravega is a National Supercomputer Mission (NSM) Supercomputer added to SERC's HPC (High-Performance Computing) class of systems in January 2022. The PARAM Pravega system is a mix of heterogeneous nodes built of Intel Xeon Cascade Lake processors for the CPU nodes and NVIDIA Tesla V100 cards on the GPU nodes. Hardware is an ATOS Bull Sequana XH2000 series system, boasting a comprehensive peak compute power of 3.3 PetaFlops. The Software stack on top of the hardware is provided and supported by C-DAC. The HPC Technologies team of CDAC, Pune is instrumental in the design and implementation of the solution for end-use along-with ATOS and BULL.

The Param Pravega supercomputer consists of 11 DCLC racks of compute nodes, 2 Service racks of Master/Service nodes, and 4 Storage racks of DDN storage. The node configuration includes 2 Master nodes, 11 Login nodes, 2 Firewall nodes, 4 Management, 1 NIS Slave and 624 (CPU+GPU) compute nodes. The compute nodes are of three categories, namely, Regular CPU, High-memory CPU, and GPU nodes. All the nodes in the system are connected using Mellanox high-speed HDR-Infiniband interconnection network using a FAT-tree topology with a 1:1 subscription ratio. The system is also augmented with a 4 Petabyte parallel storage from DDN for parallel filesystem access.

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School of Engineering

Department of Computer Science and Engineering

B Tech, Special Topic Review-2(2023-24) Evaluation Sheet

Team No	Students Name	USN	Section	Attendance (P/A)	Implementation and Demonstration: (15 Marks)	Result Analysis and Testing: (10M)	Q&A and Presentation Skills (10M)	Project Report: (10M)	Weekly Progress Report (5M)	COMMENTS If Any
55	Adarsh Punjabarchi	ENG22CSD317	A	P	15	10	10	10	5	
	Akkinadh Kumar Bg	ENG22CS0004	A	P	15	10	10	10	5	
	Bilal Ahmed VK	ENG22CS0032	A	P	15	10	10	10	5	
	Vivek S.H.	ENG22CS0510	H	P	15	10	10	10	5	
50	HARMAYNI KHANDAL	ENG22CS0316	E	P	6	5	6	5	3	
	DEVAANSH PAREEK	ENG22CS0289	E	P	8	7	7	6	3	
	DIVYANSH SINGH	ENG22CS0296	E	P	8	7	7	6	3	
	HARDIK NANDAN	ENG22CS0313	E	P	8	7	7	6	3	
71	P. Jashwanth	ENG22CS0116	B	P	15	10	9	10	5	
	MOHAN KUMAR. A	ENG22CS0106	B	P	15	10	9	10	5	
	Mohammed Arfath	ENG22CS0105	B	P	15	10	9	10	5	
	Matin Rahaman	ENG22CS0102	B	P	15	10	9	10	5	
86	Divya Neelappa	ENG22CS0058	A	P	15	10	10	10	5	
	Chaitan. N.S	ENG22CS0058	A	P	13	9	10	10	5	
	Deekshita. S	ENG22CS0044	A	P	13	9	10	10	5	
	Indiya. S	ENG22CS0073	B	P	13	9	10	10	5	
157	Abay	ENG 22 CS0003	A		10	10	10	10		
	Gangothri	ENG22CS0060	A		10	10	10	10		
	Akansha	ENG22CS 0010	A		10	10	10	10		
	Bhavana	ENG22CS0059	A		10	10	10	10		

Dr. S. Poonguzhali

Shilpa Sudheend

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Team No	Students Name	USN	Section	Attendance (P/A)	Implementation and Demonstration: (15 Marks)	Result Analysis and Testing: (10M)	Q&A and Presentation Skills (10M)	Project Report: (10M)	Weekly Progress Report (5M)	COMMENTS If Any
144	S Nithin	ENG22CS0141	CSE-'C'	P	13	10	8	10	5	
	Sainath	ENG22CS0146	CSE-'C'	P	13	10	8	10	5	
	Satwik Kashyap	ENG22CS0155	CSE-'C'	P	13	10	8	10	5	
	Shashank S	ENG22CS0161	CSE-'C'	P	13	10	8	10	5	
46	Yash Choudhary	ENG22CS0511	H	P	10	6	6	8	0	
	Yash kumar	ENG22CS0512	H	P	10	6	6	8	0	
	Vrshal Bipil	ENG22CS0504	H	P	10	6	6	8	0	
	B. Vrgnesh Ram	ENG22CS0524	D	P	10	6	6	8	0	
145	Satish S	ENG22CS0153	C	P	15	10	8	10	5	
	Shaik Fahad	ENG22CS0158	C	P	15	10	8	10	5	
	Sharanu Mitta	ENG22CS0160	C	P	15	10	8	10	5	
	Suhaib yasir	ENG22CS0189	C	P	15	10	8	10	5	
90	Tejas K M	ENG22CS0480	CSE-G	P	13	9	9	9	5	
	Sudheshna Nayak	ENG22CS0472	CSE-G	P	13	9	9	9	5	
	S V S Sujal	ENG22CS0426	CSE-G	P	13	9	9	9	5	
	Sriram Puranik	ENG22CS0467	CSE-G	P	13	9	9	9	5	
05	Gunupudi Amrutha	ENG22CS0311	E	P	13	8	10	10	5	
	Giridharan K.S	ENG22CS0306	E	P	13	8	10	10	5	
	K.V Sahana	ENG22CS0332	E	P	13	8	10	10	5	
	Lalith	ENG22CS0322	E	P	13	8	10	10	5	

Dr. P. Poongodi

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SCHOOL OF
ENGINEERING

Bachelor of Technology
in
COMPUTER SCIENCE AND ENGINEERING

Special Topic Report

(VALIDIFY)

By

Adarsh Priyadarshi – ENG22CS0517
Bilal Ahmed NK – ENG22CS0032
Abhinash Kumar Bej - ENG22CS0004
Vivek S.H. - ENG22CS0510

Under the supervision of

Dr. Bipin Kumar Rai
Professor (CSE)

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING,
SCHOOL OF ENGINEERING
DAYANANDA SAGAR UNIVERSITY
(2023-2024)

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Devarakaggalahalli, Harohalli
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SCHOOL OF ENGINEERING

Department of Computer Science & Engineering

CERTIFICATE

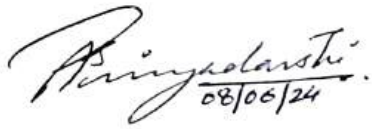
This is to certify that the Special Topic titled **"VaLiDiFy"** is carried out by **Adarsh Priyadarshi (ENG22CS0517), Abhinash Kumar Bej (ENG22CS0004), Bilal Ahmed NK (ENG22CS0032), Vivek S.H. (ENG22CS0510),** bonafide students of Bachelor of Technology in Computer Science and Engineering at the School of Engineering, Dayananda Sagar University, Bangalore in partial fulfillment for the award of degree in Bachelor of Technology in Computer Science and Engineering, during the year **2023-2024**.

Dr. Bipin Kumar Rai	**Dr. Girisha G S** 10/6/24	**Dr. Uday Kumar Reddy K R**
Professor	Chairman, CSE	Dean
Dept. of CSE,	School of Engineering	School of Engineering
School of Engineering	Dayananda Sagar University	Dayananda Sagar University
Dayananda Sagar University		
Date:	Date:	Date:

Name of the Examiner	Signature of the Examiner
1. Dr. Bipin Kumar Rai	
2. Prof. Shilpa Sudheendaran	
3. Dr. T. Poongodi	

DECLARATION

We, **Adarsh Priyadarshi (ENG22CS0517), Abhinash Kumar Bej (ENG22CS0004), Bilal Ahmed NK (ENG22CS0032), Vivek S.H. (ENG22CS0510)** are students of the fourth semester B.Tech. in **Computer Science and Engineering**, at School of Engineering, **Dayananda Sagar University**, hereby declare that the Special Topic titled **"Title"** has been carried out by us and submitted in partial fulfilment for the award of degree in **Bachelor of Technology in Computer Science and Engineering** during the academic year **2023-2024**.

Student	**Signature**
Adarsh Priyadarshi **ENG22CS0510 :**	
Abhinash Kumar Bej **ENG22CS0004 :**	
Bilal Ahmed NK **ENG22CS0032 :**	
Vivek S.H. **ENG22CS0510 :**	

Place : Bangalore

Date : 08/06/2021

ABSTRACT

In today's world, where degrees and qualifications are super important, fake certificates mess things up and make it hard to trust people. Research shows there are lots of fake certificates running in the work place, making employers, schools, and government agencies doubt if people are really qualified. Many studies have found cases where people pretend to have degrees they don't, making it tough for businesses and industries to trust anyone. The VALIDIFY Certifications project aims to tackle the problem of fake certifications by making a strong verification system. We aim to utilize the application of blockchain in this project, as blockchain provides decentralized, secure, and nonmodifiable capabilities, making it suitable for maintaining sensitive data. Our goal is to create a safe and protected system to check if certificates are real. We'll ensure usage technology(ies) to verify certificates against our trusted database, so people can trust that qualifications are legitimate. This will help reduce the risk of fake certificates and make people trust the validity of qualifications / e-certificates again. This shall also maintain cost-effectiveness, as blockchain technology allows us to keep digital assets safe at a low cost, making it an essential tool for maintaining and verifying academic qualifications. We, with the VALIDIFY Certifications project aim to build a system that helps everyone trust qualifications. This project aims to protect the value of degrees and professional qualifications, by preventing fraud and maintaining the standards high.

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SCHOOL OF ENGINEERING

School of Engineering

Department of Computer Science and Engineering

B Tech, Special Topic (2023-24)

Names & USN of Team Members	Anish Pranav	ENG22CS0237
	Yashas G Goutham	ENG22CS0212
	Vishwa R G	ENG22CS0609
	Dhruti Kalluri	ENG22CS0613
Name of the Guide	Priyanka S Marellavar	
Final Project Title	HOSPITAL MANAGEMENT SYSTEM	
Team No	91	

ABSTRACT

The purpose of the Hospital Management System (HMS) project is to develop an integrated software solution that streamlines administrative and clinical processes within healthcare institutions. HMS aims to enhance patient care, improve operational efficiency, and ensure regulatory compliance through a user-friendly platform. Existing challenges in hospital management, such as inefficient administrative processes and fragmented patient data, necessitate an advanced system to address these issues. Previous research indicates that while various HMS implementations have improved hospital operations, issues like data security, interoperability, and user resistance remain. This project aims to investigate these challenges and develop a comprehensive HMS that overcomes these barriers. The primary objectives are to automate patient management, appointment scheduling, and staff coordination, optimize resource utilization, and enhance data security and compliance. The research methods involve a combination of system design, software development, and iterative testing. User feedback will be incorporated to refine the system, ensuring it meets the diverse needs of healthcare providers and patients. By leveraging modern technologies and focusing on usability and security, this HMS project seeks to deliver a robust solution that improves healthcare delivery and operational effectiveness in multispecialty hospitals.

Guide Signature

SCHOOL OF ENGINEERING

School of Engineering
Department of Computer Science and Engineering
B Tech, Special Topic (2023-24)

Names & USN of Team Members	SUPRITHA NAYAKA B N	ENG22CS0194
	UMABHARATHI N M	ENG22CS0200
	PRAJNA C	ENG22CS0120
	PREETHI S	ENG22CS0124
Name of the Guide	Prof. K Radhika	
Final Project Title	Language detection using natural language processing.	
Team No	60	

ABSTRACT

Natural language processing (NLP) helps computers understand and interpret human language. It's like teaching computers to understand and respond to what people say or write. Examples include Siri and Alexa. NLP can also figure out what language a text is written in. Using a Python model, we can analyze the basic elements of any language. By understanding the words in sentences and their context, NLP helps us make sense of information, whether it's written or spoken. It enables computers to understand human language and respond correctly. Several programming languages can be used to implement language detection using NLP techniques. Some common choices include Python is widely used in NLP projects due to its rich ecosystem of libraries, which provide robust tools for text processing and language detection. and Java offers libraries like Apache Open NLP and Stanford NLP, which provide language detection capabilities along with other NLP functionalities. and also C/C++ These languages are often used for implementing high-performance NLP algorithms and models. JavaScript is commonly used for web-based applications, and libraries like franc and lang detect provide language detection capabilities for JavaScript developers.

K. Radhika
Guide Signature

DAYANANDA SAGAR
UNIVERSITY

DAYANANDA SAGAR UNIVERSITY

Department of Computer Science Engineering (Data Science)

School of Engineering

Report on

"Unifying Data Science: Cooperative Strategies for Tackling Complex Problems"

Date: 6th November, 2023 **Time: 11:00 AM – 1:00 PM**

Resource Person:
Mr. Arun Kumar
Founder & CEO, Nikki.Build

Mr. Amruth Raj
Founder, Nikki.Build

Organizers:

Prof. Manjula M
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

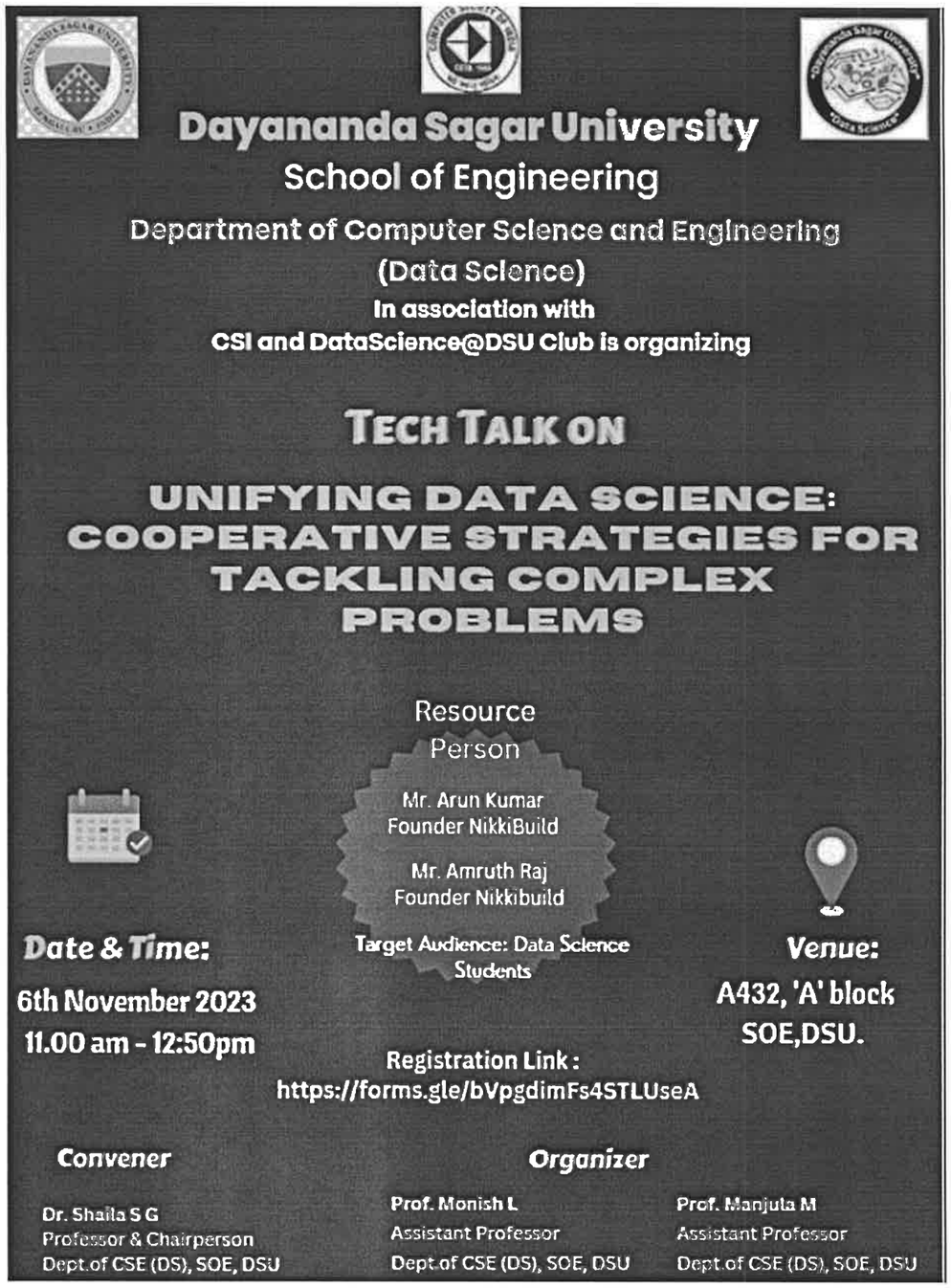
Prof. Monish L
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Convener:

Dr. Shaila SG
Professor &
Chairperson Dept. of CSE(DS)
SoE, DSU

6/11/23
CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

Target Audiences: 3rd Semester students of CSE (DS)



The DataScience@DSU Club, the Department of CSE (Data Science) organized a workshop on **"Unifying Data Science: Cooperative Strategies for Tackling Complex Problems"** held on 6th Nov 2023 organized by **Prof. Monish L,** Assistant Professor, Dept. of CSE (Data Science), and **Prof. Manjula M,** Assistant Professor, Dept. of CSE (Data Science).

Mr. Amruth Raj and Mr. Arun Kumar, Founder & CEO of Nikki.Build has an IT

experience of 15 Years and worked in IT and Banking sector, with a German company gave an insight on building prototypes in low cost and joy of building the models with low code with existing built in the libraries.

The Takeaways of the event are:

1. Guide them on creating a professional and consistent personal brand as an entrepreneur.
2. Provide insights into different industries-based prototypes.
3. Incorporate interpersonal skills, adaptability, and problem-solving abilities in rapid prototype building.
4. Encourage students to implement Industry 5.0 human machine interaction models in areas of interest.

Unifying Data Science: Cooperative Strategies for Tackling Complex Problems

The Department of CSE (Data Science) organized a session on **"Unifying Data Science: Cooperative Strategies for Tackling Complex Problems"** on 6th Nov 2023 for the 3rd-semester students.

The session was graced by the esteemed presence of Mr. Arun Kumar, the Founder and CEO Nikkibuild, who shared his wealth of knowledge and experience on how to prepare for a successful career in industry as an entrepreneur. The session commenced with an overview of the dynamic data science landscape.

A rapid prototype building with low code for industry 5.0 Interaction with every line of coding which makes learning more practical and creative. As the agenda of industry 5.0 for Human machine collaboration is implemented in more than 20 models were demonstrated in the session, such as working of Zomato, self-driving JCB model, oximeter, touch less controls.

Some applications demonstrated to students

- Air drop application using common zoom in and out application
- Easy speech interaction using Anyang library,
- Data collection from Bluetooth made easy using BLE (Bluetooth low energy) library
- Vehicle performance prediction with low cost
- Gesture control with low cost using media.pi library

- Tracking of vehicle in Zomato and Swiggy using leaflet library

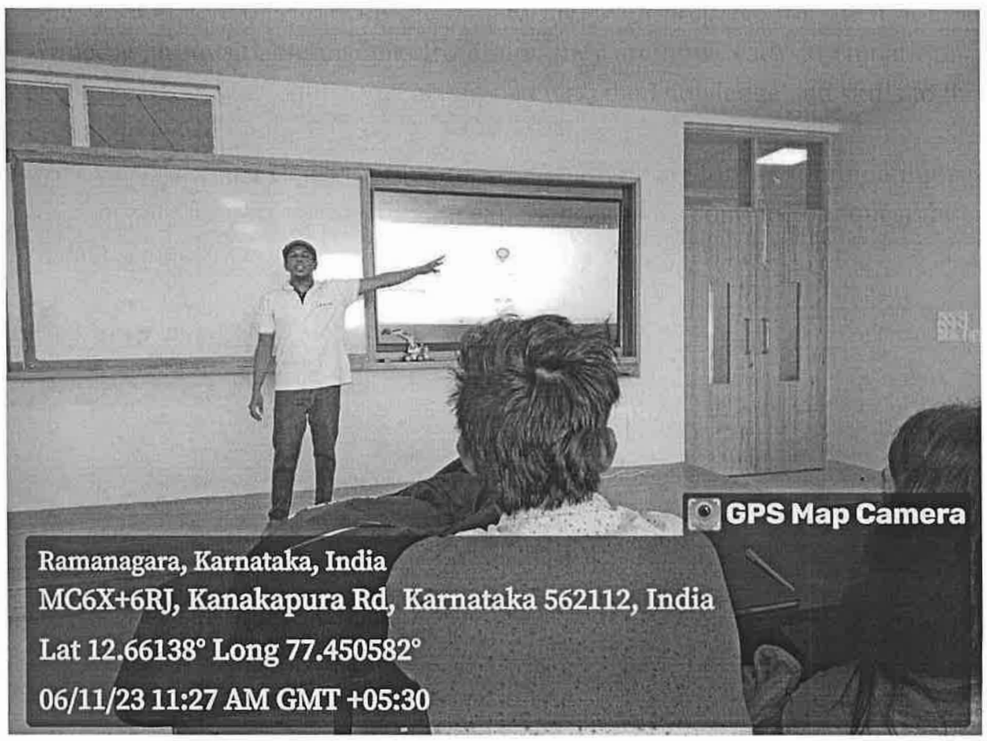
Arun Kumar Sir emphasized the rapid growth and ever-increasing demand for prototypes with low cost and affordable across various industries. He delved into the crucial aspect of creating a easy going model for the layman. He provided valuable insights into what employers look for in a data science candidate's, including highlighting key skills, projects, and achievements. His tips on skill development and future as were particularly enlightening.

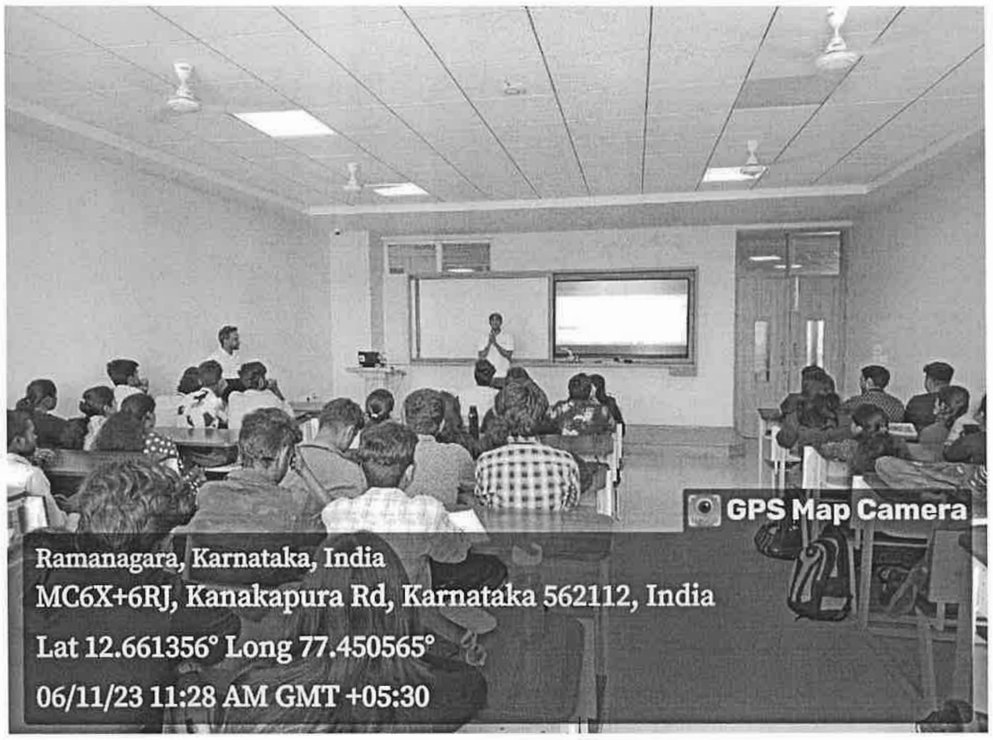
The session concluded with a glimpse into the promising future that awaits data science enthusiasts. Mr. Arun Kumar spoke about the myriad of career paths as an entrepreneur and opportunities that data science offers.

The session left the students motivated and well-prepared for their journey ahead. Armed with invaluable insights from him, they are now ready to embark on their data science careers with confidence, equipped with the knowledge and skills to thrive in the corporate world.

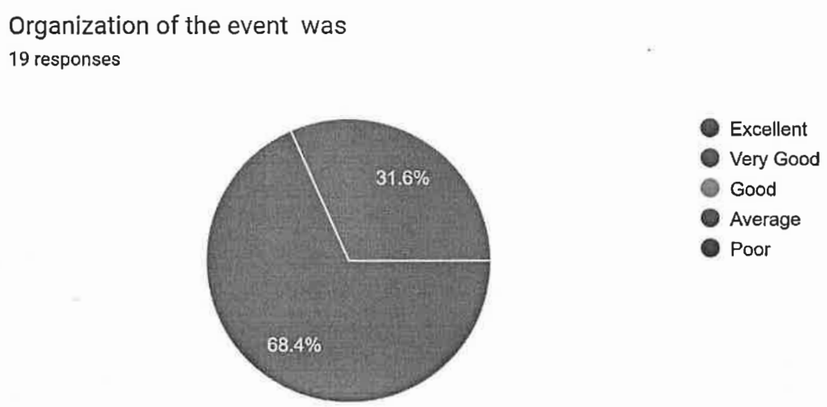
We extend our heartfelt gratitude to Mr. Arun Kumar for his illuminating session and look forward to more such enriching experiences as we continue our quest for excellence in data science in collaboration with Nikki.Build.

Few glimpses of the event:



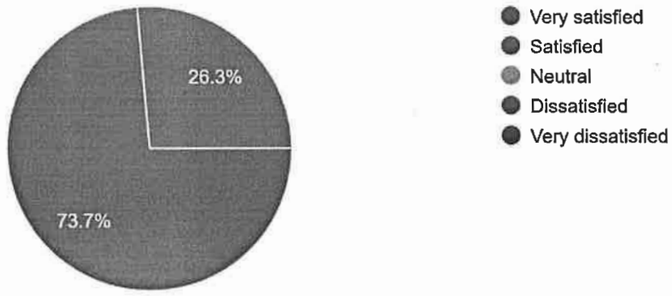


Feedback of the session —



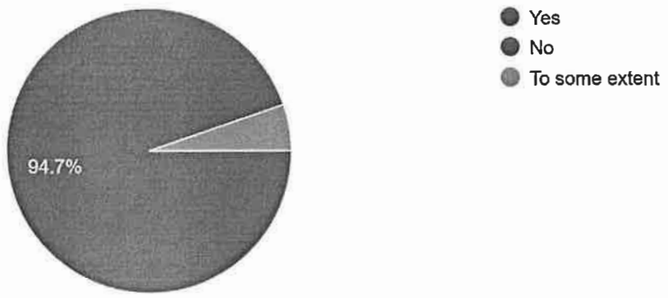
What is your level of satisfaction of the event? (Note: Five is the highest level of satisfaction)

19 responses



The event contents met with your expectations

19 responses



Your inputs/suggestions (if any)

It was a very knowledgeable session with lots of good insights and hands on session.

We need an workshop session

Excellent.

Good knowledge for students

Interesting session

very intresting

I would like to be a part of workshop

Very interesting

It was a great session

- Good understanding

Thank You

CHAIRPERSON
Dept of CSE (Data Science)
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Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

SCHOOL OF ENGINEERING

Devarakagalahalli, Harohalli, Ramanagara Dt.

Department of CSE (Data Science)

Event Name: Tech Talk on ""Unifying Data Science: Cooperative Strategies for tackling complex problems

Date: 6th November 2023

USN	Student Name	Signature	
ENG22DS0001	DEEPIKA G		
ENG22DS0002	HARSHA		
ENG22DS0003	HARSHITA JEETENDRA BHUTE		
ENG22DS0004	JANARDHAN K S		
ENG22DS0005	MOHAMMED ARMAN		
ENG22DS0006	MOHAMMED FAIZAN KHAN		
ENG22DS0007	PAVAN PREETHAM MUKKUNDA		
ENG22DS0008	PRIYANKA BAI B K		
ENG22DS0009	PUNITH N		
ENG22DS0010	R SINDHU		
ENG22DS0011	RAJAT GOPALKRISHNA SALUNKE		
ENG22DS0012	RANJITHA C		
ENG22DS0013	RICHITHA S		
ENG22DS0014	SACHIN CHANDRAM BHOSAGI		
ENG22DS0015	SAHANA S M		
ENG22DS0016	SAHANA VITTAL SHETTY		
ENG22DS0017	SANJANA T		
ENG22DS0018	SRI SAI NITHIN P		
ENG22DS0019	SUJEETH KUMAR D S		
ENG22DS0020	VARUN R		
ENG22DS0021	VEERESH		
ENG22DS0022	VENKAT NIVAS REDDY K		
ENG22DS0023	VINITH K M		
ENG22DS0024	VIRIKA OLIVIA SOANS		
ENG22DS0025	AKSHAT JAIN		
ENG22DS0026	ANSHUMAN		
ENG22DS0027	BANU VARSHIT B		
ENG22DS0028	HIFZA AHMED		
ENG22DS0029	HIT KARAN SINGH RATHORE		
ENG22DS0030	JOB JOMY		
ENG22DS0031	K RAYVANTH		
ENG22DS0032	KOVARTHANA K		

ENG22DS0033	KURUBA RENUKA		
ENG22DS0034	KURUBA VEERESH		
ENG22DS0035	M ABILASH		
ENG22DS0036	MAHI GUPTA		
ENG22DS0037	MANAV ANAND JOSHI		
ENG22DS0038	N PRANAV REDDY		
ENG22DS0039	NITIN PRAJWAL R		
ENG22DS0040	PAVAN KUMAR G		
ENG22DS0041	RAMANA VEL B V		
ENG22DS0042	SHERLYN ROSE		
ENG22DS0043	SHUSHMA S		
ENG22DS0044	SIDDHANT JAIN DAISHIN		
ENG22DS0045	TEEKALA GOWTHAM		
ENG22DS0046	THANYA U GANIGA		
ENG22DS0047	VINU RAJ VAMSHI		
ENG22DS0048	ADITYA NISHAD		
ENG22DS0049	ARIAN KOVACS		
ENG22DS0050	LIKITH SHETTY S R		
ENG22DS0051	MALLIREDDY KRUSHI KETHAN REDDY		
ENG22DS0052	NEMAKAL HARSHA VARDHAN		
ENG22DS0053	ROOPAK R		
ENG22DS0054	S KRITIK VASAN		
ENG22DS0055	SHRAVANTH GOWDA N		
ENG22DS0056	SUGESH K G		
ENG22DS0057	VENKATA SUSHAL NALANAGU		

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING, KUDLU GATE, BENGALURU – 560068
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
(DATA SCIENCE)

Report on:

CODE-A-BIT '24

Get Your Geek On

DATE: 21st MARCH AND 22nd MARCH, 2024

TIME: 8:45AM - 4:30 PM

VENUE: GALLERY HALL-01 & GE HEALTHCARE, A-BLOCK, CAMPUS-03

Chief Guest:

Mr. Vinod Shankar
CEO, AIC-DSU

Event Coordinators:

Vaishali VB
Assistant Professor, Dept. of CSE(DS)

Shahwar Ara Kazi S
Assistant Professor, Dept. of CSE(DS)

Manjula Gowda M
Assistant Professor, Dept. of CSE(DS)

Event Conveners:

Dr. Amit R Bhatt
Vice Chancellor, SoE, DSU

Dr. Udaya Kumar Reddy K R
Dean, SoE, DSU

Dr. Shaila S G Chairperson,
Dept. of CSE(DS)

Event Organizer:

Dr. Kakoli Bora
Associate Professor, Dept. of CSE(DS)

Participants: School of engineering students.

22/3/24

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

Event Conve[illegible]rs:

Dr. Amit R Bhatt
Vice Chancellor, DS[illegible]

Dr. Udaya Kumar [illegible] K P
Dean, School of Engi[illegible]ring, DS[illegible]

Dr. Shadia S G
Chairperson, Dept. o[illegible]E(DS)

Event Orga[illegible]r:

Dr. Kakoli Bora
Associate professor, Dept. of [illegible]E(DS)

Event Coordina[illegible]s:

Vaishali .VB
Assistant professor, Dept. of CS[illegible]E(DS)

Shahwar Ara Kam[illegible]
Assistant professor, Dept. of CS[illegible]E(DS)

Manjula Gowda, M[illegible]
Assistant professor, Dept. of CS[illegible]E(DS)

STUDENTS OF DATA SCIENCE DEPARTMENT, 6th S[illegible]

CONTACT DE[illegible]ILS

For any queries plea[illegible]ontac[illegible]

ABHISHEK - 9358[illegible]969
SRINIVAS - 7406[illegible]13
SULBHAM - 9103[illegible]142

DAYANANDA SAGAR UNIVERSITY

School of Engineering under Dayananda Sagar University provides Science & Technology based Education that is required to develop high caliber Engineers suitable for Industry and Scientific Organization.

Department of CSE (Data Science)

Welcome to the Department of Data Science at DAYANANDA SAGAR UNIVERSITY. Whether you're a budding data enthusiast or a seasoned tech wizard, the programs are designed to ignite your passion for analytics, algorithms, and insights.

Participants may register by clicking link or scanning the QR code below.

REGISTRATION LINK
https://docs.google.com/forms/

SCAN CODE

Dayananda Sagar University
School of Engineering, Kudlu Gate, Bengaluru - 560068
Department of Computer Science and Engineering (Data Science)

CODE - A - BIT '24

GET YOUR GEEK ON

Welcome to CODE-A-BIT '24, an exhilarating convergence of technology, creativity, and learning!

About the Event

CODE-A-BIT '24 is a dynamic technical symposium that brings together brilliant minds, aspiring engineers, and tech enthusiasts. Hosted by Data Science Department, this event promises an unforgettable experience filled with knowledge-sharing, and thrilling competitions.

Dates: 21st & 22nd March 2024

Venue: Gallery Hall
&
GE HEALTH CARE,BLOCK A

KUDLU GATE, DSU CAMPUS 3

DAY [illegible]
MAR - [illegible]

Captivating software [illegible]minds [illegible]join Code-A-Bit 2024 event.

ROUND 1: INNOVA[illegible]TER[illegible]E

In this round, pu[illegible]ur [illegible]gn prowess to the [illegible]test. Create intuitive and visu[illegible]appe[illegible]ing UI design. We get to test [illegible]ur designing skills a[illegible]creativity. Using any comfort[illegible]pla[illegible]m Showcase your cre[illegible]ty.

ROUND 2: Front En[illegible]hon[illegible]

A captivating so[illegible]are [illegible]nd. participants explo[illegible]int[illegible]he world of front-end [illegible]velo[illegible]ent using HTML, Java[illegible], CSS[illegible]ey get to showcase [illegible]r cre[illegible]ty, design skills, a[illegible]te[illegible]ical knowledge by cra[illegible]g e[illegible]ing and visually appea[illegible]desi[illegible]

GUIDELINES

- ID CARD IS MANDATORY
- Reporting Time is 8:45 am
- A Maximum of 4 and a Minimum of 2 members per teams are allowed
- Each team must carry their laptops along with charger
- Teams must be present on both the days of the event
- College dress code must be followed
- Participants are advised to carry lunch
- Refreshments will be provided
- Judges reserve the right to disqualify any team indulged in misbehavior/ malpractices
- Judges decision shall be final and binding on all

Join us as we celebrate innovation, ignite curiosity at CODE - A - BIT 24'

DAY 2
MAR - 22

ROUND 3: MIND SPRINT

Join the Mind Sprint quiz round and race against the clock! From algorithms to programming languages, from hardware to software, we've got a brain-teasing lineup of questions.

ROUND 4: DATA FUSION

In this Round, Given a problem statement and a dataset, analyze, visualize, and extract meaningful insights. Whether you're a data scientist or just curious about numbers, this round will challenge your analytical skills.

CODE-A-BIT'24: Get Your Geek On! Held on March 21st and 22nd, 2024, at the Gallery Hall-01 & GE Healthcare A-Block, Campus-03, this event, organized by the **Department of Computer Science and Engineering - Data Science**, showcased the technical prowess and innovation of students from the School of Engineering at DSU. Featuring four engaging rounds - Innovative Interface, Frontend Knockout, Mind Sprint, and Data Fusion - participants demonstrated their skills in UI design, web development, quiz challenges, and data analytics. With the esteemed presence of Chief Guest, **Mr. Vinod Shankar, CEO, AIC-DSU**, and the guidance of our dedicated event coordinators and conveners, CODE-A-BIT'24 exemplified our commitment to academic excellence and technological advancement. This report encapsulates the highlights, achievements, and insights gained from this enriching experience.

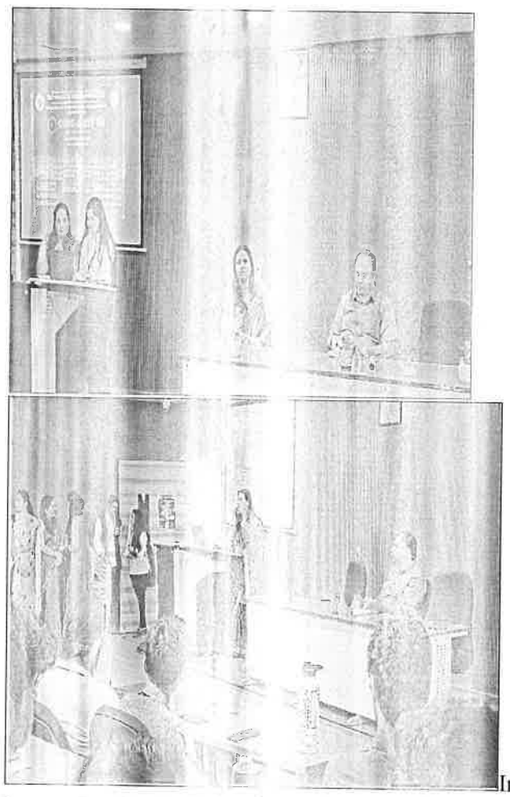


Image: **Prof. Vaishali VB** and **Bindhu B** Image: Dr. **Shaila S** addressed the gathering. Welcomed the dignitaries.

DAY-01 (MARCH 21st)

Round 1: Innovate Interface - UI Design Round

The first round, Innovate Interface, focused on **UI design,** where participants were tasked with redesigning the official website of the **Indian Space Research Organisation (ISRO)** while ensuring visual appeal and appropriateness.

Round Overview:

- Challenging participants to showcase their design abilities by completely redesigning the ISRO website's user interface.
- Required to create visually appealing and appropriate UI designs that effectively conveyed ISRO's mission, vision, brand identity and values.

Image: Briefed about the First round to all the participants

Participants' Tasks:

- Conduct a thorough analysis of the existing ISRO website to identify areas requiring improvement in terms of design, usability, user experience, and overall aesthetic appeal.
- Incorporate modern design elements and trends, such as responsive layouts, intuitive navigation menus, visually appealing graphics, and multimedia elements, while maintaining the essence of ISRO's brand identity.

- Ensure user-friendly designs by adhering to best practices in UI design principles, accessibility guidelines, and industry standards for web design.

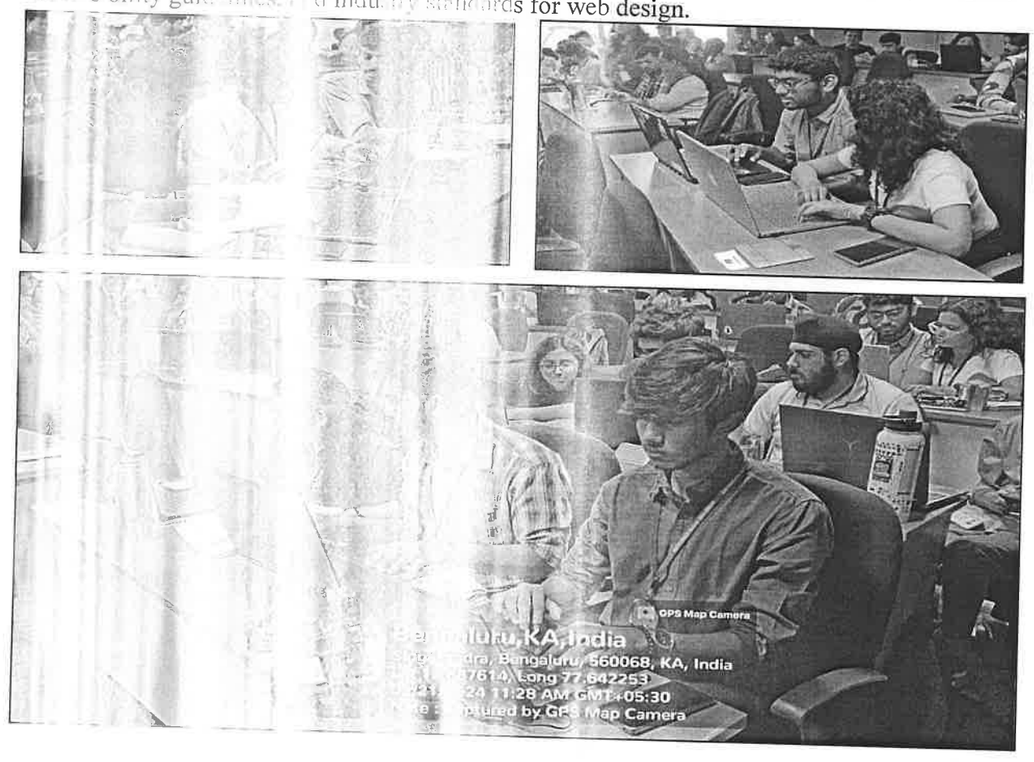


Image: Participants immersed in deep thoughts and discussions.

Design Process:

- Participants were given the freedom to use their preferred design tools, techniques, and methodologies, including wireframing, prototyping, and visual design software.
- They had to consider and address various aspects of UI design, such as layout structure, typography choices, color schemes, iconography, and overall aesthetic appeal.
- An iterative design process was encouraged, where participants were expected to create multiple iterations of their designs, incorporating feedback from peers and mentors, and refining their concepts until they achieved a polished final product.

Submissions and Evaluation:

- At the end of the allotted time, participants submitted their redesigned ISRO website UI designs to the panel of judges.
- The judging panel comprised **Prof. Vivek Wallabhadas, Associate Professor** and **Prof. Komala DS, Assistant Professor** from Design and Digital Transmedia, DSU.
- The judges meticulously evaluated each submission based on a comprehensive set of criteria, including visual appeal, usability, adherence to ISRO's branding guidelines, creativity, innovation, attention to detail, and overall design quality.
- Their expertise and discerning eye ensured a fair, unbiased, and comprehensive evaluation process.

Image: Prof. Vaishali Vi[illegible] discussing judging criteria with the judges

Round01 Judges **Prof. Vivek Wallabhadas** and **Prof. Komala DS**

Winners of innovate in office round:

Tea MEATB LS
Fro Dept. of SE
- Pr nka Datta ENG S0309
- Sr ari ENG S0344
- Sa i Singh ENG S0343

Ro d 2: Fro t-En Knocko t

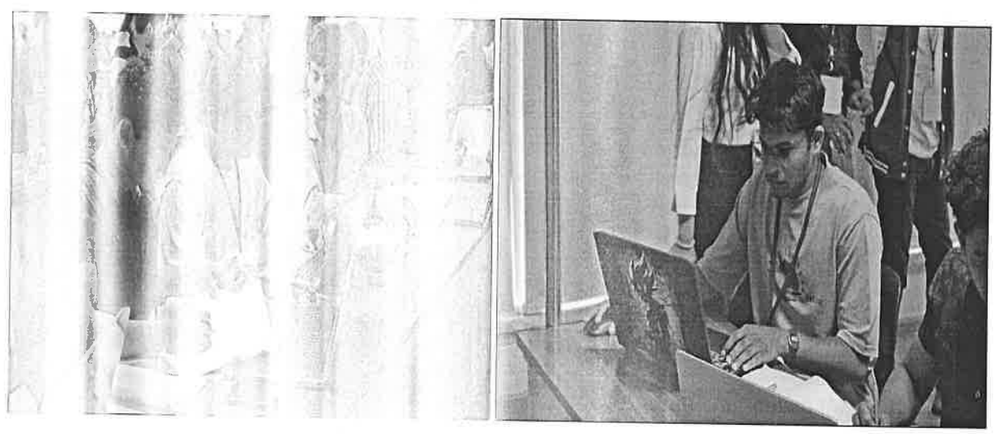
The cond roun Front nd Knockout brought an exhilarating challenge to the competition.

Rou Overvie :

- Pa ipants en aged i thrilling game of memory and coding prowess as they navigated thro n three lev ls of i casing comp xity.
- Th were teste on th bility to rec ate website designs using front-end technologies like HTM , CSS, an JavaS pt.

Par pants' Ta ks:

- Fo ch level, website design was b efly displayed to the participants.
- Af the brief xposure participants d to replicate the website's design and functionality usin ront-end c ding la guages and f meworks.
- Th omplexit of the bsites in ed with each level, requiring participants to display thei laptability nd pro m-solv g s lls.



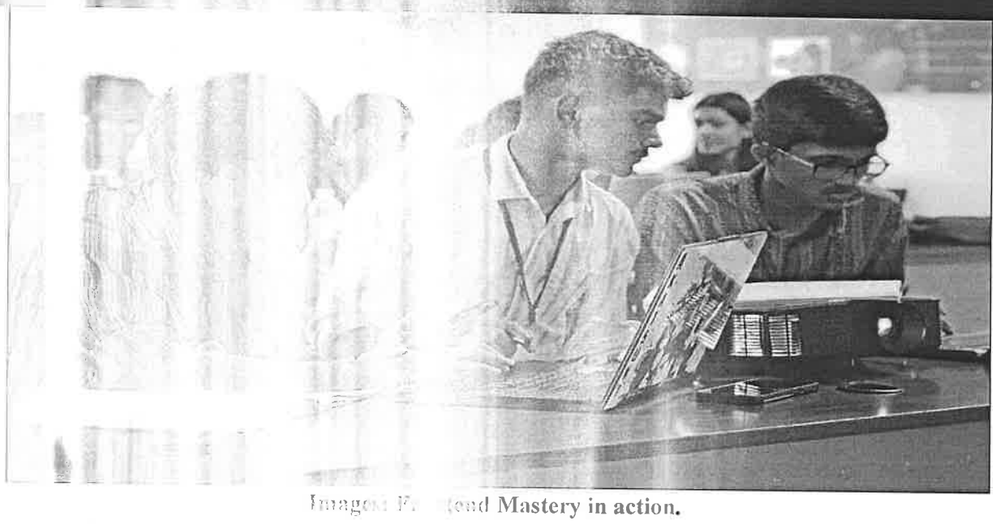


Image: F[illegible]ead Mastery in action.

Cha[illegible]nge Details:
- Le[illegible]l 1: Participants[illegible]ed to recrea[illegible]n basic website layout with minimal styling and inte[illegible]ivity.
- Leve[illegible] 2: The di[illegible]ficulty [illegible]creased with[illegible]ore complex design elements, animations, and user inte[illegible]ions to be imple[illegible]ted.
- Le[illegible] 3: The final leve[illegible] presented a [illegible]ly-fledged website with intricate designs, dynamic com[illegible], and adva[illegible]ced fu[illegible]ionality.

Eva[illegible]tion Crit[illegible]ria:
- Ac[illegible]acy in rep[illegible]icating [illegible]e website de[illegible]gns, including layout, styling, and responsiveness.
- Pro[illegible] implem[illegible]tation [illegible] interacti[illegible]ity [illegible]d functionality using JavaScript.
- C[illegible]le quality, o[illegible]ganizat[illegible]n, and adher[illegible]e to best practices.
- Pe[illegible]formance op[illegible]timizati[illegible]n and cross-b[illegible]rowser compatibility.

Jud[illegible]g Panel:
- M[illegible]ranav, a senior student with [illegible]xpertise in front-end development and a 2024 batch, was invi[illegible]to act as the judge for this round.

Sub[illegible]sions and Evaluation:
- Pa[illegible]pants submitted their coded solu[illegible]ns for each level within the allotted time.
- Th[illegible]dge meticulously evaluated each submission, assessing their ability to think on their feet[illegible]le efficiently, and deliver under pressure.
- Pa[illegible]pants were encouraged to collaborate and support each other, fostering a sense of com[illegible]nity within the competition.

Win[illegible]s of Front-end Knockout:

Tea[illegible]ET US COOK
Fro[illegible]ept. of CSE

- K[illegible]Balaji [illegible]NG21CS[illegible]105
- Na[illegible]eep Singh [illegible]NG21CS[illegible]261
- Au[illegible]w Nitin Joseph [illegible]NG21CS[illegible]164
- Ja[illegible]ha JK [illegible]NG21CS[illegible]168

DAY-0 (MARCH 22nd)

Ro[illegible]3 – Mind Sprint:

- Th[illegible]rd round of the event conducted on Day 2 was a quiz round, consisting of **40 questions** in to
- Th[illegible]z comprised 15 questions on **lo[illegible]e guessing**, identifying places, and persons, followed by [illegible]estions on **non-technical and g[illegible]neral topics**, and concluded with 15 **technical-based** que[illegible]
- Th[illegible]nd was conducted on the platf[illegible]m called **Mentimeter** and involved 22 participating tean
- Si[illegible]rules w[illegible]re set fo[illegible] the roun[illegible], requiring each team to use only one phone, visibly placed in fi[illegible] of a volunteer.
- Th[illegible]nd did not require panel mem[illegible]s, as the Mentimeter platform automatically scored part[illegible]nts base[illegible] on the speed of their answers.
- Th[illegible]z comm[illegible]nced at 9:30 am, with [illegible] initial explanation of rules and regulations followed by a[illegible] round to famil[illegible]arize participants with the platform.
- Th[illegible] in quiz lasted until 10:30 am, e[illegible]ompassing a variety of challenging questions to test the[illegible] knowledge and quick thinking abilities.

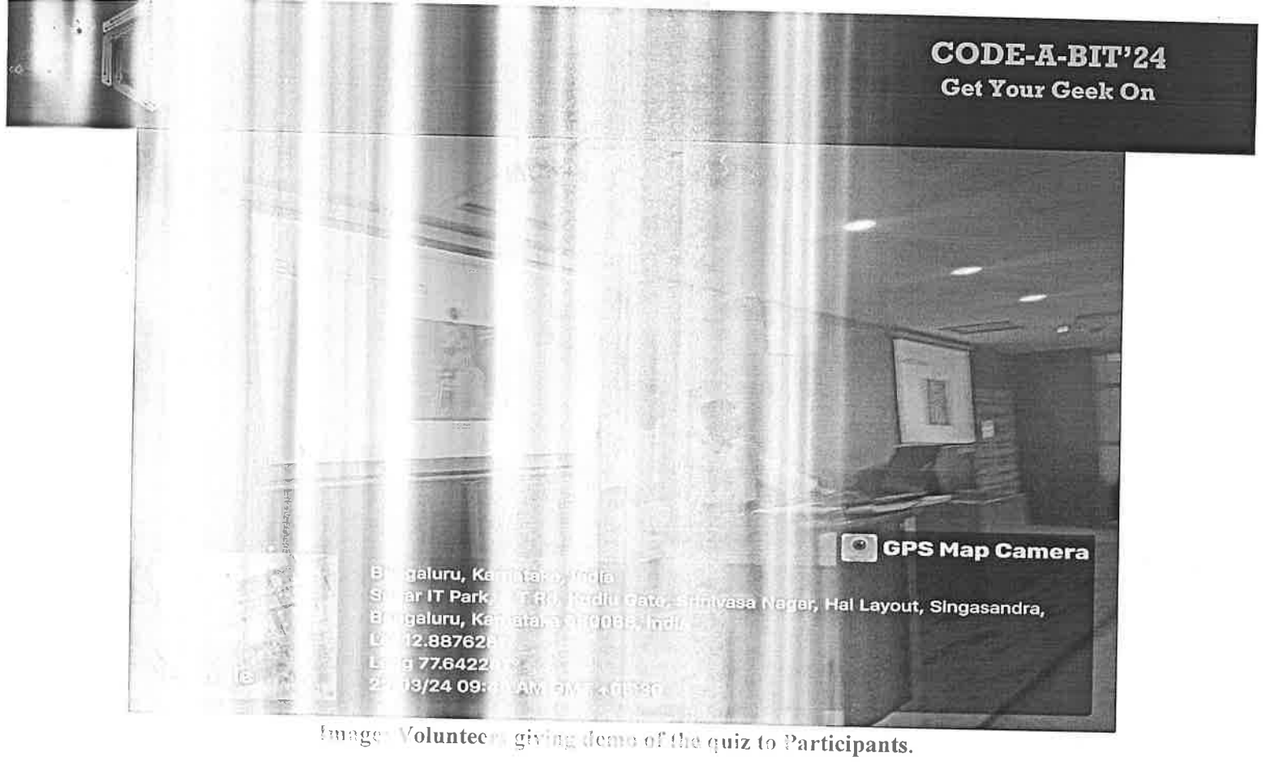


Image: Volunteer giving demo of the quiz to Participants.

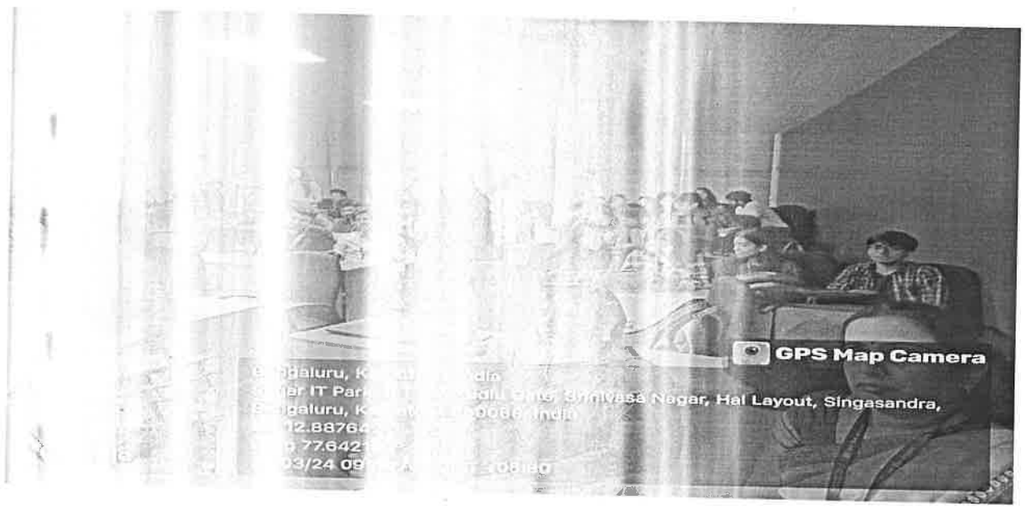


Image: Volunteers strictly monitoring the participants during the Quiz.

Vol[illegible] of Mind Sprint

Tea[illegible] CODE COOK
Dep[illegible]t. of CSE

- [illegible]aji ENG21CS0195
- [illegible]p Singh ENG21CS0261

- [redacted] Nitin Joseph ENG[redacted]C20164
- [redacted] JK ENG[redacted]C20168

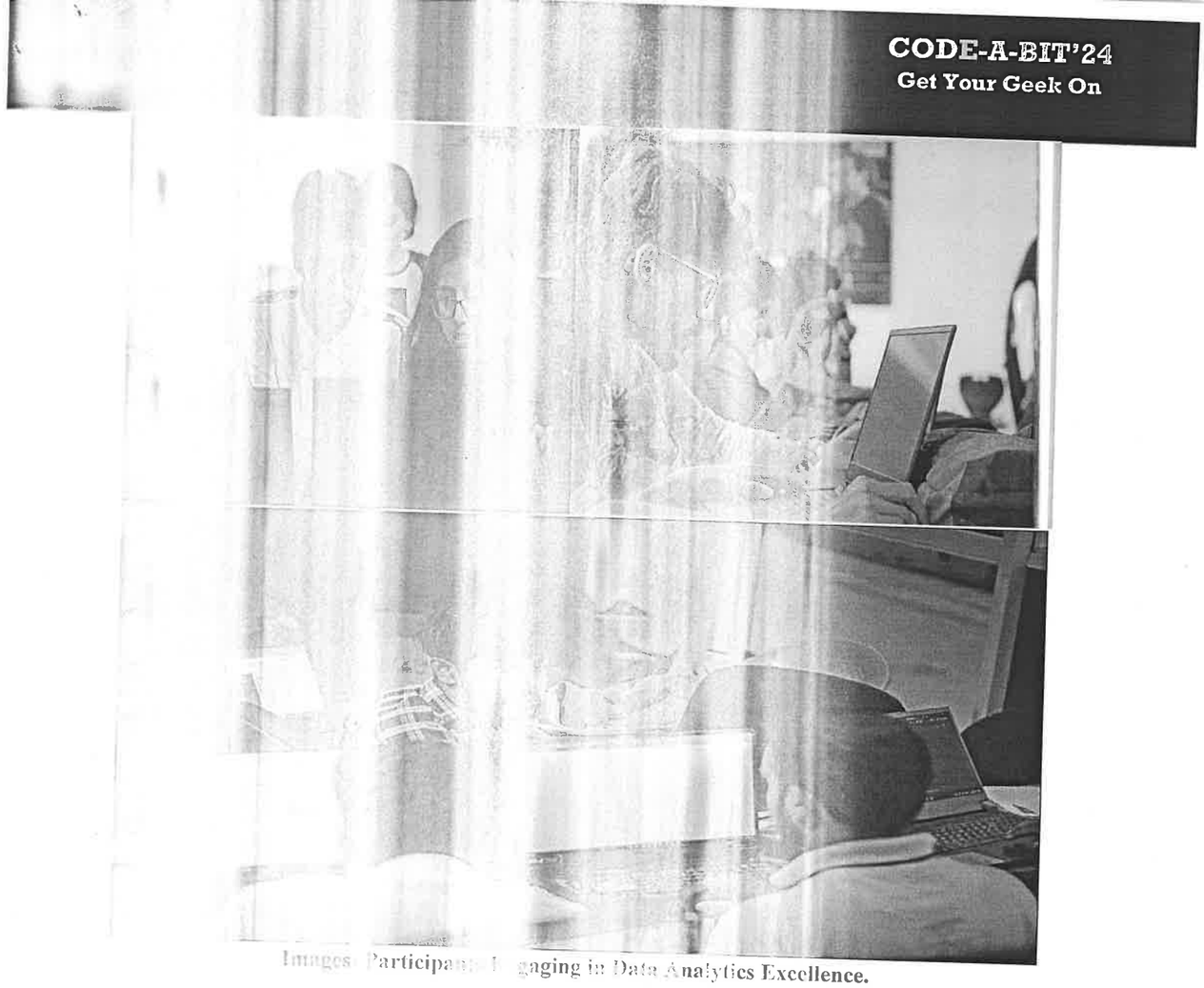
Ro[redacted]4- DATA F[redacted]SION:

Ch[redacted]:

- Th[redacted] usion is a **Data Analytics round**, where each participant team was tasked with sol[redacted]blem statemen[redacted]s based o[redacted] a dataset. Each team must also make a report or dashboard wh[redacted] supporting th[redacted]r solution[redacted]. Finally, team will have to present their solutions during the [redacted]ion round.
- Th[redacted]ing round is [redacted]n intellectually challenging round that engages the participant in pr[redacted]ing. This greatly reveals to the student, different perspectives on how to look at pro[redacted]nd find new a[redacted]proaches to solving them successfully.

Ro[redacted]verview:

- Th[redacted] was given a specific dataset and 5 problem statements associated with it. They hav[redacted]g the proble[redacted]s by applying data analysis techniques such as filtering, grouping and [redacted].
- Th[redacted] had to solve problem state[redacted]ents with the help of bar, line, pie, correlation charts an[redacted]isualization c[redacted]mponents.
- Th[redacted]s were sugges[redacted]d to use a dashboard/report making platform called Looker Studio, to[redacted]their charts.
- Th[redacted] charts they had to make observations and identify patterns and trends to gain ins[redacted]o arrive at pot[redacted]ntial conclusi[redacted]ns and present them to the Panel to judges



Images: Participants Engaging in Data Analytics Excellence.

Ex edure:

15 teams w o were sched ! and participated in this round.

t making s sion bega 11:30 am and ended at 1:00 pm, after which the had to subm their repo rough a form link.

began with articipan iously waiting for the problem statements. Once the roblem stat nents were p vided, the teams began to brainstorm and discuss the ams though ully prepa heir solution and submitted their report.

submission ot ended at 1: 0pm with, after which participants left for lunch. They o assemble 2:00pm fo e presentation session.

tation sessio began at PM, when each team had to come up to the stage to solutions w their repo the Judges, with the report displayed.

ad to answe ny questio sked by the judges.

an presenti their solutions by showing visualizations and explained the trends served from the charts. They not only proved their points, but also suggested new rove a busine s, interpre results and suggested better alternatives.

ntation round ended at 4:0 pm, thereby all teams completing their presentation task.

Image: Participants presenting their reports to the Judges.

JUDGES:

uresh, Consultant from Archlynk India Pvt. Ltd. and alumni of DSU, who is in Data Analysis, was invited to act as the judge for the Data Fusion round.

Bora, Associate Professor from the Department of Computer Science and (DATA SCIENCE), DSU having 17 years of teaching and research experience, to join the panel of judges

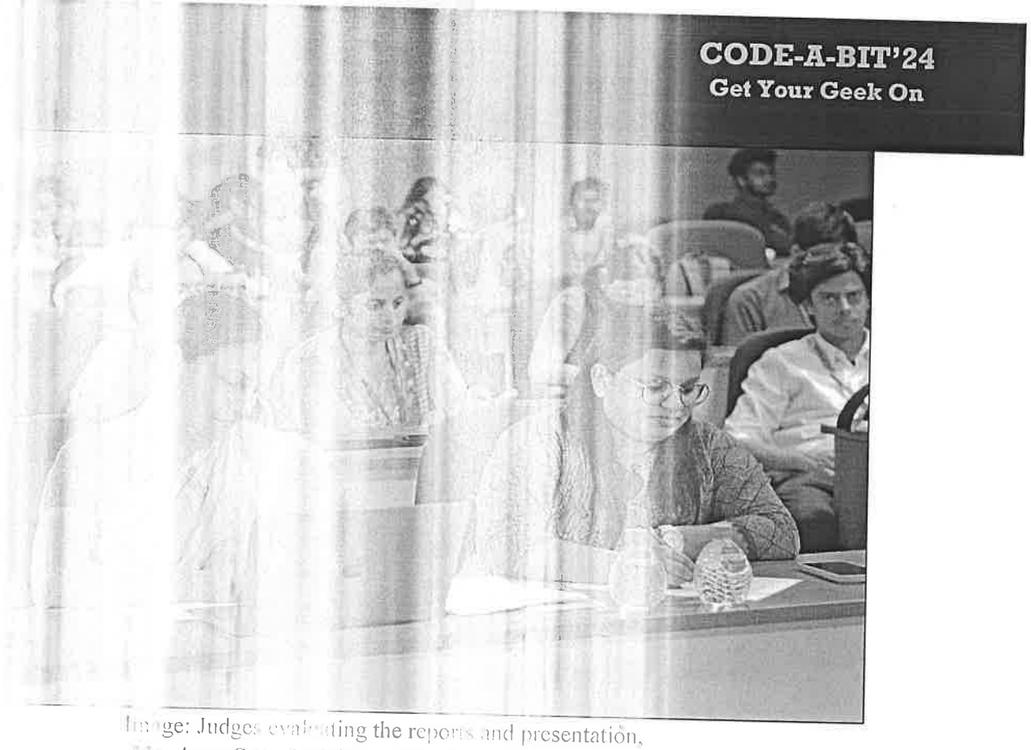


Image: Judges evaluating the reports and presentation,
Ms. Arya Suresh(right) and Dr. Kakoli Bora, (left)

e evaluated and awarded points based on their solution, reasoning, report content
tion.
s who artfully justified their solution with convincing and accurate reasons with
ds, were awarded more points by the panel of Judges.

Data Fusion Round:

ERACT
of CSE

ENG21CS0286
ENG21CS0427
Sriniketh ENG21CS0283
us Rajiv ENG21CS0330

Top 3 Event winners:

S COOK
of CSI

	ENG21CS0195
ngh	ENG21CS0261
n Joseph	ENG21CS0164

Chief Guest Mr. Vinod Shankar presents First prize to team **"Let Us Cook".**

T CRAFTERS
F of CST

-] [illegible] [illegible]G21CT0029
-] [illegible]ly K [illegible]G21CT0007
-] [illegible] [illegible]G21CT0019
- \ [illegible]G22AM3015

Dr. M Shal na Parveen pre ents second prize t team "TECHCRAFTERS"

T BALLS
F CSE

- ra 1NG21CS0309
- 1NG21CS0344
- h 1NG21CS0343

Image: Dr. Shaila S G presents third prize to team "MEATBALLS"

Suresh sharing her thoug

Image: DR. Shaila SG presenting a momento to the chief guest Mr. Vinod Shankar.

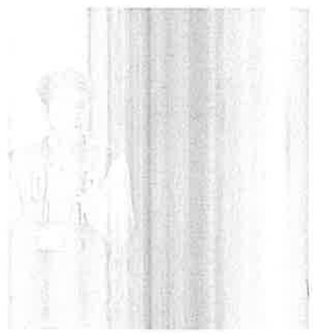
P Be presenting a momer
alabhas

Image: prof Vaishali VB presenting a momento to Ms. Komala D S

CODE-A-BIT PARTICIPANTS

NTEERS (6th SEM CSE-DATA SCIENCE STUDENTS)

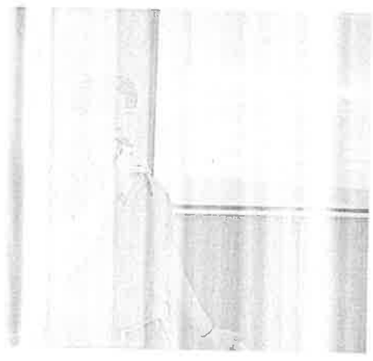
Event Feedback



"This event is interesting because it covers a range of domains, providing students with different skill sets the chance to participate and engage."

- Varun S

n ion and organization are e cellent
nc were particularly engagin "
- KVS Bal i



"Organizin events is typically challenging, but this e is quite well-organized. The effective pl ning was evident."

- Seung Eon Choi

: nnovate Interface

y of Problem Statement

um

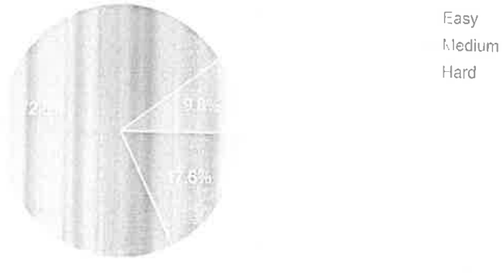
E llent
V Good
G d
A age
P

C ar and Easy to understand
S mewhat Confusing
U clear

E cellent
V ry Good
G od
A erage
P or

Front End Knockout:

of Experience



p Importance
e

Excellent
Very Good
Good
Average
Poor

ll Clarity
e

Clear and Easy to understand
Somewhat Confusing
Unclear

Mind Sprint:

...iz enjoyable ?

...to recommend this ...iz to a friend

Very Likely
Likely
Neutral
Unlikely
Very Unlikely

questions

- Clear and Easy to understand
- somewhat Confusing
- Unclear

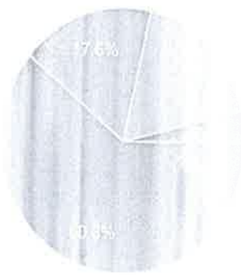
- Excellent
- Very Good
- Good
- Average
- Poor

Data Fusion:

xperience

tance

ns



22/2/24

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

DAYANANDA SAGAR UNIVERSITY

DAYANANDA SAGAR UNIVERSITY

Department of Computer Science Engineering (Data Science)

School of Engineering

In Association with DataScience@DSU Club

Report on

Abhyudaya

Creativity, Talent, and Skills of the Youth

Date: 26th October, 2023 **Time: 2:00 PM – 4:00 PM**

Convener:

Dr. Amit Bhatt
Pro-Vice Chancellor, DSU
Dr. Udaya Kumar Reddy KR
Dean, SoE
Dr. Shaila S G
Chairperson, Dept. of CSE (DS)

Organizers:

Prof. Shivamma D
Prof. Monish L
Assistant Professor
Dept. of CSE(DS)

Target Audiences: 3rd Semester students of CSE (DS)

26/10/23

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

The DataScience@DSU Club, the Department of CSE (Data Science) organized a Non-Technical Event **"Abhyudaya"**- Creativity, Talent, and Skills of the Youth, Singing And Debate Competition held on 26th October 2023 organized by Dr. Shaila S G, Professor and Chairperson, Dept. of CSE(Data Science), Prof. Shivamma D and Prof. Monish L, Assistant Professor, Dept. of CSE (DS).

The event was tailor-made for third-semester B.Tech students, featuring both Singing and Debate competitions with AI Ethics as the debate topic, revealed just five minutes before the event's commencement.

Judge: Dr. Kiran B. Malagi, Chairmen, Dept of CSE (Cyber Security)

Objective: To provide a comprehensive understanding of AI ethics and foster students' skills in both singing and debate through engaging competitions.

Key takeaway: To gain a deeper understanding of AI ethics and develop their singing and debate abilities in a dynamic and challenging environment.

Winners of the event

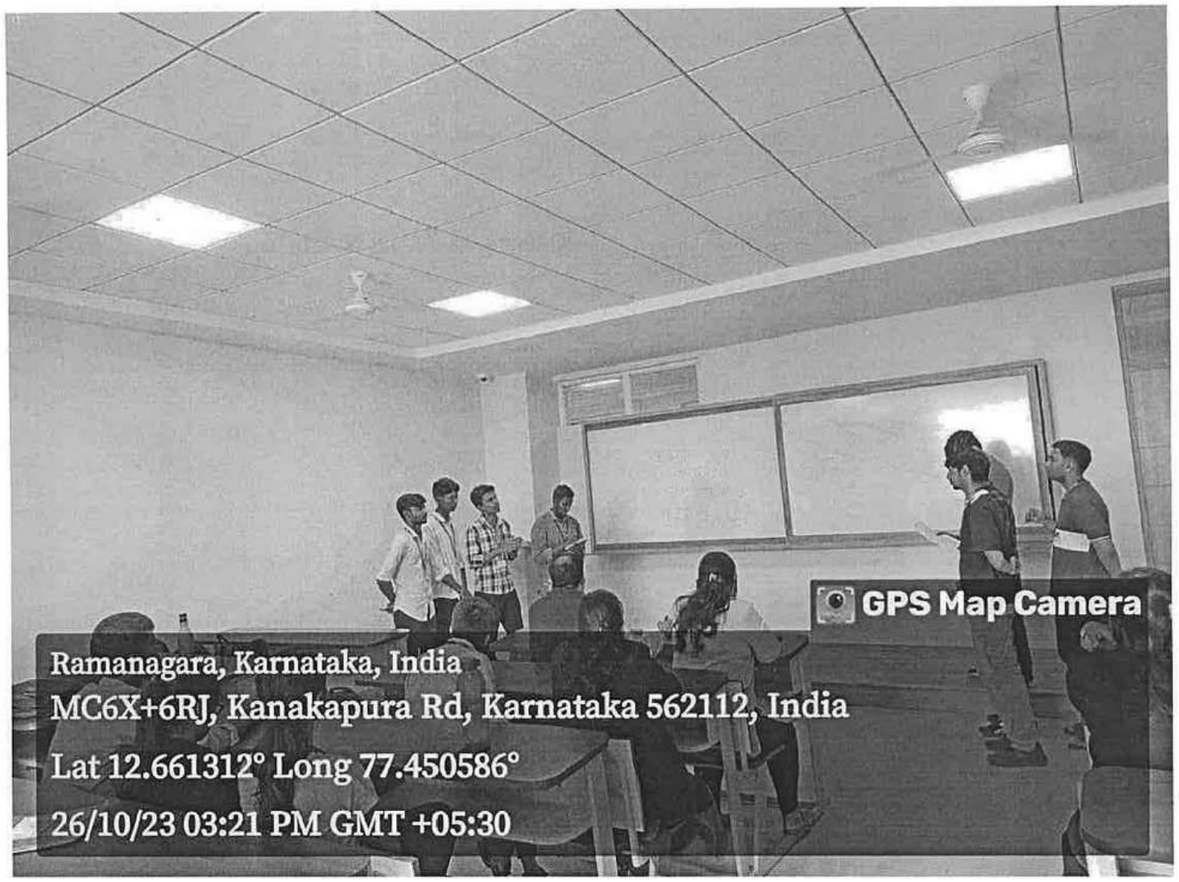
Debate Compitation:

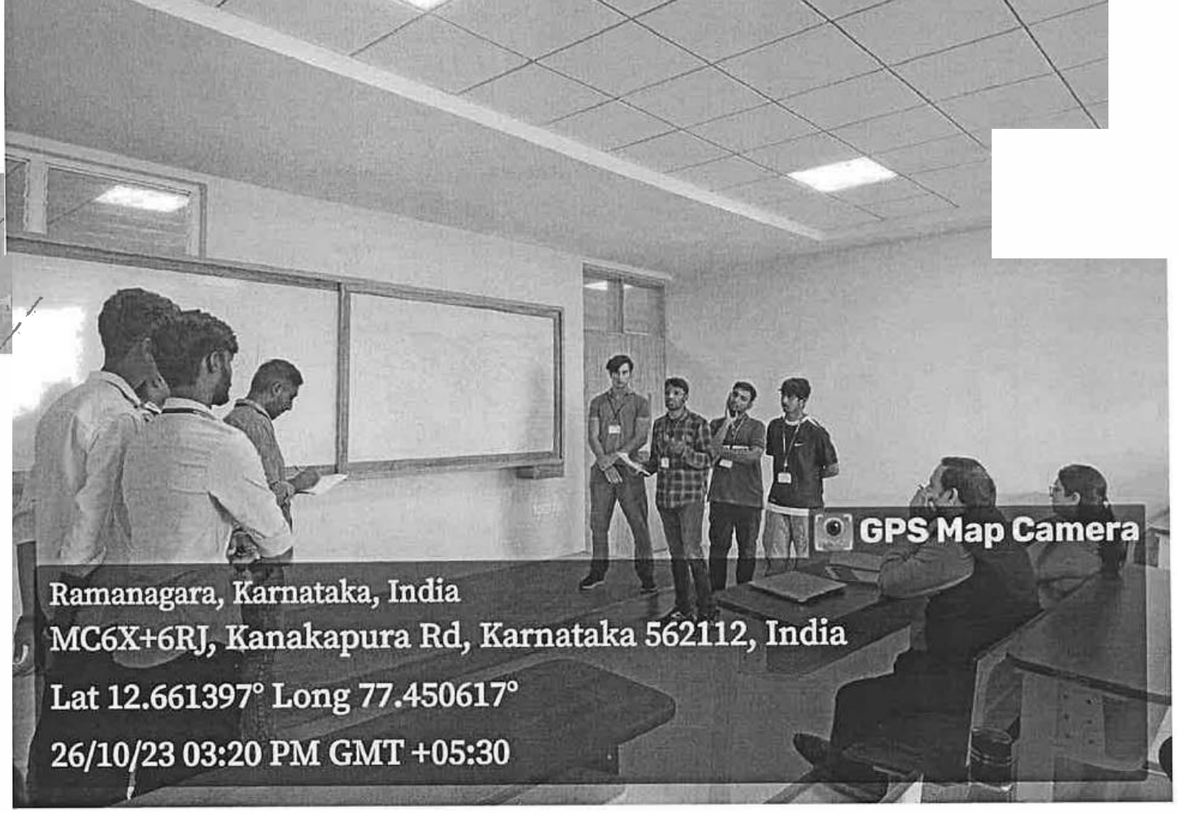
- Venkat Nivas Reddy K.
- Job jomy
- Vinuraj Vamshi
- Arian Kovacs

Singing Compitiation:

- Venkat Nivas Reddy K.

Glimpses of the event


GPS Map Camera
Ramanagara, Karnataka, India
MC6X+6RJ, Kanakapura Rd, Karnataka 562112, India
Lat 12.661312° Long 77.450586°
26/10/23 03:21 PM GMT +05:30


GPS Map Camera
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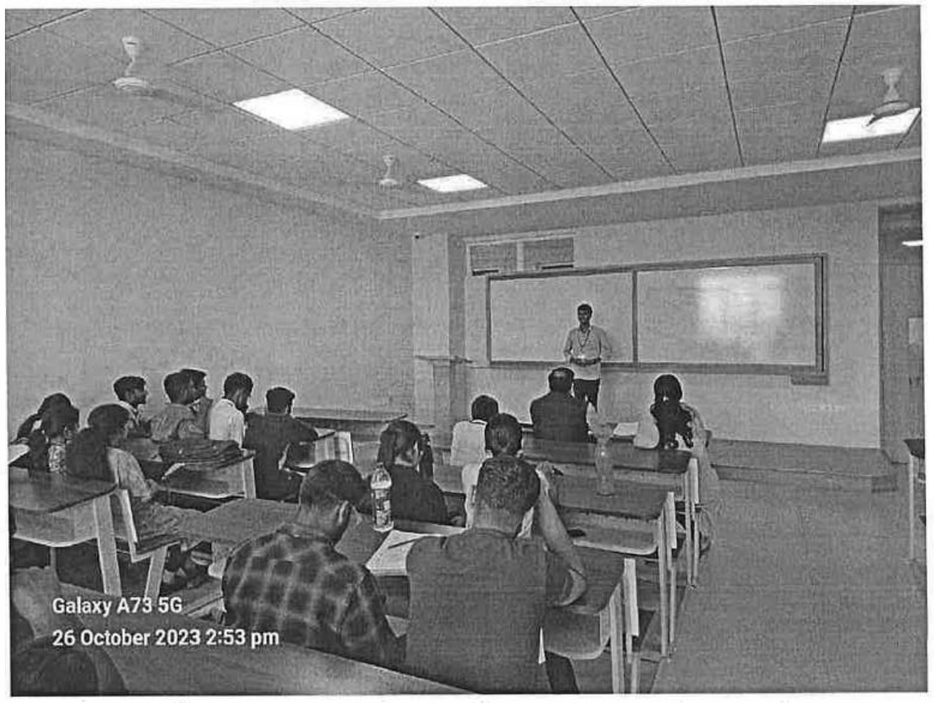
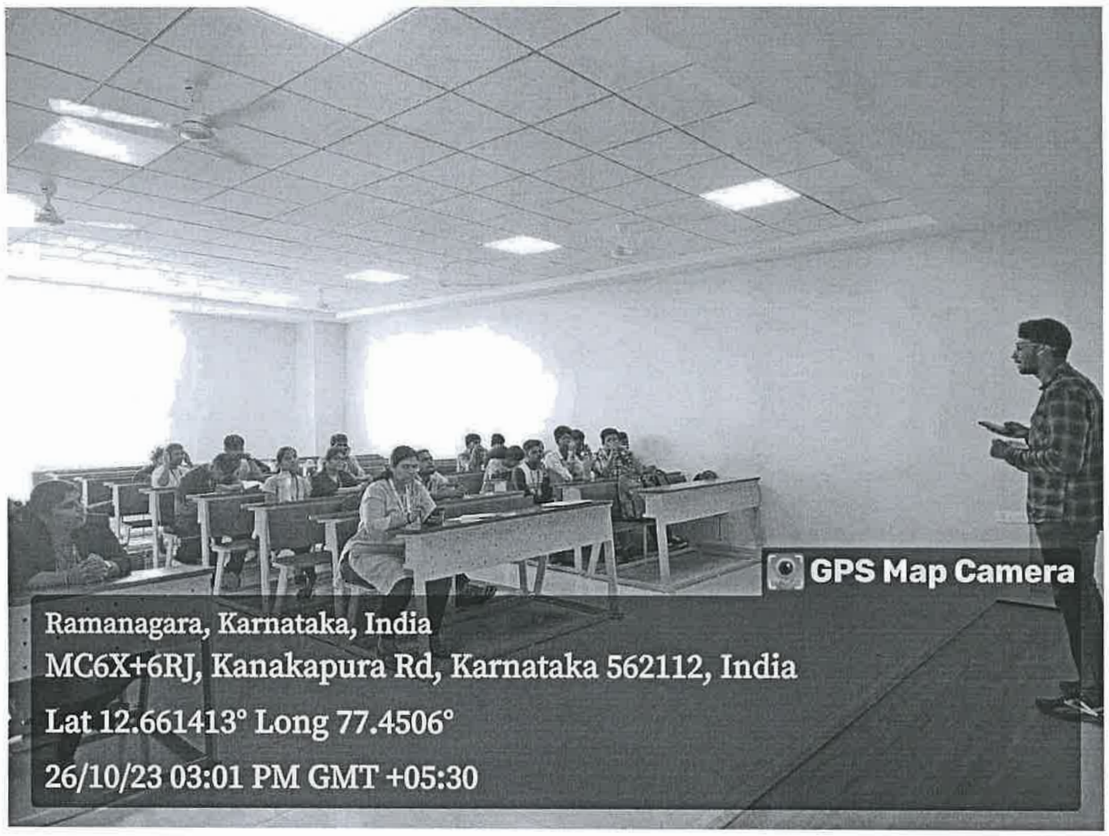

Galaxy A73 5G
26 October 2023 2:53 pm



Thank You.

26/10/23

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

SCHOOL OF ENGINEERING

Devarakagalahalli, Harohalli, Ramanagara Dt.

Department of CSE (Data Science)

Event Name: Abhyudaya

Date: 26/10/2023
12-4 pm

USN	Student Name	Gender	Signature
ENG22DS0001	DEEPIKA G	F	
ENG22DS0002	HARSHA	M	
ENG22DS0003	HARSHITA JEETENDRA BHUTE	F	
ENG22DS0004	JANARDHAN K S	M	
ENG22DS0005	MOHAMMED ARMAN	M	
ENG22DS0006	MOHAMMED FAIZAN KHAN	M	
ENG22DS0007	PAVAN PREETHAM MUKKUNDA	M	
ENG22DS0008	PRIYANKA BAI B K	F	
ENG22DS0009	PUNITH N	M	
ENG22DS0010	R SINDHU	F	
ENG22DS0011	RAJAT GOPALKRISHNA SALUNKE	M	
ENG22DS0012	RANJITHA C	F	
ENG22DS0013	RICHITHA S	F	
ENG22DS0014	SACHIN CHANDRAM BHOSAGI	M	
ENG22DS0015	SAHANA S M	F	
ENG22DS0016	SAHANA VITTAL SHETTY	F	
ENG22DS0017	SANJANA T	F	
ENG22DS0018	SRI SAI NITHIN P	M	
ENG22DS0019	SUJEETH KUMAR D S	M	
ENG22DS0020	VARUN R	M	
ENG22DS0021	VEERESH	M	
ENG22DS0022	VENKAT NIVAS REDDY K	M	
ENG22DS0023	VINITH K M	M	
ENG22DS0024	VIRIKA OLIVIA SOANS	F	
ENG22DS0025	AKSHAT JAIN	M	
ENG22DS0026	ANSHUMAN	M	
ENG22DS0027	BANU VARSHIT B	M	

ENG22DS0028	HIFZA AHMED	F	
ENG22DS0029	HIT KARAN SINGH RATHORE	M	
ENG22DS0030	JO B JOMY	M	
ENG22DS0031	K RAYVANTH	M	
ENG22DS0032	KOVARTHANA K	F	
ENG22DS0033	KURUBA RENUKA	F	
ENG22DS0034	KURUBA VEERESH	M	
ENG22DS0035	M ABILASH	M	
ENG22DS0036	MAHI GUPTA	F	
ENG22DS0037	MANAV ANAND JOSHI	M	
ENG22DS0038	N PRANAV REDDY	M	
ENG22DS0039	NITIN PRAJWAL R	M	
ENG22DS0040	PAVAN KUMAR G	M	
ENG22DS0041	RAMANA VEL B V	M	
ENG22DS0042	SH ERLYN ROSE	F	
ENG22DS0043	SHUSHMA S	F	
ENG22DS0044	SIDDHANT JAIN DAISHIN	M	
ENG22DS0045	TEEKALA GOWTHAM	M	
ENG22DS0046	TH ANYA U GANIGA	F	
ENG22DS0047	VI NU RAJ VAMSHI	M	
ENG22DS0048	ADITYA NISHAD	M	
ENG22DS0049	ARIAN KOVACS	M	
ENG22DS0050	LIKITH SHETTY S R	M	
ENG22DS0051	MALLIREDDY KRUSHI KETHAN REDDY	M	
ENG22DS0052	NEMAKAL HARSHA VARDHAN	M	
ENG22DS0053	ROOPAK R	M	
ENG22DS0054	S KRITIK VASAN	M	
ENG22DS0055	SHRAVANTH GOWDA N	M	
ENG22DS0056	SUGESH K G	M	
ENG22DS0057	VENKATA SUSHAL NALANAGU	M	

26.10.23

Singing

1.	Vinith K. M. - Sapta Sagarodacheyalle	05/10	Full song ✗ Tune ok
2.	Janardhan - Mahaprabhadeepam	04/10	Tune not ok ✗ Lyric ✗ Full song ✓
3.	Venkat - Isq wala love	07/10	Tuning ✗ Melody ok
4.	Ranjitha - Oh shanekho	06/10	Tuney ✗ Pitch variation
5.	Priyanka - Preetse	04/10	Voice shakey.

Debate:

The Ethics of AI : threats/Favorism

Positive

1) Venkat & team

	Coordination	topic
Pitch	1	1
Sustain	1	0
conclude	0	1

Negative

2) Janardhan & team

Coordn	point
1	0
1	0
0	0

DAYANANDA SAGAR UNIVERSITY

School of Engineering

Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara Dt, Bengaluru – 562 112

Department of Computer Science and Engineering (Data Science)

Certificate of Apreciation

The certificate is presented to

Venkat Nivas Reddy K

Successfully participated in the "Abhyudaya-Creativity, Talent, and Skills of the Youth" Debate Competition (Ethics of AI) Organised by Department of Computer Science & Engineering (Data Science), School of Engineering, Dayananda Sagar University, Bengaluru on 26 October, 2023 congratulations for winning 1st position.

DR. SHAILA S G
PROFESSOR AND CHAIRPERSON
DEPT. OF CSE (DS), DSU

DR. UDAYA KUMAR REDDY K R
PROFESSOR AND DEAN
SCHOOL OF ENGINEERING, DSU

Date of Issue: 7th November, 2023

DAYANANDA SAGAR UNIVERSITY

School of Engineering

Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara Dt, Bengaluru – 562 112

Department of Computer Science and Engineering

(Data Science)

Certificate of Apreciation

The certificate is presented to

Vinith KM

Successfully participated in the "Abhyudaya-Creativity, Talent, and Skills of the Youth" Singing (Solo) Competition Organised by Department of Computer Science & Engineering (Data Science), School of Engineering, Dayananda Sagar University, Bengaluru on 26 October, 2023 congratulations for winning 3rd position.

DR. SHAILA S G
PROFESSOR AND CHAIRPERSON
DEPT. OF CSE (DS), DSU

DR. UDAYA KUMAR REDDY K R
PROFESSOR AND DEAN
SCHOOL OF ENGINEERING, DSU

Date of Issue: 7th November, 2023

DAYANANDA SAGAR UNIVERSITY

School of Engineering

Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara Dt, Bengaluru – 562 112

Department of Computer Science and Engineering

(Data Science)

Certificate of Apreciation

The certificate is presented to

Vinuraj Vamshi

Successfully participated in the "Abhyudaya-Creativity, Talent, and Skills of the Youth" Debate Competition (Ethics of AI) Organised by Department of Computer Science & Engineering (Data Science), School of Engineering, Dayananda Sagar University, Bengaluru on 26 October, 2023 congratulations for winning 1st position.

DR. SHAILA S G
PROFESSOR AND CHAIRPERSON
DEPT. OF CSE (DS), DSU

DR. UDAYA KUMAR REDDY K R
PROFESSOR AND DEAN
SCHOOL OF ENGINEERING, DSU

Date of Issue: 7th November, 2023

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

DEPARTMENT OF CSE(DATA SCIENCE)

Report on

Beginner's Guide to Machine Learning and Neural Networks

Date: 08th June, 2024 **Time: 9:00 AM- 1:00 PM**

Resource Person:

Dr. K S Sreedhar

Professor, Dept. of CSE, UBDT, Davanagere

Organizers:

Prof. Shivamma D
Assistant Professor

Prof. Monish L
Assistant Professor

Convener:

Dr. Shaila SG
Professor & Chairperson
Dept. of CSE(DS)
SoE, DSU

8/6/24

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

Target Audiences: 2nd and 4th Semester students of CSE (DS)

Report

The DataScience@DSU Club, the Department of CSE (Data Science) organized a Workshop on **Beginner's Guide to Machine Learning and Neural Networks** held on 8th June, 2024 at **9:00 AM-1:00 PM** organized by **Dr. Shaila S G**, Professor and Chairperson (DS), **Prof. Shivamma D,** Assistant Professor, Dept. of CSE (Data Science), and **Prof. Monish L,** Assistant Professor, Dept. of CSE (Data Science). More than 40+ students have been registered for the event.

The event began with an overview of AI and neural networks, emphasizing their ability to simulate brain function with billions of interconnected nerve cells. Key topics included Static Neural Networks, their structure, and the role of threshold and activation functions in processing inputs. The seminar also covered Artificial Neural Networks (ANN), explaining their architecture and training processes. Participants learned about the perceptron model and the importance of multilayer neural networks in capturing complex data patterns. Interactive workshop sessions provided practical experience, enhancing participants' understanding of neural network applications in machine learning.

Conclusion

The workshop offered a thorough introduction to machine learning and neural networks, making complex concepts accessible to beginners. Participants gained a solid understanding of neural networks' functioning, activation functions' importance, and the training processes for effective models. Practical sessions enriched the learning experience, equipping attendees with skills to apply these concepts in real-world scenarios. This seminar significantly fostered interest and knowledge in artificial intelligence among the participants.

Resource Person: Dr. K S Sreedhar
Professor, Dept. of CSE, UBDT, Davanagere

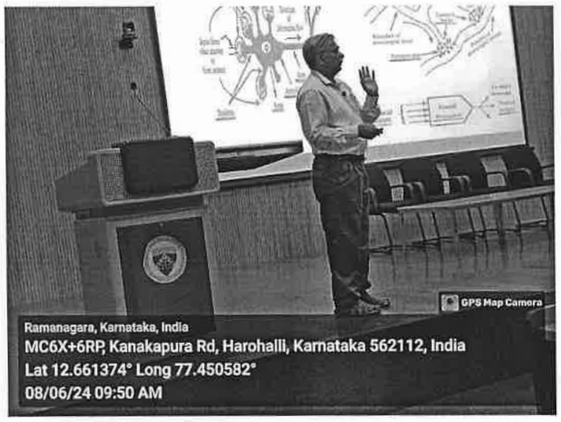
Key Takeaways:

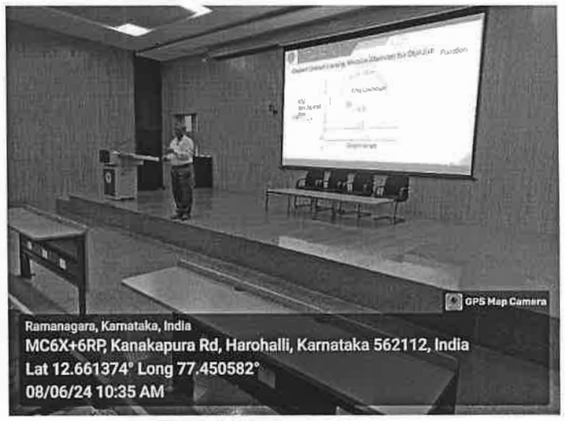
1. Students gained a foundational understanding of neural networks, including their architecture, functioning, and the significance of activation functions, enabling them to grasp complex AI concepts.
2. Students learned how to apply machine learning techniques to real-world problems, preparing them for practical implementation and further study or work in the field of artificial intelligence.
3. Students enhanced their problem-solving skills, equipping them with the tools to tackle complex challenges in AI and data science.

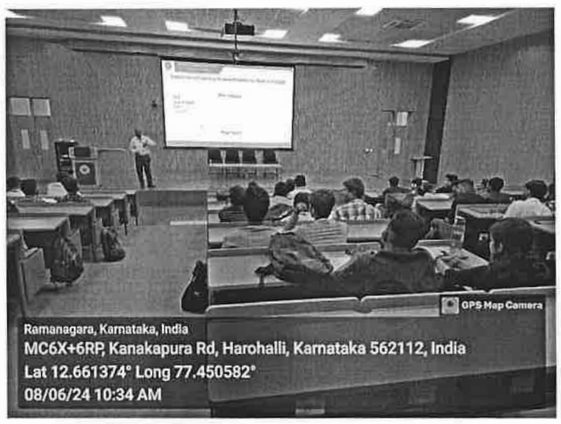
Objectives:

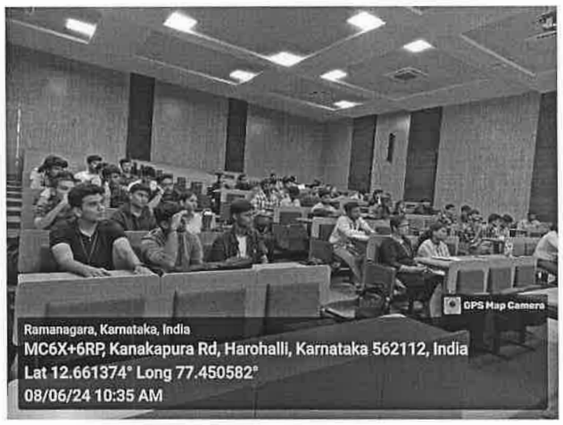
1. To provide participants with a fundamental understanding of artificial intelligence and neural networks, including their architecture, activation functions, and training processes.
2. To encourage a deeper interest in AI and machine learning, equipping participants with the skills and insights necessary for further study or professional work in these fields.

Few glimpses of the event:







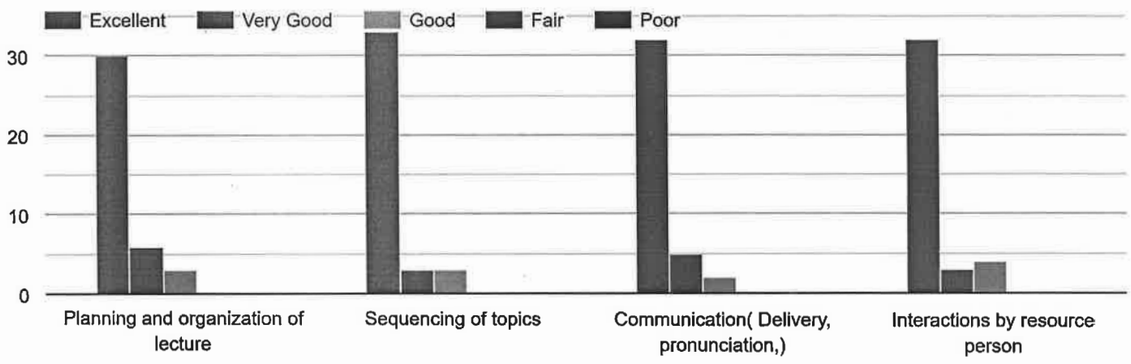


Feedback:

What is your level of satisfaction of the session?(Note: Five is the highest level of satisfaction)

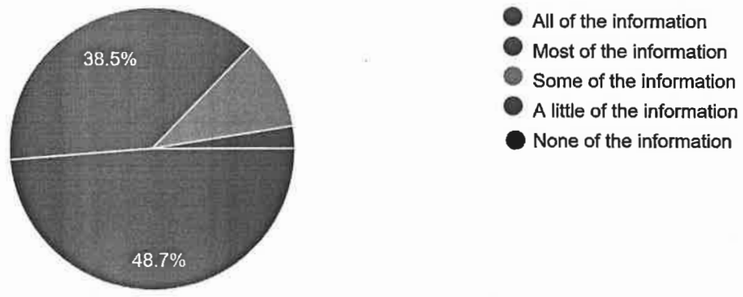
39 responses

Presentation by resource person(s)



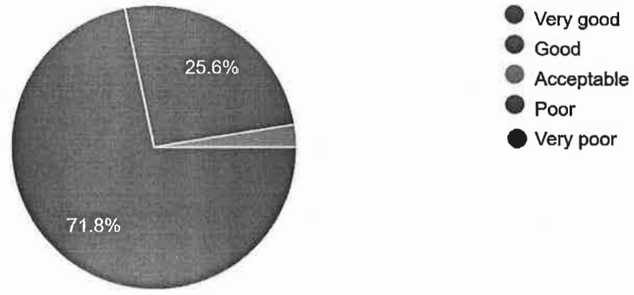
How much pre-event information was provided to you to help you better understand the event?

39 responses



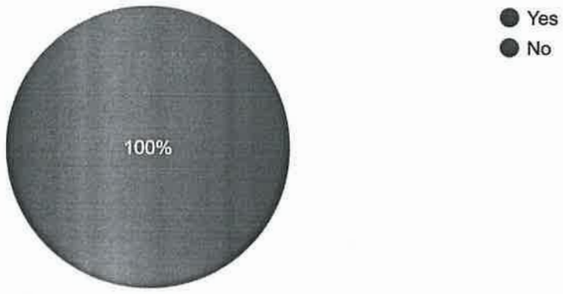
How would you rate the event organization?

39 responses



Did the event meet your expectations?

39 responses



Do you have any other comments/suggestions that would help us make future events better?

39 responses

NA
All Good
It was good
Nil
-
Good event
None
no
No

Thank You.

8/10/24

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

Department of Computer Science and Engineering (Data Science)

Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara Dt – 562 112

Department of Computer Science and Engineering (Data Science)

Beginner Guide to Machine Learning & Neural Networks

Date: 8/6/24

Sr.No	USN	Student Name	Signature
1	ENG22DS0001	DEEPIKA G	
2	ENG22DS0002	HARSHA	
3	ENG22DS0003	HARSHITA JEETENDRA BHUTE	
4	ENG22DS0004	JANARDHAN K S	
5	ENG22DS0005	MOHAMMAD ARMAN	
6	ENG22DS0006	MOHAMMED FAIZAN KHAN	
7	ENG22DS0007	PAVAN PREETHAM MUKKUNDA	
8	ENG22DS0008	PRIYANKA BAI BK	
9	ENG22DS0009	PUNITH N	
10	ENG22DS0010	R SINDHU	
11	ENG22DS0011	RAJAT GOPALKRISHNA SALUNKE	
12	ENG22DS0012	RANJITHA C	
13	ENG22DS0013	RICHITHA S	
14	ENG22DS0014	SACHIN BHOSAGI	
15	ENG22DS0015	SAHANA S M	
16	ENG22DS0016	SAHANA VITTAL SHETTY	
17	ENG22DS0017	SANJANA T	
18	ENG22DS0018	SRI SAI NITHIN P	
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25	ENG22DS0025	AKSHAT JAIN	
26	ENG22DS0026	ANSHUMAN	
27	ENG22DS0027	B BANU VARSHIT	
28	ENG22DS0028	HIFZA AHMED	
29	ENG22DS0057	VENKATA SUSHAL NALANAGU	
30	ENG22DS0029	HIT KARAN SINGH RATHORE	
31	ENG22DS0030	JOB JOMY	
32	ENG22DS0031	K RAYVANTH	
33	ENG22DS0032	KOVARTHANA K	
34	ENG22DS0033	KURUBA RENUKA	
35	ENG22DS0034	KURUBA VEERESH	
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37	ENG22DS0036	MAHI GUPTA	
38	ENG22DS0037	MANAV ANAND JOSHI	
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43	ENG22DS0042	SHERLYN ROSE	

44	ENG22DS0043	SHUSHMA S	
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47	ENG22DS0046	THANYA U GANIGA	
48	ENG22DS0047	VINURAJ VAMSHI	
49	ENG22DS0048	ADITYA NISHAD	
50	ENG22DS0049	ARIAN KOVACS	
51	ENG22DS0050	LIKITH SHETTY SR	
52	ENG22DS0051	KRUSHI KETHAN REDDY	
53	ENG22DS0052	NEMAKAL HARSHA VARDHAN	
54	ENG22DS0053	ROOPAK RAGHU	
55	ENG22DS0054	S KRITIK VASAN	
56	ENG22DS0056	SUGESH K G	
57	ENG23DS1001	CHETHAN KUMAR S	
58	ENG23DS1002	SANJANA S	
59	ENG23DS1003	SHAMA B H	

DAYANANDA SAGAR UNIVERSITY

Department of Computer Science Engineering (Data Science)

School of Engineering

In Association with Codechef Club

Report on

CODE-A-THON C

Shaping the Future Through Innovation

Date: 5th-6th October, 2023 **Time: 12:00 PM – 4:00 PM**

Resource Person:

Inhouse Faculties and Student Coordinators

Organizers:

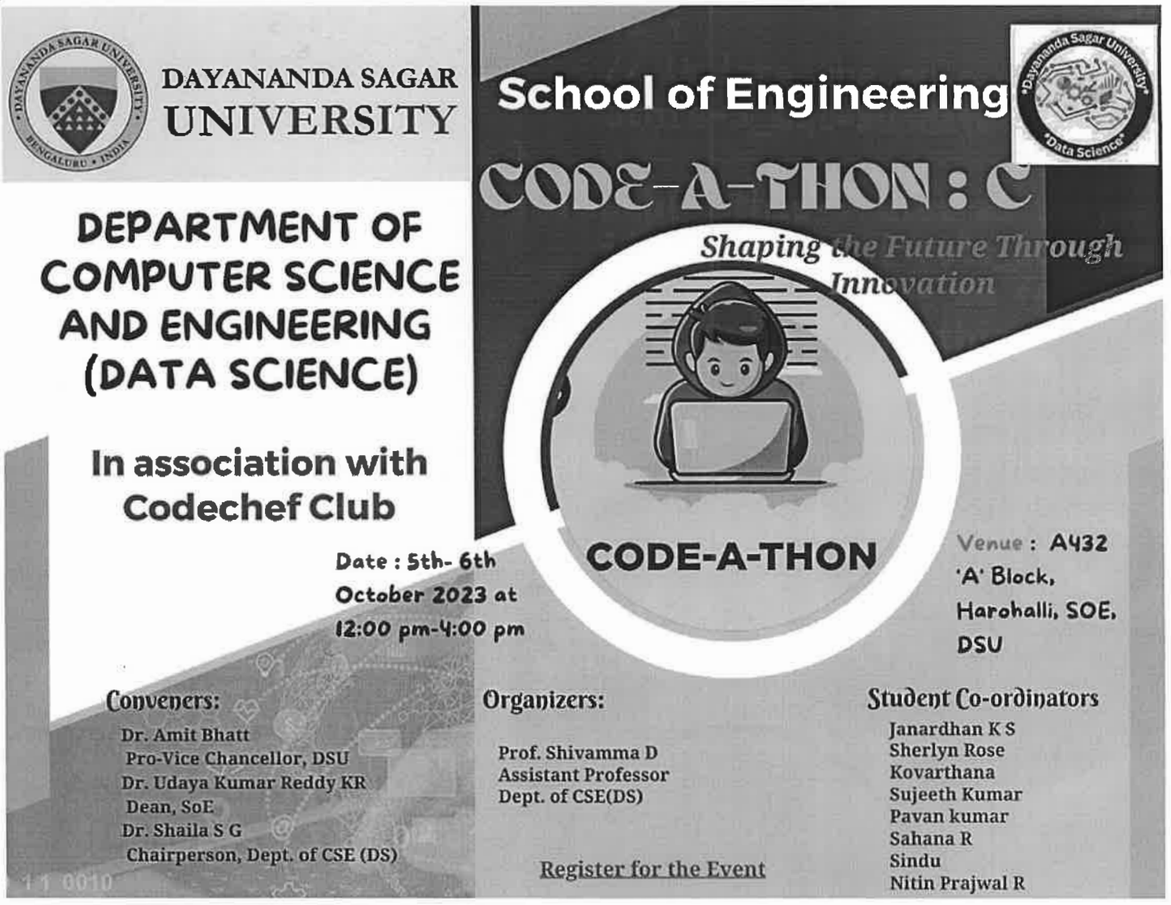
Prof. Shivamma D
Assistant Professor
Dept. of CSE(DS)

Convener:

Dr. Amit Bhatt
Pro-Vice Chancellor, DSU
Dr. Udaya Kumar Reddy KR
Dean, SoE
Dr. Shaila S G
Chairperson, Dept. of CSE (DS)

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

Target Audiences: 3rd Semester students of CSE (DS)



The Codechef Club, the Department of CSE (Data Science) organized a workshop on "CODE-A-THON C Shaping the Future Through Innovation" held on 5th-6th October 2023 organized by Prof. Shivamma D, Assistant Professor, Dept. of CSE (Data Science).

The targeted audience was 3rd B.Tech students. The workshop consisted of a multitude of topics supported by hands-on sessions, handled by faculty experts from the Department of CSE (Data Science) and student coordinators. The main highlight of the event was students taught. The Student coordinator team included Janardhan K S, Sherlyn Rose, Kovarthana, Sujeeth Kumar, Pavan kumar, Sahana R, Sindu and Nitin Prajwal R

The event started with Introduction to C programming given by Prof. Shivamma D and topics like Arrays, pointers, Functions, Structures, Union, Memory Management were taught by the student coordinators anardhan K S, Sherlyn Rose, Kovarthana, Sujeeth Kumar, Pavan kumar, Sahana R, Sindu and Nitin Prajwal R respectively. Followed by a session ending quiz to test the students' knowledge. The session has proven to be very inspiring and informative for the students.

Education goals:

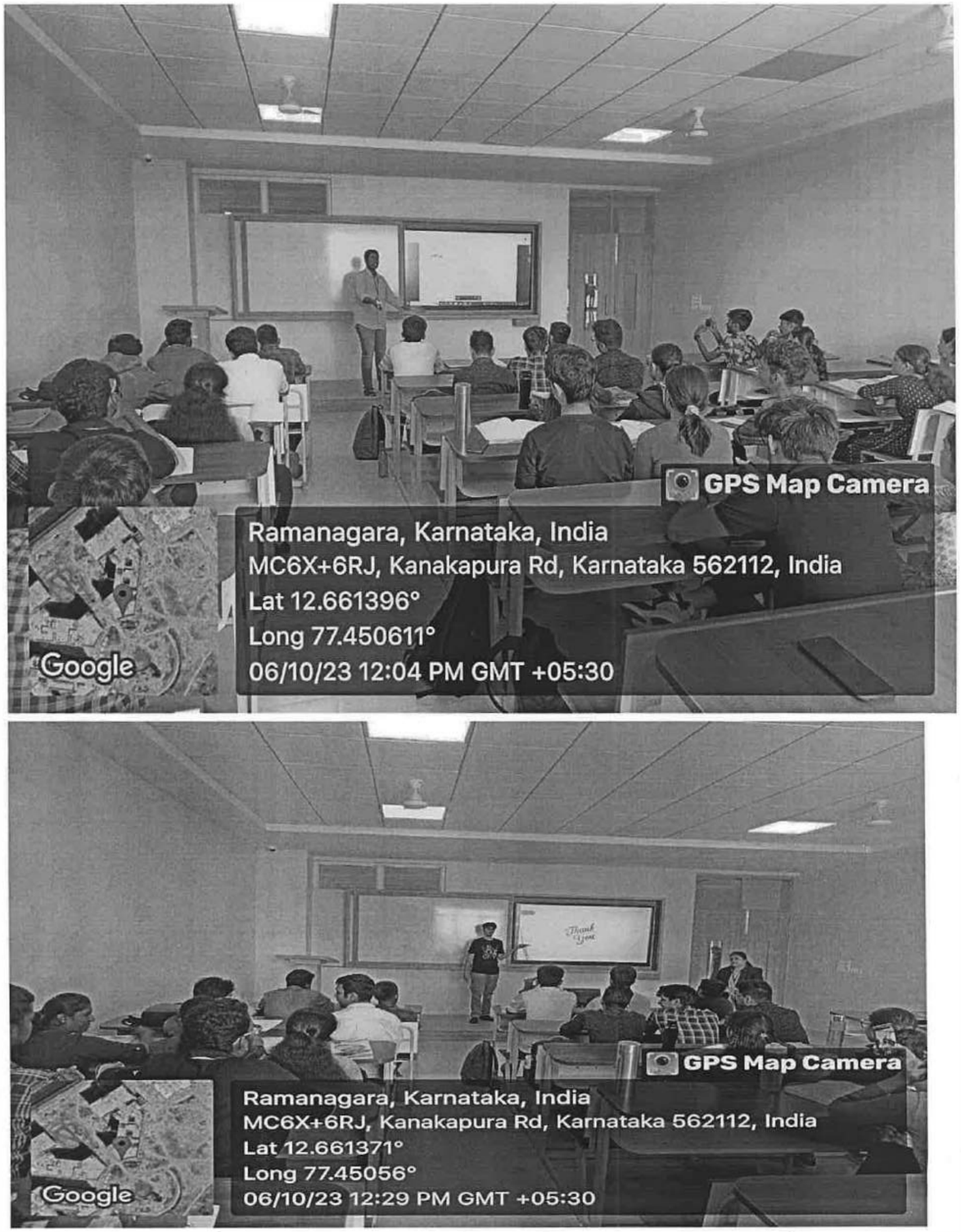
- Understanding the basics of C programming
- To be able to implement basic C programs
- Understand the programming logic behind every program
- Introduction to competitive programming

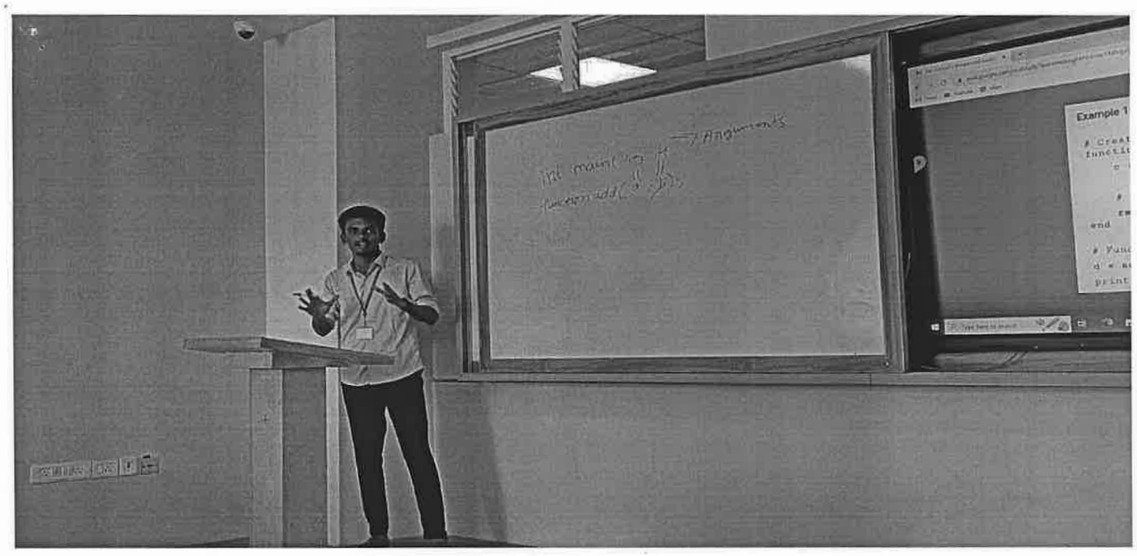
Learning achievements:

- Students got a basic idea about c programming
- The presentation was incorporated sample programs and followed by practice problems
- Practiced advanced C programming

- Students learnt optimized coding

Glimpses of the event

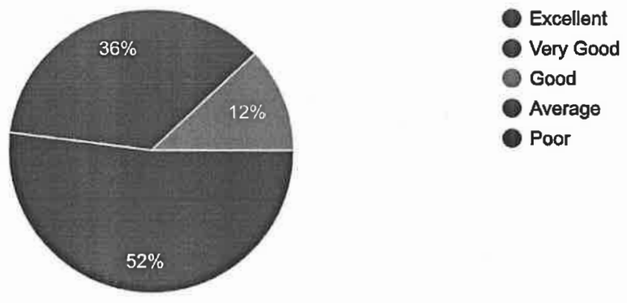




Feedback of the session —

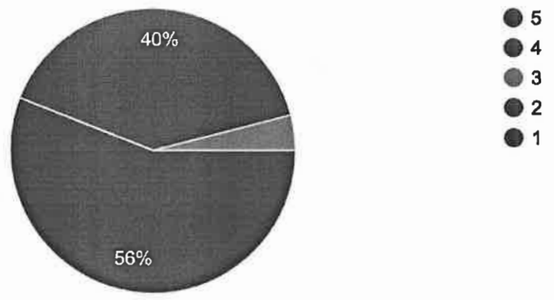
Organization of the event " Codeathon C- 2023 " was

25 responses



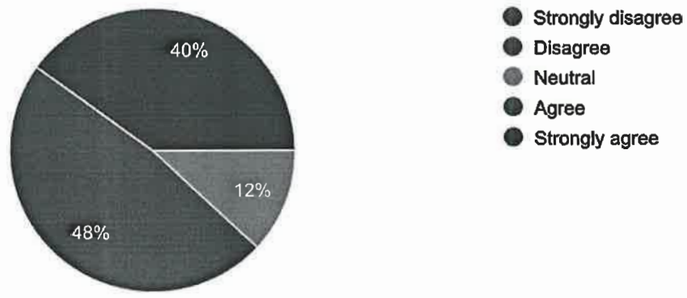
What is your level of satisfaction of the event ?(Note: Five is the highest level of satisfaction)

25 responses



The event contents met with your expectations

25 responses



Thank You.

9/10/23

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayanan da Sagar University
Devarakaggal ahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

14

DAYANANDA SAGAR UNIVERSITY

School of Engineering

Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara Dt.,
Bengaluru -- 562 112

Department of Computer Science and Engineering (Data Science)

CODEATHON - C	TIME: 12:00 pm -4:30 PM	Date: 5th - 6th October 2023

Sl No	USN	StudentLCName	Gender	5.10.2023	6.10.2023
1	ENG22DS0001	DEEPIKA G	F		
2	ENG22DS0002	HARSHA	M		
3	ENG22DS0003	HARSHITA JEETENDRA BHUTE	F		
4	ENG22DS0004	JANARDHAN K S	M		
5	ENG22DS0005	MOHAMMED ARMAN	M		
6	ENG22DS0006	MOHAMMED FAIZAN KHAN	M		
7	ENG22DS0007	PAVAN PREETHAM MUKKUNDA	M		
8	ENG22DS0008	PRIYANKA BAI B K	F		
9	ENG22DS0009	PUNITH N	M		
10	ENG22DS0010	R SINDHU	F		
11	ENG22DS0011	RAJAT GOPALKRISHNA SALUNKE	M		
12	ENG22DS0012	RANJITHA C	F		
13	ENG22DS0013	RICHITHA S	F		
14	ENG22DS0014	SACHIN CHANDRAM BHOSAGI	M		
15	ENG22DS0015	SAHANA S M	F		
16	ENG22DS0016	SAHANA VITTAL SHETTY	F		
17	ENG22DS0017	SANJANA T	F		
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19	ENG22DS0019	SUJEETH KUMAR D S	M		
20	ENG22DS0020	VARUN R	M		
21	ENG22DS0021	VEERESH	M		
22	ENG22DS0022	VENKAT NIVAS REDDY K	M		
23	ENG22DS0023	VINITH K M	M		
24	ENG22DS0024	VIRIKA OLIVIA SOANS	F		
25	ENG22DS0025	AKSHAT JAIN	M		

26	ENG22DS0026	ANSHUMAN	M		
27	ENG22DS0027	BANU VARSHIT B	M		
28	ENG22DS0028	HIFZA AHMED	F		
29	ENG22DS0029	HIT KARAN SINGH RATHORE	M		
30	ENG22DS0030	JOB JOMY	M		
31	ENG22DS0031	K RAYVANTH	M		
32	ENG22DS0032	KOVARTHANA K	F		
33	ENG22DS0033	KURUBA RENUKA	F		
34	ENG22DS0034	KURUBA VEERESH	M		
35	ENG22DS0035	M ABILASH	M		
36	ENG22DS0036	MAHI GUPTA	F		
37	ENG22DS0037	MANAV ANAND JOSHI	M		
38	ENG22DS0038	N PRANAV REDDY	M		
39	ENG22DS0039	NITIN PRAJWAL R	M		
40	ENG22DS0040	PAVAN KUMAR G	M		
41	ENG22DS0041	RAMANA VEL B V	M		
42	ENG22DS0042	SHERLYN ROSE	F		
43	ENG22DS0043	SHUSHMA S	F		
44	ENG22DS0044	SIDDHANT JAIN DAISHIN	M		
45	ENG22DS0045	TEEKALA GOWTHAM	M		
46	ENG22DS0046	THANYA U GANIGA	F		
47	ENG22DS0047	VINU RAJ VAMSHI	M		
48	ENG22DS0048	ADITYA NISHAD	M		
49	ENG22DS0049	ARIAN KOVACS	M		
50	ENG22DS0050	LIKITH SHETTY S R	M		
51	ENG22DS0051	MALLIREDDY KRUSHI KETHAN REDDY	M		
52	ENG22DS0052	NEMAKAL HARSHA VARDHAN	M		
53	ENG22DS0053	ROOPAK R	M		
54	ENG22DS0054	S KRITIK VASAN	M		
55	ENG22DS0055	SHRAVANTH GOWDA N	M		
56	ENG22DS0056	SUGESH K G	M		
57	ENG22DS0057	VENKATA SUSHAL NALANAGU	M		

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

DAYANANDA SAGAR UNIVERSITY
School of Engineering
Department of Computer Science Engineering (Data Science)

Report on
Webinar on

"Cyber Strategies for Cutting-Edge Data Science"

Date: 6th March, 2024 **Time: 07:00 PM online mode**

Organizers:

Prof. Shivamma D
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Prof. Monish L
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Convener:

Dr. Udaya Kumar Reddy KR
Dean, SoE, DSU

Dr. Shaila SG
Professor & Chairperson
Department of CSE (Data Science), SoE, DSU

6/3/24

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

Target Audiences: 4th Semester students of CSE (DS)

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

DAYANANDA SAGAR UNIVERSITY

School of Engineering

Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara Dt.– 562 112

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
(DATA SCIENCE)
IN ASSOCIATION WITH
INTELLIPAAT

Organising

WEBINAR ON

CYBER STRATEGIES FOR CUTTING-EDGE DATA SCIENCE

RESOURCE PERSON: Mr. Kartheek
CEH Master | CEI - v2 |
Cybersecurity Trainer | Ex
Cybersecurity RA

Wednesday 6th March, 2024
Start at 7.00 PM online

Conveners:

Dr. Amit Bhatt
Vice Chancellor, DSU
Dr. Udaya Kumar Reddy KR
Dean, SoE
Dr. Shaila S G
Chairperson, Dept. of CSE (DS)

Organizers:

Prof. Shivamma D
Assistant Professor
Dept. of CSE(DS)

Prof. Monish L
Assistant Professor
Dept. of CSE(DS)

Student Co-ordinators

Sujeeth Kumar D S
Nitin Prajwal R
Janardhan K S
VinuRaj Vamshi
Pavan Kumar G

[redacted]

DAYANANDA SAGAR UNIVERSITY

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The DataScience@DSU Club, the Department of CSE (Data Science) organized a online Webinar on **"Cyber Strategies for Cutting-Edge Data Science"** held on 6th March 2024 organized by **Prof. Shivamma D,** Assistant Professor, Dept. of CSE (Data Science), and **Prof. Monish L,** Assistant Professor, Dept. of CSE (Data Science).

The Takeaways of the event are:

1. **Integration of Cybersecurity and Data Science**: The webinar emphasized the critical need to integrate cybersecurity measures into data science practices right from the outset. This integration ensures that data-driven insights are not only accurate but also secure from potential cyber threats.
2. **Threat Detection and Prevention**: Effective cybersecurity strategies highlighted in the webinar focused on proactive threat detection and prevention techniques. These include advanced analytics, machine learning algorithms, and anomaly detection to identify and mitigate potential cyber threats in real-time.
3. **Data Privacy and Compliance**: Maintaining data privacy and compliance with regulatory standards such as GDPR and HIPAA emerged as paramount concerns. The webinar discussed various strategies and best practices for safeguarding sensitive data and ensuring compliance with relevant regulations.
4. **Continuous Monitoring and Response**: Continuous monitoring of data systems and prompt response to cybersecurity incidents are essential components of a robust cyber strategy. The webinar emphasized the importance of implementing automated monitoring tools and establishing incident response protocols to minimize the impact of cyberattacks.
5. **Collaboration and Knowledge Sharing**: Collaboration among data scientists, cybersecurity experts, and other stakeholders is crucial for developing comprehensive cyber strategies. The webinar encouraged knowledge sharing and interdisciplinary collaboration to address evolving cyber threats effectively.
6. **Adoption of Emerging Technologies**: Embracing emerging technologies such as blockchain, homomorphic encryption, and secure multi-party computation can enhance the security and privacy of data science initiatives. The webinar highlighted the potential of these technologies in mitigating cyber risks and ensuring data integrity.

Detailed Report of **Cyber Strategies for Cutting-Edge Data Science**

DAYANANDA SAGAR UNIVERSITY

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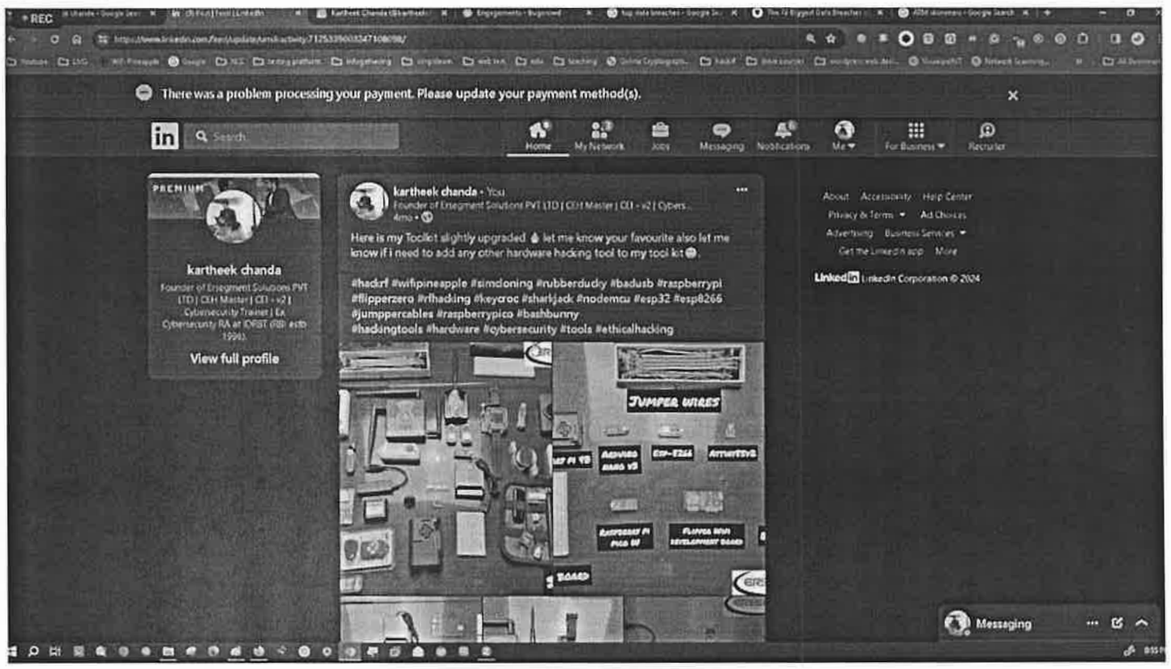
The DataScience@DSU Club, under the Department of Computer Science and Engineering (Data Science), organized an online Webinar on **"Cyber Strategies for Cutting-Edge Data Science"** on March 6th, 2024. The webinar emphasized integrating cybersecurity measures into data science practices and highlighted proactive threat detection, privacy compliance, and collaboration among stakeholders as essential strategies for safeguarding data assets in the digital age. The Webinar was organized by Prof. Shivamma D, Assistant Professor, Department of CSE (Data Science), and Prof. Monish L, Assistant Professor, Department of CSE (Data Science). The Webinar was attended by 42 students.

Few glimpses of the event:



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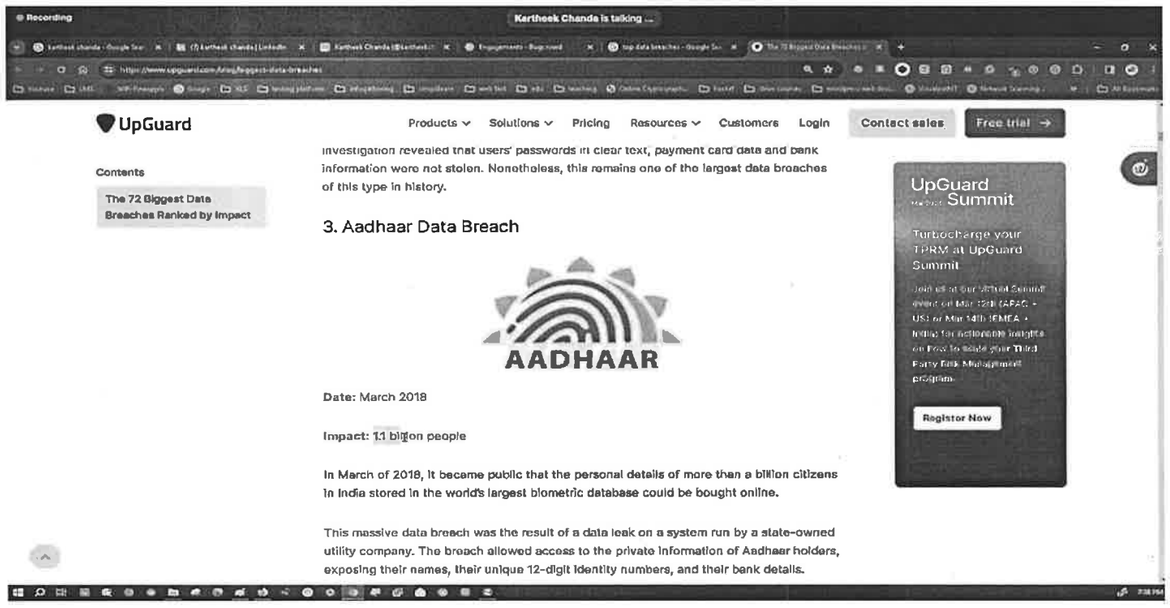
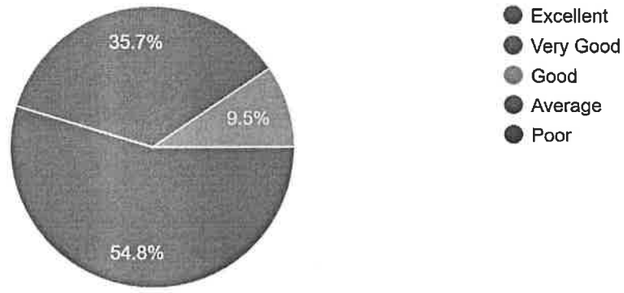


Feedback of the session —

Organization of the Webinar was

42 responses



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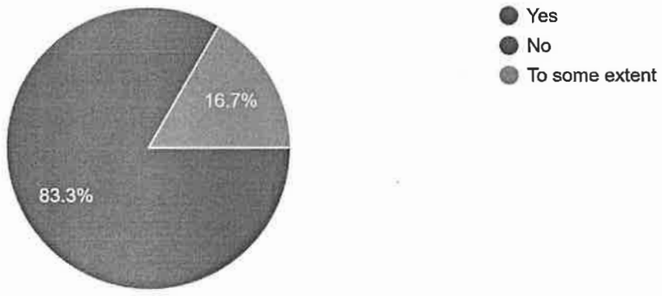
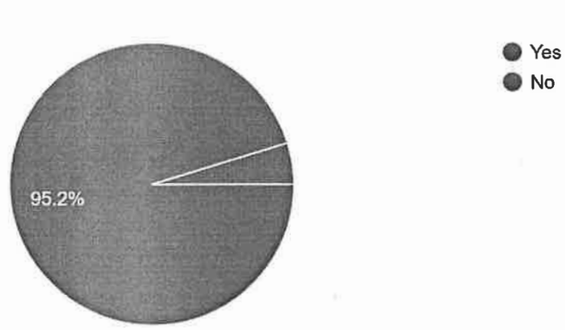
The event contents met with your expectations

42 responses



Would you be interested in attending future events in the similar domain?

42 responses



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Your inputs/suggestions (if any)

42 responses

Nothing
None
No
Nil
NA
Nill
No suggestions
Conducted more webinars on Data-Science Thank you...

Thank You

6/3/24

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

DAYANANDA SAGAR UNIVERSITY
School of Engineering
Department of Computer Science Engineering (Data Science)

Report on

"DATASPHERE: IEEE DATA SCIENCE EXPLORATION"

Date: 14TH MARCH 2024 **Time: 11:00 AM – 12:50 AM**

Resource Person:
Dr. Pushpa Mala S
IEEE Student Branch,
Counsellor, Associate Professor
SoE, DSU

Organizers:

Prof. Monish L
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Prof. Shivamma D
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Convener:

Dr. Udaya Kumar Reddy KR
Dean, SoE, DSU

Dr. Shaila SG
Professor & Chairperson
Department of CSE (Data Science), SoE, DSU

Target Audiences: 4th Semester students of CSE (DS)

14/3/24

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

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SCHOOL OF ENGINEERING

The DataScience@DSU Club, the Department of CSE (Data Science) organized a Talk on **IEEE "DATASPHERE: IEEE DATA SCIENCE EXPLORATION"** held on 14th March 2024 organized by **Prof. Monish L,** Assistant Professor, Dept. of CSE (Data Science), and **Prof. Shivamma D,** Assistant Professor, Dept. of CSE (Data Science).

Resource Persons Profile:

Dr. Pushpa Mala S, an Associate Professor whose contributions to the field of Electronics Engineering have been nothing short of exceptional. With a Ph.D. earned from Jain University, Bengaluru, her expertise encompasses a wide range of areas, including Image Processing, Signal Processing, and Very LargeScale Integrated Circuits designing and modeling. Her dedication to advancing these domains has been evident through numerous projects funded by prestigious institutions like the Karnataka State Council for Science & Technology and the Vision Group of Science and Technology (KSTePS).

With a combined experience of 12 years in teaching and 4 years in research, Dr. Pushpa Mala S embodies the perfect balance of academic rigor and practical knowledge. Her scholarly pursuits have resulted in approximately 35 papers published in various International Conferences and Indexed international journals, showcasing her commitment to advancing the frontiers of knowledge in her field. Additionally, her role as a reviewer for SPIE and various international conferences underscores her dedication to upholding the highest standards of academic excellence.

As a senior member of IEEE and a Life Member of ISTE, Dr. Pushpa Mala S remains deeply engaged in the scientific community, fostering collaboration and knowledge exchange. Her involvement in the EXECOM-IEEE Bangalore Section further highlights her commitment to promoting excellence in electronics engineering and advancing the mission of IEEE. It is with great anticipation that we await Dr. Pushpa Mala S's address

on IEEE, where her insights and expertise are sure to inspire and enlighten us all.

The Takeaways of the event are:

1. **Emerging Technologies**: Events like these often showcase the latest developments and trends in data science, including emerging technologies such as machine learning, artificial intelligence, big data analytics, and data visualization.
2. **Applications Across Industries**: Data science has applications across various industries, including healthcare, finance, retail, transportation, and more. Attendees might gain insights into how data science techniques are being applied in different sectors to solve complex problems and drive innovation.
3. **Ethical Considerations**: With the increasing use of data-driven technologies, ethical considerations become paramount. Discussions around data privacy, bias in algorithms, transparency, and accountability are common in such events.
4. **Skills and Education**: Events like these often include workshops, tutorials, and discussions focused on enhancing skills in data science and related areas. Participants may learn about the latest tools, programming languages, and methodologies used in the field.
5. **Collaboration Opportunities**: Networking opportunities abound at these events, allowing attendees to connect with peers, researchers, industry professionals, and potential collaborators. Collaboration across disciplines is often encouraged to tackle complex data science challenges effectively.
6. **Research Frontiers**: Academic research plays a significant role in advancing the field of data science. Events like these provide a platform for researchers to present their latest findings, discuss cutting-edge research topics, and explore future directions for the field.
7. **Real-world Case Studies**: Practical insights from real-world case studies can be invaluable for attendees. Presentations or panel discussions featuring successful data science projects, challenges faced, and lessons learned offer valuable insights into the application of data science in practice.
8. **Continuous Learning**: Data science is a rapidly evolving field, and continuous learning is essential for professionals to stay updated with the latest developments.

Events like these offer opportunities for lifelong learning and professional development

Detailed Report of **DATASPHERE: IEEE DATA SCIENCE EXPLORATION**

Dr. Pushpamala, warmly welcomed and invited by student coordinators, commenced the session with an engaging video aimed at capturing the interest and attention of the attending students. Following this captivating introduction, she delved into an enlightening discussion about IEEE and its rich history, providing valuable insights into the organization's significance within the realm of technology and innovation.

During her presentation, Dr. Pushpa Mala emphasized the importance of establishing student chapters within IEEE, highlighting how these chapters serve as pivotal platforms for fostering learning, collaboration, and professional development among aspiring engineers and technologists. She elaborated on the process and benefits of establishing such chapters, encouraging students to actively participate and contribute to their local IEEE communities.

Throughout the session, Dr. Pushpa Mala welcomed questions and doubts from the students, fostering an interactive environment where attendees could seek clarification and deepen their understanding of the topics discussed. This open dialogue not only facilitated knowledge exchange but also empowered students to actively engage with the material presented.

In addition to exploring the history and significance of IEEE, Dr. Pushpa Mala provided valuable insights into the evolving landscape of technology and the role of IEEE in shaping the future of engineering and innovation. By incorporating real-world examples and case studies, she effectively demonstrated the practical applications of IEEE's initiatives and the impact they have on the global technological ecosystem.

Overall, Dr. Pushpa Mala's session served as an inspiring and informative journey into the world of IEEE, leaving students with a deeper appreciation for the organization's mission and the opportunities it presents for their academic and professional growth.

We extend our heartfelt gratitude to Dr. Pushpa Mala for his illuminating session and look forward to more such enriching experiences as we continue our quest for excellence in data science in collaboration with IEEE.

DAYANANDA SAGAR UNIVERSITY

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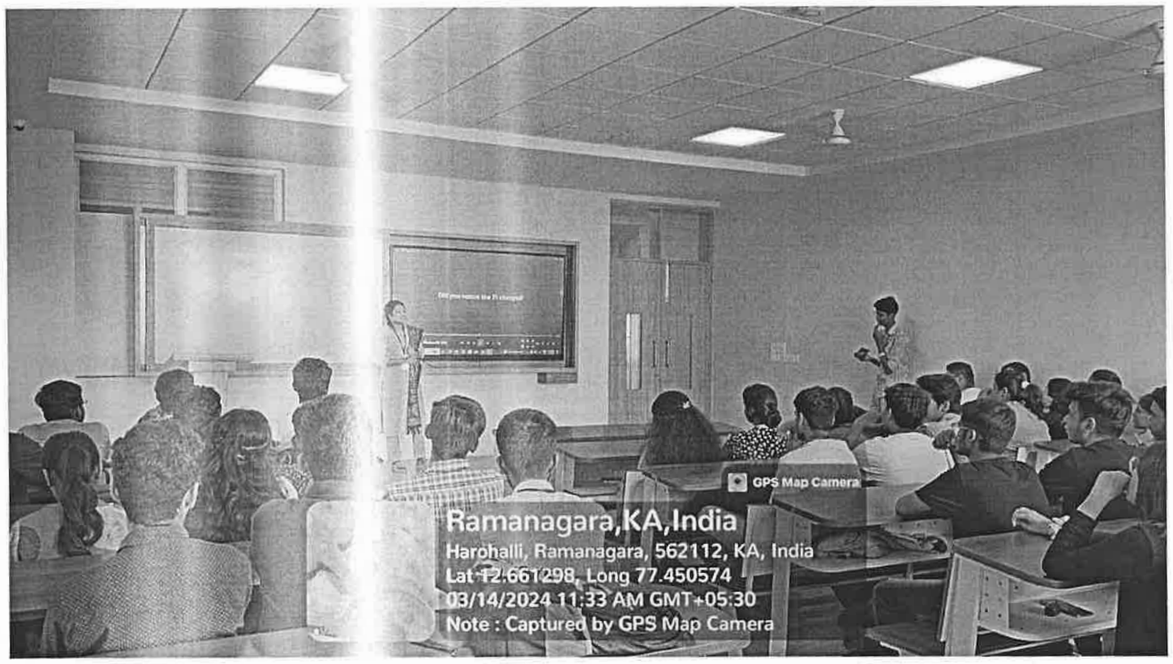
Few glimpses of the even :



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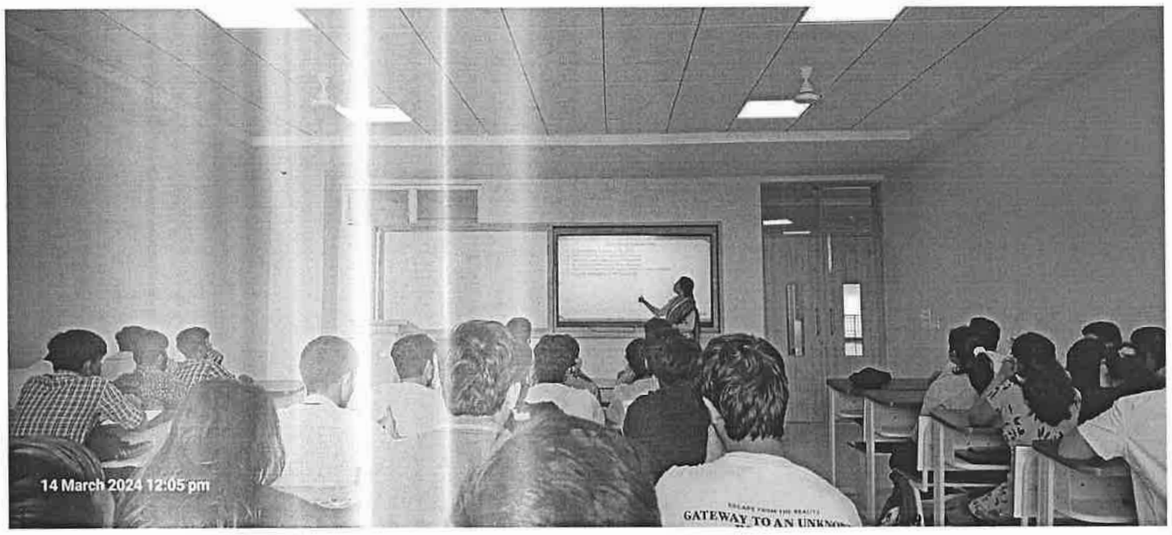

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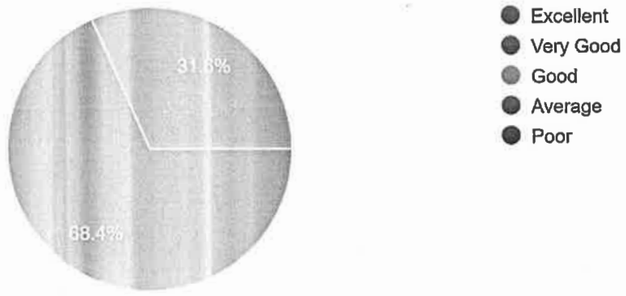
Feedback of the session —

Organization of the event was

19 responses



What is your level of satisfaction of the event? (Note: Five is the highest level of satisfaction)

19 responses

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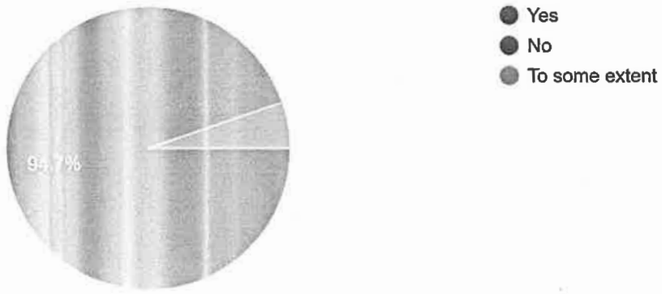
SCHOOL OF ENGINEERING

The event contents met with your expectations

19 responses



Thank You

SCHOOL OF ENGINEERING

Devarakagalahalli, Harohalli, Ramanagara Dt.

Sl No	USN	Student Name	Morning Signature	Afternoon Signature
1	ENG22DS0001	DEEPIKA G		
2	ENG22DS0002	HARSHA		
3	ENG22DS0003	HARSHITA JEETENDRA BHUTE		
4	ENG22DS0004	JANARDHAN K S		
5	ENG22DS0005	MOHAMMED ARMAN	AB	AB
6	ENG22DS0006	MOHAMMED FAIZAN KHAN		
7	ENG22DS0007	PAVAN PREETHAM MUKKUNDA		
8	ENG22DS0008	PRIYANKA BAI B K		
9	ENG22DS0009	PUNITH N		
10	ENG22DS0010	R SINDHU		
11	ENG22DS0011	RAJAT GOPALKRISHNA SALUNKE		
12	ENG22DS0012	RANJITHA C		
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15	ENG22DS0015	SAHANA S M		
16	ENG22DS0016	SAHANA VITTAL SHETTY	AB	AB
17	ENG22DS0017	SANJANA T		
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19	ENG22DS0019	SUJEETH KUMAR D S		
20	ENG22DS0020	VARUN R		
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28	ENG22DS0028	HIFZA AHMED		
29	ENG22DS0029	HIT KARAN SINGH RATHORE		
30	ENG22DS0030	JOB JOMY		
31	ENG22DS0031	K RAYVANTH		
32	ENG22DS0032	KOVARTHANA K		
33	ENG22DS0033	KURUBA RENUKA		
34	ENG22DS0034	KURUBA VEERESH		
35	ENG22DS0035	M ABILASH		
36	ENG22DS0036	MAHI GUPTA	AB	AB
37	ENG22DS0037	MANAV ANAND JOSHI		
38	ENG22DS0038	N PRANAV REDDY		
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40	ENG22DS0040	PAVAN KUMAR G		

41	ENG22DS0041	RAMANA VPL B V		
42	ENG22DS0042	SHERLYN ROSE		
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48	ENG22DS0048	ADITYA NISHAD		
49	ENG22DS0049	ARIAN KOVACS		
50	ENG22DS0050	LIKITH SHETTY S R		
51	ENG22DS0051	MALLIREDDY KRUSHI KETHAN REDDY		
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53	ENG22DS0053	ROOPAK R		
54	ENG22DS0054	S KRITIK VASAN		
55	ENG22DS0055	SHRAVANTH GOWDA N		
56	ENG22DS0056	SUGESH K G		
57	ENG22DS0057	VENKATA SUSHAL NALANAGU		
58	ENG23DS1003	SHAMA. B.H		
59	ENG23DS10021	Chethan Kumar		
60	ENG23DS1002	Sanjana. S	Sanjana. S	Sanjana S

51+3 =54

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

DAYANANDA SAGAR UNIVERSITY
School of Engineering
Department of Computer Science Engineering (Data Science)

Report on

"EXPLORING PATHS IN DATA SCIENCE CAREERS"

Date: 9th March, 2024 **Time: 02:00 PM – 04:00 PM**

Organizers:

Prof. Shivamma D
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Prof. Monish L
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Convener:

Dr. Udaya Kumar Reddy KR
Dean, SoE, DSU

Dr. Shaila SG
Professor & Chairperson
Department of CSE (Data Science), SoE, DSU

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

Target Audiences: 4th Semester students of CSE (DS)

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The DataScience@DSU Club, the Department of CSE (Data Science) organized a Quiz **"AptiPrecision: Fine-Tuning Numerical Abilities"** held on 7th March 2024 organized by **Prof. Shivamma D,** Assistant Professor, Dept. of CSE (Data Science), and **Prof. Monish L,** Assistant Professor, Dept. of CSE (Data Science).

The Takeaways of the event are:

1. Strengths and Weaknesses: Identify areas where you excel and areas where you may need improvement in terms of problem-solving, critical thinking, mathematical reasoning, etc.
2. Time Management: Understand how well you manage your time during the quiz. Did you complete all the questions within the allotted time, or did you struggle to finish?
3. Problem-solving Strategies: Reflect on the strategies you used to solve different types of questions. Determine which strategies were effective and which ones need refinement.
4. Conceptual Understanding: Assess your understanding of fundamental concepts in areas such as mathematics, logic, reasoning, and analytical thinking.
5. Preparation Needs: Identify any gaps in your knowledge or skills that need to be addressed through further study or practice.
6. Confidence Boost: Recognize areas where you performed well, which can boost your confidence in your abilities.
7. Areas for Improvement: Pinpoint specific topics or types of questions where you struggled and make a plan to improve in those areas.

Detailed Report of **QUIZ-VENTURE: Enhance your skills with C**

The DataScience@DSU Club, under the Department of Computer Science and Engineering (Data Science), organized a Quiz event titled "AptiPrecision: Fine-Tuning Numerical Abilities" on March 7th, 2024. "Quiz-Venture" offers skill enhancement through engaging quizzes, fostering continuous learning and personal development. Join to level up your expertise with interactive challenges. The quiz was organized by Prof. Shivamma D, Assistant Professor, Department of CSE (Data Science), and Prof. Monish L, Assistant Professor, Department of CSE (Data Science). The Quiz was taken up by 41 students. The winners of the Quiz were:

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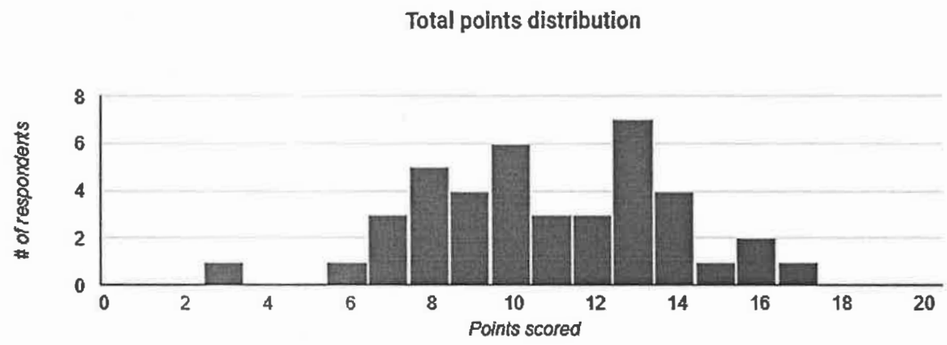
Winners	Name	USN	Marks
First Place	Arian Kovacs	ENG22DS0049	17 / 20
Second Place	Sanjana T	ENG22DS0017	16 / 20
Third Place	Virika Olivia Soans	ENG22DS0024	15 / 20

Insights

Average	Median	Range
10.88 / 20 points	11 / 20 points	3 - 17 points



Few glimpses of the event:

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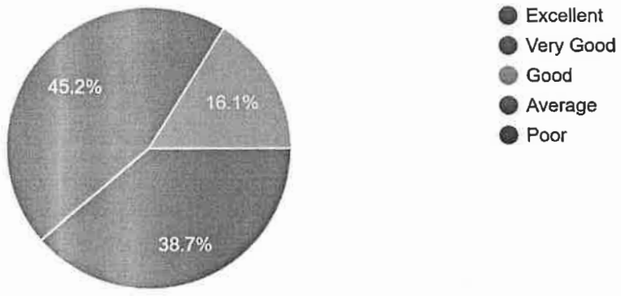
Feedback of the session —

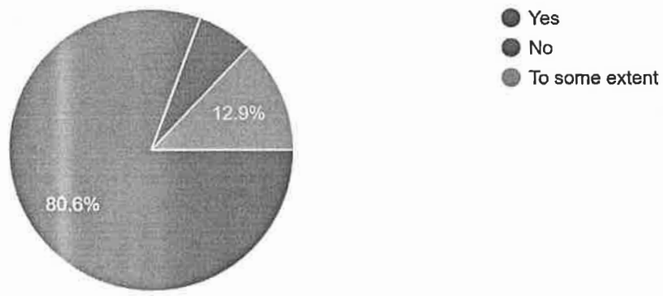
Organization of the Quiz was

31 responses



The event contents met with your expectations

31 responses



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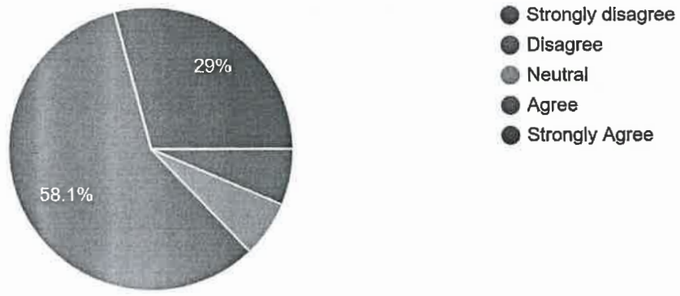
The event exposed you to new knowledge and practices

31 responses



Your inputs/suggestions (if any)

31 responses

No
Nothing
NA
Good
None
Best quiz ever
Nil
Excellent!!!
No suggestions

09/3/24

Thank You

CHAIRPERSON
Dept of CSE (Data Science)
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Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

SCHOOL OF ENGINEERING

Devarakagalahalli, Harohalli, Ramanagara Dt.

Department of CSE (Data Science)

9/3/2024

2ND YEAR STUDENT LIST(2022-2026)			
Sl No	USN	Student Name	
1	ENG22DS0001	DEEPIKA G	
2	ENG22DS0002	HARSHA	
3	ENG22DS0003	HARSHITA JEETENDRA BHUTE	
4	ENG22DS0004	JANARDHAN K S	
5	ENG22DS0005	MOHAMMED ARMAN	
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56	ENG22DS0056	SUGESH K G	
57	ENG22DS0057	VENKATA SUSHAL NALANAGU	

DAYANANDA SAGAR UNIVERSITY

Department of Computer Science Engineering (Data Science)

School of Engineering

Report on

Workshop on Research paper writing titled

"Ink and Insight: An Art of crafting Research Papers and Thesis"

Date: 04th September, 2023 **Time: 10:00 AM – 11:00 AM**

Resource Person:

Dr. Kakoli Bora
Associate Professor Dept.of CSE(DS)
SoE, DSU

Organizers:

Dr. Kakoli Bora
Associate Professor, Dept.of CSE(DS)
SoE, DSU

Prof. Shahwar ara KamalS
Assistant Professor, Dept.of CSE(DS)
SoE, DSU

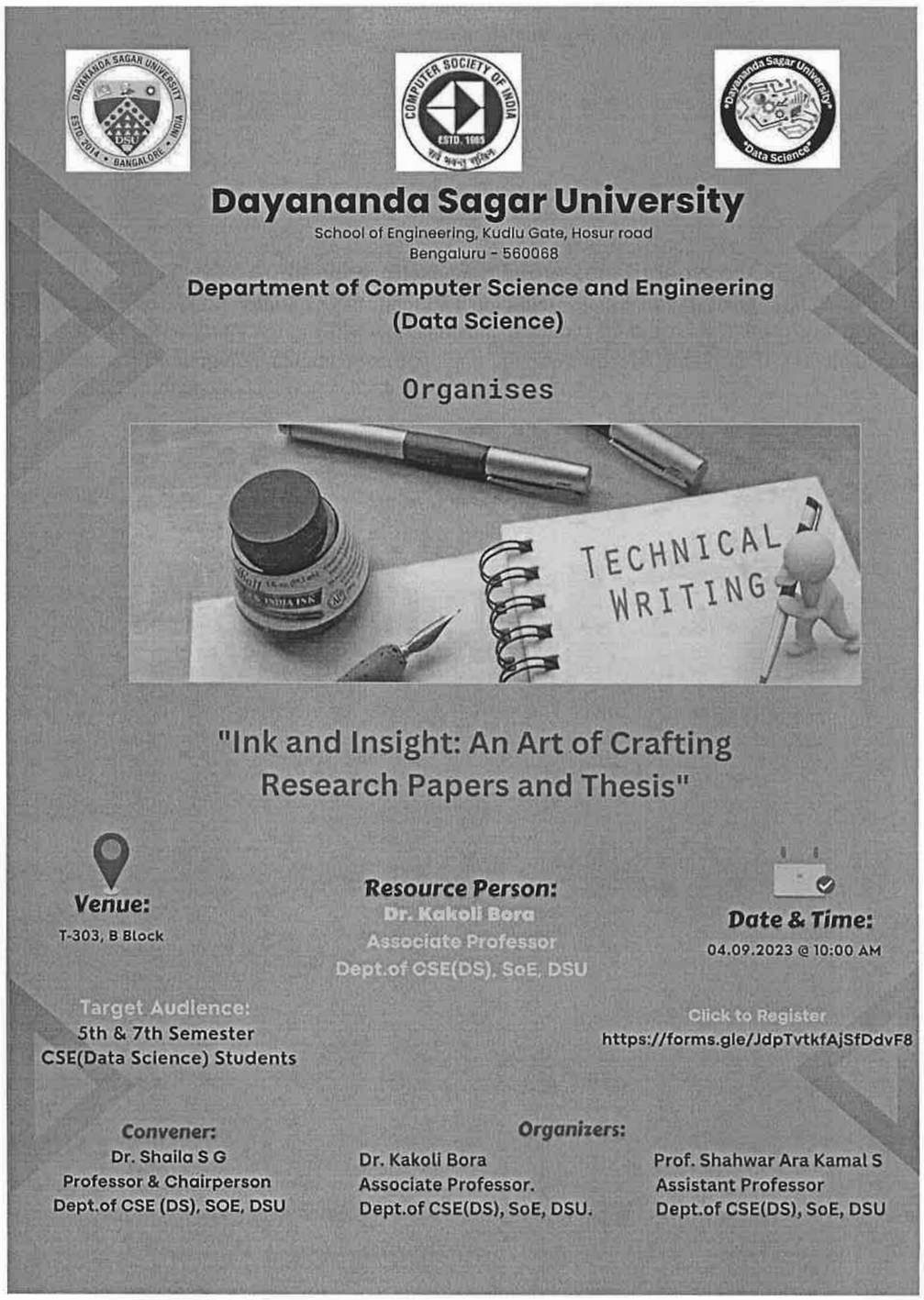
Convener:

Dr. Shaila SG
Professor & Chairperson
Dept. of CSE(DS)
SoE, DSU

4/9/23
CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

Target Audiences: 5th & 7th Semester students of CSE (DS)

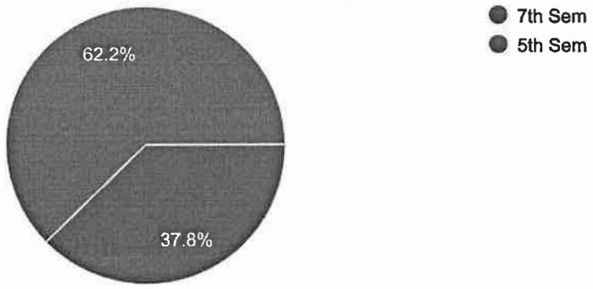
The DataScience@DSU club, Department of Computer Science Engineering (Data Science) in association with CSI has successfully organized a workshop on **"Ink and Insight: An Art of Crafting Research Papers and Thesis".** The targeted audience were 5th and 7th Semester students of CSE (DS). Around 50+ 5th and 7th semester students of data Science attended the session.



Feedback of the session —

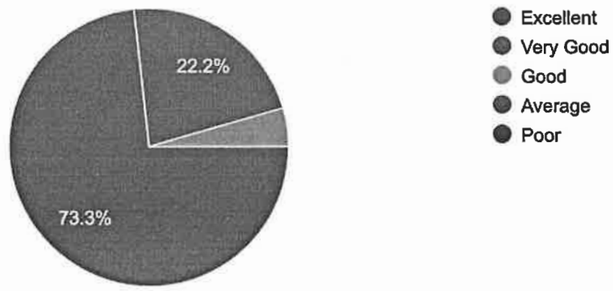
Semester

45 responses



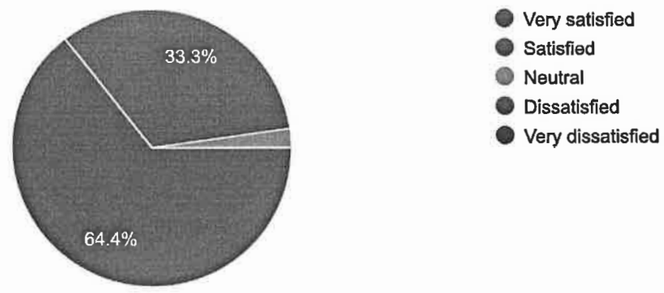
Organization of the event "INK and Insight" was

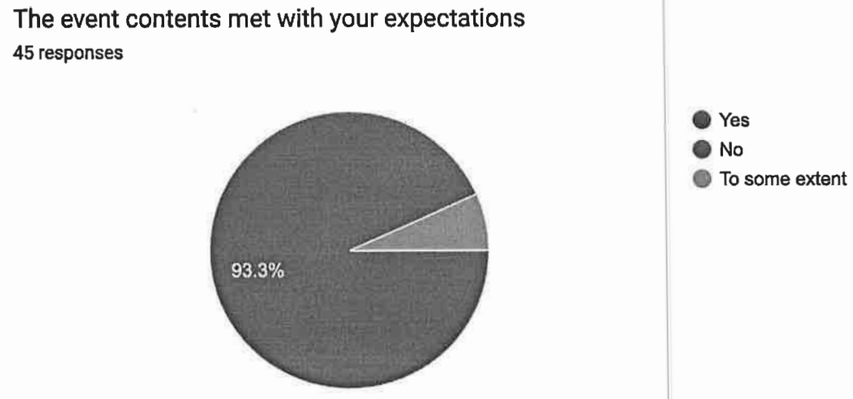
45 responses



What is your level of satisfaction of the event? (Note: Five is the highest level of satisfaction)

45 responses





Report:

The DataScience@DSU Club, the Department of CSE (Data Science) organized a workshop on **"Ink and Insight: An Art of Crafting Research Papers and Thesis"** held on 4th September 2023 organized by Dr. Kakoli Bora, Associate Professor, Dept. of CSE (Data Science), and Prof. Shahwar Ara Kamal S, Assistant Professor, Dept. of CSE (Data Science).

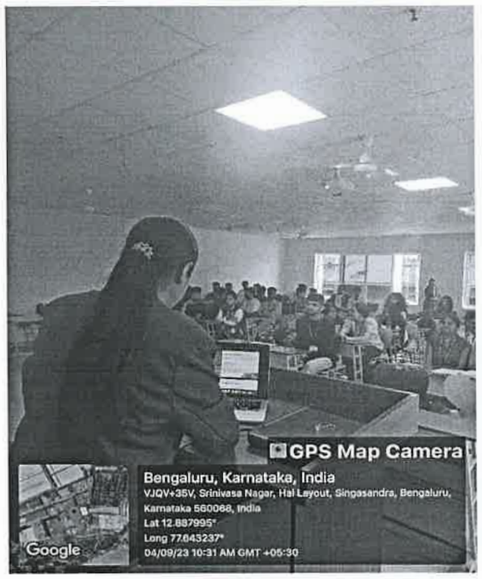
The Speaker was in house faculty. **Dr. Kakoli Bora** gave an insight on how to write research papers. The session started with an introduction to the different technical documents like scientific paper, user manuals, whitepapers, and about journal and conference papers. The speaker discussed the procedures to be followed and each component of a research paper.

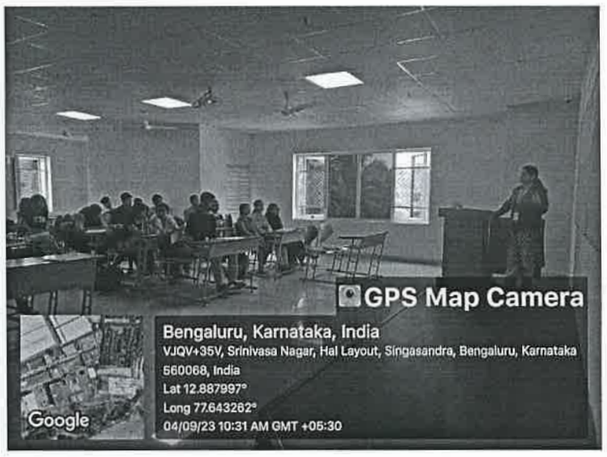
At the end of the event an evaluation was carried out and the students submitted great feedback.

The Takeaways of the event are:

1. Introduced to conference and journal paper publication
2. Got to know different types of technical writing
3. Understood the steps to follow while writing technical papers
4. Introduced to the key components of a technical paper
5. Steps to be followed while submitting a paper

Few glimpses of the event:





Thank You.

9/9/23

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

Dayananda Sagar University

Department of CSE (Data Science)
School of Engineering

Technical talk on "Epitome of Research: Scholarly Paper and Thesis Writing"
VII Sem

Date : 18-08-2023

Venue: T-301

SN.	USN	Name of the Student	Contact Number	Email Id	Signature
1.	ENG20DS0042	Vaidehi.A	7904097036	vaidehiall@gmail.com	
2.	ENG20DS0001	Thiruu Kritika. A	6364831018	thirukritika.02052002@gmail.com	Kritika
3.	ENG20DS0016	Gagana Malleshachari	7975680916	gaganamallesh2002@gmail.com	
4.	ENG20DS0024	Maria Navya Princy	9353270381	navyan25702@gmail.com	
5.	ENG20DS0018	Pradeepthi	9632021754	KPradeepthireddy@gmail.com	
6.	ENG20DS0039	Sudharshan. G.K	7795347702	Sudharshangk7702@gmail.com	
7.	ENG20DS0012	Varun Varma. K	9059777445	buvarunVarma@gmail.com	
8.	ENG20DS0006	Akhil Reddy V	7377353553	akhilreddyv37@gmail.com	
9.	ENG20DS0037	Sanjay. M	7892900313	m2002sanjay@gmail.com	
10.	ENG20DS0047	Vinayak. M. Shenoy. Y	8197414438	vinayakmahithshenoy@gmail.com	

11.	ENG20DS0044	Vedanth.V.Baliga.	9980548294	Vedanthvbaliga@gmail	
12.	ENG20DS0011	Ayush Baranwal	8884616872	ayushbaranwalis202@gmail	
13.	ENG20DS0030	Pranav S S	9110273557	pranavsindhanuru@	
14.	ENG20DS0089	Aftal Uppin	9611055927	atuluppin1@gmail.com	
15.	ENG20DS0036	Rudra Narayan Chetty	9148195721	Kundrudra1@gmail.com	
16.	ENG20DS0013	Chandan Poonacha	6361320801	chandanpoonacha20@	
17.	ENG20DS0051	Preetika Ray	9845270741	raypreetika@gmail.com	
18.	ENG20DS0040	Sukruth G	6361959947	sukruthg2002@gmail.com	
19.	ENG20DS0023	Manju Swaroop	8792741722	manjuswaroop03@gmail.com	
20.	ENG20DS0021	Kushal B.S.	9481206304	kushalachaar18@gmail.com	
21.	ENG20DS0022	M. Madan	9353750917	mmadan2050@gmail.com	
22.	ENG20DS0019	Keerthana Hebbar.R	8310997609	keerthuhebbar@gmail.com	
23.	ENG20DS0002	Abhiruchi S Bharambe	7259122167	abhiruchi.cse20@gmail.com	Abhiruchi S
24.	ENG20DS0026	Nandini Hazarika	9101976828	nandinihazarika1881@gmail.com	Nandini Hazarika
25.	ENG20DS0029	P. Vanavee	7022392554	vanaveep@gmail.com	
26.	ENG20DS0048	Yashna Karkera	9110645640	yashnakarkera06@gmail	
27.	ENG20DS0025	Mokshitha Nadella	9392720595	nadellamokshitha17@gmail.com	Mokshitha
28.	ENG20DS0007	Anjana Priya	8861877576	anjanapriyags@gmail.com	Anjana
29.					
30.					

DAYANANDA SAGAR UNIVERSITY

Department of Computer Science Engineering (Data Science)

School of Engineering

Report on

"SYNERGIZING DATA SCIENCE: COLLABORATIVE APPROACHES FOR COMPLEX PROBLEMS"

Date: 22nd September, 2023 **Time: 09:30 AM – 11:00 AM**

Resource Person:
Mr. Arun Kumar
Founder & CEO, Nikki.Build

Mr. Amruth Raj
Founder, Nikki.Build

Organizers:

Prof. Manjula M
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Prof. Monish L
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Convener:

Dr. Shaila SG
Professor & Chairperson
Dept. of CSE(DS)
SoE, DSU

22/9/23
CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

Target Audiences: 5th Semester students of CSE (DS)

Dayananda Sagar University

School of Engineering, Kudlu Gate, Hosur road
Bengaluru - 560068

Department of Computer Science and Engineering
(Data Science)

In association with
CSI and DataScience@DSU Club is organizing

TECH TALK ON

SYNERGIZING DATA SCIENCE: COLLABORATIVE APPROACHES FOR COMPLEX PROBLEMS

Resource Person

Mr. Arun Kumar
Founder NikkiBuild

Mr. Amruth Raj
Founder Nikkibuild

Target Audience: Data Science Students

Date & Time:
22nd September 2023
09.30 am - 11:00am

Venue:
T303, 'B' block DSU.

Registration Link :
https://forms.gle/fVPBqP9mqo6RQvXeA

Convener

Dr. Shaila S G
Professor & Chairperson
Dept.of CSE (DS), SOE, DSU

Organizer

Prof. Monish L
Assistant Professor
Dept.of CSE (DS), SOE, DSU

Prof. Manjula M
Assistant Professor
Dept.of CSE (DS), SOE, DSU

The DataScience@DSU Club, the Department of CSE (Data Science) organized a workshop on **"SYNERGIZING DATA SCIENCE: COLLABORATIVE APPROACHES FOR COMPLEX PROBLEMS"** held on 22nd September 2023 organized by **Prof. Monish L,** Assistant Professor, Dept. of CSE (Data Science), and **Prof. Manjula M,** Assistant Professor, Dept. of CSE (Data Science).

Mr. Amruth Raj and Mr. Arun Kumar, Founder & CEO of Nikki.Build has an IT experience of 15 Years and worked in IT and Banking sector, with a German company gave an insight on building prototypes in low cost and joy of building the models with low code with existing built in the libraries.

The Takeaways of the event are:

1. Guide them on creating a professional and consistent personal brand as an entrepreneur.
2. Provide insights into different industries-based prototypes.
3. Incorporate interpersonal skills, adaptability, and problem-solving abilities in rapid prototype building.
4. Encourage students to implement Industry 5.0 human machine interaction models in areas of interest.

SYNERGIZING DATA SCIENCE: COLLABORATIVE APPROACHES FOR COMPLEX PROBLEMS

Department of CSE (Data Science) organized a session on " SYNERGIZING DATA SCIENCE: COLLABORATIVE APPROACHES FOR COMPLEX PROBLEMS " on 22nd September 2023 for the 5th-semester students.

The session was graced by the esteemed presence of Mr. Arun Kumar, the Founder and CEO Nikkibuild, shared his wealth of knowledge and experience on how to prepare for a successful career in industry as an entrepreneur. The session commenced with an overview of the dynamic data science landscape.

A rapid prototype building with low code for industry 5.0 Interaction with every line of coding which makes learning more practical and creative. As the agenda of industry 5.0 for Human machine collaboration is implemented in more than 20 models were demonstrated in the session, such as working of Zomato, self-driving JCB model, oximeter, touch less controls.

Some applications demonstrated to students

- Air drop application using common zoom in and out application
- Easy speech interaction using Anyang library,
- Data collection from Bluetooth made easy using BLE (Bluetooth low energy) library
- Vehicle performance prediction with low cost
- Gesture control with low cost using media.pi library
- Tracking of vehicle in Zomato and Swiggy using leaflet library

Arun Kumar Sir emphasized the rapid growth and ever-increasing demand for prototypes with low cost and affordable across various industries. He delved into the crucial aspect of creating a easy going model for the layman. He provided valuable insights into what employers look for in a data science candidate's, including highlighting key skills, projects, and achievements. His tips on skill development and future as were particularly enlightening.

The session concluded with a glimpse into the promising future that awaits data science enthusiasts. Mr. Arun Kumar spoke about the myriad of career paths as an entrepreneur and opportunities that data science offers.

The session left the students motivated and well-prepared for their journey ahead. Armed with invaluable insights from him, they are now ready to embark on their data science careers with confidence, equipped with the knowledge and skills to thrive in the corporate world.

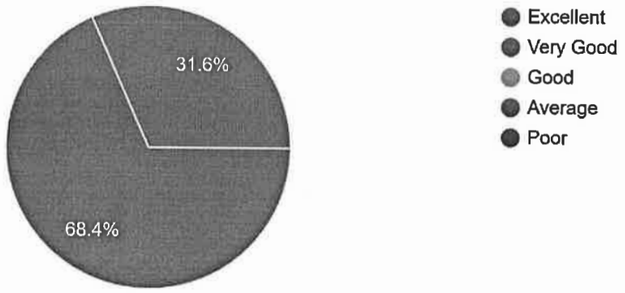
We extend our heartfelt gratitude to Mr. Arun Kumar for his illuminating session and look forward to more such enriching experiences as we continue our quest for excellence in data science in collaboration with Nikki.Build.

Few glimpses of the event:

Feedback of the session —

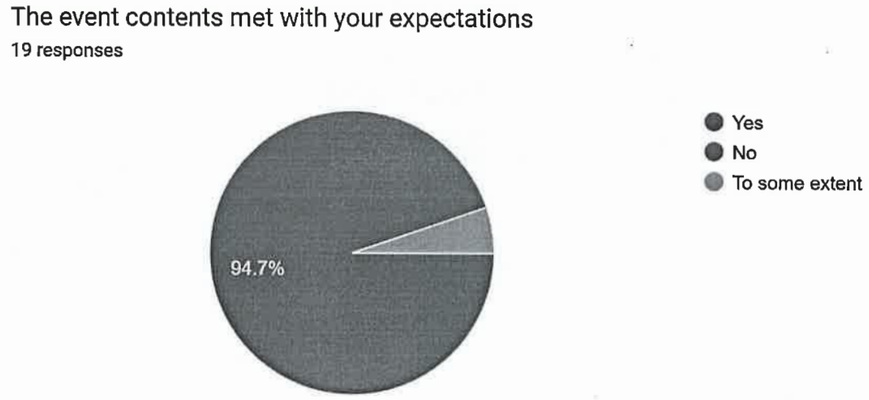
Organization of the event was

19 responses



What is your level of satisfaction of the event? (Note: Five is the highest level of satisfaction)

19 responses



Your inputs/suggestions (if any)

It was a very knowledgeable session with lots of good insights and hands on session.

We need an workshop session

Excellent.

Good knowledge for students

Interesting session

very intresting

I would like to be a part of workshop

Very interesting

It was a great session

Good understanding

Thank You

22/9/23

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

DAYANANDA SAGAR UNIVERSITY

School of Engineering

Hosur Main Road, Kudlu Gate, Bengaluru - 560 068

Department of CSE (Data Science)

DATE:- 22-09-2023

SYNERGIZING DATA SCIENCE COLLABORATIVE APPROACHES FOR COMPLEX PROBLEMS

ATTENDANCE SHEET

SL NO	USN	NAME	SIGNATURE
1.	ENG21DS0044	Thilak.R	
2.	ENG21DS0033	Ranjith Kumar.M	Ranjith
3.	ENG21DS0035	S.Bhavani Prasad	S Bhasad
4.	ENG21DS0023	Nikunj Vihari	
5.	ENG21DS0053	Eshwar Reddy M	
6.	ENG21DS0017	Dikshith Reddy S.N	
7.	ENG21DS0041	Srinivas.K	
8.	ENG21DS0030	R Hari Krishna	
9.	ENG21DS0049	Bhavana Volati	
10.	ENG21DS0011	Baskaran Charu	B.charu
11.	ENG21DS0060	Sivanda N Raj	
12.	ENG21DS0047	Vinuth Gowda.S	
13.	ENG21DS0010	B.Vaibhav Reddy	B.Vaibhav
14.	ENG21DS0024	NITHISH.M	
15.	ENG21DS0022	M.HEMANTH	
16.	ENG21DS0029	PUNITH R	Punith.R
17.	ENG21DS0052	SRIJESH	Srijesh
18.	ENG21DS0064	AKANKSHA.K	
19.	ENG21DS0015	Ramya Sai.D	

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Department of CSE (Data Science)

20.	ENG21DS0016	D. Sreenija	D.Sreenija
21.	ENG21DS0045	Nehashree. N.	Nehashree.N
22.	ENG21DS0032	Rakshita P	R.Rksh
23.	ENG21DS0014	Chaithra. K	
24.	ENG21DS0043	Thahasin. G	
25.	ENG21DS0039	Shubham kumar	[redacted] Shub.
26.	ENG21DS0046	Nivas Reddy	
27.	ENG21DS0003	ABHISHEK.N	Abhishek.N.
28.	ENG21DS1002	Yogesh	
29.	ENG21DS0028	Priyanka. P	
30.	ENG21DS0012	Bindu. B	B
31.	ENG21DS0006	Akshaya. B	Akshaya.
32.	ENG21DS0013	Chaithrashree. P	Chaithra P
33.	ENG21DS0020	G.P. Sowmya.	Sowmya.
34.	ENG21DS0025	NOOR Hadiya.	
35.	ENG21DS0018	Eshwar Reddy. B	B.E Reddy.
36.	ENG21DS0036	Shaik Waseem	
37.	ENG21DS0019	G.S. Suraj Rao	
38.	ENG21DS0009	Ashil Abrahamshibu	ASHIL
39.	ENG21DS0001	Aakash Tomar	
40.	ENG21DS0048	Vishal Kumar	Vishal Kumar.
41.	ENG21DS0007	Antony Priyanth	Antony.

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Department of CSE (Data Science)

42.	ENG22DS1001	Manoj kumar B.V	Manoj Kumar
43.	ENG21DS0027	Prankumar . A	Prankumar
44.	ENG21DS0031	R. Prem kumar Reddy	
45.	ENG21DS0008	Arujan R G	
46.			
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DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

DAYANANDA SAGAR UNIVERSITY
School of Engineering
Department of Computer Science Engineering (Data Science)

Report on

Technical Writing in Multilingual Contexts

Date: 23rd May, 2024 **Time: 11:00 AM – 12:50 AM**

Resource Person:
Dr. Shaila SG
Professor & Chairperson
SoE, DSU

Organizers:

Prof. Shivamma D
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Prof. Monish L
Assistant Professor
Dept. of CSE(DS)
SoE, DSU

Convener:

Dr. Udaya Kumar Reddy KR
Dean, SoE, DSU

Dr. Shaila SG
Professor & Chairperson
Department of CSE (Data Science), SoE, DSU

Target Audiences: 4th Semester students of CSE (DS)

23/5/24

CHAIRPERSON
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Karnataka

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

The DataScience@DSU Club, the Department of CSE (Data Science) organized a Workshop on **Technical Writing in Multilingual Contexts** held on 23rd May 2024 organized by **Prof. Monish L,** Assistant Professor, Dept. of CSE (Data Science), and **Prof. Shivamma D,** Assistant Professor, Dept. of CSE (Data Science).

The workshop on Technical Writing in Multilingual Contexts, organized by the DataScience@DSU Club and the Department of CSE (Data Science) on 23rd May 2024, shed light on the intricacies of producing high-quality technical documentation for diverse audiences. Led by Prof. Monish L and Prof. Shivamma D, Assistant Professors in the Department of CSE (Data Science), the event underscored the importance of a systematic approach in writing research papers.

Dr. Shaila's contribution to the talk on technical writing in multilingual contexts encapsulated the importance of a systematic approach to writing research papers. Beginning with meticulous topic selection and thorough preliminary research, attendees gained valuable insights into crafting a clear thesis statement and maintaining coherence through an organized outline. Dr. Shaila underscored the significance of conducting in-depth research, structuring body paragraphs effectively, and critically analyzing results. Her emphasis on these elements highlighted the importance of producing a meticulously revised and polished final draft, ready for scholarly submission. Dr. Shaila's guidance provided attendees with practical strategies to navigate the complexities of multilingual technical writing, ensuring clarity, accuracy, and adherence to scholarly standards in their research papers.

Takeaways:

1. Students gained insights into upcoming courses, enabling informed academic choices.
2. To focus on technical content writing, empowered students with practical skills and fostered active learning and participation.

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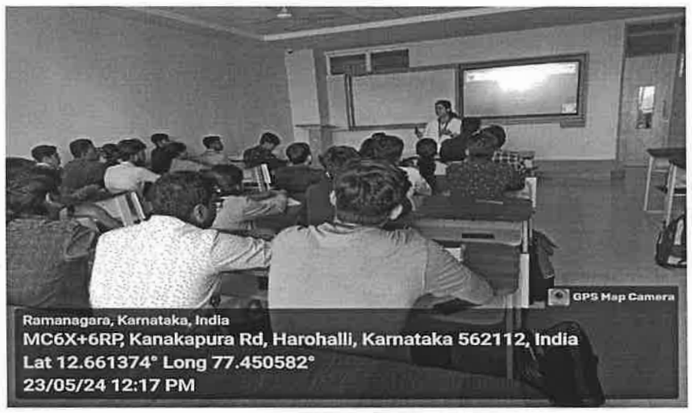
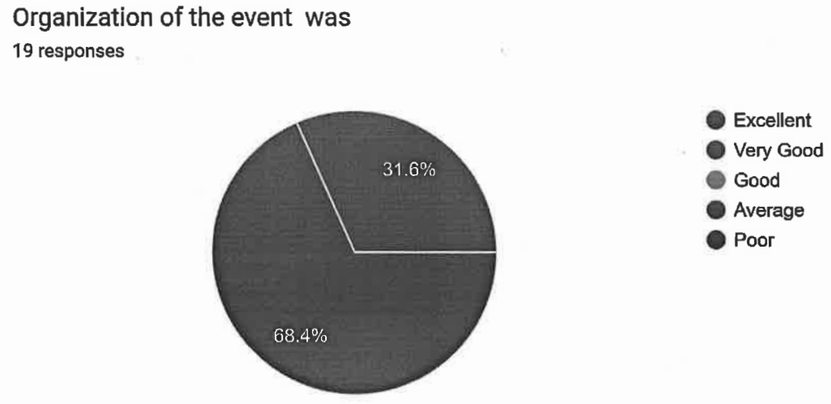
PHOTOS

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING



Feedback of the session —



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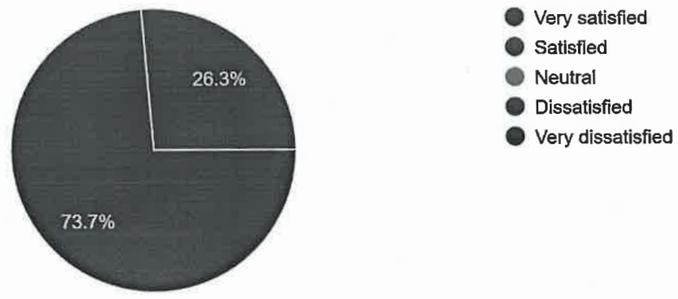
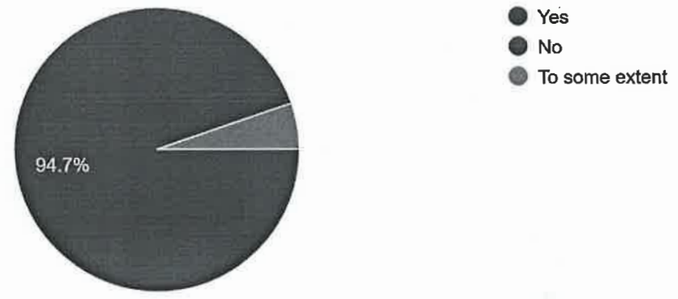
What is your level of satisfaction of the event? (Note: Five is the highest level of satisfaction)

19 responses



The event contents met with your expectations

19 responses



Thank You

23/5/24

CHAIRPERSON
Dept of CSE (Data Science)
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura
Ramanagara District - 5
Karnataka

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

Department of Computer Science and Engineering (Data Science)

Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara Dt – 562 112

Department of Computer Science and Engineering (Data Science)

Date: 23-05-24 Technical Writing in Multilingual Contexts Time: 11-12:50

Sr.No	USN	Student Name	Signature
1	ENG22DS0001	DEEPIKA G	
2	ENG22DS0002	HARSHA	
3	ENG22DS0003	HARSHITA JEETENDRA BHUTE	
4	ENG22DS0004	JANARDHAN K S	
5	ENG22DS0005	MOHAMMAD ARMAN	
6	ENG22DS0006	MOHAMMED FAIZAN KHAN	
7	ENG22DS0007	PAVAN PREETHAM MUKKUNDA	
8	ENG22DS0008	PRIYANKA BAI BK	
9	ENG22DS0009	PUNITH N	
10	ENG22DS0010	R SINDHU	
11	ENG22DS0011	RAJAT GOPALKRISHNA SALUNKE	
12	ENG22DS0012	RANJITHA C	
13	ENG22DS0013	RICHITHA S	
14	ENG22DS0014	SACHIN BHOSAGI	
15	ENG22DS0015	SAHANA S M	
16	ENG22DS0016	SAHANA VITTAL SHETTY	
17	ENG22DS0017	SANJANA T	
18	ENG22DS0018	SRI SAI NITHIN P	
19	ENG22DS0019	SUJEETH KUMAR D S	
20	ENG22DS0020	VARUN R	
21	ENG22DS0021	VEERESH	
22	ENG22DS0022	VENKAT NIVAS REDDY K	
23	ENG22DS0023	VINITH K M	
24	ENG22DS0024	VIRJKA OLIVIA SOANS	
25	ENG22DS0025	AKSHAT JAIN	
26	ENG22DS0026	ANSHUMAN	
27	ENG22DS0027	B BANU VARSHIT	
28	ENG22DS0028	HIFZA AHMED	
29	ENG22DS0057	VENKATA SUSHAL NALANAGU	
30	ENG22DS0029	HIT KARAN SINGH RATHORE	
31	ENG22DS0030	JOB JOMY	
32	ENG22DS0031	K RAYVANTH	
33	ENG22DS0032	KOVARTHANA K	
34	ENG22DS0033	KURUBA RENUKA	
35	ENG22DS0034	KURUBA VEERESH	
36	ENG22DS0035	M ABILASH	
37	ENG22DS0036	MAHI GUPTA	
38	ENG22DS0037	MANAV ANAND JOSHI	
39	ENG22DS0038	N PRANAV REDDY	
40	ENG22DS0039	NITIN PRAJWAL R	
41	ENG22DS0040	PAVAN KUMAR G	
42	ENG22DS0041	RAMANA VEL B V	
43	ENG22DS0042	SHERLYN ROSE	

44	ENG22DS0043	SHUSHMA S	
45	ENG22DS0044	SIDDHANT JAIN DAISHIN	
46	ENG22DS0045	TEEKALA GOWTHAM	
47	ENG22DS0046	THANYA U GANIGA	
48	ENG22DS0047	VINURAJ VAMSHI	
49	ENG22DS0048	ADITYA NISHAD	
50	ENG22DS0049	ARIAN KOVACS	
51	ENG22DS0050	LIKITH SHETTY SR	
52	ENG22DS0051	KRUSHI KETHAN REDDY	
53	ENG22DS0052	NEMAKAL HARSHA VARDHAN	
54	ENG22DS0053	ROOPAK RAGHU	
55	ENG22DS0054	S KRITIK VASAN	
56	ENG22DS0056	SUGESH K G	
57	ENG23DS1001	CHETHAN KUMAR S	
58	ENG23DS1002	SANJANA S	
59	ENG23DS1003	SHAMA B H	

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE & TECHNOLOGY

Report on "Business Model Competition"

Event Name:"Business Model Competition"

Date: 29th April 2024

Time: 09:00 AM – 01:00 PM

Venue: Gallery Hall-1 , A-Block, Kudlu Gate campus, Bangalore.

Brochure:

Objectives of Event:

- Encourage individuals to pursue entrepreneurial endeavors by providing a platform to showcase innovative business ideas.
- Stimulate creativity and innovation by challenging participants to develop unique and viable business concepts.
- To receive feedback from experienced entrepreneurs, mentors, and industry experts to refine their business plans.

Outcomes of Event:

- Enhanced clarity and refinement of their business model and plan, enabling them to progress to the next stage of development with confidence.
- Better preparedness and readiness for taking part in MANTHAN, equipped with knowledge and suggestions to improve their strategy and presentation.

Summary:

The Department of Computer Science & Technology has "Business Model Competition" on 29th April 2024 was a remarkable platform for aspiring entrepreneurs to showcase their innovative business ideas and models. The event aimed to foster creativity, entrepreneurship, and strategic thinking among participants while providing them with valuable feedback and networking opportunities. Event started by welcoming & introducing the chief guest Mr. Vinod Shankar, CEO, AIC-DSU. Dr. M. Shanina Parveen, Chairperson, Department of CST addressed the gathering about the importance of the event and enlightened the young minds to take part in events and motivated to build their own start-up's. Followed by Mr. Vinod Shankar has shared the insights about AIC-DSU and derbi. Also discussed about various business opportunities and how to build their models and become a successful entrepreneurs. Total 13 teams participated in the competition. Participants presented a wide array of innovative business models across various sectors, including technology, healthcare, sustainability, and social impact. From disruptive digital platforms to sustainable solutions addressing global challenges, the creativity and ingenuity on display were commendable. The judging panel with extensive experience in evaluating business models has shared their feedback after examining all team models. Their constructive feedback and insightful questions provided invaluable guidance to participants, helping them to refine their concepts and

strategies. After rigorous evaluation and deliberation, the judges selected the following winners based on the strength of their business models, presentation skills, and potential impact.

First prize: Rs. 2000 cash prize

Harika Reddy K, Krutarth Y G , Pooja V M, Sarah Catherine, Vandhana.

Second prize: Rs. 1500 cash prize

R Keertish Kumar, M Esha Reddy, Mohamed Faizal , Nanditha N.

Third prize: Rs. 1000 cash prize

Sohana R, Niharika R, Hemal S, Tarun Pradeep Kumar

Consolation prize: Rs. 500 cash prize

Allan Dsouza, Swathi S, Thanmay Ram

Event concluded by thanking Judges and all the participants.

Glimpses:

GPS Map Camera
Bengaluru, Karnataka, India
1st Floor, Hosur Rd, Kudlu Gate, Srinivasa Nagar, Hal Layout, Singasandra, Bengaluru, Karnataka 560068, India
Lat 12.887692°
Long 77.642306°
29/04/24 10:07 AM GMT +05:30
Google

GPS Map Camera
Bengaluru, Karnataka, India
Sagar IT Park, S T Rd, Kudlu Gate, Srinivasa Nagar, Hal Layout, Singasandra, Bengaluru, Karnataka 560068, India
Lat 12.887632°
Long 77.642215°
29/04/24 10:20 AM GMT +05:30
Google

TEAM 2

TEAM 3
EthicalGuard

TEAM 4
Flashlearn

TEAM 6
GPS Map Camera
Bengaluru, Karnataka, India
Sagar IT Park, S T Rd, Kudlu Gate, Srinivasa Nagar, Hal Layout, Singasandra, Bengaluru, Karnataka 560068, India
Lat 12.887697°
Long 77.642238°
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Google

TEAM 8
Shishu Assist

GPS Map Camera
Bengaluru, Karnataka, India
Sagar IT Park, S T Rd, Kudlu Gate, Srinivasa Nagar, Hal Layout, Singasandra, Bengaluru, Karnataka 560068, India
Lat 12.887658°
Long 77.642231°
29/04/24 11:59 AM GMT +05:30
Google

TEAM 9
Tastybyte

GPS Map Camera
Bengaluru, Karnataka, India
Sagar IT Park, S T Rd, Kudlu Gate, Srinivasa Nagar, Hal Layout, Singasandra, Bengaluru, Karnataka 560068, India
Lat 12.88768°
Long 77.642212°
29/04/24 11:16 AM GMT +05:30
Google

TEAM 1
DecoraNova

DAYANANDA SAGAR UNIVERSITY

SCHOOL OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE & TECHNOLOGY

3-day workshop on

"Game Development"

Event Name: 3-day Hands-on workshop on "Game Development"

Date: from 15th April to 18th April 2024

Time: 09:00 AM – 01:00 PM

Venue: F-140

Brocher:

Objectives:

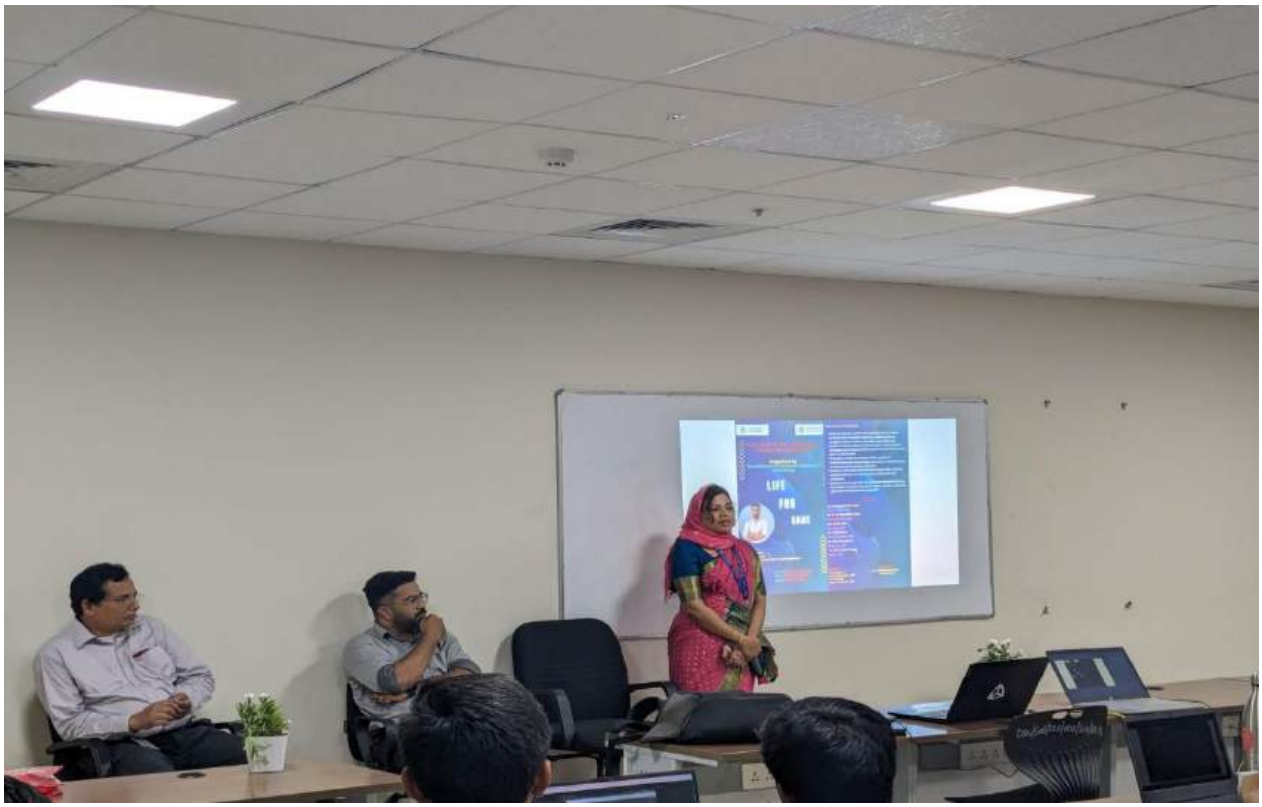
- The objective for students in this workshop is to gain a comprehensive understanding of game development through Unity 3D.
- Beginning with an introduction to game engines and the fundamentals of game design, students will progress through key concepts such as level design, terrain creation, lighting techniques, and C# scripting for gameplay mechanics.
- Students will also delve into advanced topics including AI implementation and user interface design tailored to enhance player experience.
- Students will have the knowledge and skills necessary to create and publish their own games, equipped with the ability to navigate Unity interface, develop engaging gameplay mechanics, implement AI behaviors, and prepare their projects for distribution across multiple platforms.

Outcomes:

- Students will gain a solid understanding of game engine fundamentals and Unity& interface, enabling them to navigate various windows and utilize tools effectively.
- Students will be proficient in level design, terrain creation, and lighting techniques, facilitating the creation of immersive game environments.
- Through C# scripting, students will be capable of implementing diverse gameplay mechanics, including player movement and interactive elements.
- Students will develop user interface design skills, creating intuitive interfaces to enhance player interaction and experience.
- Students will emerge from the workshop equipped with the knowledge and skills necessary to create, publish, and iterate upon their own games using Unity 3D.

Summary:

The Department of Computer Science & Technology has organized a 3-days hands on workshop on “Game Development” from 15th April 2024 to 17th April 2024 in F-140. The resource person for this session was Prathviraj, Program Lead at Seamedu - School of Pro-Expressionism. Session started by welcoming & introducing the resource person and Dr. M. Shanina Parveen, Chairperson, Department of CST addressed the gathering about the importance of the workshop and handed over the session to the resource person.



GPS Map Camera
Bengaluru, Karnataka, India
TrackNerd GPS Pvt Ltd AIC-DSU Innovation Foundation, Hosur Rd, near Kudlu Gate, Kudlu Gate, Srinivasa Nagar, Hal Layout, Singasandra, Bengaluru, Karnataka 560068, India
Lat 12.887819°
Long 77.643024°
15/04/24 09:23 AM GMT +05:30
Google

Workshop Objective for Day 1 (15th April 9:00 AM to 01:00 PM):

To provide students with a comprehensive introduction to game development using Unity 3D, covering the essential tools, features, and concepts necessary to create projects in both 2D and 3D environments.

Workshop Outcome for Day 1:

By the end of Day 1, students will be able to:

- Define the concept of game engines and understand their role in game development.
- Successfully install Unity 3D and Unity Hub on their systems.
- Differentiate between various versions of Unity 3D and select the appropriate version for their projects.
- Create a new project in Unity 3D, selecting either 3D or 2D as per project requirements.
- Navigate and utilize different windows within the Unity 3D interface, including Inspector panel, Tool bar, Project Window, Hierarchy Window, and Scene Window.
- Understand the basics of materials and physics in game development.
- Access and explore the Unity Asset Store for additional resources and assets.
- Implement terrain creation and lighting techniques within Unity.

Workshop Objective for Day 2 (16th April 9:00 AM to 01:00 PM):

To introduce students to C# scripting in Unity and empower them with the knowledge and skills required to implement player movement, scene management, and interactive user interfaces for their games.

Workshop Outcome for Day 2:

By the end of Day 2, students will be able to:

- Understand the basics of C# scripting and its lifecycle within Unity.
- Implement fundamental C# scripting concepts in Unity, including variables, functions, and control structures.
- Develop and implement player movement mechanics using C# scripting.
- Manage scenes dynamically through scripting for better game flow and organization.
- Create interactive user interfaces (UI) for games, including buttons, menus, and text elements.

Workshop Objective for Day 3 (17th April 9:00 AM to 01:00 PM):

To delve deeper into game development concepts by introducing students to artificial intelligence (AI) implementation, animation, and the process of game publishing.

Workshop Outcome for Day 3:

By the end of Day 3, students will be able to:

- Understand the basics of AI for games, including pathfinding using Navmesh and waypoint systems.
- Implement AI behaviors and movement patterns within their games.
- Utilize animation and Animator Controller to create dynamic character movements and
- interactions.
- Gain insight into the process of game publishing, including testing, debugging, and packaging for different platforms.

Session ended by questionaries and thanking the resource person for enlightening the students in gaming domain

Glimpses:

GPS Map Camera
Bengaluru, Karnataka, India
TrackNerd GPS Pvt Ltd AIC-DSU Innovation Foundation, Hosur Rd, near Kudlu Gate, Kudlu Gate, Srinivasa Nagar, Hal Layout, Singasandra, Bengaluru, Karnataka 560068, India
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Long 77.64284°
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Google

GPS Map Camera
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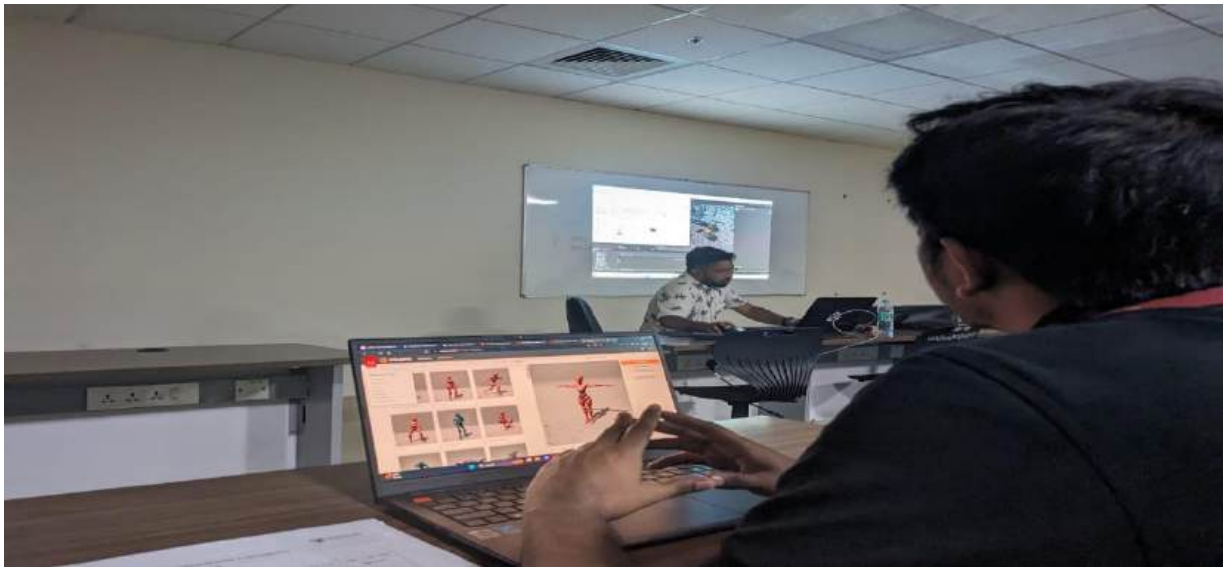

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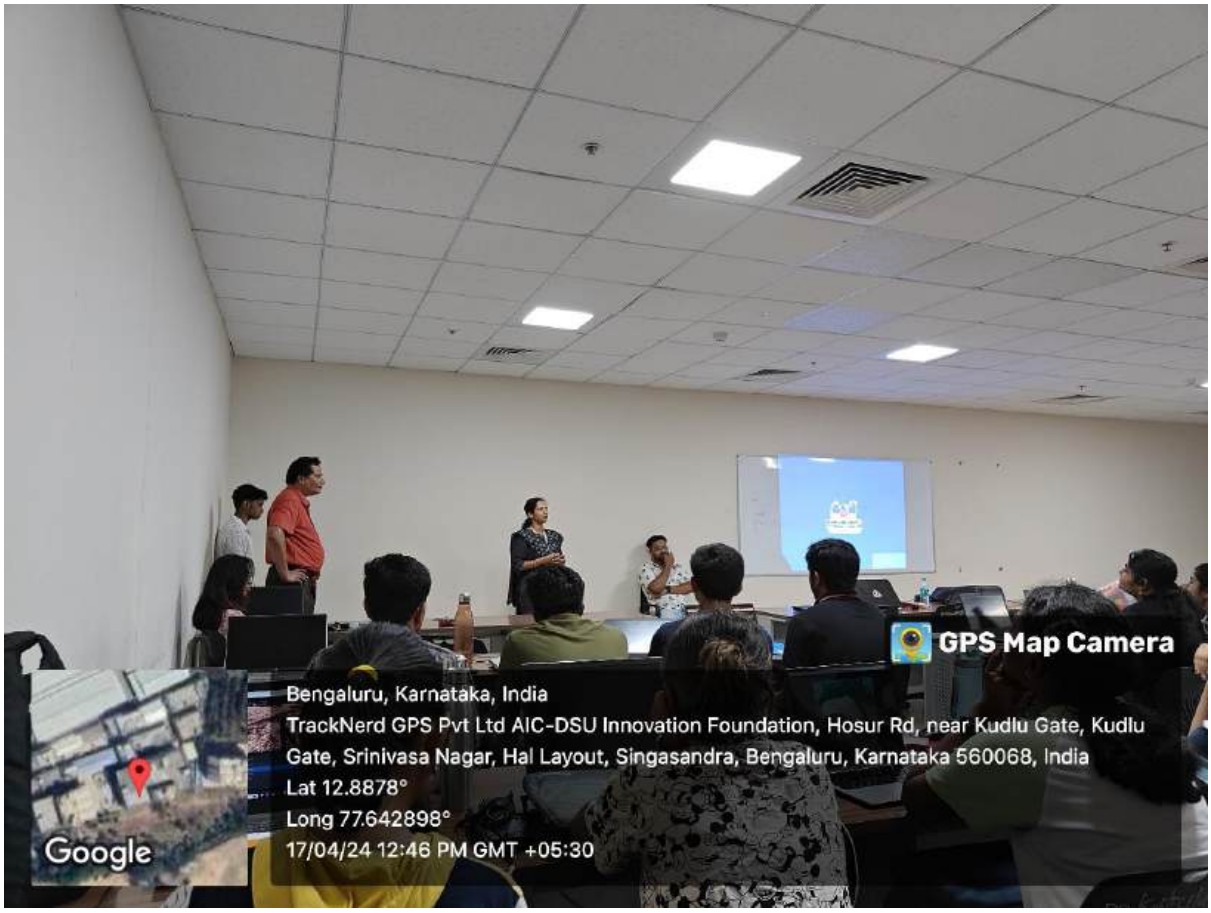
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Bengaluru, KA, India
SKS Compound Road Singasandra, Bengaluru Urban, 560068, KA, India
Lat: 12.887619, Long: 77.643406
17/04/24 11:29 AM GMT+05:30
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Dayananda Sagar University

SCHOOL OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE & TECHNOLOGY

ATTENDANCE

Event Name: Workshop on "Game Development"

SL.NO	USN	NAME	Date: 15/04/2024	Date: 16/04/2024	Date: 17/04/2024
			Signature	Signature	Signature
1.	ENG22CT1001	Kaviyarasu.K	K.Kai	K.Kai	K.Kai
2	ENG21CT0037	Sohan R V			
3	ENG21CT0088	Manikanta.S	Manj	Manj	Manj
4	ENG22CT1002	SANDESH.P.SHET			
5	ENG21CT0041	SWAROOP.K.R			
6	ENG21CT0045	TARUN.P.KUMAR			
7	ENG21CT0010	Hemant.SB	Hemant S	Hemant S	Hemant S
8	ENG21CT0034	SARAH CATHERINE	Sarah	Sarah	Sarah
9	ENG21CT0043	SWATHI S			
10	ENG21CT0009	HEMAL S	Hemal S	Hemal S	Hemal S
11	ENG21CT0002	ALLAN D'SOUZA			
12	ENG21CT0030	Priyanka Sharma			

13	Sunidhi KS	ENG21CT0040			
14	Sukruti S.	ENG21CT0039			
15	Vidushi. M	ENG21CT0048			
16	Jaice. S. Joseph	ENG21CT0011			
17	Shashank Hegde	ENG21CT0036			
18.	Gaurang Goyal	ENG21CT0006			
19	Krutarth YG	ENG21CT0016			
20	Sowmya LG	ENG21CT0017			
21	Lavanya. R	ENG21CT0018			
22.	Harshitha. T	ENG21CT0008			
23	Esha Reddy	ENG21CT0020			
24	SOHANA. R	ENG21CT0038			
25	Nanditha. N	ENG21CT0027			
26	Keerthish. R	ENG21CT0032			
27	NIHARIKA. R	ENG21CT0028			
28	AFSHA RATHER	ENG21CT0001			
29	Tanya Singh	ENG21CT0044			
30	KHUSHI SHAH	ENG21CT0015			
31	HARIKA REDDY K	ENG21CT0007			
32	POOJA. VM	ENG21CT0029			
33.	Raja Kumar	ENG21CT0033			
34.	SWATHI. B	ENG21CT0042			

35.	Sharan Veronica	ENG21CT0035	Sharanj.	Sharanj.	Sharanj.
36	LIKHITH.	ENG21CT0019			
37.	Thanmay	ENG21CT0021	Thant	Thant	
38.	Manoj. N	ENG21CT0024	Mant	Mant	Mant
39.	V. Tharun	ENG22CT1003	V.Th	V.Th	V.Th
40	Kharoseyar Varadraj	ENG21CT0014			
41	Khan Samim dar	ENG21CT0013			
42.	Ashra	ENG21CT0025			
43	Vedant	ENG21CT0047			
44.	Ankit singh	ENG21CT0004			Ankit singh
45.	Aman Raj	ENG21CT0003	Aman Raj	Aman Raj	Aman Raj
46.	Md Faizal	ENG21CT0026	faizal	faizal	faizal
47	Albert	ENG21CT0001			

Feedback form _3Day workshop on "Game Development"

44 responses

Publish analytics

USN

44 responses

Eng21ct0013

ENG21CT0020

ENG21CT0003

ENG21CT0022

ENG21CT0004

ENG21CT0025

ENG21CT0016

ENG21CT0029

eng21ct0036@dsu.edu.in

ENG21CT0041

ENG22CT1001

ENG21CT0009

ENG21CT0006

ENG21CT0008

ENG22CT1003

Eng22ct1002

ENG21CT0047

ENG21CT0035

ENG21CT0011

ENG21CT0048

ENG21CT0039

ENG21CT0040

ENG21CT0032

ENG21CT0007

ENG21CT0044

Eng21ct0030

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ENG21CT0026

ENG21CT0010

ENG21CT0033

ENG21CT0018

ENG21CT0043

eng21ct0034

ENG21CT0017

ENG21CT0028

ENG21CT0014

NAME

44 responses

Khan samim masud

M Esha Reddy

Aman Raj

MANIKANTA.S

Ankit Singh

Md Mozammil Ashraf

Krutarth Y G

Pooja V M

Shashank Hegde

Swaroop K R

Kaviyarasu k

Hemal S

Gaurang Goyal

Harshitha R

V Tharun

SANDESH P SHET

Vedant Ransingh

S A sharan Veronica

Jaice S Joseph

Vidushi Modi

Sukriti Srinivasa

Sunidhi

R Keertish Kumar

Harika Reddy K

Tanya Singh

Priyanka Sharma

Tarun Pradeep

Khushi Shah

Nanditha. N

M Thanmay Ram

Afsha Rather

Sohana R

SWATHI B

SOHAN R V

MANOJ N

Mohamed Faizal

Hemant Sudarshan B

Raja Kumar

Lavanya R

Swathi S

Sarah Catherine

Sowmya LG

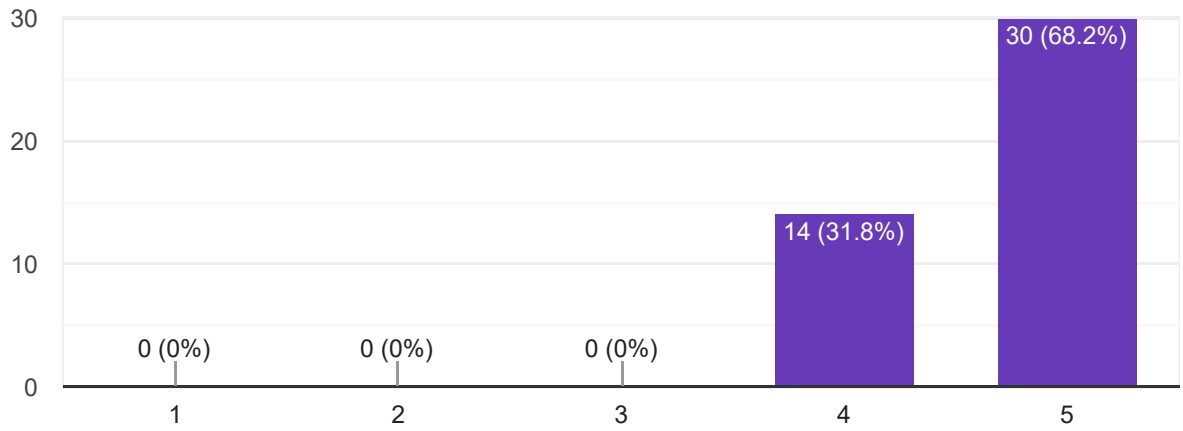
Niharika R

Kharosekar Varadraj Abhay

How would you rate the overall organization and structure of the workshop?

Copy

44 responses



Were the topics covered in the workshop aligned with your expectations and interests?

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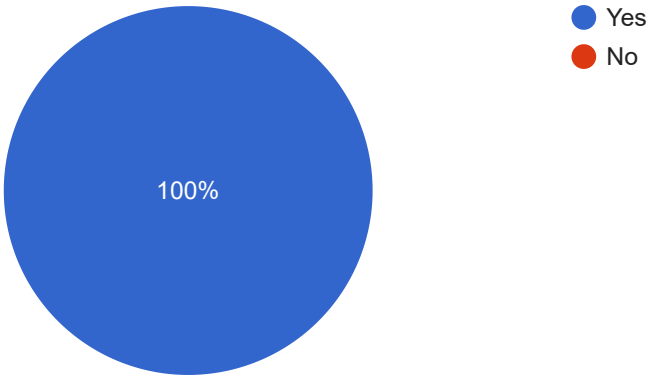
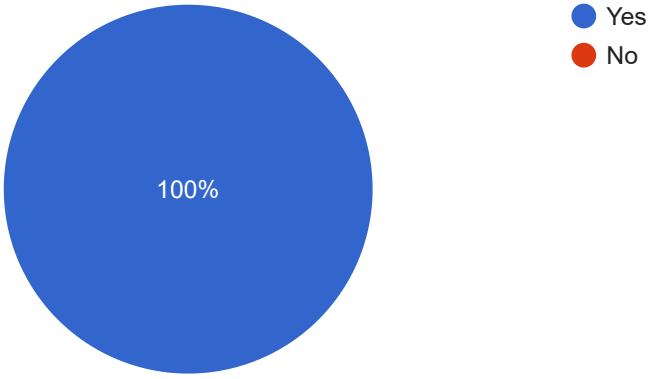
44 responses



Did the workshop effectively cater to participants with varying levels of experience in game development?

Copy

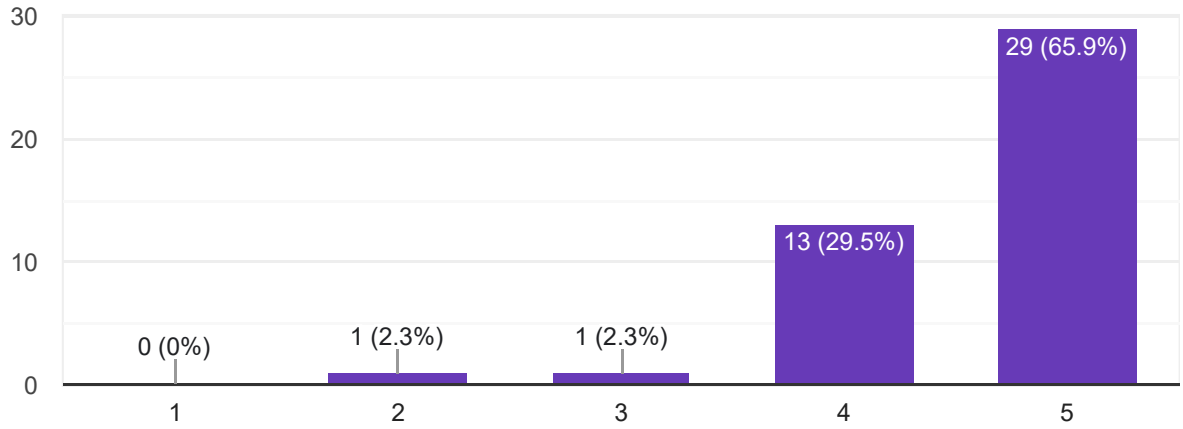
44 responses



How would you rate the clarity and effectiveness of the presentations and demonstrations during the workshop?

Copy

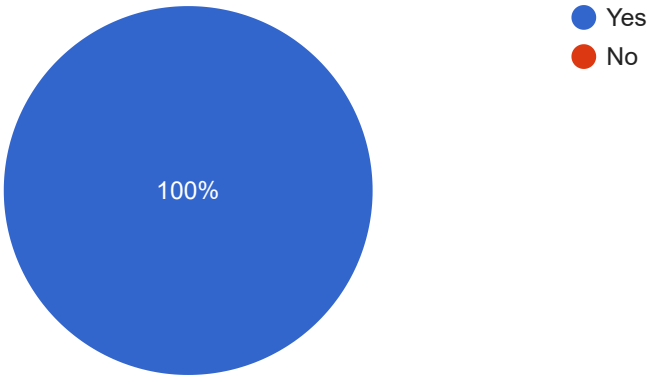
44 responses



Did the workshop provide sufficient hands-on activities and opportunities for practical learning?

Copy

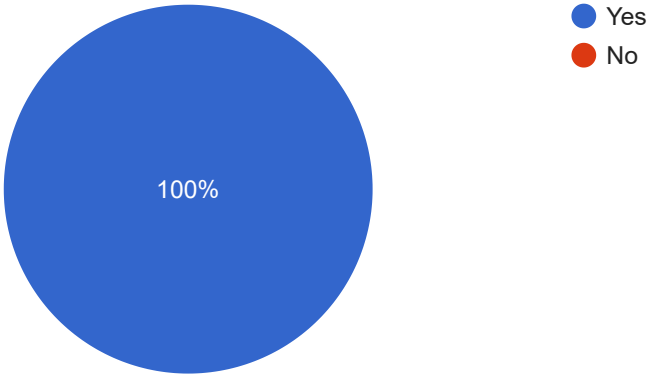
44 responses



Did the workshop adequately cover both technical aspects (e.g., coding, software tools) and creative aspects

Copy

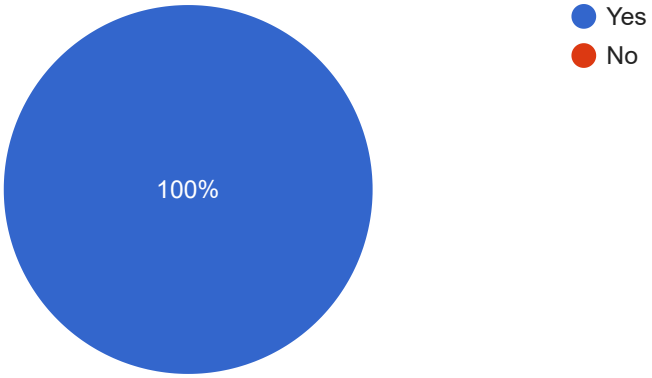
44 responses



Do you feel that the workshop has equipped you with valuable skills and knowledge that you can apply to your own game development projects?

Copy

44 responses



Overall, how satisfied are you with your experience at the workshop?

44 responses

Very satisfied

Good

It was good

Yes

It was fun and also we get to learn how utility works and how we can develop a game and how the ui/ux of it works

Learned a lot of new things about game development and unity software.

It great experience about how to develop the game or designing and i enjoy a lot and i learnt a lot from this workshop

This workshop is very valuable for me I have learned about unity game development and coding in c sharp.

Truly helpful and successful workshop, really happy with our department workshop organiser.

Satisfied I guess

It was a really good experience.

Very much

Good

Gooooooooooooooooooooooood

Next level satisfied

Very satisfied

Very satisfied and got new ideas to make a animation using unity hub

I learned many things related to the Game Development. How to add characters in the 2-D and many more things which we can add in the 2-D format.

Nothing

Satisfied but I was not able to keep up with the pace of developing the game

-

Very satisfied, wish there was more time

I really liked the work also I learnt new things ,it really go me interested i would really more workshop on the same gaming topic

Was a nice introduction to a new domain. It was also too much information in a single session. Hope it would be more spaced out like one session a week over three weeks so that we can have a refined understanding of one concept before moving onto the next.

it was great

Highly

It was overall good experience and there should be more workshops like this

crafted a mini-game from scratch, fostering creativity and collaboration.

It was helpful in learning unity. Thankyou sir

Well satisfied

Satisfied

Excellent

Overall a good experience

Very good

I was amazing & got practical implications

Yes it was good...we want more workshops like these

Very

It was very nice and interesting, I hope our clg will provide again this particular workshop

Great Teaching & Nice Workshop

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SCHOOL OF ENGINEERING

Department of Computer Science and Technology

Report on Industrial Visit

Event Name: Industrial Visit

Date: 13/12/2023

Time: 08:45 AM – 12:15 PM

Venue: Foundry & Forge Division, Hindustan Aeronautics Limited , Bangalore Complex PB No.1791, Vimanapura Post, Bangalore 560 017.

Broucher:

Objectives of the event:

1) Witness the initial stages of product ideation, conceptualization, and design discussions within an aerospace manufacturing division. Gain insights into how ideas are translated into feasible aerospace products.

2) Gain practical exposure to the various manufacturing processes involved, such as forging, casting, machining, heat treatment, and assembly, to convert designs into physical components.

3) Understand the criticality of material selection for aerospace components considering strength, durability, weight, and other factors. Witness how materials are tested for their suitability in extreme conditions.

4) Explore how lean manufacturing principles and efficiency optimization techniques are applied to streamline processes and reduce waste in aerospace component production.

5) Relate theoretical engineering concepts learned in academia to their practical application in the aerospace industry, reinforcing the importance of engineering knowledge in product development.

Outcomes of the event:

1. Students gained over all knowledge about the product development process in foundry & forge division.
2. Impact of aircraft in the nation has been educated & awareness on employability.

Summary:

The Department of CST, SOE had planned one day industrial visit to HAL(Hindustan Aeronautics Limited), HAL Old Airport Rd, Vinayaka Nagar, Vimanapura, Bengaluru, Karnataka 560017. The industrial visit to Hindustan Aeronautics Limited (HAL) in Bengaluru was organized with the objective of providing students with insights into the aerospace industry under product development phase. HAL is a premier aerospace company in India, known for its expertise in design, production, and maintenance of aircraft and related systems. Around 44 students and 2 faculty members attended the industrial visit and the schedule is as follows

Schedule of the Visit

8:45 AM - 10:00 AM: Departure from DSU to HAL

10:10 AM - 10:30 AM: Registration and Welcome

10:30 AM - 11:00 AM: Introduction to HAL and Briefing on impact of HAL

11:00 AM - 11:30 PM: Plant Tour - Aircraft F & F Unit

11:30 PM - 12:00 PM: Interaction with HAL Engineers and Q&A Session

12:00 PM - 12:15 PM: Closing Note.

Exposure areas during the visit is as follows

Aircraft Manufacturing Unit

During the plant tour, students had the opportunity to witness the various stages of aircraft manufacturing, including fabrication, assembly, and quality control. The visit provided valuable insights into the precision and complexity involved in the production of aircraft.

Interaction with HAL Engineers

Q&A Session

A dedicated session was organized for students to interact with HAL engineers. The engineers shared their experiences, challenges, and the innovative solutions adopted in the aerospace industry. The Q&A session facilitated a meaningful exchange of ideas and knowledge.

Avionics Division Visit

The visit to the Avionics Division focused on the advanced technologies used in avionics systems. Students gained insights into the design and development of avionics components critical for the functioning of modern aircraft.

Acknowledgments

We extend our sincere gratitude to the management and staff of HAL, Bengaluru, for their warm welcome and cooperation throughout the visit.

Recommendations

Enhanced Interaction Opportunities: Future industrial visits should incorporate more interactive sessions, allowing students to engage in discussions and ask questions.

Extended Duration: Consideration should be given to extending the duration of the visit to allow for more in-depth exploration of different divisions within HAL.

Overall Learning

The industrial visit to HAL was a valuable learning experience that complemented the theoretical knowledge gained in the classroom. It provided students with practical insights into the aerospace industry and the intricate processes involved in aircraft manufacturing.

We reached campus back around 1.00PM. The industrial visit to HAL in Bengaluru was a enriching experience for the students, providing them with a firsthand understanding of the aerospace industry. The exposure toHAL and interaction with industry experts contributed to their learning and broadened their perspective on the field.Students feedback was collected by sharing feedback link.

Photos:

F &F DIVISION
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SKS Compound Road, Singasandra, Bengaluru, 560068, KA, India
Lat 12.887771, Long 77.642279
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Note : Captured by GPS Map Camera

HAL F &F DIVISION
GPS Map Camera
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Singasandra, Bengaluru, 560068, KA, India
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Note : Captured by GPS Map Camera

Department of Computer Science and Technology

Industrial Visit

Date: 13.12.2023

ATTENDANCE SHEET

S.NO	USN	NAME	SIGNATURE
01	ENG21CT0002	Allan Prouzer	
02	ENG21CT0041	SIVAPROOP. K.P.	
03	ENG21CT0036	Shashank Hegde	
04.	ENG21CT0006	Gaurang Goyal	
05	ENG21CT0011	~~Bhupinder Jogi~~ Jaise.S.Joseph	
06	ENG21CT0047	Vedant Ramsinghe	
07	ENG21CT0014	Varadraj. C	
08	ENG21CT0003	Aman Raj	Aman Raj
09	ENG21CT0021	Md. Mozammil Ashraf	
10	ENG21CT0026	Md Faizal	Faizal
11	ENG21CT0013	Khan Samim Masud	
12	ENG21CT0040	Sukidki KS	
13	ENG21CT0039	Sukriti S.	
14	ENG21CT0043	Swathi S.	
15	ENG21CT0044	Vidushi Modi	
16	ENG21CT0030	Priyanka	
17	ENG21CT0043	Swathi	
18	ENG21CT0038	SOHANA. R	
19	ENG21CT0020	M ESHA REDDY	
20	ENG21CT0028	NIHARIKA. R	
21	ENG21CT0042	Manikanta.S	
22	ENG21CT0011	Thanmay Ram	

23	Eng21CT0008	Harshitha.R	
24	Eng21CT0027	Sowmya.L.G	
25	Eng21CT0018	Lavanya.R	
26	Eng21CT0016	Khushi G G	
27	ENG21CT0005	TARUN P.SOMAR	
28	ENG21CT0024	Manoj.M	
29	ENG21CT0011	Pruthvi [redacted].S	
30	ENG21CT0023	Manoj Kumar R	
31.	ENG21CT0038	SOHAN RJ	
32	ENG22CT1001	Kaviyarasu.K	
33	ENG21CT0009	HARIKA REDDY K	
34	ENG21CT0029	POOJA.V M	
35	ENG21CT0046	VANDANA.M V	
36	ENG21CT0001	AFSHA RATHER	
37	ENG21CT0044	TANYA SINGH	
38	ENG21CT0015	Khushi Shah	
39	ENG21CT0036	SARAH CATHERINE	
40	ENG21CT0027	NANDITHA N	
41	ENG21CT0010	Hemant	
42	ENG21CT0009	Hemal.S	
43	ENG21CT0004	Ankit Singh	
44	ENG22CT1003	V. Tharun	

Feedback on Industrial Visit

29 responses

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USN

29 responses

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ENG21CT0024

ENG21CT0006

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ENG21CT0036

ENG21CT0043

ENG21CT0038

Eng21ct0020

ENG21CT0037

ENG21CT0007

ENG21CT0046

ENG21CT0010

ENG21CT0027

ENG21CT0045

NAME

29 responses

V Tharun

Ankit Singh

Mohamed Faizal

Vidushi Modi

Manoj n

Gaurang Goyal

Khushi Shah

Afsha Rather

Tanya

S A Sharan Veronica

Jaice S Joseph

Md Mozammil Ashraf

Kharosekar Varadraj Abhay

Harshitha R

Lavanya R

Aman Raj

Pooja V M

Priyanka Sharma

Sukriti Srinivasa

Shashank Hegde

Swathi S

Sohana R

M Esha Reddy

SOHAN R VERNEKAR

Harika Reddy K

Vandana M V

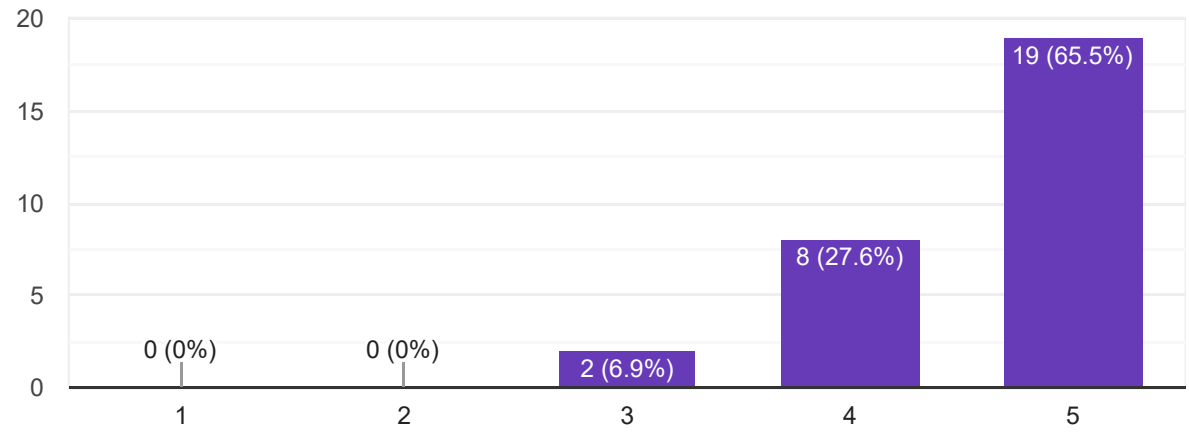
Hemant Sudarshan

NANDITHA.N

Tarun pradeep kumar

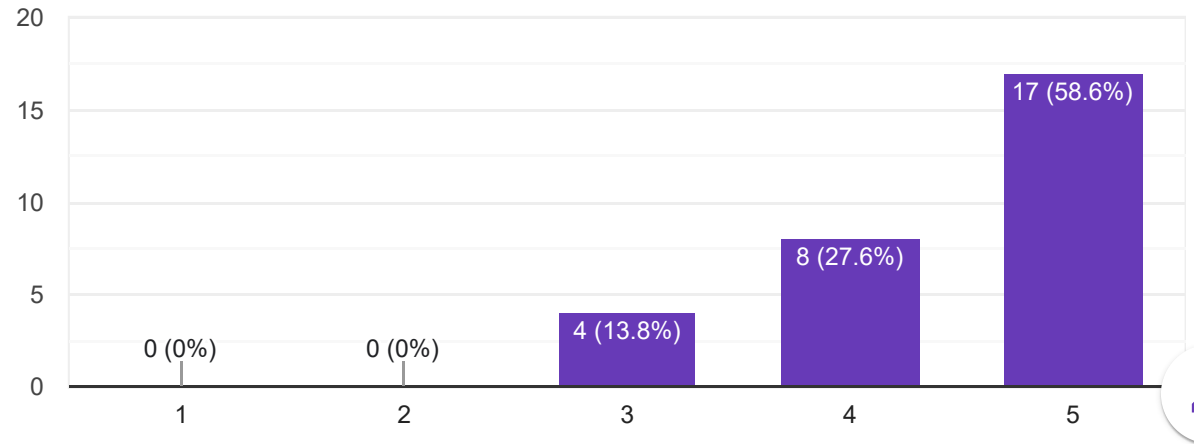
How would you rate your overall experience during the industrial visit? Copy

29 responses



Did the visit meet your expectations in terms of learning about the industry/processes? Copy

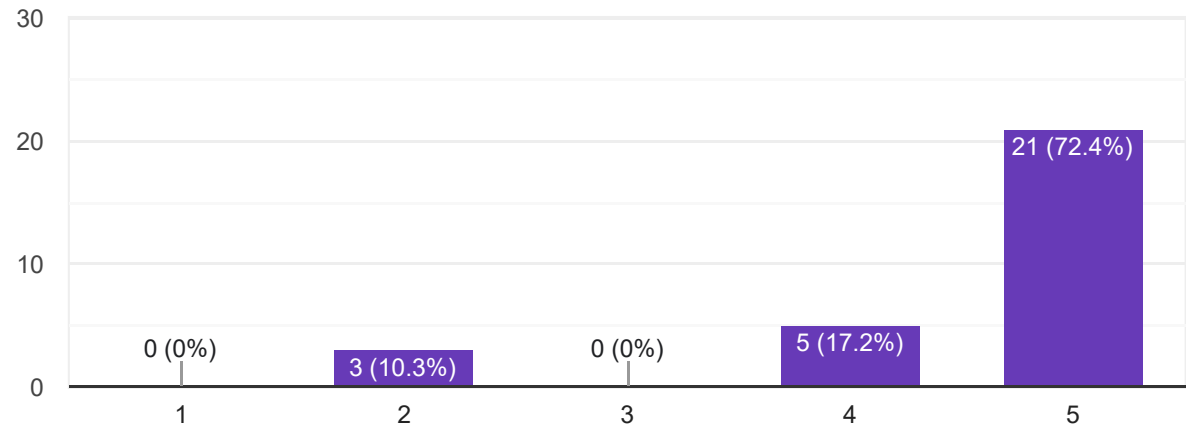
29 responses



Were the presentations, demonstrations, or explanations provided during the visit clear and informative?

Copy

29 responses



Was the information relevant and engaging?

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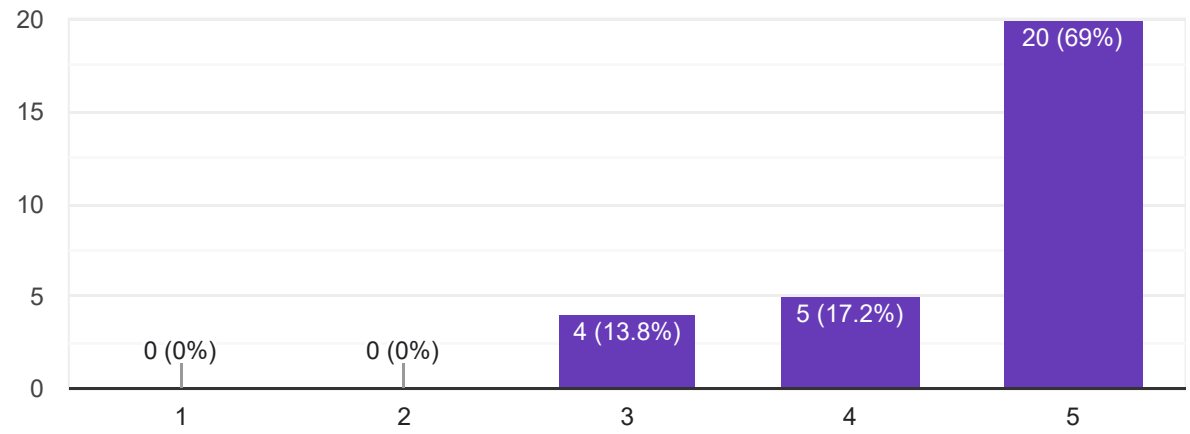
29 responses



Did you have opportunities to interact with industry professionals or ask questions?

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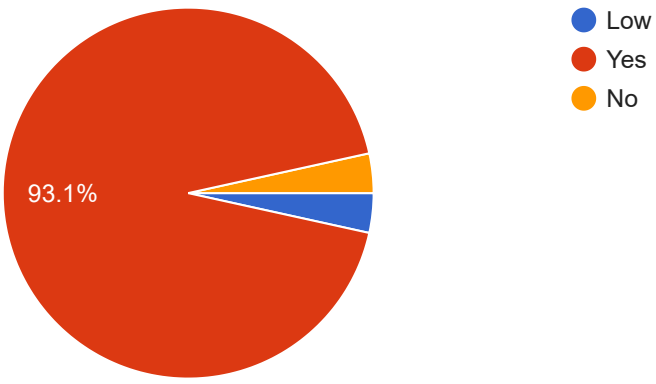
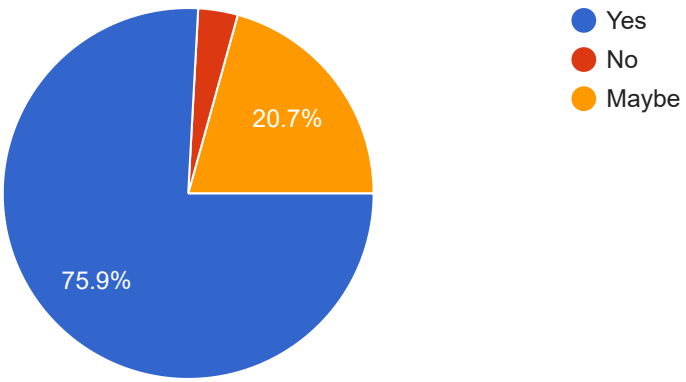
29 responses



Do you feel the knowledge gained from the visit is applicable to your studies/career?

Copy

29 responses



Any additional comments or feedback you'd like to provide about the visit?

17 responses

No

-

Nothing, It's a very nice industrial Visit.

Amazing

Very informative

Very informative visit and knowledgeable speaker.

None

Want more of such indistrial visits in the future

We need more industrial visits like these..

There should be more visit like this

NIL

--

THANKS FOR ENGAGING THE STUDENTS THROUGHOUT THE VISIT . WE WISH TO EXPLORE MORE DIVISIONS LIKE MUSEUM ..IN HAL

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INDUSTRIAL VISIT TO HAL

REFLECTION NOTES

The visit to HAL Foundry and Forge Division today was an eye-opening experience that ignited my curiosity about the intricate processes behind aerospace components. Stepping into the ferrous foundry felt like entering a realm of molten metal and roaring furnaces, where raw materials transform into marvels of engineering. witnessing the meticulous casting techniques, particularly sand casting allowed me to appreciate the crucial role of precision and expertise in crafting aerospace-grade parts.

Beyond the captivating visuals, the detailed breakdown of the product development cycle truly fascinated me. From the initial inquiry stage, where customer needs are meticulously understood, to the final payment every step is meticulously orchestrated to ensure quality and timely delivery. Understanding the intricacies of each stage, from estimation and quotation to the critical FAIR (First Article Inspection Report), deepened my appreciation for the collaborative effort behind each aircraft component.

- **The Power of the Scanning Electron Microscope (SEM)**

One aspect of the visit that truly left me awestruck was the opportunity to explore materials at a microscopic level using the SEM. Witnessing the magnified view of these aerospace-grade materials (Image of SEM image of an aerospace material) was like peering into a hidden world, revealing the secrets of their strength and structural integrity. The SEM's ability to unveil the microstructure and composition of these materials highlighted its invaluable role in ensuring quality and performance.

- **My Reflections and Inspiration for Innovation:**

This visit to HAL not only broadened my understanding of aerospace manufacturing but also sparked ideas for potential innovations. The automation of the quoting process through historical data and algorithms could significantly improve efficiency and accuracy. Integrating automation into CAD processes for rapid design iteration could further streamline the development phase. Implementing automated testing in PTR and FAIR stages could enhance quality assurance and reduce reliance on manual processes.

Beyond technical advancements, this experience also highlighted the importance of data analytics and machine learning in optimizing supply chain management and forecasting demand. Utilizing these tools could lead to more efficient inventory management and

production scheduling, ensuring adaptability and competitiveness in the ever-evolving aerospace industry.

- **Conclusion:**

The HAL visit wasn't just an excursion; it was a transformative experience that ignited my passion for the intricate world of aerospace manufacturing. It left me with a newfound appreciation for the dedication, precision, and technological prowess that go into crafting these magnificent flying machines. As I move forward, I carry with me not only the knowledge gleaned but also the inspiration to explore and contribute to this dynamic field.

SHASHANK HEGE

ENG21CT0036

INDUSTRIAL VISIT – HAL F & F DIVISION REFLECTION NOTES

-Sohana R(ENG21CT0038)

Today's visit to HAL Foundry and Forge Division provided valuable insights into the intricate processes involved in the manufacturing and development of various products. The exposure to the ferrous foundry and the comprehensive overview of brake pads, casting techniques, and diverse materials broadened my understanding of the aerospace industry's complexities.

Explored various casting methods, with a particular focus on sand casting. Gained insights into the significance of different casting techniques in aerospace components.

Acquired a detailed understanding of the product development cycle, from initial inquiry to consignment shipping and payment.

I. Enquiry:

a. Objective: The process begins with an inquiry from a potential customer or client expressing interest in a particular product.

b. Activities: Gathering initial information about the client's requirements, specifications, and quantities.

II. Estimation:

a. Objective: To assess the cost and resources required to fulfill the client's requirements.

b. Activities: Analyzing the project scope, materials needed, labor costs, and other resources to provide an initial cost estimate.

III. Quotation:

a. Objective: Formally presenting the estimated costs to the client in the form of a quotation.

b. Activities: Creating a detailed document outlining the costs, terms, and conditions for the proposed project.

IV. Sent to Marketing Department:

a. Objective: To involve the marketing department in promoting and selling the proposed product or service.

b. Activities: Handing over the quotation to the marketing team for client communication and negotiation.

V. Negotiation Meeting:

a. Objective: To discuss and finalize terms, conditions, and pricing with the client.

b. Activities: Engaging in negotiations with the client to reach mutually agreeable terms for the project.

VI. Purchase Order:

a. Objective: Formalizing the agreement and initiating the production process.

b. Activities: Receiving a purchase order from the client, indicating their commitment to proceed with the project.

VII. Product Trial Run (PTR):

a. Objective: Testing the manufacturing process and ensuring that the product meets quality standards.

b. Activities: Producing a limited quantity of the product for testing and evaluation.

VIII. FAIR (First Article Inspection Report):

a. Objective: Conducting a thorough inspection of the first manufactured product to verify its compliance with specifications.

b. Activities: Documenting and analyzing the results of the inspection to ensure the product's quality.

IX. Consignment Shipping:

a. Objective: Packaging and transporting the finished products to the client.

b. Activities: Managing logistics, ensuring proper packaging, and coordinating the shipment to meet delivery deadlines.

X. Payment (Credit Basis):

a. Objective: Receiving payment for the delivered products, often on a credit basis.

b. Activities: Invoicing the client based on the agreed-upon terms and conditions, and tracking payments.

These stages collectively form a structured and comprehensive product development cycle, ensuring that products are manufactured efficiently, meet quality standards, and are delivered to clients in a timely manner. Each stage plays a crucial role in the overall success of the product development process.

During the visit to HAL Foundry and Forge Division, a particularly fascinating aspect was the opportunity to explore the world of materials at a microscopic level. The introduction to the Scanning Electron Microscope (SEM) provided a unique perspective on the structural intricacies of materials used in aerospace manufacturing.
I witnessed the power of the SEM in magnifying materials to an incredible level, revealing details that are otherwise invisible to the naked eye. I understood the importance of SEM in understanding the microstructure, composition, and quality of materials used in aerospace components.

Insights for Innovation

Enquiry and Estimation:
Automation of the quoting process using historical data and algorithms for quicker and more accurate estimates.

Product Design and Development:
Integration of automation in CAD processes for rapid design iteration based on specified parameters.

Quality Assurance:
Implementation of automated testing processes for streamlined PTR and FAIR phases, ensuring reliable quality assessments.
Supply Chain Management:
Development of tools for optimized supply chain management, including automated tracking systems and logistics planning.
Data Analytics and Machine Learning:
Utilization of predictive analytics to forecast demand, optimizing inventory levels and production schedules.

Reflection notes

Industrial visit

It was nice experience visiting HAL foundary. I liked how all the things are manufacutired in our, exporting them various countries and making huge revenue even it's a goverment organisation. When sir was explaning about the process from the customer to the deviliryging the product on time otherwise how they will be fined for that. It was quit intresting how many itieration the product will be going to become a perfect product and which should pass all the quality checks in and out of the company. There is third party company sir have mentioned where that company has to certifiy it the product then only the can be delivered. Sir also mentioned above how the brach of the HAL has been oustanding from others and the issues which they had faced and also facing due to the enviromental conditions of over banglore city. Due to which explodes has been caused in the Magnesium foundry and also covid-19 suitation, during wars how they stay back in their offices & work. The industrial visit was great to know how and what all are happing in that domain and hard working their doing. It just like being getting more intrested in that.

- Fair
- 1st trail run

1st
Enquiry
- Buy product
- Feasibility study ← Yes / No → Estimation (cost prod)

Estimate (discussion)
(Engg dept.) green

marketing depart
interaction to consumer

quotation to customer
(queries) solved

negotiation (discuss on price)

Purchase order (final price & time of delivery)

list (on all departs cross checks the product req.)

Engg green signal

PTR trial basis.

Quality team (Yes).
No
correct final prod.

fair batch (1st

customer approval

Product starts

(customer) Shipping

credits

3rd party → clearance
Cemilabs → center for military air worthiness

LDC ≠ (not on time)
fine on them

ECO/R - Engg change request

DAYANANDA SAGAR UNIVERSITY

Hosur Main Road, Kudlu Gate, Bengaluru - 560 068

Department of Computer Science and Technology

Report on seminar

Event Name: "Sustainable Web Development"

Date:08/11/2023

Time: 02:00 PM to 03:30 PM

Venue: G-016, B- Block, DSU, Kudlu gate, Bengaluru - 560 068

Brochure

Objectives:

- Understand the current challenges and issues facing a specific industry or sector, with a focus on sustainability-related problems.
- Discuss and explore potential solutions and strategies for addressing the identified challenges through sustainable development practices.
- Provide students with an opportunity to develop skills relevant to sustainable development, such as problem-solving, innovation, project management, and communication.

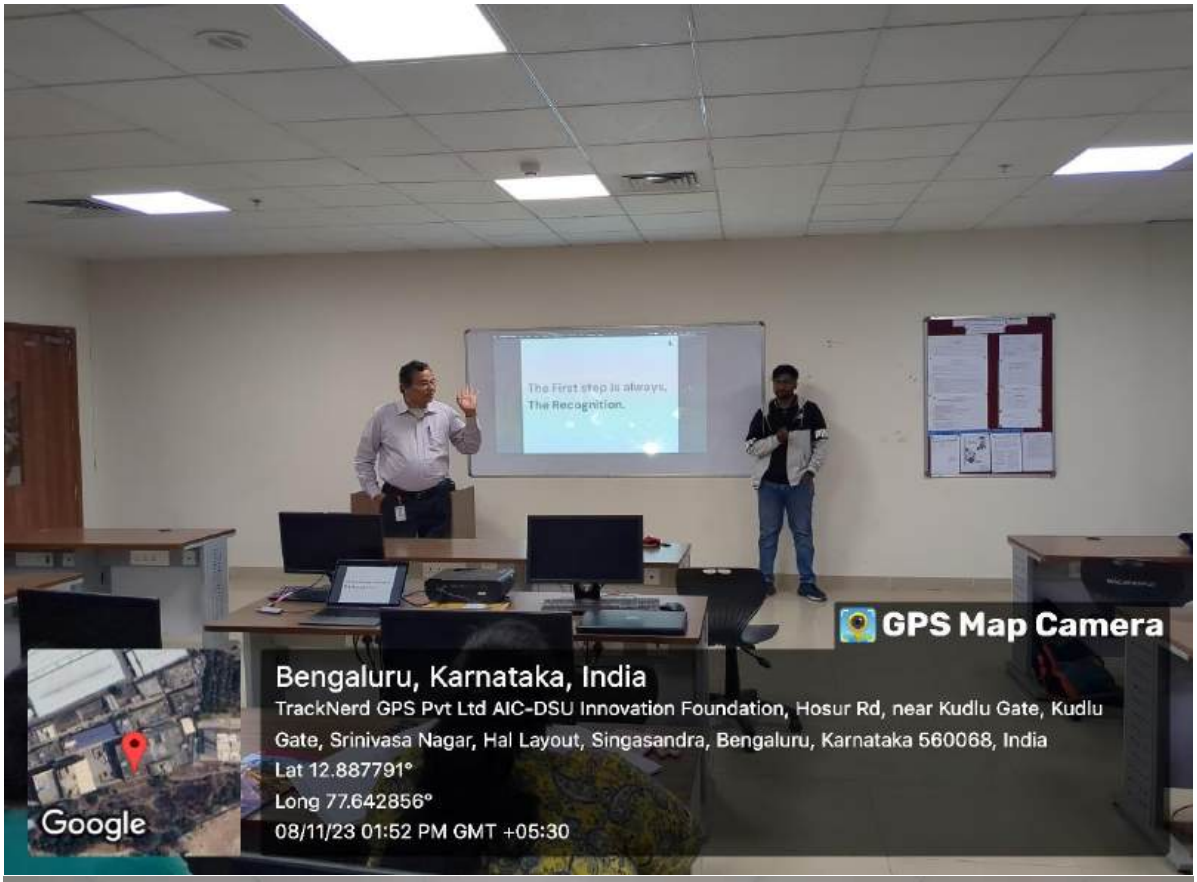
Outcomes:

- Students will be able to identify and articulate specific challenges and issues within the industry they are discussing.
- Students should come up with creative and practical sustainable solutions to address the identified challenges.
- Provide information on internships or practical opportunities in the industry or with organizations that focus on sustainable development, giving students a clear path to apply their knowledge and gain hands-on experience.

Summary:

The "**Sustainable Web Development**" seminar, which commenced on November 8, 2023, at 2:00 PM, was initiated with a warm welcome from the department. Professor Baskar, introduced the distinguished speaker, Mr. Trishal Dhaynanda who was an **alumnus of 2021 batch**. This session was attended by approximately 46 students from the third year of the CST department. Mr. Trishal Dhaynanda discussed about strategies for designing websites that minimize energy consumption and reduce the carbon footprint, the role of web hosting providers in sustainable web development, highlighting the importance of selecting eco-friendly hosting options and data centers. The seminar on sustainable web development provided a valuable platform for understanding the importance of sustainable practices in web development. Students gained insights into the principles, tools, and best practices that can be applied to create eco-friendly web solutions. Mr. Trishal Dhaynanda has given an opportunity for to students to apply for internship in his own company. Session concluded by thanking the guest, faculty and students for attending the session.

Glimpses: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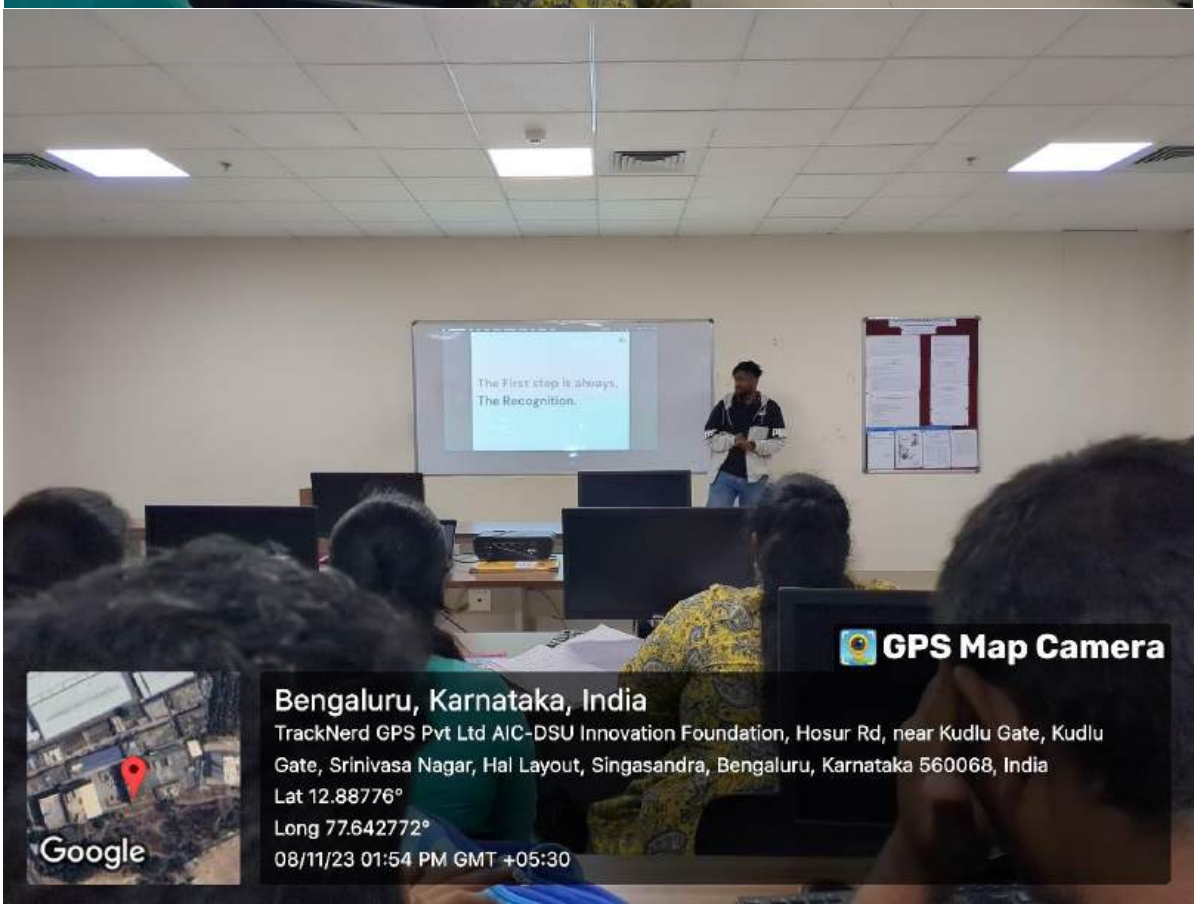
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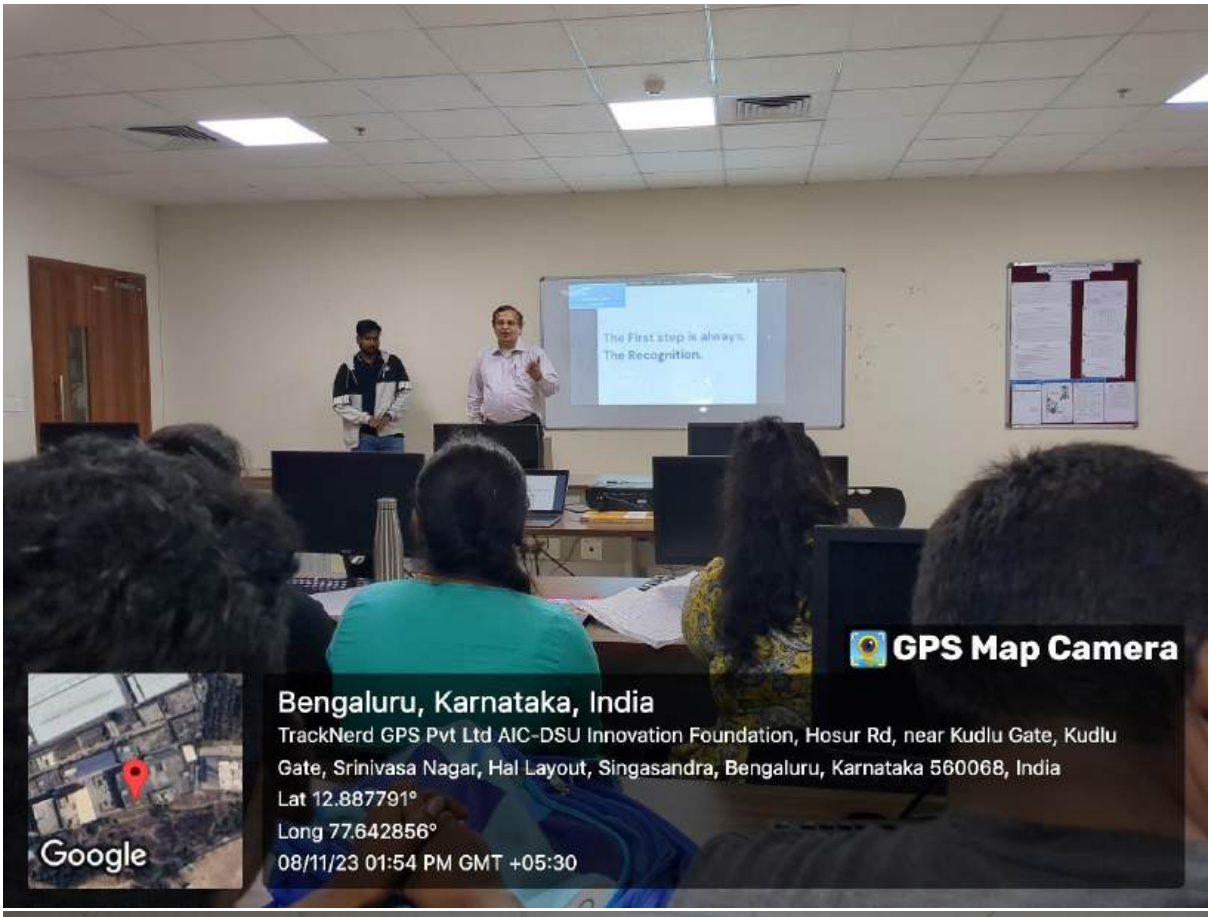
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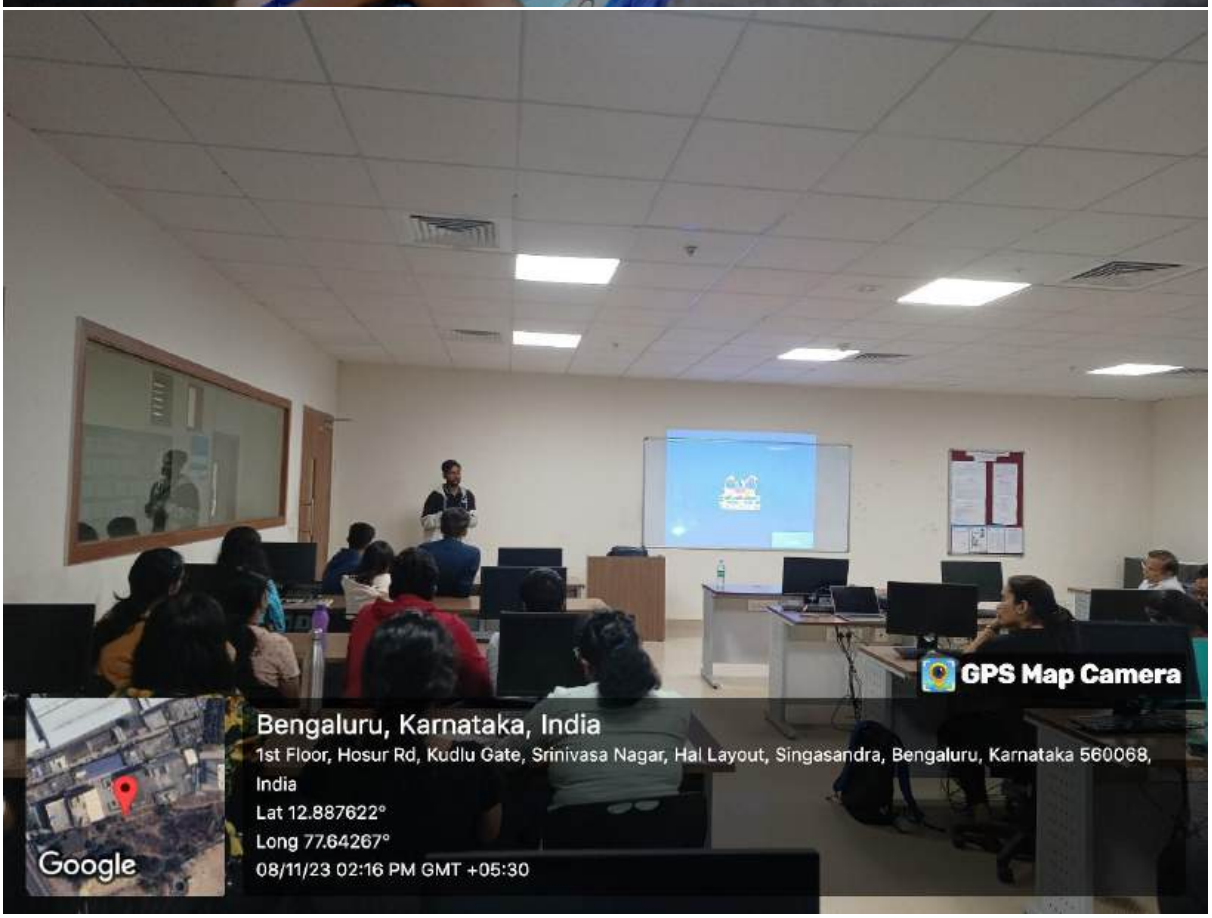
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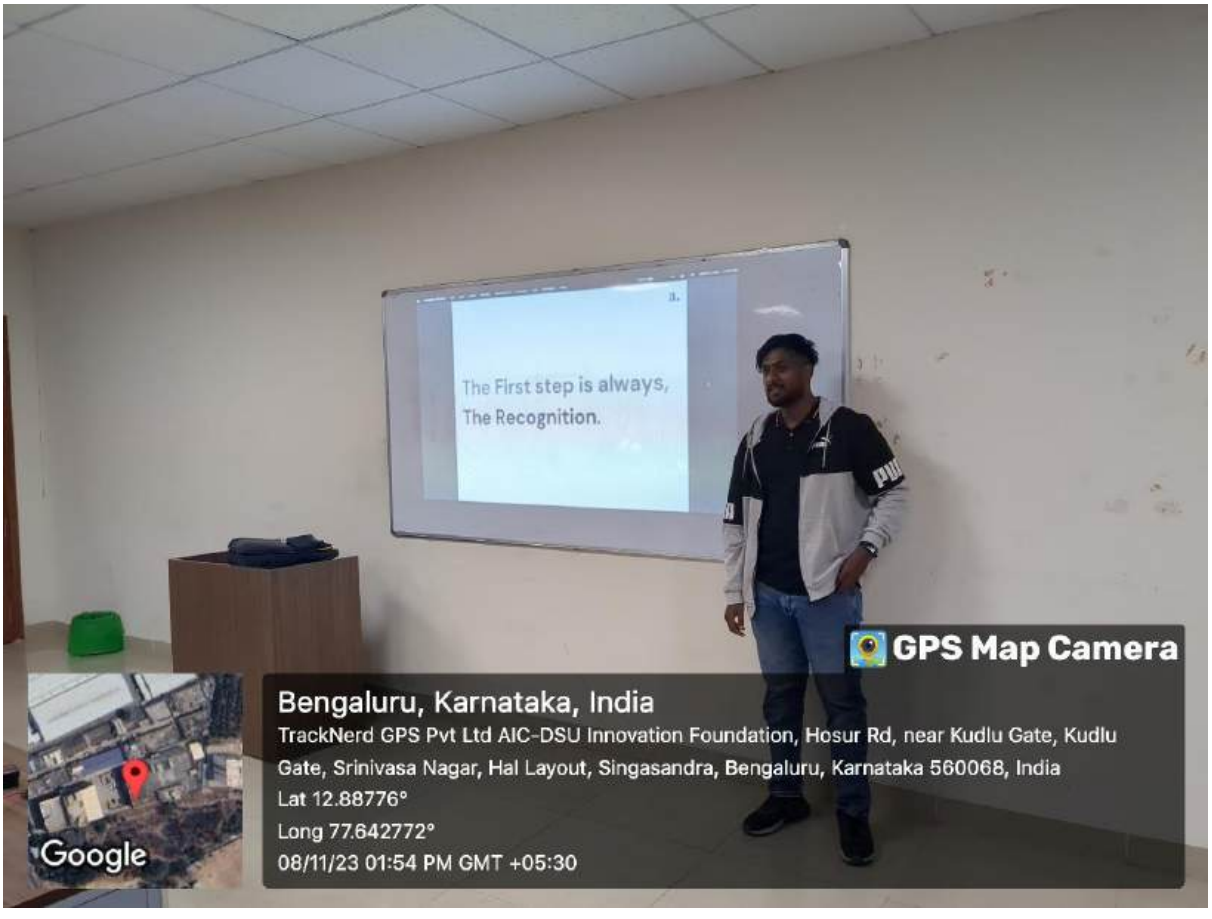
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DAYANANDA SAGAR UNIVERSITY

Hosur Main Road, Kudlu Gate, Bengaluru - 560 068

Department of Computer Science and Technology

Seminar on " Sustainable Web Development "

Date: 08.11.2023

ATTENDANCE SHEET

S.NO	USN	NAME	SIGNATURE
01	ENG21CT0002	ALLAN DSOUZA	
02	ENG21CT0011	Jaice. S. Joseph	
03	ENG21CT0041	SWAROOP. K.R.	
04	ENG21CT0009	Hemal. S	
05	ENG21CT0015	Khushi Shah	
06	ENG21CT0044	Ranya Singh	
07	ENG21CT0001	Aysha Rather	
08	ENG21CT0035	S.A. SHARAN VERONICA	
09	ENG21CT0039	Sukriti Srinivasa	
10	ENG21CT0040	Sunidhi KS	
11	ENG21CT0030	Priyanka Sharma	
12	ENG21CT0048	Vidushi Modi	
13	EN21CT0018	Lavanya. R	
14.	ENG21CT0017	L. G. Sowmya	
15.	ENG21CT0008	Harshitha. R	
16.	ENG22CT1001	Kaviyarasu. K	
17	ENG22CT1003	V. Tharun	
18.	ENG21CT0037	SOHAN RV	
19.	ENG21CT0022	R. Keertish Kumar	
20.	ENG21CT0003	Aman Raj	

ENG21CT0026

21.	~~Md Faizal~~	Mohamed Faizal	
22	ENG21CT0016	Kharosekar Vasudraj A	
23	ENG21CT0047	VEDANT RANSINGH	
24.	ENG21CT0025	Md. Mozammil Ashraf	
25.	ENG21CT0013	Khan Samim Masud	
26.	ENG21CT0012	K. Malli Karjuna Reddy	
27	ENG21CT0019	LAKSHITH. H	
28.	ENG21CT0024	Manoj. N	
29.	ENG21CT0023	Manoj. Kumar. R	
30.	ENG21CT0029	M. Thanvinay Ram	
31.	ENG21CT0022	Manikanta. S	
32.	ENG21CT0010	Hemant Sudarshan	
33.	ENG21CT0033	Raja. kumar	
34.	ENG21CT0042	Swathi. B	
35.	ENG21CT0027	NANDITHA. N	
36.	ENG21CT0038	SOHANA R	
37	ENG21 CT0020	M ESHA REDDY	
38	ENG21CT0028	NIHARIKA. R	
39	ENG21CT0029	POOJA. VM	
40	ENG21CT0046	VANDANA. MV	
41	ENG21CT0016	Kautarth Y.G	
42	ENG21CT0045	Tarun Pradeep	
43.	ENG21CT0043	Swathi. S	
44.	ENG21CT0034	SARAH CATHERINE	
45.	ENG21CT0036	Shashank Hegde	
46.	ENG21CT0006	Gaurang Goyal	

Feedback for seminar on **Sustainable Web development**

33 responses

Publish analytics

USN

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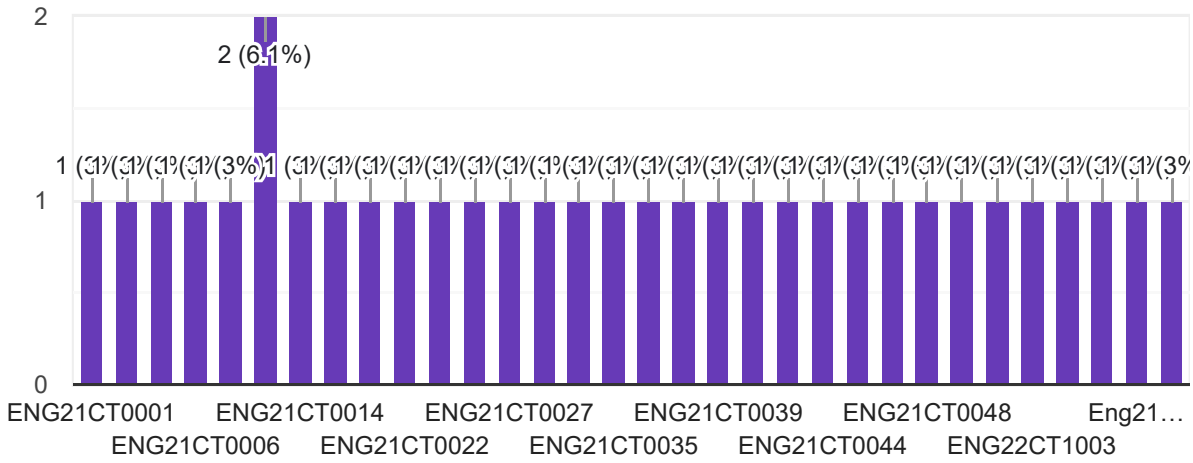
33 responses



NAME

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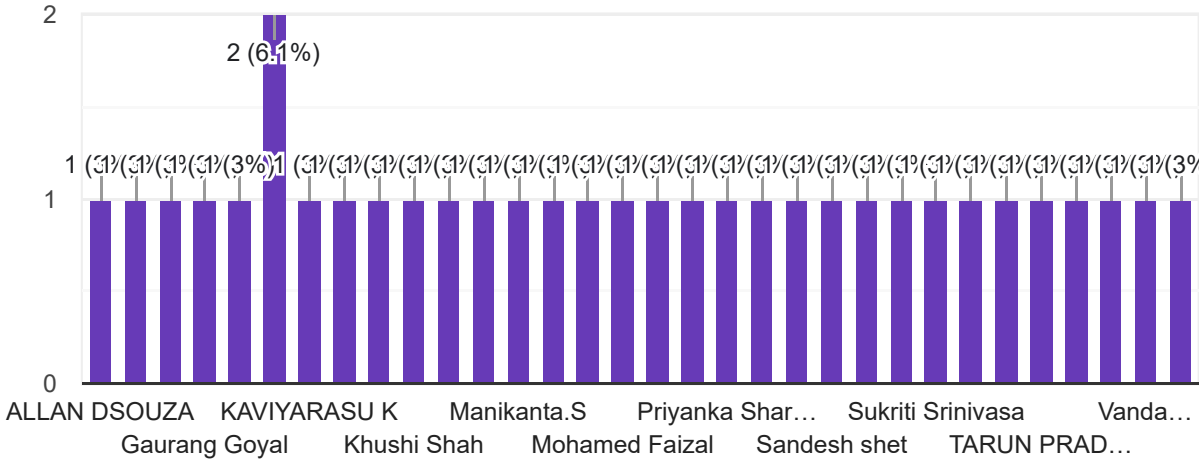
33 responses



How would you rate the knowledge and effectiveness of the speaker

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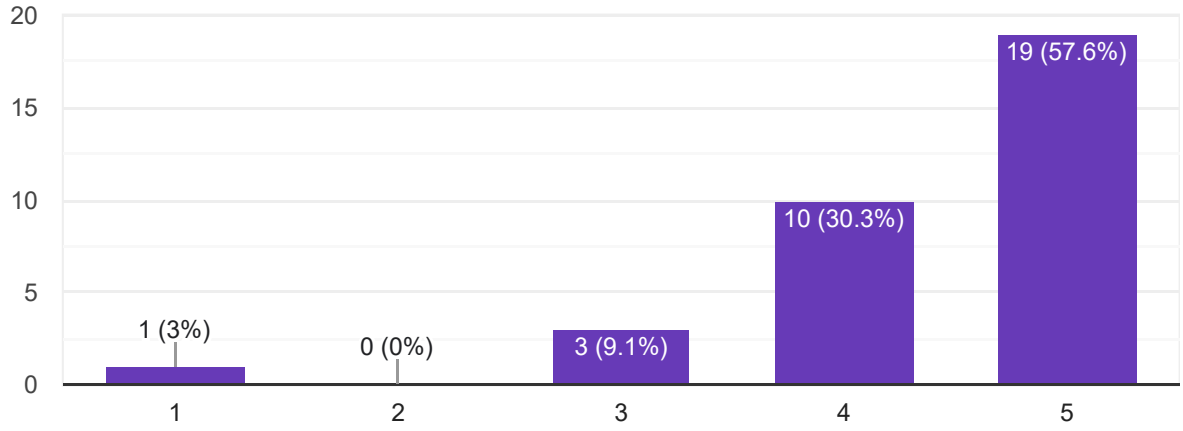
33 responses



Did the seminar content align with your expectations and needs regarding sustainable web development?

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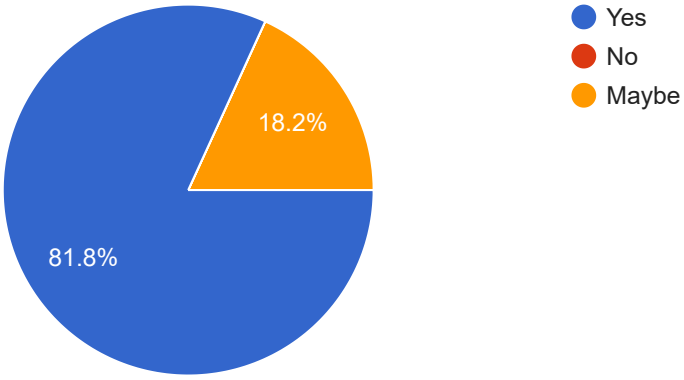
33 responses



Were you engaged and interested throughout the seminar?

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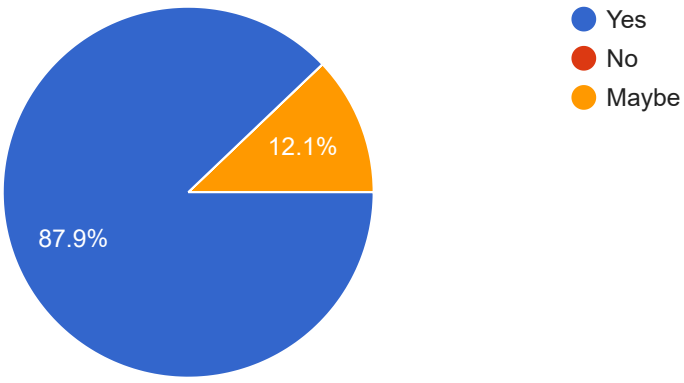
33 responses



Did you find the information presented practical and applicable to your work or interests?

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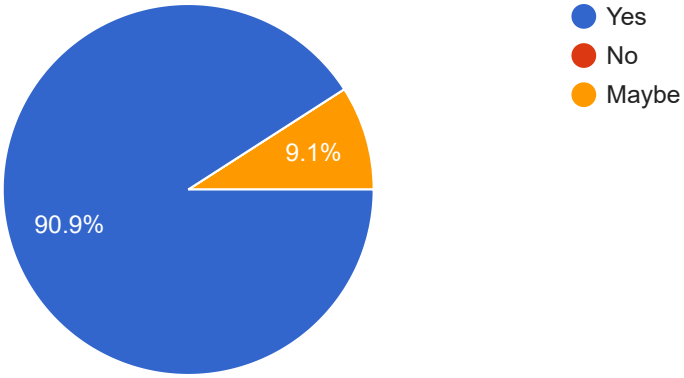
33 responses



Mention any two takeaways the session

33 responses

.

Sustainable web development

Internet causes pollution

Web development

.

Got to know about sustainable we development.

Nil

Regarding internships

Internet pollution
Sustainable web development

None

Internet causes pollution.

Na internship offer, load of knowledge on web activities

Internet causes pollution and sustainable web development.

Internet causes pollution, SGV technology

Internships

Network pollution and

About sustainable web development and the CDN

Cdns intersting website carbon emissions caused by them

Internet causes pollution and SVG Technology

About internet pollution
Sustainable web development

Internet pollution and sustainability of web development

I realised that making the website sustainable can be a good marketable idea

-

Internet cause pollution

Sustainability in web development

I learnt how to control pollution caused by internet and content delivery network

Pollution caused by internet
Scalar vector graphics

Internet produces pollution and what are the various fields we can reduce file size

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SCHOOL OF ENGINEERING

DEPARTMENT OF COMPUTER SCIENCE & TECHNOLOGY

Venture Vortex Report

Event Name: Venture Vortex

Venue: A-011, SoE, DSU, Harohalli

Date: 5th -December-2023 (Tuesday)

Time : 09.00 AM – 04:30 PM

Brochure:

Summary:

"Kalpna Club" of the Department of Computer Science & Technology organized "Venture Vortex" on 5th December 2023 from 11:00 AM to 4:30 PM. Venture Vortex is a competition. It is a platform for connecting, learning, and collaborating with the brightest minds and the most passionate innovators. It gave opportunity to the changemakers who are committed to solving the world's most pressing challenges through technology and entrepreneurship. Participant has demonstrated creativity, skill, and resilience in developing their innovative solution for [problem statement]. They have impressed the judges and won prizes. It helped the participant gain valuable feedback, insights, and connections that will help them grow their startup/patents and achieve their goals. A total of 39 teams registered for this competition and 110 participants.

The Venture Vortex competition started at 11:00 AM with a small inauguration. ID cards were handed out to the participants as they entered the lecture theatre. It started with an introduction to "Kalpana club" followed by welcoming the judges by gifting them a sapling. The Chairperson was invited to speak a few words which was followed by the announcement of the rules and regulations. Domains given to participants were sustainable energy solutions, food safety and security, conflict zone communication and safety, disaster management and response and agritech. The judges of the event were:

1. Dr. M Shahina Parveen, Chairperson, CST
2. Dr. Ramesh R. Galigekere, Professor & Dean (Acad) Science & Technology, DSU.
3. Mr. Chidhanand R S, Research Scientist & Assistant Professor, CMR University.
4. Prof. Baskar Venugopalan, Professor of Practice, Dept. of Computer Science & Technology.
5. Dr. Pramod Naik, Associate Professor, Dept. of Computer Science & Engineering.
6. Mr. Hrithik Kaul, Growth Specialist, Micro.company. (CST Alumni)

The participants were asked to move to the lecture theatre A102 and A104. There were 13 teams in each lecture theatre i.e. A011, A102 and A104. The participants were called to the stage by using a spin the wheel website. They pitched their ideas until 12:40. The pitches were 10 minutes per team with a question-and-answer session by the judges. A short refreshment break was given where they were handed out juice boxes. They reassembled at 12:50 as we resumed the pitches. The event continued until 2:35pm after which they were given a lunch break from 2.35 to 3.30. The event resumed at 3.40pm. The marks were tallied and the winners of each lecture hall was announced at A011. The

winners were asked to pitch their idea again in front of all the 6 judges for 8minutes per team. Vortex vanguards won 1st place; second place was won by team motiv8 and third place was won by team mafia. Certificates and cash prizes of Rs.2500/-, Rs.1250/- and Rs. 850/-.

After the prize ceremony, all the judges gave their valuable input to the participants and appreciated their efforts. Later chairperson, CST thanked all the judges and presented a token of appreciation for the same.

The event ended at 4:30 PM with a vote of thanks by the members of the Kalpana Club.

All participants gave wonderful feedback for this event.

The organizers of Venture Vortex were:

Prof. Ramandeep Kaur, Assistant Professor, CST

ENG22CT0003-Ashritha, ENG22CT0004-Dhivya

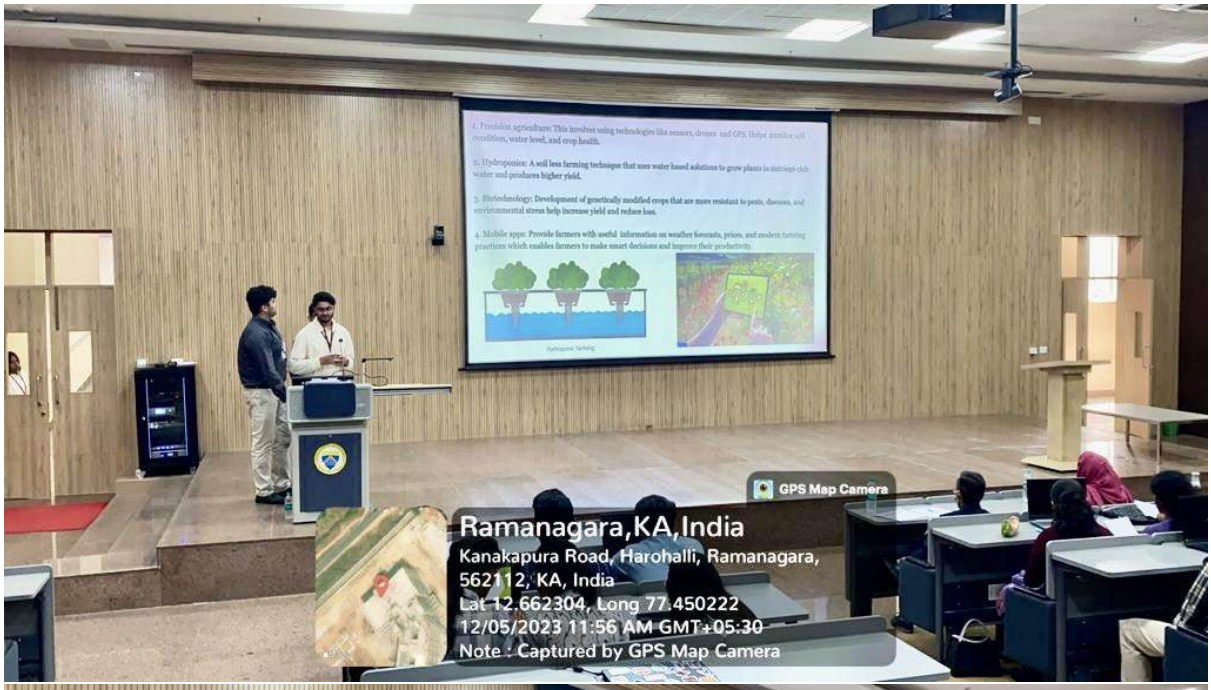
ENG22CT0025 – Abhinav, ENG22CT0027- Jayanth

ENG22CT0016- Pranati, ENG22CT0029 - Mukund

ENG22CT0033- Senthil, ENG22CT0041- Anshul

ENG22CT0040-AKSHITHA.T.O

Glimpses: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Limited Automation and control
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THEME OF THE PRESENTATION
DISASTER MANAGEMENT AND
ITS REPONSE

Chairperson Signature

Dayananda Sagar University

School of Engineering

"Venture Vortex" Attendance Sheet

Organized by Kalpana Club of Computer Science & Technology

SR NO	NAME	USN	SECTION/DEPT	SIGNATURE
1	Kumar Satyam	23UGENG0690		
2	G S Tejas	ENG22CS0301	CSE	G S Tejas
3	Shaik Afra Samrin	23UGENG0720	CSE	Afra
4	Jyoti Shree	ENG22CT008	CST	
5	YASHASWINI R	23UGENG0898	CST	Yashaswini
6	Rakshith.	23UGENG0686	RA/A7.	
7	Cathrine Babu	23UGENG0062		PRESENT
8	CHANDANA S HIREMATH	ENG22AM0172		PRESENT
9	POOJITHA R	ENG22AM0160	AIML	poojitha R
10	Pavan Kumar V	ENG22CT0015	CST	
11	Joel Mathew	23UGENG0585	CSE A-7	Joel
12	Sameer S Katte	ENG22CS0148	CSE-C	
13	Sanchana S	ENG22CT0017	CST	
14	Karan Sharma	23UGENG1752		
15	Zahid Chowdhary	23UGENG0582	CSE-CORE	Zahid
16	Vidya M B	ENG22CS0205	CSE	Vidya MB
17	ADITYA S	23UGENG1337	DS	
18	Pooja. P	23UGENG0933	CS/A7	Pooja
19	Gouru Pranathi Reddy	23UGENG0379		
20	sahisnu	ENG22AM0127		PRESENT
21	PAVAN KUMAR G	ENG22DS0040	DS	
22	Rakshith Ignatius R	ENG22CT0047	CT	
23	Ronan Lobo	23UGENG1530	B-9/ AIML	Ronan
24	Samrdhe	ENG22CY0022	3A	
25	Sai shravan	ENG22CS0144	C/CSE	
26	Adityaveer Singh Chandel	23UGENG1472		
27	Pritam Kumar Sahoo	23UGENG0909	CSE	PKS
28	Krishna Idnani	ENG22CS0083	CSE	Krishna
29	Amitabh Thakur	23UGENG0457	B5 CSE(AIML)	Amitabh
30	Nishant Kumar Singh	23UGENG0934		
31	KOVARTHANA K	ENG22DS0032	DS - 'A' sec	Kovartha 5/12
32	Abhi H Ram	ENG22CT0001	CST	
33	Samarth K	ENG22CS0147	CSE-C	
34	Sri Ram	ENG22CS0185	CSE	
35	Mokshi Arora	23UGENG00005	B5 / Aerospace	Mokshi Arora
30	Merul Jain	23UGENG00606	CSE/A7	Merul Jain

Dayananda Sagar University
School of Engineering
"Venture Vortex" Attendance Sheet
Organized by Kalpana Club of Computer Science & Technology

SR. NO.	NAME	USN	SECTION/DEPT	SIGNATURE
1	Ethan Saju	ENG22AM0175	AIML(C)	
2	Abhishek	23UGENG1820		
3	Parth dwivedi	ENG22CS0385	F (CSE)	Partha
4	Batchu Chaitanya Sai Kumar	ENG22CS0263		
5	Ashvani Chaudhary	Eng22AS0024	AS	Ashvani
6	Avani Guruprasad Deshpande	23UGENG0764		
7	Srishti Chowdary	23UGENG0500		
8	Supreeth.M	ENG22CT0035		
9	Akshay M Davanageri	ENG22CS0231		
10	TANUSHREE S	23UGENG1303		
11	Nithya Patel r	23UNENG1737		
12	Bhomitha kallola	ENG22AM0171		
13	Hafsa Siddiqua Hussain	ENG22AM0020		
14	Pranav Vinod	ENG22CS0393	F/CSE HAI	Pranav
15	Pushkar pallav	ENG22AM0187	C/CSE AIML	Pushkar
16	Anirudh R	ENG22CS0526		
17	Soorya B Raju	ENG22CS0464	G-Section-CSE	
18	Prathamesh Madhukeshwar Naik	23UGENG1443		
19	Sadgi Jaiswal	23UGENG0640		
20	Ripal G	ENG22CT0035		
21	Ayden Joanes	ENG22AM0079		
22	GAHANA V	23UGENG1139		
23	Manya	23UNENG1870		
24	Arushi G Hiregoudar	ENG22CS0531		
25	Aishwarya	ENG22CY0002		
26	Ruben Santosh	ENG22AM0162	AI-ML (C)	
27	Ritik patra	ENG22CS0416	G (CSE)	Ritik.
28	Adwaith T N	ENG22CS0520		
29	Soundarya Jois	ENG22AM0134	C-SECTION AIML	
30	Anagha R	23UGENG1596		
31	M Shashank	23UGENG0033		
32	Jithin murthy	ENG22AM0026		
33	Dhruti Purushotham	ENG22AM0088		
34	Pavitra	23UNENG1578		
35	Lavanya Srikanth	ENG22AS0033		
36	Nancy Sharma	ENG22CT0043		

Dayananda Sagar University

School of Engineering

"Venture Vortex" Attendance Sheet

Organized by Kalpana Club of Computer Science & Technology

Sr. No	NAME	USN	SIGNATURE	Team No
1	Smriti Eligar	ENG22CS0172		16
2	Sofia Rebecca	ENG22CS0590	CSE-I	17
3	Sanjay Krishna	23UGENG0645	ABSENT	
4	R Sujay	ENG22AM0122	B-CSE (MSM)	19
5	Bharadwaj b	Eng22cs0259		
6	Jenna Bhandari	23UGENG0885		
7	Ridhi Malawade	23UGENG1015	B10	20
8	Prerna Sadnani	23UGENG1220		
9	Abhinav Nagathan	ENG22CS0224		5
10	Manya bhatia	23UGENG0395		
11	Agrim Kaushal	23UGENG0862		
12	Keertan V S	23UGENG0481		
13	M. Prerana	ENG22CS0366		
14	C Vishnu Vardhan	ENG22AM0007		16
15	Siddharth Shetty	ENG22AM0133	Sec-C (AIML)	17
16	Amrutha Sharon	ENG22CS0311	Sec-A (CSE)	18
17	Akshat Agarwal	ENG22AM0072	AIML-B	19
18	Chiranth k	Eng22cs0282		
19	Tisha Runwal	23UGENG1549		
20	Sarvesh	23UGENG0211	B1	20
21	Neha Shahnavas	23UGENG0612		
22	Adrian Ronan Das	ENG22CS0229		
23	alisha c jose	23UGENG1136		
24	Purab Mohit Jha	23UGENG0037		
25	Eshwari K	23UGENG1150		
26	Rishika Talasila	ENG22CS0413		
27	Shiksha S.K	ENG22AM0060		16
28	Ayush Mishra	ENG22AM0080	AIML-B	17
29	Giridharan.KS	ENG22CS0306	Section-E (CSE)	18
30	Utpal Kumar	ENG22AM0139	AIML-C	19
31	Avula subhang	Eng22cs0258	CSE (core)	1
32	Palak Toshniwal	23UGENG1454		
33	Manya	23UGENG0917	B1	20
34	Sanjana Jirankali	23UGENG1094		
35	Anudeep BJ	ENG22CS0244		
36	deepika tak	23UGENG1201		
37	Mohamed Aseel	23UGENG0198		
38	Yudharshan A	23UGENG0873		
39	Revathi Thamendran	ENG22CS0411		

Dayananda Sagar University
School of Engineering
"Venture Vortex" Attendance Sheet
Organized by Kalpana Club of Computer Science & Technology

SR. NO.	NAME	USN	SECTION/DEPT	SIGNATURE	Team No
1	Ethan Saju	ENG22AM0175	AIML(S)		13
2	Abhishek	23UGENG1820			
3	Parth dwivedi	ENG22CS0385			
4	Batchu Chaitanya Sai Kumar	ENG22CS0263			
5	Ashvani Chaudhary	Eng22AS0024			
6	Avani Guruprasad Deshpande	23UGENG0764	RA (AB)		14
7	Srishti Chowdary	23UGENG0500			
8	Supreeth.M	ENG22CT0035	CST (A)		21
9	Akshay M Davanageri	ENG22CS0231	LSE		22
10	TANUSHREE S	23UGENG1303	ASE (BE)		23
11	Nithya Patel r	23UNENG1737			
12	Bhomitha kallola	ENG22AM0171			
13	Hafsa Siddiqua Hussain	ENG22AM0020	AIML A		26
14	Pranav Vinod	ENG22CS0393	F/CSE AIML		
15	Pushkar pallav	ENG22AM0187			
16	Anirudh R	ENG22CS0526			
17	Soorya B Raju	ENG22CS0464	G-Sec-CSE		
18	Prathamesh Madhukeshwar Naik	23UGENG1443	ECE (BG)		14
19	Sadgi Jaiswal	23UGENG0640			
20	Ripal G	ENG22CT0035			
21	Ayden Joanes	ENG22AM0079	CSE (B)		22
22	GAHANA V	23UGENG1139	AS(A1)		23
23	Manya	23UNENG1870			
24	Arushi G Hiregoudar	ENG22CS0531	CSE (H)		25
25	Aishwarya	ENG22CY0002	CY		26
26	Ruben Santosh	ENG22AM0162	AIML (C)		
27	Ritik patra	ENG22CS0416			
28	Adwaith T N	ENG22CS0520			
29	Soundarya Jois	~~ENG22AM0134~~	~~CSE (AA)~~	~~Anagha R~~	
30	Anagha R	23UGENG1596	CSE-CS(AA)	Anagha R	14
31	M Shashank	23UGENG0033			
32	Jithin murthy	ENG22AM0026	CSE-AIML-A	Jithin M	21
33	Dhruti Purushotham	ENG22AM0088	CSE-AIML-B	Dhruti	22
34	Pavitra	23UNENG1578			
35	Lavanya Srikanth	ENG22AS0033	ASE	Lavanya S	25
36	Nancy Sharma	ENG22CT0043	CST-A	Nancy Sharma	26
37	Hemanth.SR	ENG22AM0024	CSE-AIML-A	Hemanth.S.R	21

① Neelam Dinija (M.E) 23UGENG1642 Aq. 15

② PANKAJ. B-(B2) 23UGENG4036 (ASE) 15

③ K. Krishna Siddharth (A1) 23UGENG1025 (AI&R) 15

Dayananda Sagar University

School of Engineering

"Venture Vortex" Attendance Sheet

Organized by Kalpana Club of Computer Science & Technology

Sr. No	NAME	USN	SIGNATURE
1	Smriti Eligar	ENG22CS0172	
2	Sofia Rebecca	ENG22CS0590	
3	Sanjay Krishna	23UGENG0645	
4	R Sujay	ENG22AM0122	
5	Bharadwaj b	Eng22cs0259	
6	Jenna Bhandari	23UGENG0885	
7	Ridhi Malawade	23UGENG1015	
8	Prerna Sadnani	23UGENG1220	
9	Abhinav Nagathan	ENG22CS0224	
10	Manya bhatia	23UGENG0395	
11	Agrim Kaushal	23UGENG0862	
12	Keertan V S	23UGENG0481	
13	M. Prerana	ENG22CS0366	
14	C Vishnu Vardhan	ENG22AM0007	
15	Siddharth Shetty	ENG22AM0133	
16	Amrutha Sharon	ENG22CS0311	
17	Akshat Agarwal	ENG22AM0072	
18	Chiranth k	Eng22cs0282	
19	Tisha Runwal	23UGENG1549	
20	Sarvesh	23UGENG0211	
21	Neha Shahnavas	23UGENG0612	
22	Adrian Ronan Das	ENG22CS0229	
23	alisha c jose	23UGENG1136	
24	Purab Mohit Jha	23UGENG0037	
25	Eshwari K	23UGENG1150	
26	Rishika Talasila	ENG22CS0413	
27	Shiksha S.K	ENG22AM0060	
28	Ayush Mishra	ENG22AM0080	
29	Giridharan.KS	ENG22CS0306	
30	Utpal Kumar	ENG22AM0139	
31	Avula subhang	Eng22cs0258	
32	Palak Toshniwal	23UGENG1454	
33	Manya	23UGENG0917	
34	Sanjana Jirankali	23UGENG1094	
35	Anudeep BJ	ENG22CS0244	
36	deepika tak	23UGENG1201	
37	Mohamed Aseel	23UGENG0198	
38	Yudharshan A	23UGENG0873	
39	Revathi Thamendran	ENG22CS0411	

Feedback for Venture Vortex [5th December 2023] organized by Kalpana Club of CST, SoE, DSU

Timestamp	Team name	Name	USN	On a scale of 1 to 5, how would you rate the organisation of the event?	On a scale of 1 to 5 how would you rate the domains provided?	On a scale of 1 to 5 how do you rate the judgement criteria?	Would you be willing to participate in other events similar to this?	Any comments on what we could improve
12-6-2023 10:59:26	COD	Neelam Divija	23UGENG1642	5	4	5	Yes	No comments
12-6-2023 10:59:51	TEACOFFEE	Joel Mathew Joseph	23UGENG0585	4	5	4	Yes	
12-6-2023 11:00:03	Triple bar	Chiranth K	ENG22CS0282	4	3	4	Yes	Domains could have been better Preparation time could have given more
12-6-2023 11:00:24	CreatiVortex Trio	YASHASWINI R	23UGENG0898	3	4	3	Yes	...
12-6-2023 11:00:30	CreatiVortex Trio	Aditya S	23UGENG1337	2	4	3	Yes	.
12-6-2023 11:00:34	Swastika	Rakshith	23UGENG0686	5	5	5	Yes	
12-6-2023 11:01:19	Maverick	Aishwarya R W	ENG22CY0002	3	3	3	Yes	Null
12-6-2023 11:01:55	Troubleshooters	Purab Mohit jha	23UGENG0037	4	3	5	Yes	Was fun
12-6-2023 11:02:49	Visionary Ensemble	Pranav Vinod Pillai	ENG22CS0393	4	3	2	Yes	
12-6-2023 11:03:21	Team mavericks	Nancy sharma	ENG22CT0043	2	2	2	Yes	No comments
12-6-2023 11:04:30	Swastik	Pooja	23UGENG0933	5	5	5	Yes	
12-6-2023 11:04:37	Team Caffeine	Sameer S Katte	ENG22CS0148	2	4	1	No	Allotment of equal time and fair judgement should be inculcated
12-6-2023 11:05:22	Trifecta	Lavanya Srikanth	ENG22AS0033	5	4	5	Yes	
12-6-2023 11:06:09	Triple Bar	Bharadwaj b	Eng22cs0259	5	5	5	Yes	
12-6-2023 11:06:31	Code Bakers	Neha Shanavas	23UGENG0612	4	3	4	Yes	
12-6-2023 11:07:23	Megamind	Deepika Tak	23UGENG1201	4	4	3	Yes	
12-6-2023 11:13:19	Code Bakers	Sanjana Jirankali	23UGENG1094	4	3	4	Yes	All good.
12-6-2023 11:15:05	TroubleShooters	Mohamed Aseel Vanti	23UGENG0198	5	4	3	Yes	
12-6-2023 11:17:42	One below all	Manya	23UGENG0917	4	4	4	Yes	
12-6-2023 11:18:05	Ingenious	Adrian Ronan Das	ENG22CS0229	5	3	4	Yes	
12-6-2023 11:19:33	Swastik	Merul Jain	23UGENG0606	5	5	5	Yes	
12-6-2023 11:24:45	One below all	Ridhi Malawade	23UGENG1015	5	2	3	Yes	
12-6-2023 11:27:38	Invincible	Sanchana S	ENG22CT0017	4	5	4	Yes	
12-6-2023 11:28:42	Byte squad	Anagha R	23UGENG1596	4	5	4	Yes	Could still be organised better... It was good but could still do great
12-6-2023 11:39:05	Innovator's	Shaik Afra Samrin	23UGENG0720	5	4	4	Yes	
12-6-2023 12:00:33	TroubleShooters	AGRIM KAUSHAL	23UGENG0862	4	3	3	Yes	
12-6-2023 12:09:58	ALPHA	Jyoti Shree	ENG22CT0008	5	4	4	Yes	
12-6-2023 12:11:10	Angry Nerds	M. Prerana	ENG22CS0366	3	4	3	Yes	Judgement was very bad. Only the very basic ideas and not the creative ones were picked. This was unfair as there many other teams with a lot more potential. Also this was an ideathon and the judgement was supposed to be based on ideas ONLY and not the implementation of said idea. Many teams had good ideas but no implementation. The judges of lecture hall 011 picked the team who had implemented their idea instead of the ones with actual good ideas. It was very disappointing to see good content not win the competition. Please pick different judges next time.
12-6-2023 12:13:28	Innovisionaries	Sofia Rebecca	ENG22CS0590	3	5	3	Yes	The rules and regulations should have been clearer. Especially about what exactly we were supposed to come up with. No one included the monetization part should be included. We thought the whole event was to pitch your ideas and not a startup.
12-6-2023 12:19:57	COD	K.Krishna.Siddharth	23ugeng1025	5	4	5	Yes	

12-6-2023 12:28:09	Chipmunks	Smriti Eligar	ENG22CS0172	4	4	5	Yes	More time should have been provided.
12-6-2023 12:32:32	Alpha	Krishna idnani	ENG22CS0083	4	4	4	Yes	More domains
12-6-2023 12:39:10	Ingenious	Anudeep BJ	ENG22CS0244	5	3	4	Yes	
12-6-2023 12:52:59	Yantrove	Akshat Agarwal	ENG22AM0072	5	4	3	Yes	We were not specifically told to bring a product.
12-6-2023 12:54:29	Innovisionaries	Siddharth Shetty	ENG22AM0133	5	4	4	Yes	
12-6-2023 13:20:17	Parallel	SUPREETH M	ENG22CT0035	5	3	5	Yes	Could have given better domains
12-6-2023 13:28:18	Binary Brains	Tanushree S	23UGENG1303	5	4	4	Yes	
12-6-2023 13:29:58	Trifecta	Bhomitha kallola	ENG22AM0171	5	5	5	Yes	No
12-6-2023 13:30:59	Parallel	Jithin Murthy B	ENG22AM0026	4	4	2	Yes	
12-6-2023 13:31:37	Trifecta	Arushi G Hiregoudar	ENG22CS0531	5	5	4	Yes	
12-6-2023 13:48:58	Megamind	Alisha C Jose	23UGENG1135	4	4	4	Yes	
12-6-2023 15:28:07	Vijaya pathaka	Chandana s Hiremath	ENG22AM0172	4	4	4	Yes	..
12-6-2023 16:25:29	Chipmunks	C Vishnu Vardhan	ENG22AM0007	3	3	3	Yes	
12-6-2023 16:47:55	Yantrove	Utpal Kumar	ENG22AM0139	4	4	4	Yes	
12-6-2023 17:10:15	Ingenious	Anudeep B J	ENG22CS0244	4	3	5	Yes	
12-6-2023 17:12:00	TeaCoffee	Ronan Lobo	23UGENG1530	3	4	3	Yes	
12-6-2023 17:12:41	Code Bakers	Prerna Sadnani	23UGENG1220	4	4	3	Yes	
12-6-2023 17:12:42	Binary Brains	Gahana V	23UGENG1139	5	4	4	Yes	
12-6-2023 17:13:42	Doglappan Titans	Yudharshan	23UGENG0873	4	4	3	Yes	
12-6-2023 17:15:04	Doglapan titans	Eshwari.k	23UGENG1150	3	4	2	Yes	
12-6-2023 17:15:09	CreatiVortex Trio	Amitabh Thakur	23UGENG0457	5	3	1	Yes	
12-6-2023 17:15:12	Visionary Ensemble	Ethan Saju	ENG22AM0175	4	3	4	Yes	
12-6-2023 17:17:33	The chipmunks	Shiksha SK	ENG22AM0060	4	2	2	Yes	If at all presentations need to be done in future events, the time should be 20mins per presentation as that's what is the standard timing for a presentation of 10slides. This time a lot of students couldn't present well coz the time was too less. This can be improved.
12-6-2023 17:18:22	Team Prime	Pavan Kumar V	ENG22CT0015	5	5	5	Yes	
12-6-2023 17:19:13	P^2R	Parth dwivedi	ENG22CS0385	4	5	2	Yes	Announce clearly and mention each point for what we have come up with in an event. Because in this event coordinator announced that we have to pitch an idea but in event judges ask for prototype or webpages
12-6-2023 17:19:48	Invincible	Sriram Ravindra	ENG22CS0185	4	5	5	Yes	Better Time management
12-6-2023 17:30:00	Innovators	Zahid Chowdhary	23UGENG0582	5	5	5	Yes	
12-6-2023 17:33:02	Parallel	GODHANI RIPAL	ENG22CT0042	5	5	4	Yes	All is well
12-6-2023 17:33:26	The Demon	G S Tejas	ENG22CS0301	5	1	4	Yes	Please change the domains...! More interesting the domains r more enthusiastic we be towards the event!
12-6-2023 17:34:22	Angry Nerds	Revathi T	ENG22CS0411	3	3	1	No	10minutes provided, instead they kept interrupting presentations
12-6-2023 17:36:30	GOOGOOGAAGAA	Ashvani chaudhary	ENG22AS0024	4	3	2	Yes	
12-6-2023 17:38:23	Cod	Pankaj B	23UGENG0368	2	3	1	Yes	
12-6-2023 17:52:24	Eshoots	Jenna Bhandari	23UGENG0885	4	4	3	Yes	
12-6-2023 18:03:15	P^2R(P square R)	Pushkar Pallav	ENG22AM0187	1	4	1	No	
12-6-2023 18:17:30	Googoogaagaa	Soundarya S Jois	ENG22AM0134	5	5	3	No	-
12-6-2023 18:20:40	Visionary ensemble	Ruben Santosh	ENG22AM0162	5	4	3	Yes	
12-6-2023 18:20:55	VELOCYRAPTORS	Suhas N Reddy	23UGENG0800	4	5	5	Yes	NO
12-6-2023 18:30:02	ByteSquad	Prathamesh Madhukeshwar Naik	23UGENG1443	4	4	4	Yes	
12-6-2023 18:42:17	Vijaya pathaka	Sahishnu M	ENG22AM0127	5	5	5	Yes	It's good enough
12-6-2023 18:43:34	Invincible	Sai Shravan V	ENG22CS0144	3	3	3	Yes	
12-6-2023 19:16:32	Triple bar	Avula Subhang	ENG22CS0258	3	3	3	Yes	

12-6-2023 19:30:53	Angry nerds	Rishika Talasila	ENG22CS0413	3	4	2	Yes	We were in lecture theater G011. The event should have been better planned. By we were the last team to present and by the time we left for lunch it was after 3pm. The judges also were looking to finish it early and kept interrupting the presentations and asking them to conclude. This is a ideathon and we were given 2 days to come up with an idea, however some teams used previously developed ideas, which they made for other competitions. Judges were more biased towards teams that had prototypes, even if the idea itself was not as good. The team that won 1st place, made an app that is to be used in natural disasters, but there's a major flaw in this . There is no data signal during disasters due to infrastructure failures so how can the app be used? Also in remote locations with no signal the app can't be used. We don't really get data even in our collage so imagine how limited the use of this app would be. Also dividing us into 3 lecture theaters is not fair because the 3 best ideas might be put into the same lecture theater. Just wanted to say that the ideathon was a good initiative but could have been better implemented, the judgement could have been better.
12-6-2023 19:31:25	Alpha	Vidya MB	ENG22CS0205	5	4	4	Yes	No
12-6-2023 19:35:55	Parallels	Hemanth S R	ENG22AM0024	4	4	4	Yes	
12-6-2023 20:02:36	One below all	Ridhi Malawade	23UGENG1015	5	3	3	Yes	
12-6-2023 20:14:10	Innovisionaries	Siddharth Shetty	ENG22AM0133	5	4	4	Yes	
12-6-2023 21:09:44	Innovators	Pritam Kumar Sahoo	23UGENG0909	5	3	4	Yes	
12-6-2023 21:13:43	sigsegv	G Amrutha Sharon	ENG22CS0311	5	4	2	Yes	The criteria for evaluation and judgment could use some improvement
12-6-2023 21:41:41	Doglapan titans	Keertan V S	23UGENG0481	5	4	4	Yes	
12-6-2023 21:43:43	Doglapan titans	Eshwari K	23UGENG0481	5	5	5	Yes	
12-6-2023 22:53:15	Team caffeine	Samrdhe	ENG22CY0022	4	5	1	Yes	managed their time well and because of that we have to sacrifice

2.3.1 Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences

The institution adopts student-centric methodologies such as experiential learning, participative learning, and problem-solving techniques to enrich learning experiences across all departments. Experiential learning is emphasized through regular industrial visits, aligned with a structured policy ensuring at least one visit every semester. These visits provide real-world exposure, bridging academic concepts with industry practices. Evidences include visit reports, photographs, and student reflections. Laboratory practices, tutorials, and project-based assignments further enable hands-on learning. Participative learning is fostered through group discussions, student-led seminars, and presentations, encouraging active engagement and collaborative skills. Tailor-made learning experiences are provided by recognizing students' career aspirations and aligning activities accordingly. Evidence includes policy documents, activity reports, attendance records, and photographs. Problem-solving methodologies are integrated into classroom and project work, encouraging critical thinking and innovation. Case studies, flipped classrooms, and practical applications form a core part of this approach, ensuring a dynamic and interactive learning environment.

CHAIRPERSON
Dept of Mechanical Engineering
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

Sl No	Type of Events	Year	Name of student	Description of national achievement (studies, extra or co-curricular)	Prize(if any)
1	Training	2024	Dhanush Raj	CADD centre training Services	.-
2	Skill Development	2024	Chethan S	Dynamic Skill Integrated program	.-
3	Skill Development	2024	Rushikesh Choudary	Dynamic Skill Integrated program	.-
4	Skill Development	2024	Vishnu D	Dynamic Skill Integrated program	.-
5	Skill Development	2024	Thaman K P	Dynamic Skill Integrated program	.-
6	Skill Development	2024	Vishwas V S	Dynamic Skill Integrated program	.-
7	Skill Development	2024	K Gunasekhar	Dynamic Skill Integrated program	.-
8	Skill Development	2024	Akshara Kashyap	Dynamic Skill Integrated program	.-
9	Skill Development	2024	Shakthi Prasad	Dynamic Skill Integrated program	.-
10	Skill Development	2024	Hemanth J	Dynamic Skill Integrated program	.-
11	Crash Course	2024	Venkatesh C L	Phyton	.-
12	Job Simulation	2024	Nitin Kumar	ESG JOB SIMULATION	.-
13	Skill up	2024	Nitin Kumar	Power BI For Begineers	.-
14	Crash Course	2024	Rohith S K	Operation Management	.-
15	Job Simulation	2024	Rohith S K	ESG JOB SIMULATION	.-
16	PROTATVA	2024	Mohan Prasad	Project Exhibition	.-
17	PROTATVA	2024	Mohan Sathish	Project Exhibition	.-
18	Training	2024	Pavan M	CADD centre training Services	.-
19	Project Exhibition	2024	Shakthi Prasad	Project Exhibition	.-
20	PROTATVA	2024	Akshara Kashyap	Project Exhibition	.-
21	Training	2024	Akshara Kashyap	startup workshop	.-
22	Skill Development	2024	yathish	Dynamic Skill Integrated program	.-
23	Project Exhibition	2024	Girish B	Project Exhibition	.-

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Transforming the skill landscape

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कौशल भारत-कुशल भारत

CADD CENTRE
Skills Driven, Job Led

CERTIFICATE OF COMPLETION

Masters Certificate

IN : Product Design

AWARDED TO : DHANUSH RAJ K

AT : CADD Centre Training Services, Bangalore, BTM Layout

DURING : 30-Jan-2024 - 21-Feb-2024 STUDENT ID NO. : CO240130Z274405

MANAGING DIRECTOR	RASHMI E V	22-Apr-2024
	CENTRE HEAD	DATE OF ISSUE

Please verify the certificate at https://registry.caddcentre.com

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Karnataka

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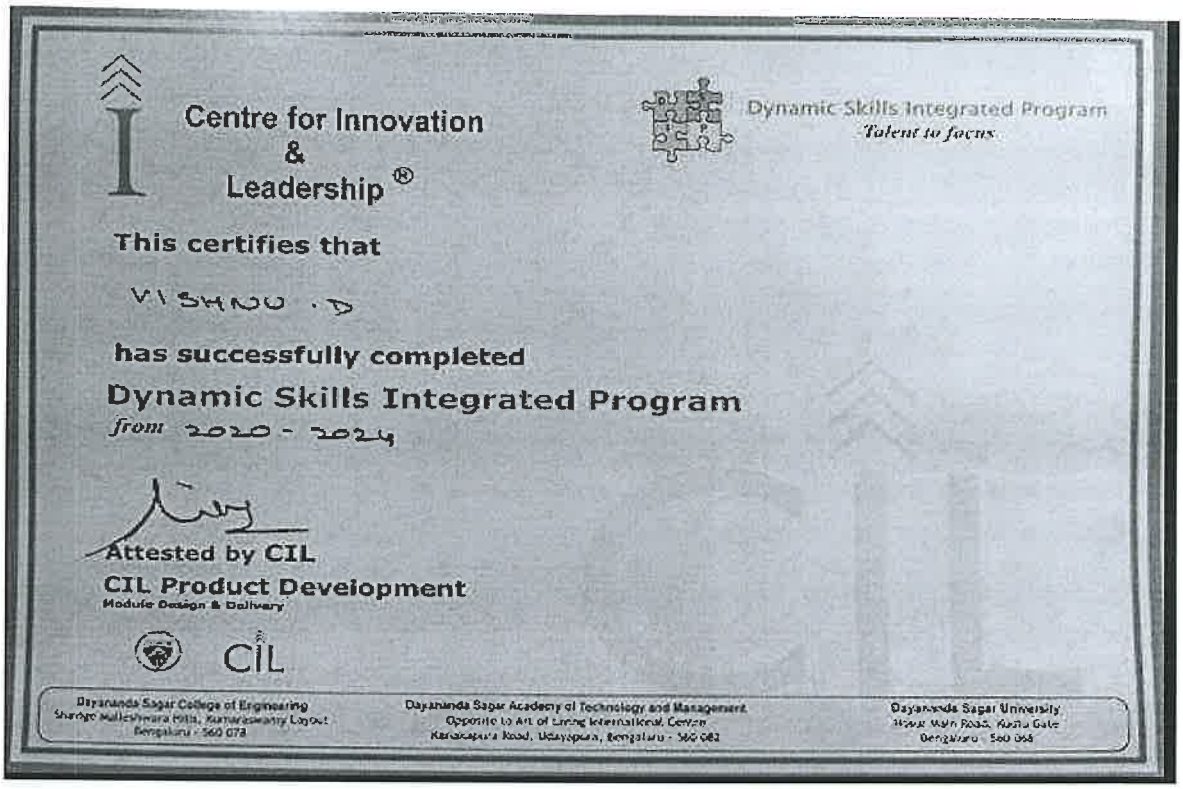

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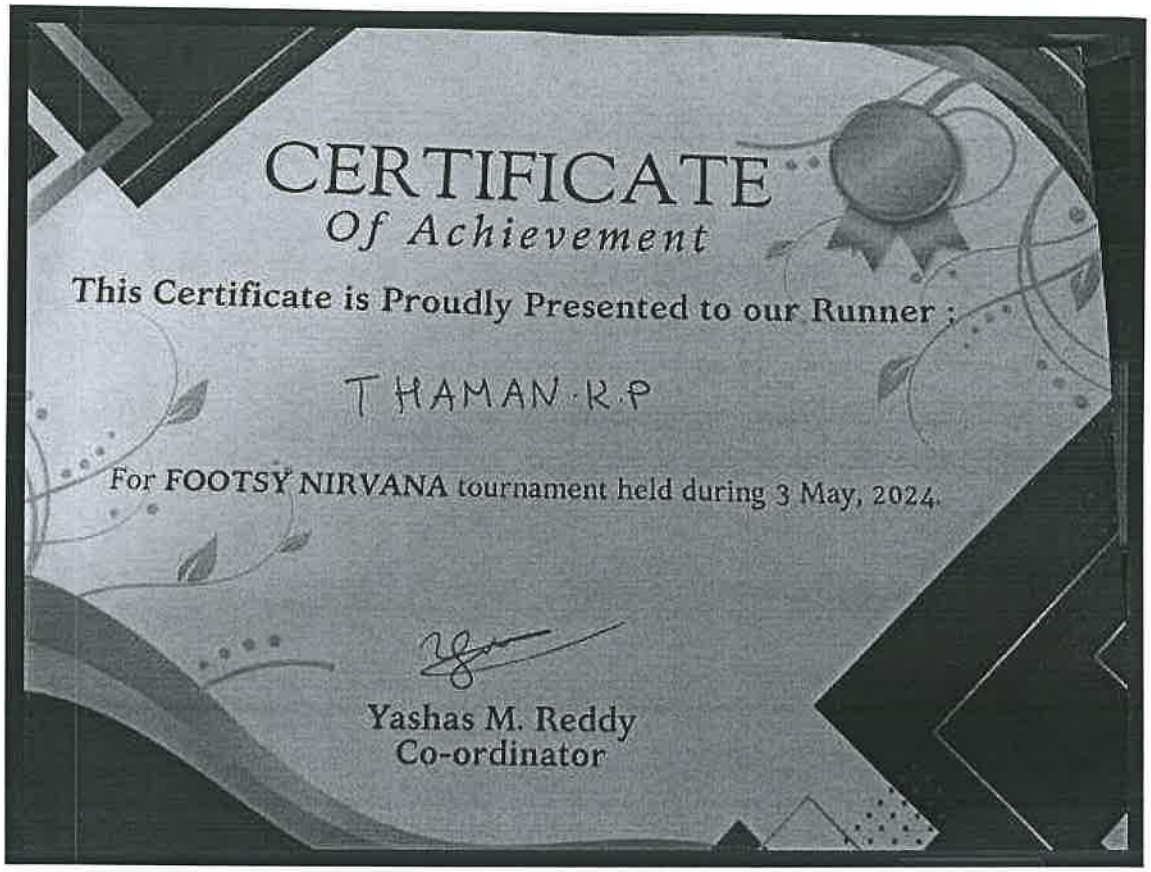

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THIS ACKNOWLEDGES THAT

Ajith R

HAD ATTENDED ONLINE WORKSHOP FOR

Basics of Heat Exchanger Design

09/JUL/2023

Abhishek Singh, CEO & Founder Scootoid eLearning

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Dept of Mechanical Engineering
School of Engineering
Dayananda Sagar University
Devarakaggalahalli, Kanakapura Road
Ramanagara District - 562112
Karnataka

RV Institute of Technology and Management

PROTATVA -2024

CERTIFICATE

OF PARTICIPATION

This is to certify that Mr/Miss HIRISH B from DAYANANDA SAGAR UNIVERSITY under the guidance of DR. VISHWANATHAN R has participated in State Level Project Exhibition **"PROTATVA-2024"** on 24th April 2024 at RV Institute of Technology and Management, Bengaluru.

Dr. Solaimuthu C	Dr. Latha C A	Dr. Jayapal R
HoD, ME	*HoD, ISE*	*Principal*
RVITM, Bengaluru	*RVITM, Bengaluru*	*RVITM, Bengaluru*

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Dayananda Sagar University
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Ramanagara District - 562112
Karnataka

Scootoid
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Basics of Heat Exchanger Design

09/JUL/2023

Abhishek Singh, CEO & Founder Scootoid eLearning

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MSME
MICRO SMALL & MEDIUM ENTERPRISES
सूक्ष्म, लघु एवं मध्यम उद्यम

Ministry of Micro, Small and Medium Enterprises
Government of India

MSME TECHNOLOGY CENTRE, PLOT NO.6, AEROSPACE PARK
KIADB INDUSTRIAL ESTATE, DEVANAHALLI
BENGALURU NORTH - 562129

MSME TECHNOLOGY CENTRE
BENGALURU

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THIS IS TO CERTIFY THAT

MR. AKSHARA KASHYAPA

HAS SUCESSFULLY COMPLETED

HOW TO START YOUR OWN STARTUP

WORKSHOP ORGANIZED ON 20 & 21 JAN 2024

HELD AT MSME TECHNOLOGY CENTRE, BENGALURU

(M.S.KAMAT)

(CDR. S. VIJAYASIMHA (RETD))

RV Institute of Technology and Management

PROTATVA -2024

CERTIFICATE

OF PARTICIPATION

This is to certify that Mr/Miss AKSHARA KASHYAP from DAYANANDA SAGAR UNIVERSITY under the guidance of DR. VISHWANATHAN R has participated in State Level Project Exhibition "**PROTATVA-2024**" on 24th April 2024 at RV Institute of Technology and Management, Bengaluru.

Dr. Solaimuthu C
HoD, ME
RVITM, Bengaluru

Dr. Latha C A
HoD, ISE
RVITM, Bengaluru

Dr. Jayapal R
Principal
RVITM, Bengaluru

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SCHOOL OF ENGINEERING

Dayananda Sar University
School of Engineering
Devarakaggalahalli, Harohalli Kanakapura Road, Dt, Ramanagara, Karnataka 562112
Department of Mechanical Engineering

Policy of Group Discussion

The objective of this policy is to establish guidelines for effective and productive group discussions among mechanical engineering students. Group discussions provide a platform for students to exchange ideas, deepen their understanding of concepts, and enhance their problem-solving skills. This policy aims to promote active participation, respectful communication, and collaborative learning within the group.

Purpose of Group Discussions:

Group discussions are intended to:

a. Facilitate knowledge sharing and understanding of course material.

b. Foster critical thinking, problem-solving, and analytical skills.

c. Encourage collaborative learning and teamwork.

d. Promote effective communication and active listening.

e. Provide an opportunity to explore different perspectives and viewpoints.

f. Enhance presentation and public speaking skills.

Group Formation:

a. Groups may be formed by instructors or assigned by the course coordinator.

b. Group size should be determined based on the nature and complexity of the discussion topic, aiming for an optimal balance between active participation and individual engagement.

c. Instructors may consider diversifying group compositions to encourage interdisciplinary interactions and broader perspectives.

Code of Conduct:

a. Respect: All participants must show respect towards each other's ideas, opinions, and backgrounds. Disagreements should be expressed in a constructive and polite manner.

b. Active Participation: Each group member should actively contribute to the discussion, share their knowledge, ask questions, and engage in problem-solving activities.

Chairman
Dept. of Mechanical Engineering
School of Engineering
Dayananda Sagar University
Kudlu Gate, Hosur Main Road,

c. Listening: Active listening is crucial to understand and appreciate others' viewpoints. Participants should give their undivided attention to the speaker and refrain from interrupting.

d. Time Management: Groups should allocate sufficient time for each member to express their thoughts and ensure an equitable distribution of speaking opportunities.

e. Confidentiality: Any sensitive or personal information shared during group discussions must be treated with confidentiality and not disclosed to others without permission.

f. Punctuality: Participants should arrive on time for group discussions to ensure a smooth and uninterrupted session.

g. Technology Usage: The use of electronic devices should be limited to the discussion topic and not distract or disrupt the group's focus.

Facilitation and Roles:

a. Facilitator: Each group should designate a facilitator responsible for maintaining discussion flow, ensuring everyone's participation, and managing time.

b. Note-Taker: It is recommended to assign a note-taker who records key discussion points, decisions, and action items for later reference.

c. Rotating Roles: Group members may rotate the facilitator and note-taker roles in subsequent discussions to provide everyone with an opportunity to develop leadership and organizational skills.

Preparation and Contribution:

a. Preparatory Work: Participants should come prepared by reviewing relevant course material, assigned readings, or any specific topics provided beforehand.

b. Sharing of Ideas: Group members should share their ideas, insights, and relevant resources to enrich the discussion. Constructive feedback and suggestions are encouraged.

c. Respectful Challenges: Participants should feel free to respectfully challenge ideas, assumptions, or conclusions while providing logical reasoning or evidence to support their perspective.

Evaluation and Feedback:

a. Peer Evaluation: Instructors may incorporate peer evaluation mechanisms to assess individual participation, contribution, and collaboration during group discussions.

b. Feedback: Participants should provide constructive feedback to their peers regarding their communication skills, preparedness, and overall contribution to the group.

Instructor's Role:

a. Guidance: Instructors may provide guidelines, discussion prompts, or specific objectives to steer group discussions effectively.

b. Monitoring: Instructors may monitor group discussions occasionally to provide clarifications, guidance, or intervene if needed.

c. Feedback: Instructors should provide feedback and assessment on the quality of group discussions, individual participation, and the attainment of learning objectives.

Chairman
Mechanical Engineering

Chairman
Dept. of Mechanical Engineering
School of Engineering
Dayananda Sagar University

Request for Permission: Visit to GTTC Government Tool Room

External Inbox x

Karthik S B <karthik-me@dsu.edu.in>
to srinivasa.gopal, Chairman, me, Viswanathan

Tue, May 14, 4:28 PM

Dear Sir

I am writing to express our interest in organizing a visit to the **GTTC Government Tool Room** for **21 students and 4 faculties** from **Dayananda Sagar University**, Harohalli campus, who are currently pursuing their **4th semester in Mechanical Engineering.**

We believe that a visit to your esteemed facility would provide our students with invaluable insights into the practical aspects of tool manufacturing and machining processes. Witnessing your **state-of-the-art equipment** in operation and interacting with industry experts would greatly enhance their understanding of the subject matter.

We kindly request permission to conduct this visit during the **last week of May-2024**. Our students are eager to immerse themselves in the real-world applications of their academic learnings and are keen to explore potential career avenues in the manufacturing sector.

Additionally, we are also excited about the prospect of formalizing a **Memorandum of Understanding (MOU) between our institution and GTTC.** This partnership holds the promise of fostering closer ties between academia and industry, facilitating knowledge exchange, and promoting collaborative initiatives for the benefit of both parties.

We understand that your approval is necessary to proceed with the visit, and we assure you of our commitment to adhering to any guidelines or protocols set forth by your institution.

Thank you for considering our request. We look forward to your favorable response and the opportunity to collaborate with **GTTC Government Tool Room.**

Warm regards,

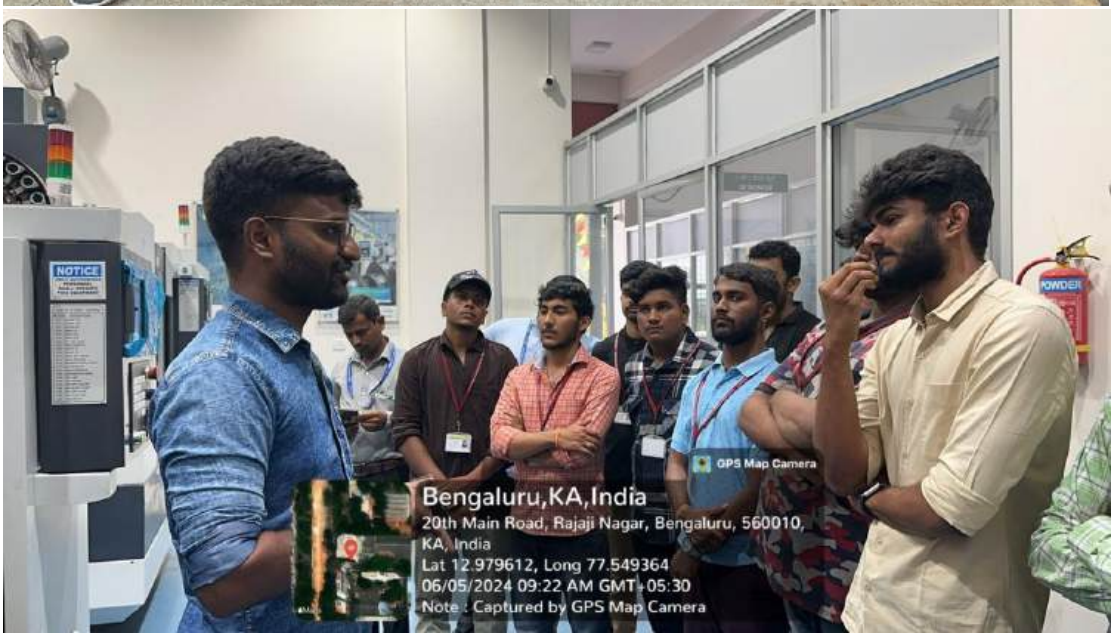
KARTHIK S B
Dept. of Mechanical Engg,
School of Engineering,

On the occasion of World Environment Day(**05/06/2024**), our department had the opportunity to visit the Government Tool Room and Training Centre (GTTC) in Rajajinagar. The visit commenced with a warm welcome from Dr. Gagnadhar, the Head of the Department at GTTC. He provided an insightful overview of the institution's branches, its origins, and the impressive placement packages of its students. This introductory session set the stage for a day filled with learning and exploration.

During our visit, we toured GTTC's advanced infrastructure, including cutting-edge laboratories and workshops equipped with precision tools. This provided us with practical exposure to the latest machinery and hands-on training in various technical skills. Interaction with experienced industry experts enriched our knowledge of current industrial practices and emerging technologies. The visit emphasized the significance of continuous learning and adaptability, showcasing the critical role that institutions like GTTC play in bridging the gap between theoretical education and practical application in the industrial sector.

Industrial Visit to GTTC Rajajinagar photos

Dayananda Sagar University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School of Engineering
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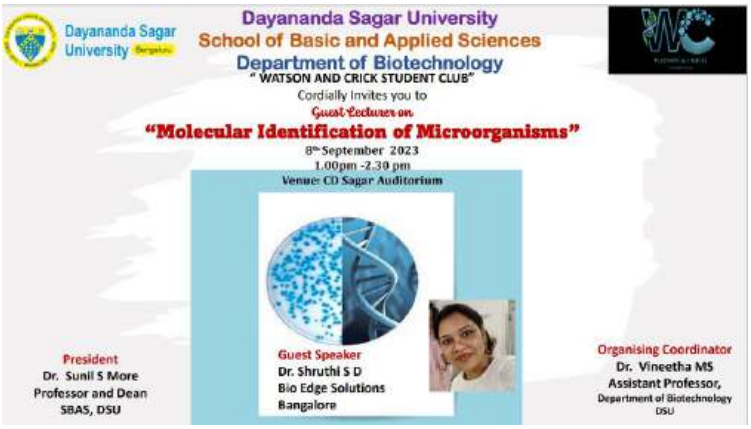
Bengaluru-560 11

2023-24

GUEST LECTURE ORGANIZED

1) A Guest lecture on "**Molecular Identification of Microorganisms**" by Dr. Shruthi S. D from Moleculer Edge solutions was organized by "Watson and Crick" student's club, Department of Biotechnology, SBAS on 8th September 2023. Around 75 B.Sc (5th sem) and 100 M.Sc (3rd sem) students have participated. Dr. Vineetha MS, Assistant Professor had coordinated the event.



2) A guest lecture on **"Protein transmission in Brain: Implications for neurodegenerative disease spread"** was organised on 11th of October 2023 in the C. D. Sagar auditorium from 10:00am – 12:00pm under Biochimica club by the Department of Biochemistry, School of Basic and Applied Sciences, Dayananda Sagar University.

The Guest speaker Dr. Srinivasa Subramaniam, Associate Professor, UF Scripps Research Institute, Florida, USA had enlightened on **"Protein transmission in Brain:** Implications for neurodegenerative disease spread". He emphasized on research findings and progress of the Huntington's disease. Approximately 125 participants including BSc and MSc students and faculties of the School have attended the talk. The topic raised several curious questions and doubts among the students which were answered by the eminent speaker.

3) An invited guest lecture on **"Weird and Wonderful Genomes"** was organised on 13th October 2023, held at the C.D Sagar Auditorium of Kumaraswamy Layout campus and the gallery room at the Kudlu Gate Campus simultaneously broadcasted online via Google Meet. Dr. Julie Blommaert, New Zealand Institute for Plant & Food Research, New Zealand led the lecture, exploring various uncommon genetic aspects.

Her lecture was a journey into the genetic diversity that exists beyond the well-known genes, shedding light on peculiar genes and genetic variations that have captured the curiosity of researchers and enthusiasts alike. Dr. Julie's talk covered diverse topics, including studies on organisms with both sexual and asexual reproduction, unique DNA structures like G-quadruplexes, and the use of genetic markers in breeding studies. The event attracted a varied audience, including students and faculty members. This lecture provided attendees with insights into the fascinating world of unusual genes and genetic phenomena. The exploration of these topics served to deepen the audience's understanding of the genetic

diversity that contributes to the complexity of life. The event, held both in person and online, ensured that a diverse audience participated, including students and faculty members.

4) The Genetics student's Club **"Priori of geneá"** was inaugurated on 11th October 2023 in the C.D. Sagar auditorium bringing together all of SBAS - students and teachers alike - to celebrate the world of genetics and evolution. This event was testimony to the club's commitment to understanding the unknown and illuminating the scientific marvels of genetics. The event commenced with a lamp-lighting ceremony by the distinguished faculty members including Prof. Sunil S More, Dean- SBAS, coordinator of M.Sc. Human Genetics, Dr. Dinesh SM and the chief guest, Dr. Pavithra AJ, Trans4mers, Bengaluru.

As part of the clubs, two activities were conducted the one includes talk by the Chief Guest Dr. Pavithra AJ. She had shared her insights and experiences in the field of genetics, emphasizing the importance of an integrated approach. Her enlightening words added depth to the event, leaving the audience with a fresh perspective on genetics. The second activity being the, poster presentations by the fifth semester BSc Genetics students. The presentation allowed students to showcase their research hypotheses on a wide range of topics. With no limitations on the subject matter, the posters covered a diverse range of hypotheses, providing a glimpse into the multifaceted world of genetics.

5) A guest lecture on **"Essential programming for the students of Biological Sciences"** was organised by Dr. Bhavya J and Dr. Anoop Markande from School of Basic and Applied Sciences on 22nd of December 2023 from 10.30AM to 11.30AM at SBAS, Kudlugate campus, Dayananda Sagar University. The event was chaired by Dr. Ramesh B. Galigekere, Dean (Academics)-Science and Technology, DSU. The Guest speaker Anantha Somayaji, independent Consultant and Corporate trainer providing strong platform for learning and certification according to the needs of Industry 4.0 and trends. Approximately 50 participants of BSc Honours students attended the event and gained knowledge.

6) An invited talk on **"Prospects of Life Science to bridge gap between academics"** by Mrs. Divya Kurade from Syngene International Ltd was organized on 8th December 2023 by Dr. Susweta Das, Associate Professor, SBAS in collaboration with Placement cell, DSU. 140 students MSc final year comprising students from Biochemistry, Biotech, Microbiology and Human Genetics attended the talk.

7) A guest lecturer **on "The Business of Biology"** was organized by Watson and Crick trans, Department of Biotechnology, SBAS on 31/04/2023. The Guest speaker, Dr. Ramasamy S Annadurai., the retired Principal Scientist from ITC has enlightened the students with today's business aspects, opportunities and various domains within biology which have potential business values. Around 140 M.Sc 2nd sem students were participated and this lecture was coordinated by Dr. Vineetha MS, Assistant Professor.

8) Guest lecture was organized in association with placement team on "Career opportunities in Life Sciences Industry". The founder and CEO of Cortis Medtech private Ltd delivered the guest lecture on various platforms available for the M. Sc students after their course. It was organised on 7th June between 2:30-3:30pm, Gallery room, Innovation campus, DSU. The faculty and the second semester M. Sc students were part of it and reaped the benefits of talk.

2023-24

INDUSTRY VISITS ORGANISED

1) SBAS had organised an industrial visit to MSc students and PhD scholars to Merck Pvt. Ltd. on 10th August 2023 where students got an opportunity to explore the Microbiology Application based MAT lab of Merck that supports capability built-up in microbial quality control in Pharma and biopharma industry. They experienced the testing services including rapid bioburden testing; pyrogen testing, advance membrane filtration and other QC microbiology application conducted in the lab.

2) The II-year MSc students (55 students) of Department of Biotechnology were taken for industrial trip to Nestle, Nanjangud Karnataka and Chamundi sugar factories, KM Doddi, Karnataka on 20 th January 2024. Industry visit was part of Watson and Crick student club activity and organized by Dr. Vineetha MS of Department of Biotechnology, School of Basic and Applied Sciences, Dayananda Sagar University. Students got insight on alcohol fermentation from Molasses, industrial production of various food items and quality control (QC). Industrial visit was helpful in connecting the academia and Industry.

3) Dr. Bhavya J and Dr. Susweta Das, Faculty members, SBAS, in association with Placement cell, DSU coordinated the visit and participation of 15 first year MSc students (female) of SBAS for the event **"Beyond the Lab: Women Triumph in Science"** organised by **Merck India** on 23rd Feb 2024: Venue: Merck Pvt Ltd, 50, Ring Rd, Phase 3, Peenya, Bengaluru, Karnataka 560058

MSc students of SBAS along with Dr Radhika Mahadev Head of Robotic Process Automation, Merck Life Science.

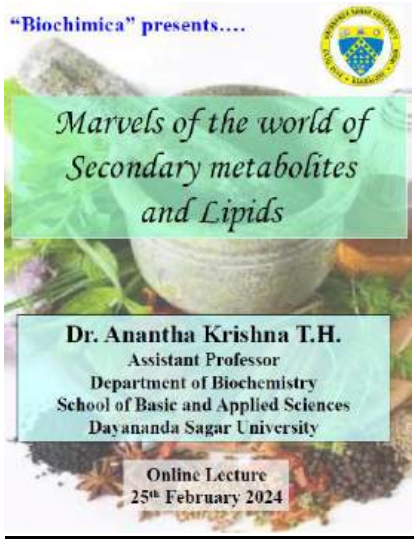
The event helped the participating students to understand about the possibility of female role in industries and encourage them to have courage to opt for industrial jobs and aspire for higher posts in the industrial setup.

4) Department of Biotechnology had organized an industrial trip to Baxter Global Research Centre (BGRC) of Syngene Pvt Ltd, Biocon Park, Bommasandra for MSc Biotechnology final year students of were taken for on 13th Jan 2024.

2023-24

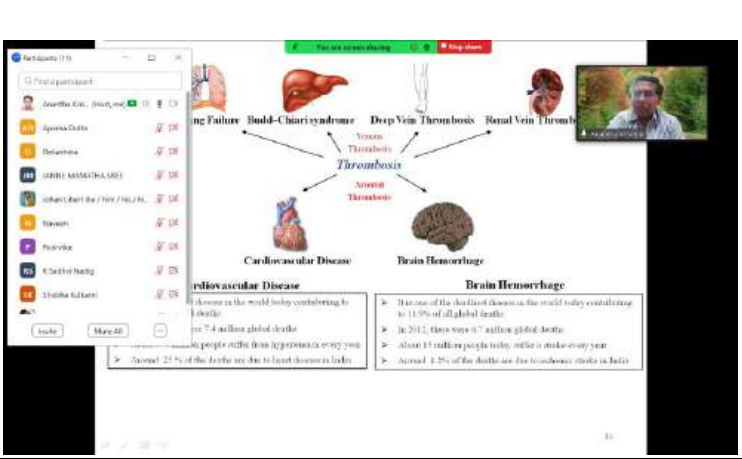
ONLINE LECTURE SERIES

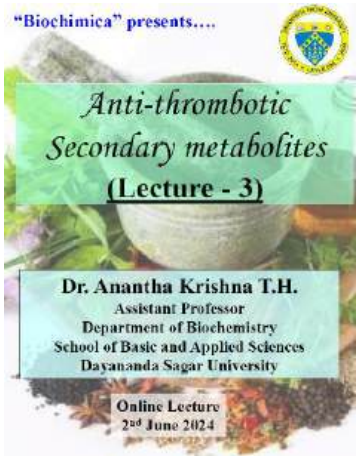
1) Dr Anantha Krishna T H, Assistant Professor, SBAS gave an online lecture on topic based on his doctoral thesis research. He presented through an online presentation platform (Zoom) on 25th February 2024. The topic was "Marvels of Secondary metabolites and Lipids". The students who were part of this presentation were: 1st semester BSc, 3rd semester MSc Biotechnology, 4th Semester BSc Biochemistry, 6th Semester BSc Biochemistry.



Online Lecture- "Marvels of Secondary metabolites and Lipids"

2) Online Lecture (Marvels of the world of Secondary metabolites and Lipids - Lecture 3) by Dr Anantha Krishna TH was arranged on 2nd June 2024 from 3-4PM through zoom platform as part of Biochimica club activity. This was the 2nd Lecture of a series of online Research Seminar lectures. The participants included 2nd Sem MSc students (Biochemistry, Biotechnology and Microbiology).



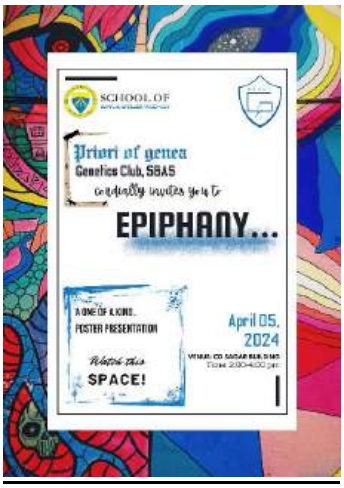


2023-24

IN-HOUSE PRESENTATION BY STUDENTS

1) A Poster exhibition "Fervere" was organized by "Watson and Crick" students club, Department of Biotechnology, School of Basic and Applied Sciences, Dayananda Sagar University, Bangalore for benefit of 5th semester B. Sc and 3rd semester M.Sc. students on 17th November 2023. Around 75 students of B.Sc. 5th semester and 60 M.Sc. students were participated. Students were presented research poster on "metabolic engineering in microorganisms for industrially important products" and on "industrially important enzymes from microorganisms". Poster exhibition was organized by Dr. Vineetha MS of Department of Biotechnology, School of Basic and Applied Sciences, Dayananda Sagar University.

2) The Genetics student's Club "Priori of geneá" organized poster presentation event under the title- "EPIPHANY" on 5th April 2024. Students and faculty participated enthusiastically for making the event successful. Prof. Sunil S More, Dean- SBAS and Dr. Ajay Nair, Genetics, SBAS evaluated student posters.



3) Student club- "*Microbe-club siella*' organized wine exhibition by the students of 6th semester B.Sc. under the title "SOMARAS" on 5th April 2024. Students and faculty participated enthusiastically for making the event successful. Prof. Sunil S More, Dean- SBAS and Dr. Archana, Microbiology, SBAS evaluated student preperations.

EXTERNAL PRESENTATION BY STUDENTS

1) Three teams of BSc honors students have presented their research findings in "convention on Discovery and development – CDD2023" organized by College of Pharmaceutical Sciences, DSU in collaboration with Karnataka Drug and Pharmaceutical Manufacturers association and Bangalore Bioinnovation Centre on 18-19th October 2023.

Dishali Mathur, Jinal D, Hitesh Kumar D, Ansh Chaturvedi, Vaibhav S, Pronama Biswas, B.M. Ashwin Desai. Development of Polymeric Nanoparticles Loaded with *Withania somnifera* Crude Extract for Enhanced Anti-Cancer Therapy. 2023. Convention on Discovery and development – CDD2023" organized by College of Pharmaceutical Sciences, DSU in collaboration with Karnataka Drug and Pharmaceutical Manufacturers association and Bangalore Bioinnovation Centre on 18th-19th October 2023.

Suvarna Ghosh, Merla Sudha, Rakshith Prajwal, Sameer A. Nadaf, Pronama Biswas, Ashwin Desai. Development of polyvinyl alcohol (PVA) nanofibers functionalized with crude extracts of *Moringa oleifera* for wound healing. 2023. Convention on Discovery and development – CDD2023" organized by College of Pharmaceutical Sciences, DSU in collaboration with Karnataka Drug and Pharmaceutical Manufacturers association and Bangalore Bioinnovation Centre on 18th-19th October 2023.

Asmita Saha, Merla Sudha, B. M. Ashwin Desai, Pronama Biswas. Exploring Synergistic Effects of Phytochemicals on Cancer Proteins via Dual Docking: A Computational Analysis. 2023. Convention on Discovery and development – CDD2023" organized by College of Pharmaceutical Sciences, DSU in collaboration with Karnataka Drug and Pharmaceutical Manufacturers association and Bangalore Bioinnovation Centre on 18th-19th October 2023.

2) Mr. Varshith and Ms. Poornima final year students of MSc Biotechnology attended International Conference on One health: Biotechnology as a catalyst for sustainable development (HEAL Biotec 2023) hosted by Department of Biotechnology and Bioinformatics, School of Life Sciences, JSS Academy of Higher Education& Research Mysuru during 7th to 9th December 2023.

3) Mrs. Swathi E, pursuing PhD from Department of Biochemistry, School of Basic and Applied sciences under the guidance of Dr. Vineetha MS, Assistant Professor, Department of Biotechnology, SBAS, DSU participated in poster presentation competition at "BENGALURU TECH SUMMIT 2023" during 29th November to December 1st, 2023 and also participated in oral presentation at "HEAL Bio Tech International Conference 2023 JSSAHER" during 7th – 9th December. Title for poster presentation was "**Purification and anticancer activity of Glutaminase and Urease free L – asparaginase from Extremophilic Microorganisms**". Oral presentation title was "**Bioprospecting of the Agaricomycetes for Production and Purification of anticancer enzyme L – asparaginase**."

4) **Participation and Presentation at 108th Indian Science Congress:**

Seven MSc Biotechnology final year students (Pinnapati Preethikishore, Jyothsna PV, Ashika G, Meha Thyagaraj, Nandan A soratur, Vishwanathagouda C Halemani, Brinda Yadav) participated in 108th Indian Science Congress (3rd - 7th January 2023) held at Rashtrasant Tukadoji Maharaj Nagpur University, Maharashtra.

Oral Presentation: Pinnapati Preethikishore, MSc Biotechnology-3rd sem presented the research paper titled-*Comparative genomics of global Staphylococcus aureus strains from human and animal sources displayed the wide resistome with antibiotic resistance genes* in Section XII-New Biology in 108th Indian Science Congress.

Poster Presentation: Jyothsna P.V, MSc Biotechnology-3rd sem presented research poster– *Isolation and characterization of bacteria from soil for the bioconversion of eugenol to vanillin as a* ***flavour additive*** **in** *Section XII-New Biology in 108th Indian Science Congress.*

5) Ms. Marla Sudha, an MSc student presented the research paper titled- '*Development of PVA and Moringa oleifera – based nanofiber patches for wound healing using an indigenous electrospinning set up'* at National Student Energy Summit (NSES 2024) at Manipal Institute of Technology, Bengaluru, held on 14th and 15th May 2024.

MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL
(A constituent unit of MAHE, Manipal)

Department of Electrical & Electronics Engineering

in association with
Convergent Technologies, Bengaluru
and
IEEE Student Chapter & IEEE Mangalore subsection

National Student Energy Summit (NSES 2024)

Certificate of Presentation

This is to certify that **Ms. Merla Sudha** *from* **Dayananda Sagar University, Bangalore** *has presented a technical paper titled* **Development of PVA and Moringa oleifera -based nanofiber patches for wound healing using an indigenous electrospinning setup** *co-authored by* **Ms. Suvarna Ghosh, Rakshith Prajwal R. S., Sameer A. Nadaf, Shreya R. S., Pronama Biswas and Belaguppa Manjunath Ashwin Desai** *at National Student Energy Summit (NSES 2024) held on 14th and 15th May 2024 at Department of Electrical & Electronics Engineering, MIT Manipal.*

Dr Ciji Pearl Kurian
Convenor

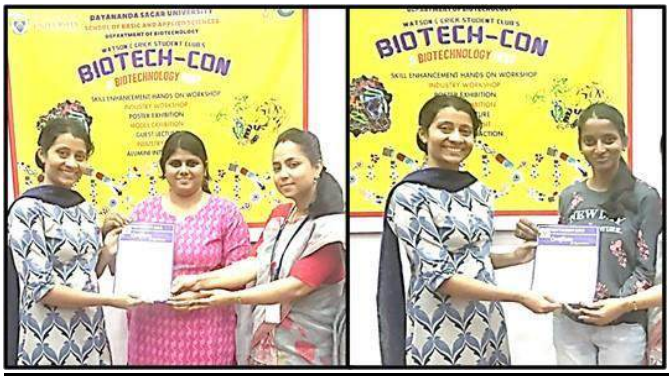
Dr C. S. Adiga
Professor & Head
Department of Electrical & Electronics Engineering

SCIENCE MODEL EXHIBITION

1) Science Model exhibition on “Facts of Molecular Biology” was organized on 23rd Sept 2023 by Dept. of Biotechnology, SBAS. BSc-Hons 3rd sem students have exhibited the models on DNA replication in Cell and tube and RT-PCR to detect the Corona Virus.

2) On 5th December, model exhibition was conducted and best performaces were awarded with participation certificates to class representatives of UG-2022 batch. The event was organized by Dr. Susweta, Associate Prof- Biotechnology, and participation of 110 students of BSc NEP-3rd semester.

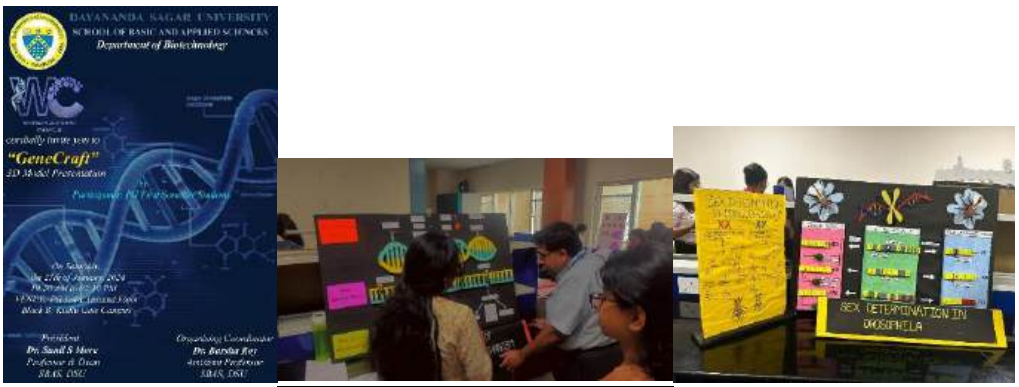
BSc students receiving certificate of participation in model/poster exhibition



PG Biotech Alumni 2021-Ms Varsha and Ms. Deekshitha receiving certificate of appreciation for their support to conduct hands on workshop on Immunotechniques on 5th December 2023

3) Model exhibition event ‘‘CELL KRAFT 2023’’ was organized by Dr Barsha Roy, Asst Prof-Biotechnology, SBAS on 22nd December 2023 for BSc 2023 batch of 50 students in Kudlu gate campus. The Dean SBAS and other faculty members interacted and motivated the students while Dr. Vineetha M S judged the session for selecting three best performances of the event.

4) Model exhibition event ‘‘GENE KRAFT 2024’’ was organized by Dr Barsha Roy, Asst Prof-Biotechnology, SBAS on 27th January 2024 for MSc 2023 batch of 182 students in Kudlu gate campus. The Dean SBAS and other faculty members interacted and motivated the students while Dr. Susweta Das judged the session for selecting best performances of the event.



5) A Science model exhibition on "Cells and signal Transduction" was organized by "Watson and Crick" students club, Department of Biotechnology, School of Basic and Applied Sciences, Dayananda Sagar University, Bangalore for benefit of 2th semester B. Sc and M.Sc. students on 12/05/2023 . Around 122 students of B.Sc. 2nd semester and 60 M.Sc. students were participated. Exhibition organized by Dr. Vineetha MS and Dr. Roshan Kumar Pais of Department of Biotechnology, School of Basic and Applied Sciences, Dayananda Sagar University. Students were exhibited model on concept like G-protein coupled receptor, tyrosine kinase receptor, glucose regulation, cell cycle and its regulation and many more concepts. We are looking forward to many more illuminating sessions one such as this in the future.

6) A Science model exhibition on "Discover the Wonders of Signal Transduction" was organized by "Watson and Crick" students club, Department of Biotechnology, School of Basic and Applied Sciences, Dayananda Sagar University, Bangalore for benefit of 2nd semester M. Sc students on 31/05/2024. Around 110 students of M.Sc. 2 nd semester students were participated. Exhibition organized by Dr. Vineetha MS of Department of Biotechnology, School of Basic and Applied Sciences, Dayananda Sagar University. Students were exhibited model on signal transductions. We are looking forward to many more illuminating sessions one such as this in the future.

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF BASIC AND APPLIED SCIENCES
DEPARTMENT OF BIOTECHNOLOGY
Watson & Crick Student Club
Cordially invites to a Model Exibition
on 31 MAY 2024
at BT LAB, KUDLU GATE CAMPUS
DISCOVER THE WONDERS OF SIGNAL TRANSDUCTION
EXPLORING THE INTRICACIES OF CELLULAR COMMUNICATION
PRESIDENT
DR SUHIS S HOPE
PROFESSOR & CHAIR
BASE, DSU
ORGANIZING COORDINATOR
DR VINEETHA M S
ASSISTANT PROFESSOR
DEPT OF BIOTECHNOLOGY
SBAS, DSU

Bengaluru, KA, India
Bengaluru, KA, India

2023-24

JOURNAL PUBLICATIONS

Vora, D., Kapadia, H., Dinesh, S. et al. Gymnema sylvestre as a potential therapeutic agent for PCOS: insights from mRNA differential gene expression and molecular docking analysis. Futur J Pharm Sci 9, 76 (2023). https://doi.org/10.1186/s43094-023-00529-6

Susweta DM, **Bharat K**, Sushmitha R, **Satarupa B.,** Karunakara P, Pais R. Reverse vaccinology & immunoinformatics approach to design a multiepitope vaccine (CV3Ag-antiMRSA) against methicillin resistant *Staphylococcus aureus* (MRSA) – a pathogen affecting both human and animal health. Journal of Biomolecular Structure and Dynamics. 2023. https://doi.org/10.1080/07391102.2023.2265471

Venugopal BS, Dinesh S, Sharma S, Srinivasan SG, Manjegowda DS. Exploring the therapeutic potential of green tea phytocompounds for pancreatic cancer: An mRNA differential gene expression and pathway analysis study. Biomedicine [Internet]. 2023; 43(4). Available from: https://biomedicineonline.org/index.php/home/article/view/2869.

Arpana M, Fasim A, Rathore SS, Rao A, More SS, Rachaiah BP. Thermoalkalophilic polygalacturonase (PG) from a novel Glutamicibacter sp.: Bioprospecting, strain improvement, statistical optimization and applications. Bioresource Technology. 2023 Dec 30:130283. (https://doi.org/10.1016/j.biortech.2023.130283)

Sailee Rauta, **Anup Bhatavadekarb**, Rupali Chougulec, Utkarsha Lekhakd; Silver nanoparticles synthesis from Crinum moorei: Optimization, characterization, kinetics and catalytic application; South African Journal of Botany 165 (2024) 494 504 (https://doi.org/10.1016/j.sajb.2024.01.005)

Nair A, Rao AS, **Ghat SK, Lidia A,** Veena SM, Vidya AS, More SS. Microbial Pigments: Applications in Beverage Industry. In Microbial Pigments 2024 (pp. 84-91). CRC Press. (eISBN:9781003353980 ; DOI:https://doi.org/10.1201/9781003353980)

Rao AS, Nair A, **Salu HA, Pooja KR, Meghana CA, Reddy N**, Veena SM, Vidya AS, More SS. Development of Novel Food-Grade Pigments. In Microbial Pigments 2024 (pp. 158-172). CRC Press. (eISBN:9781003353980; DOI: https://doi.org/10.1201/9781003353980)

Vineetha MS, Aldabaan NA, More SS, Mahnashi MH, Shaikh IA, Samdani MS, **Swami R, Yadav A, Rohith N**, Bhavya J, Mannasaheb BA. Production and Optimization of L-glutaminase from Halophilic Fusarium solani-melongenae Strain CRI 24 under Submerged and Solid State Fermentation. Journal of Pure & Applied Microbiology. 2024 Mar 1;18(1). (doi: 10.22207/JPAM.18.1.43).

Biswas P, **Saha A**, **Sridhar B**, **Patel A**, Desai BM. Quantum Dots as Functional Nanosystems for Enhanced Biomedical Applications.(https://doi.org/10.23812/j.biol.regul.homeost.agents.20243803.145)

Ghosh S, Sudha M, RS RP, Nadaf SA, RS S, Biswas P, Desai BM. Development of Poly-vinyl alcohol (PVA) and Moringa oleifera-based nanofibre patches for wound healing using an indigenous electrospinning setup. Manipal Journal of Science and Technology. 2024;9(1):6.

BOOK CHAPTERS

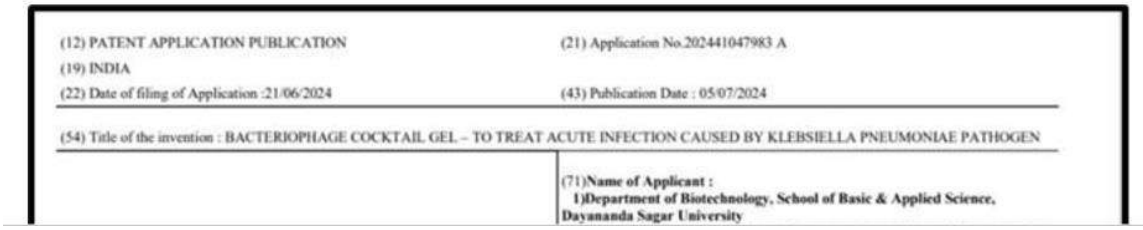
Nair A, Rao AS, **Ghat SK, Lidia A,** Veena SM, Vidya AS, More SS. Microbial Pigments: Applications in Beverage Industry. InMicrobial Pigments 2024 (pp. 84-91). CRC Press. (DOI: 10.1201/9781003353980-5)

Mayegowda SB, **Gowda BN, Gowda UC, Joshi V**, Manjula NG. Sustainability and green nanomaterials on nanotechnology-based sensors. In Nanotechnology-Based Sensors for Detection of Environmental Pollution 2024 Jan 1 (pp. 553-572). Elsevier. (ISBN: 9780443141188)

Mayegowda SB, **Chikkud V, Barua S**, Manjula NG. Heavy metal detection by nanotechnology-based sensors. In Nanotechnology-Based Sensors for Detection of Environmental Pollution 2024 Jan 1 (pp. 237-263). Elsevier. (ISBN: 9780443141188)

PATENTS PUBLISHED

Harshitha N and Susweta Das of Department of Biotechnology, SBAS filed a patent (Application No, 202441047983 with Title: "Bacteriophage cocktail gel – to treat acute infection caused by *Klebsiella pneumoniae* pathogen" published on 5th July 2024 in Indian Patent Office Journal: Issue 27/2024



(12) PATENT APPLICATION PUBLICATION
(19) INDIA
(22) Date of filing of Application :21/06/2024

(21) Application No.202441047983 A
(43) Publication Date : 05/07/2024

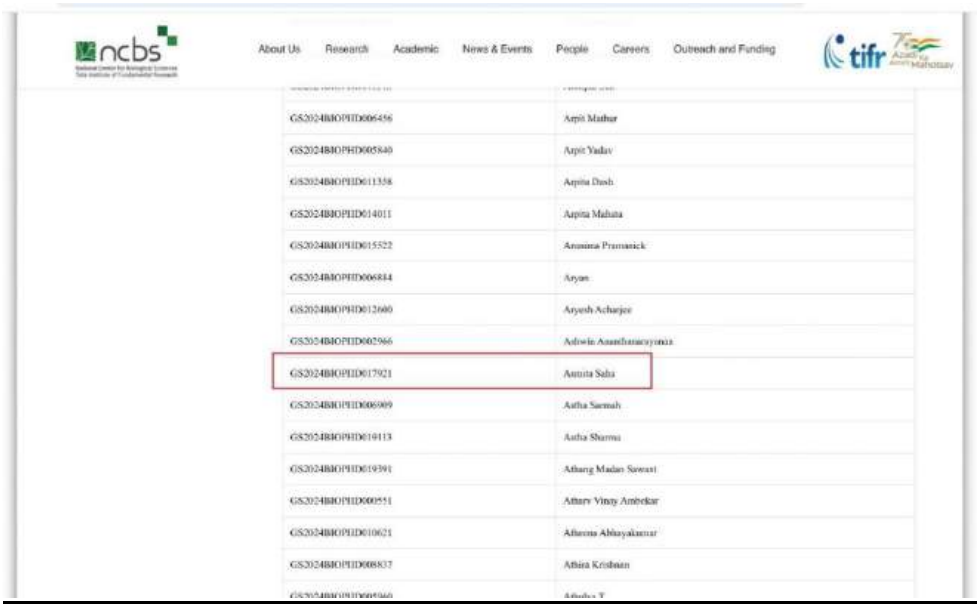
(54) Title of the invention : BACTERIOPHAGE COCKTAIL GEL – TO TREAT ACUTE INFECTION CAUSED BY KLEBSIELLA PNEUMONIAE PATHOGEN

(71)Name of Applicant :
1)Department of Biotechnology, School of Basic & Applied Science, Dayananda Sagar University

2023-24

STUDENTS CLEARING NATIONAL LEVEL COMPETITION/EXAM

1) Two students, Asmita Saha (BAS21GB0006) and Bhoomika Sridhar (BAS21GB0009) have qualified national level examinations- JGEEBILS as seen in the list published by NCBS and further Asmita Saha has been shortlisted in GS 2024 exam.



Gmail

Asmita Saha <asmitasaha80@gmail.com>

[GS 2024] Invitation to submit full application
1 message

GS24 <noreply@ncbs.res.in> Thu, Feb 1, 2024 at 12:14 PM
To: asmitasaha80@gmail.com

Dear ASMITA SAHA,

Your Reference number: GS2024BIOIPH012672

I am pleased to inform you that you are invited to submit a full application, based on your JGEEBILS score. This application will be used by the following Centres/Institutions to shortlist candidates for interviews: DBS-TIFRM, (Mumbai); TIFRH, (Hyderabad); NCBS-TIFR (Bangalore); and DBT-inStem (Bangalore). Each Centre/Institution will then make its decision to shortlist candidates independently, based on the material submitted by you in the full application.

Please use the Reference Code to access and download the Application Form (MS Word template) and review the information requested before completing the form. Once you complete all the sections, save the document in PDF format and upload the form as indicated.

Your referees must submit their reports electronically to us. You will have to provide the details (name and current email IDs) for two referees. The referees will be contacted automatically at the email IDs provided by you, and requested to submit their confidential assessment. We strongly encourage you to provide institutional email IDs for your referees. You will receive a notification when your referees are contacted and you are responsible for ensuring that the reports are sent in on time.

There is no provision to submit the Application Form or Referee Reports offline. Incomplete application forms or those not supported by Referee Reports are invalid and not processed further.

Candidates are shortlisted for interviews by each Centre/Institution on the basis of the statement of interest, scientific and extra-curricular efforts, academic performance, Referee Reports, and scores/ranks in written tests. If you are shortlisted for an on-campus interview, you will receive a call letter directly from the relevant Centre(s)/Institution(s). The dates for the on-campus interviews will be mentioned in this call letter.

Please follow the instructions given in the link below.

https://gs.ncbs.res.in/GS24/candidate/instructions

2) Asmita Saha (BAS21GB0006) cleared JAM 2024 and GATE 2024 exam.

JAM 2024 SCORE CARD

Organising Institute: IIT MADRAS

CANDIDATE'S DETAILS

Name : ASMITA SAHA

Parent's/Guardian's Name : AMIT SAHA

Registration Number : BT104A159

Test Paper (Code) : Biotechnology (BT)

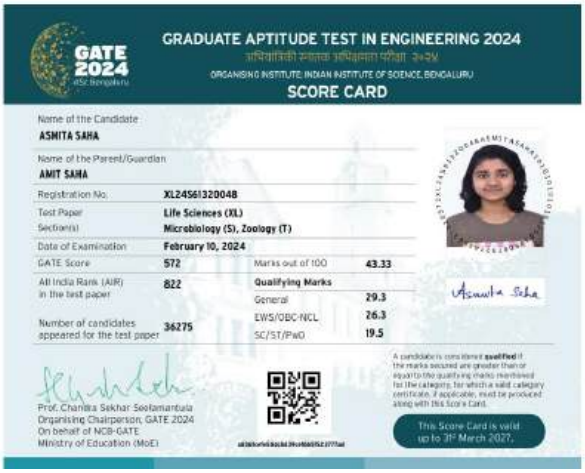
CANDIDATE'S PERFORMANCE		CUT-OFF MARKS*	
Marks Scored (out of 100)	57.33	GEN	44.46
All India Rank	582	GEN-EWS/OBC-NCL	40.01
Number of Candidates Appeared in the Test Paper	10584	SC/ST/PwD	22.23

* A candidate is considered to be in the merit list if the marks scored are greater than or equal to the cut-off marks mentioned for the category, for which a valid category certificate, if applicable, must be produced along with this Scorecard.

22 March 2024

Digital Signature: 1010000fa0ae30d7ef4f90d9e8ffa1cd08b

Prof. Suresh Kumar Rayala
Organizing Chairperson, JAM 2024



GATE 2024 IISc Bengaluru

GRADUATE APTITUDE TEST IN ENGINEERING 2024

ORGANISING INSTITUTE: INDIAN INSTITUTE OF SCIENCE, BENGALURU

SCORE CARD

Name of the Candidate: ASMITA SAHA

Name of the Parent/Guardian: AMIT SAHA

Registration No.	XL24561320048		
Test Paper	Life Sciences (XL)		
Section(s)	Microbiology (S), Zoology (T)		
Date of Examination	February 10, 2024		
GATE Score	572	Marks out of 100	43.33
All India Rank (AIR) in the test paper	822	Qualifying Marks	
		General	29.3
Number of candidates appeared for the test paper	36275	EWS/OBC-NCL	26.3
		SC/ST/PwD	19.5

A candidate is considered qualified if the marks secured are greater than or equal to the qualifying marks mentioned for the category, for which a valid category certificate, if applicable, must be produced along with this Score Card.

Prof. Chandra Sekhar Seelamantula
Organising Chairperson, GATE 2024
On behalf of NCB-GATE
Ministry of Education (MoE)

This Score Card is valid up to 31st March 2027.

3) M.Sc. students Mr. Nithin Gowda BK cleared DBT-JRF and Mr. Chandan Gowda cleared GATE

STUDENTS PROJECT FUNDING

1) One student's project entitled "Waste biorefinery using a microalgae – bacteria consortium for treatment of dairy effluent" by MSc Microbiology Students-Mr. Nagachandra Reddy C, Mr. R Bhuvanendra and Mr. Nikhil A under the guidance of Dr. Shristi Ram and Dr. Archana S Rao is approved for the funding by KSCST.

Karnataka State Council for Science and Technology
(An autonomous organisation under the Dept. of Science & Technology, Govt. of Karnataka)
Indian Institute of Science Campus, Bengaluru – 560 012
Telephone: 080-23341652, 23348848, 23348849, 23348840
Email: office.kscst@iisc.ac.in, office@kscst.org.in • **Website:** www.kscst.iisc.ernet.in, www.kscst.org.in

Dr. U T Vijay
Executive Secretary

24th April, 2023

Ref: 7.1.01/SPP/33

To,
The Registrar,
Dayananda Sagar University,
Shavige Malleshwara Hills,
Kumaraswamy Layout,
Bengaluru – 560 078.

Dear Sir/Madam,

Sub : Sanction of Student Project - 46th Series: Year 2022-2023

Project Proposal Reference No. : **46S_MSc_158**
Ref : Project Proposal entitled **WASTE BIOREFINERY USING A MICROALGAE - BACTERIA CONSORTIUM FOR TREATMENT OF DAIRY EFFLUENT.**

We are pleased to inform that your student project proposal referred above, has been approved by the Council under "Student Project Programme - 46th Series". The project details are as below:

Student(s)	Mr. NAGACHANDRA REDDY C	**Department**	MICROBIOLOGY
	Mr. R BHUVANENDRA		
	Mr. NIKHIL A		
		Sanctioned Amount (in Rs.)	8,000.00
Guide(s)	Dr. SHRISTI RAM		
	Dr. ARCHANA S RAO		

Instructions:

a) The project should be performed based on the objectives of the proposal submitted.
b) Any changes in the project title,objectives or students team is liable for rejection of the project and your institution shall return the sanctioned funds to KSCST.
c) Please quote your project reference number printed above in all your future correspondences.
d) After completing the project, 2 to 3 page write-up (synopsis) needs to be uploaded on to the following Google Forms link https://forms.gle/nWTaJjvrwzp3Wmvt6. The synopsis should include following:
   1) Project Reference Number
   2) Title of the project
   3) Name of the College & Department
   4) Name of the students & Guide(s)
   5) Keywords
   6) Introduction / background (with specific reference to the project, work done earlier, etc) - about 20 lines
   7) Objectives (about 10 lines)

2) One student's project entitled "Predictive QSAR modelling for therapeutic strategies targeting SM16 protein's immune modulation role in host-parasite interaction' by MSc Genetics Students-Ms. Kalyani S. Biju, Ms. Vondhana R., Ms. Varshitha Krishna under the guidance of Dr. Pronama Biswas is approved for the funding by KSCST.

KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

Indian Institute of Science Campus, Bengaluru – 560 012

Website: www.kscst.org.in, https://kscst.karnataka.gov.in || Email: spp@kscst.org.in || Tel: 080-2334 1652,2334 8848/49/40

47th series of Student Project Programme (SPP): 2023-24

List of Student Project Proposals Approved for Sponsorship

409.	47S_MSC_0054	PREDICTIVE QSAR MODELING FOR THERAPUTIC STRATEGIES TARGETING SM16 PROTEIN'S IMMUNE MODULATING ROLE IN HOST-PARASITE INTERACTION	M.Sc	GENETICS	Dr. PRONAMA BISWAS	Ms. KALYANI S. BIJU Ms. VONDHANA R. Ms. VARSHITHA KRISHNA	5,000.00

Transaction Details:

Date	Description	Amount
12-08-2024	NEFT Dr-P225240342994763-BARB0VJDASC-DAYANANDA SAGAR UNIVERSITY - KSCST SPP 47TH SR GRANTS	52,500.00

SYMPOSIUM TRAVEL GRANT

1) Ms Harshitha N, PhD scholar under supervisor Dr Susweta Das, Associate Professor-Biotechnology, SBAS was selected for SERB- ITS International Travel Support Scheme (ITS) for participation and research paper presentation in *European Congress on Biotechnology & International Biotechnology Symposium*, Netherlands (30th June to 3rd July 2024)

Anusandhan National Research Foundation (ANRF)
(A statutory body created by an Act of Parliament - ANRF Act, 2023)
Science & Engineering Research Board (SERB) **International Travel Support (ITS) Scheme**

ANRF
3rd & 4th Floor, Block II
Technology Bhavan, New Mehrauli Road
New Delhi - 110016

File Number: ITS/2024/002219

Dated: 11-Jun-2024

To
Ms. Harshitha N,
Dayananda Sagar University , Devarakaggalahalli, Harohalli, Kanakapura Road, Ramanagara Dt., Bangalore Rural District, Karnataka-562112

Subject: Financial Assistance to Ms. Harshitha N for participating in **"European Congress on Biotechnology & International Biotechnology Symposium (ECB2024 & IBS2024), Netherlands (30 June, 2024 to 03 July, 2024)"**

Sir/Madam

We are happy to inform you that your application seeking financial grant to attend the above mentioned international scientific event has been recommended for support by the Anusandhan National Research Foundation (ANRF). **We will provide to and fro economic class air-fare by the shortest route, airport tax , visa fees & registration fees**. It is hoped that the support will give you an opportunity to interact with leading international experts in the area. The support, however, is subject to the following conditions.
1. You should not have received financial support during the last three years under this scheme.

2023-24

WORKSHOP CONDUCTED

1) Faculty members of Biotechnology conducted a one-day Hands on workshop for their MSc final year students on 20th Sep 2023. Total 55 MSc Biotechnology students attended and got trained on for animal handling. Dr. Susweta Das completed the workshop for the students with the help of organizing team including two alumni students of MSc Biotechnology-Ms. Ashika & Ms. Meha, PhD scholar-Ms. Adrija Saha, Lab technician-COPS-Mr Mahesh and Lab attender– Mr Gautham. The senior students extended support to their juniors during the workshop with their skills on animal handling. Dr. Susweta along with Lab technician Mr. Mahesh (COPS, DSU) who has >20 years of experience on animal handling, trained the students during the workshop along with the help of lab attender Mr. Gautham.

The highlights of the workshop content were as follows:

• CPCSEA Regulations Ethics and Welfare

• Anesthesia & Euthanasia

• Biosafety and Occupational Hazard

• Hands on training on animal experiment (Mice model)

• Dissection and collection of Organs

• Restraining, Handling, Intraperitoneal injection etc

• Routes of Drug administration

Certificates were given to all participants and certificate of appreciation was given to the senior students of organizing committee.

2) Department of Chemistry, School of Basic and Applied Sciences organised a hands-on workshop under Biochimica club in association with Centre for incubation, innovation, research and consultancy (CIIRC) on October 10-11th 2023. The workshop was focused on characterisation of functional materials. Fifteen students from B.Sc 3rd sem and 5th sem along with two faculties Dr. Sangeetha Gowda KR and Dr. Pronama Biswas attended the workshop conducted at Jyothy institute of technology campus, Tataguni, off Kanakapura road, Bengaluru-560082. Two of the experts Dr. Umananda M Bhatta and Dr. Lakshminarayana Bhatta K G have trained the students on various techniques used in characterisation of functional materials. Overall, the students were able to analyse the samples and to interpret the results obtained.

3) A one day workshop on "Biotechniques in Industry" was organized by Department of Biotechnology, School of Basic and Applied Sciences, Dayananda Sagar University, Bangalore in association with Sartorius, Merck and Biocon Academy for benefit of 5th semester B. Sc students and M. Sc students on 06/12/2023. The workshop was coordinated by Dr. Vineetha MS, Assistant Professor, Department of Biotechnology, School of Basic and Applied Sciences with active participation of around 108 of B.Sc. and M.Sc. students. The workshop provided hands on training on Bio-Processing technique to meet the current day Industry need where Prof SS Eshwaran from Biocon Academy was chief guest and addressed valedictory session.

4) Department of Biotechnology, SBAS – Watson and Crick student club organized BIOTECH-CON 2023 comprising hand on workshops, invited talks by industry experts, research poster exhibition and model exhibition for the UG/PG students on 4th and 5th December. Three days hands on workshop on "Immunotechniques" was organized under Dr. Triveni K, Asst Professor, SBAS. The workshop trained the students with immunochromatographic assay, ELISA and Immunization techniques for 60 final year MSc Biotechnology students. Two Biotech alumni students of 2021 MSc batch, Ms. Varsha and Ms. Deekshitha were invited to be part of the workshop.

MSc Biotech students performing ELISA during hands on workshop on Immunotechniques on4th December 2023

5) Dr. Susweta Das, faculty of Department of Biotechnology, SBAS conducted a three days hands on workshop on **"Animal cell culture and its role in research & industry" with a mini project titled: "Primary cell culture from caudal fin explants of Zebra Fish"** from 26th Feb to 28th Feb 2024 for final year MSc Biotechnology students. Dr. Gokul Kesavan, Principal Scientist, Vertex Research & Education was the key resource person invited for the three days workshop.

The workshop covered **theoretical sessions** on 2D versus 3D cell culture, stem cells and types, stem cell differentiation, essential media requirements etc followed by **practical sessions**, where students were trained on viability assays, cell counting, seeding for cell culture, trypsinization of adherent cells, primary cell culture, real time live imaging, inverted microscopy, cartilage and bone staining etc.

Participants (MSc Final year Biotechnology student) along with Trainers- Dr Susweta Das, SBAS and Dr Gokul Kesavan, Vertex Research and Education, Bangalore during Hands on Workshop on Animal Cell culture techniques on 28th Feb 2024

The session concluded with question answer session where students gained deeper insights on the establishment of a cell line, characterization of stem cells based on different surface markers. Students understood the workflow of how the cell culture invitro system is used for testing drugs besides understanding different diseases by gene expression studies using the cell culture.

6) Student from SBAS, Dayananda Sagar University participated in a Workshop on Atal Incubation Centre: "Giving Wings to Your Ideas" organized by Nrupathunga University in association with Indian Council of Social Service Research (ICSSR) on 21st February 2024.

Certificates of participation at workshop for students

7) A workshop on "Basic Microbiology Techniques", skill development series II was organized by Department of Biotechnology, School of Basic and Applied Sciences, Dayananda Sagar University, Bangalore for 5th semester B. Sc students during 26 -28th July 2023. Around 35 B.Sc. students have participated in the workshop organized by Dr. Vineetha MS, Assistant Professor, Department of Biotechnology, SBAS. The workshop provided hands on training on sterilization techniques, isolation methods, pure culture methods, streaking methods and staining techniques.

8) The School of Basic and Applied Sciences, Dayananda Sagar University, partnered with Prescience Insilico Pvt. Ltd. to conduct a 5-day workshop on "Advanced Computational Techniques for Drug Discovery: Integrating Machine Learning and High-Performance Computing" from 15th to 19th April 2024. The workshop aimed to equip researchers and students from diverse backgrounds with advanced knowledge and practical skills in computational drug discovery. Dr. Amit R Bhatt, Vice Chancellor of DSU, inaugurated the workshop alongside Dr. Sunil S More, Dean of SBAS, and Dr. Sudip Roy, Founder and CEO of Prescience Insilico Pvt. Ltd. Dr. Pronama Biswas, Assistant Professor at SBAS and the workshop convenor, warmly welcomed the dignitaries and participants. The workshop witnessed active participation from BSc and MSc students, PhD scholars, and faculty members from Dayananda Sagar University. Additionally, scholars from other renowned institutions, including IIIT Delhi and Bose Research Institute, enriched the workshop with their presence. Participants actively engaged in real-life exercises involving molecular docking, drug design, and molecular dynamic simulations using the PrinS3 software. As an added benefit, all participants received a one-month free access to the PrinS3 software, further empowering their future endeavors in computational drug discovery.

9) The Genetics Students Club, Priori of Genea, recently organized an engaging and educational event titled "FLY LAB CHRONICLES: A Scientific Exploration into *Drosophila* Studies." The event aimed to provide students with hands-on experience in studying the effects of nutritional starvation and environmental stress on *Drosophila* development and behavior.

Participants were divided into seven groups, each tasked with investigating different aspects of nutritional and environmental stresses. The nutritional stress factors explored included nutritional deprivation, protein supplementation, and alternative carbohydrate sources. Environmental stress factors examined by the groups included smoke inhalation, the effect of essential oils, social isolation, and exposure to varying light and dark conditions.

Each group presented their findings through posters, presentations, and short videos. These presentations highlighted the rationale behind their experimental designs, the setup of their experiments, and their resulting findings. The diverse approaches and innovative methodologies showcased the students' creativity and understanding of scientific research. The event provided an insightful experience, fostering a deeper understanding of *Drosophila* biology and the impact of various stressors on development and behavior. The collaborative effort and dedication of all participants made the event a resounding success.

10) Biochimica Club from Dayananda Sagar University has organized a workshop on Science Communication, Visualization, and Publication. Science, at its core, is about discovery and understanding. Yet, no matter how ground breaking or insightful our findings may be, their true value is realized only when we effectively communicate them to our peers, the public, and the broader scientific community. This is where the art and science of communication, visualization, and publication come into play. The workshop is designed to equip the students and the researchers with the tools and techniques to transform complex scientific data into compelling narratives, visually engaging graphics, and impactful publications. The aim was to bridge the gap between raw data and its interpretation, making science more accessible, understandable, and inspiring for everyone.

Dayananda Sagar University
School of Basic and Applied Science
BIO CHIMICA CLUB
One-Day Workshop on
Communicate Science
Write, Visualize, and Publish
Speakers
Dr. Ankita Kathare
Dr. Gopikrishna J
Dr. Paricheta Saha
Gallery Hall, A-Block, Dayananda Sagar University, Kudlu Gate Campus.
President
Dr Sunil S More
Organizing Coordinator
Dr Moulika Bhattacharya

2.3.1

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF ENGINEERING
KUDLU GATE, HOSUR MAIN Road, BANGALORE- 560068

Presentation
Duration
Content
Body Language

BCA III SEM - Seminar

Department : BCA

Name of the Class Advisor : Sumana SG

Sl.No	USN	Name of the Student	Seminar	Topic	Marks	CIA = Altair + HackerRank	Total CIA	Total Seminar + CIA
					40	10	10	20	60
1	ENG22CA0001	**AASHISH KUMAR THAKUR**	Y	Quantum Computing	40	10	10	20	60
2	ENG22CA0002	ACHUMITH SUDHEE	Y	IOT	35	10	10	20	55
3	ENG22CA0003	ADITYA KUMAR	Y	Unlocking insights of Massive data sets	24	8	8	16	40
4	ENG22CA0004	AISHWARYA. C	Y	3D Printing	35	10	10	20	55
5	ENG22CA0005	ALEN GHOSH K A	Y	Medical Imaging	30	10	10	20	50
6	ENG22CA0006	**AMRITHA RAJESH**	Y	Cyber Security	39	10	10	20	59
7	ENG22CA0007	**ANANYA SHANKHDHAR**	Y	Passwordless logins with passkeys	39	10	10	20	59
8	ENG22CA0008	**ANKITHA N**	Y	Green Computing	40	10	10	20	60
9	ENG22CA0009	ANWESHA SAHU	Y	IOT	34	10	10	20	54
10	ENG22CA0010	ASHISH JAGADISH K	Y	ChatGPT	34	10	10	20	54
11	ENG22CA0011	ASHISH. K	Y	Metaverse	34	10	10	20	54
12	ENG22CA0012	ASHOK . K	Y	Computer Graphics	32	10	8	18	50
13	ENG22CA0013	ASTINA KUMARI MOR	Y	Metaverse	35	10	10	20	55
14	ENG22CA0014	ATHISH J R	Y	5G Technology	35	10	10	20	55
15	ENG22CA0015	BENNY JABEZ H	Y	Tails	37	0	0	0	37
16	ENG22CA0016	BHUVAN H G	Y	Soil Moisture using Sensors	35	10	10	20	55
17	ENG22CA0017	BLESSTO GODS FEARETH D	Y	Smart devices	30	10	10	20	50
18	ENG22CA0018	DHANUSH	Y	Revolutionizing Transportation	30	10	0	10	40
19	ENG22CA0019	**DHANUSHREE N**	Y	IOT	40	10	10	20	60
20	ENG22CA0020	DIYA GHOSH	Y	Virtual Reality	38	7	7	14	52
21	ENG22CA0021	DUSHYANT SINGH RATHORE	NA	NA	NA	NA	NA	NA	NA
22	ENG22CA0022	GANESH T	Y	AI	34	10	10	20	54
23	ENG22CA0023	GOKUL	Y	Sensors	30	10	10	20	50
24	ENG22CA0024	**HARSHITH S**	Y	Agricultural Technology	40	10	10	20	60
25	ENG22CA0025	**HRITHIKA S**	Y	Hing End computing	40	10	10	20	60
26	ENG22CA0026	JAYACHANDRA U	Y	Cloud Computing	30	10	10	20	50
27	ENG22CA0027	JEEVA J	Y	Multiple Dimensions	36	10	10	20	56
28	ENG22CA0028	JEEVAN S	Y	Edge computing	38	10	10	20	58
29	ENG22CA0029	JEEVITHA. S	Y	E paper	37	10	10	20	57
30	ENG22CA0030	KEERTHI REDDY C	Y	Smart Ring	32	10	10	20	52
31	ENG22CA0031	KISHORE. A	Y	5G wireless technology	36	10	10	20	56
32	ENG22CA0032	KUMAR AKASH	Y	Quantum Computing	33	10	10	20	53
33	ENG22CA0033	LAVANYA J	Y	AI	30	10	10	20	50
34	ENG22CA0034	M CHANDANA	Y	Data Mining	35	10	10	20	55
35	ENG22CA0035	**M PRUDVI**	Y	Technology growth in cars	32	10	10	20	52
36	ENG22CA0036	M T SAGAR KRISHNA	Y	Cyber Security	32	0	0	0	32
37	ENG22CA0037	MOHAMMED SAQHIB	Y	Wearable Devices	36	10	10	20	56
38	ENG22CA0038	MUHAMMED AFLAH CH	Y	Robotics	25	10	10	20	45
39	ENG22CA0039	MUNIB RAHMAN	Y	Power of VFX	30	7	7	14	44
40	ENG22CA0040	**PRATIK GURAGAIN**	Y	AI	34	10	10	20	54
41	ENG22CA0041	PREM SAGAR S	Y	TDP / DPU	32	10	10	20	52
43	ENG22CA0043	REKHA L	Y	Genomics	36	10	10	20	56
44	ENG22CA0044	RUCHIRA RAMESH YALLUR	Y	Machine Learning	32	8	0	8	40

2.3.1

45	ENG22CA0045	SETHULAKSHMI K.S	Y	Screenless Display	32	10	10	20		52
46	ENG22CA0046	SHAMBHU DINAL	Y	Cytrypto Currency	30	5	5	10		40
47	ENG22CA0047	**SHRUTHI ROUT**	Y	Terraform	40	10	10	20		60
48	ENG22CA0048	SIDDHARTH ATHLAY	Y	AI	32	10	10	20		52
49	ENG22CA0049	**SNEHA.M**	Y	LiFi Technology	40	10	10	20		60
50	ENG22CA0050	SUGANDI	Y	Pill Camera	40	10	10	20		60
51	ENG22CA0051	SUNEESH.S	Y	Biometrics	30	10	0	10		40
52	ENG22CA0052	SURAJ THAKUR M	Y	Rise of 5G technologies	35	8	8	16		51
53	ENG22CA0053	UTKARSH SOUMAY	Y	Rise of Robotics	32	8	8	16		48
54	ENG22CA0054	VIKAS M REDDY	Y	Soil Moisture using Sensors	32	10	10	20		52
55	ENG22CA0055	VISHNUPRIYA CHATURVEDI	Y	Revolutionizng Healthcare	39	10	10	20		59
56	ENG22CA0056	**Z A ABDUL AHANAAF**	Y	Bioinformatics using AI ML	40	10	10	20		60
57	ENG22CA0057	Bala Vinay M	Y	Electric Air travel	30	10	10	20		50
58	ENG22CA0058	Kaviraj J	Y	Drone Delivery service	32	0	0	0		32
59	ENG22CA0059	Madhumitha R	Y	Paper Battery	34	10	10	20		54
60	ENG22CA0060	Mala Ram	N	ABSENT	AB	AB	AB	AB	#VALUE!	
61	ENG22CA0061	Md Sameer Haq	Y	online learning	30	10	0	10		40
62	ENG22CA0062	Mohammedfateh	N	ABSENT	AB	AB	AB	AB	#VALUE!	
63	ENG22CA0063	Mohan C	Y	The Rise of E-Sports	35	0	0	0		35
64	ENG22CA0064	Prajwal.n	Y	Ziglang	40	10	10	20		60
65	ENG22CA0065	Rajveer Singh	Y	Cloud Seeding	39	0	0	0		39
66	ENG22CA0066	S. Indhu Kiran	Y	Black Rock	40	10	10	20		60
67	ENG22CA0067	Srijan Rana	Y	Decoding Blockchain	20	0	0	0		20
68	ENG22CA0068	Suraj Anand	Y	cyber security	20	10	10	20		40
69	ENG22CA0069	Usha.r	Y	Introduction to Data Science	38	10	10	20		58
70		Saarang	Y	Technologies used in automobiles	40	10	10	20		60
71										
72										
73										
74										
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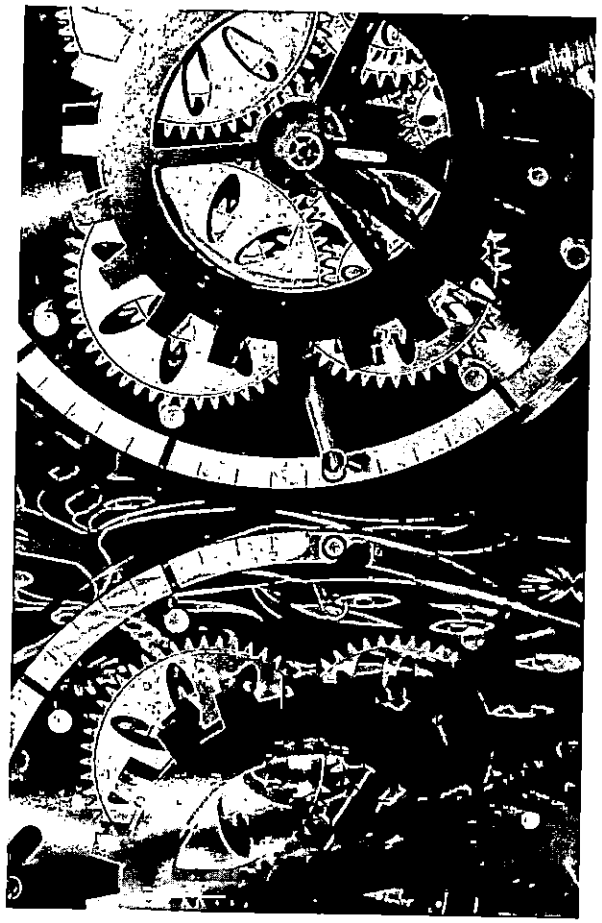
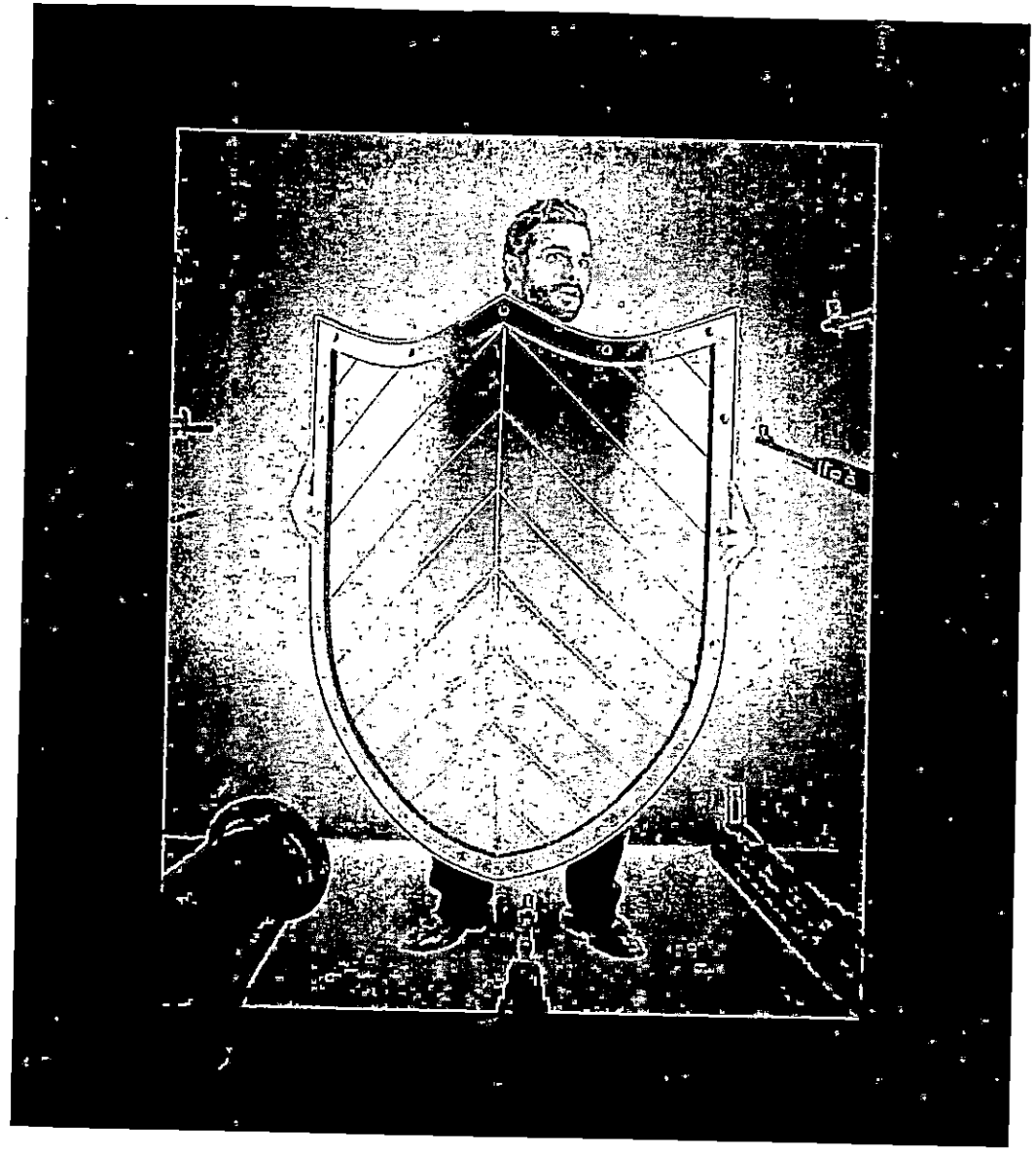
19/4/24.

Chairperson
Department of Computer Applications
School of Engineering
Dayanand Sagar University
Kudlu Gate, Hosur Main Road
Bangalore – 560114

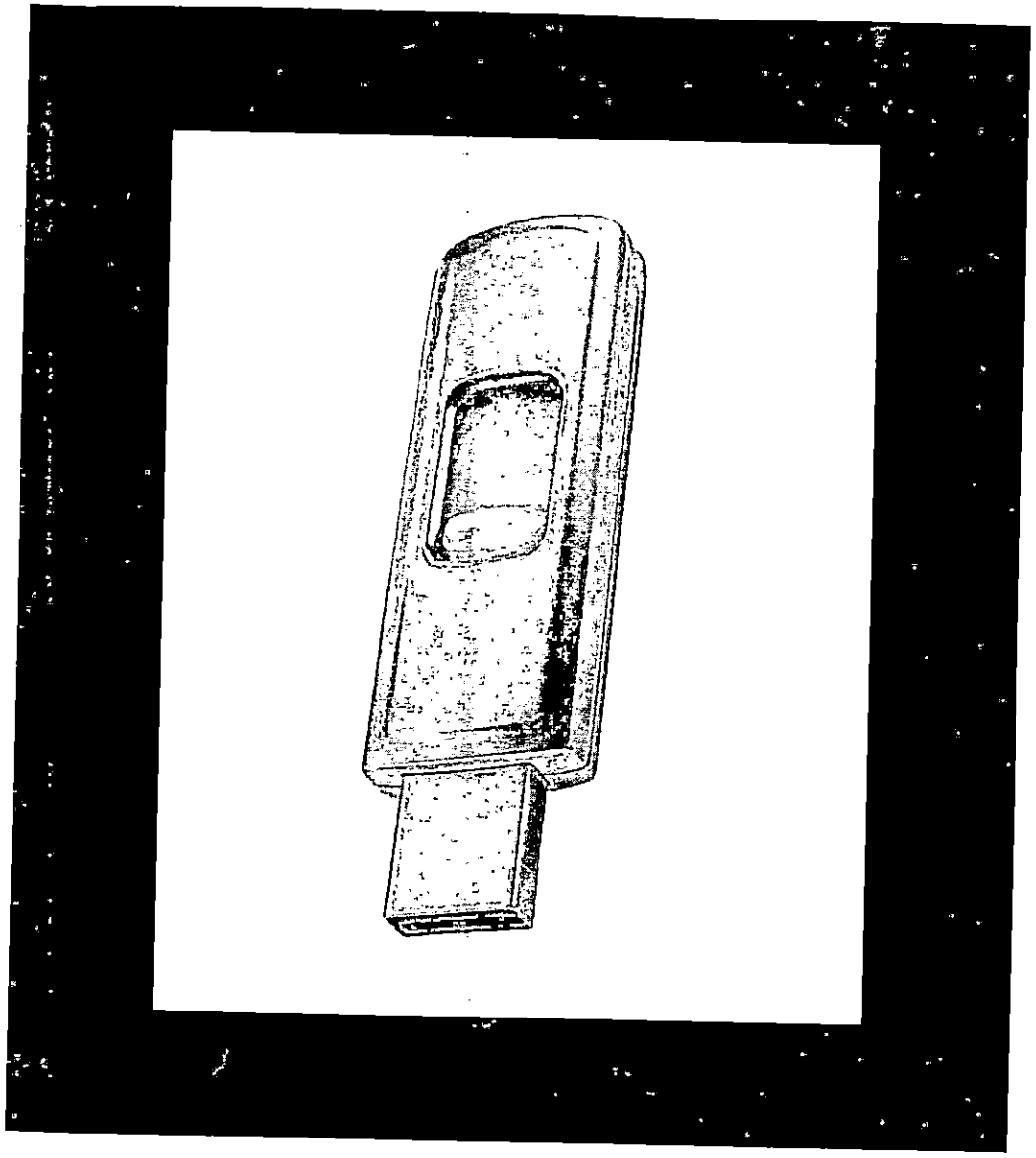


The Power of Tails: An In-depth Exploration of the Operating System



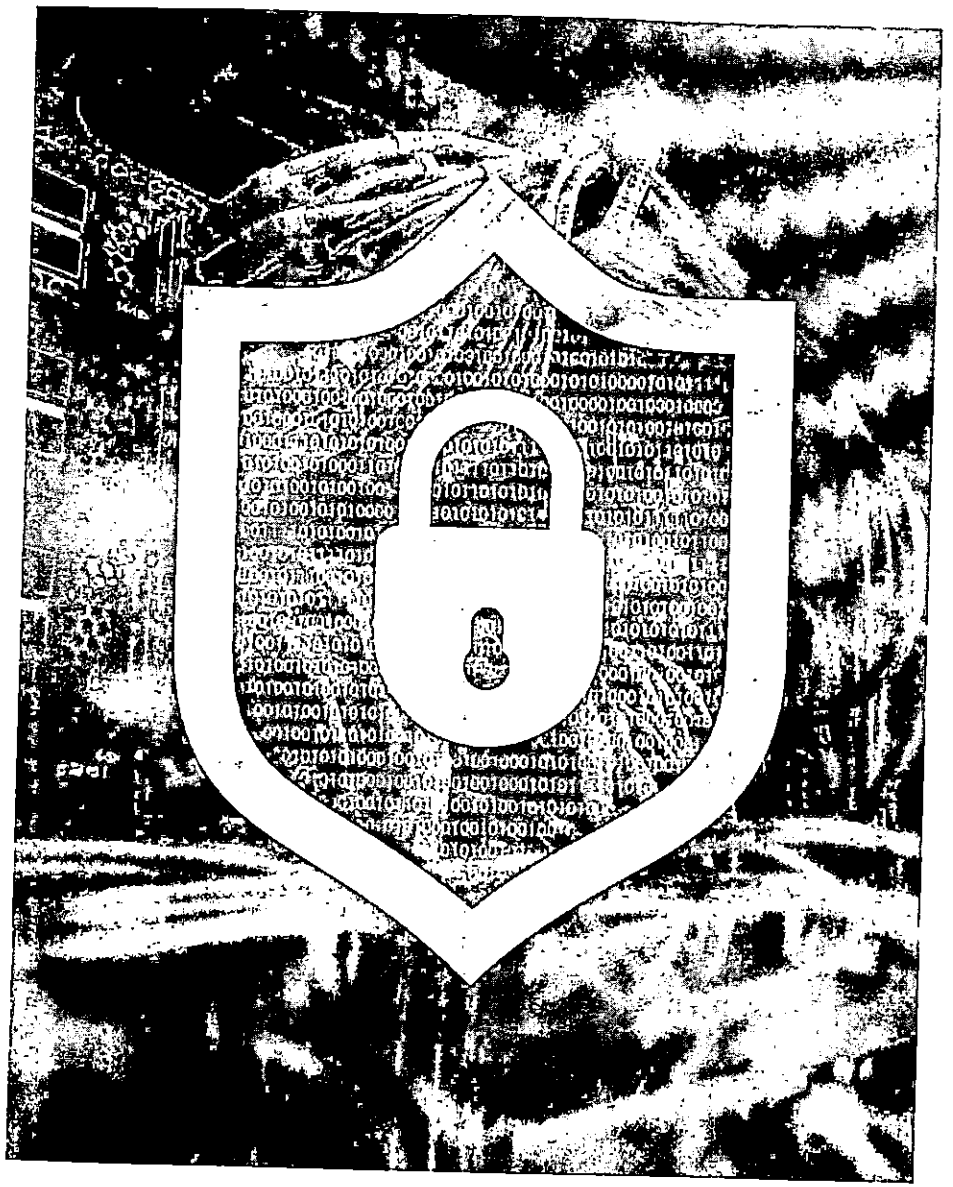
Introduction

Welcome to the world of *Tails*, the powerful operating system designed for **privacy** and **anonymity**. In this presentation, we will delve into the features, benefits, and use cases of Tails, shedding light on its unique capabilities and how it empowers users to take control of their digital lives.



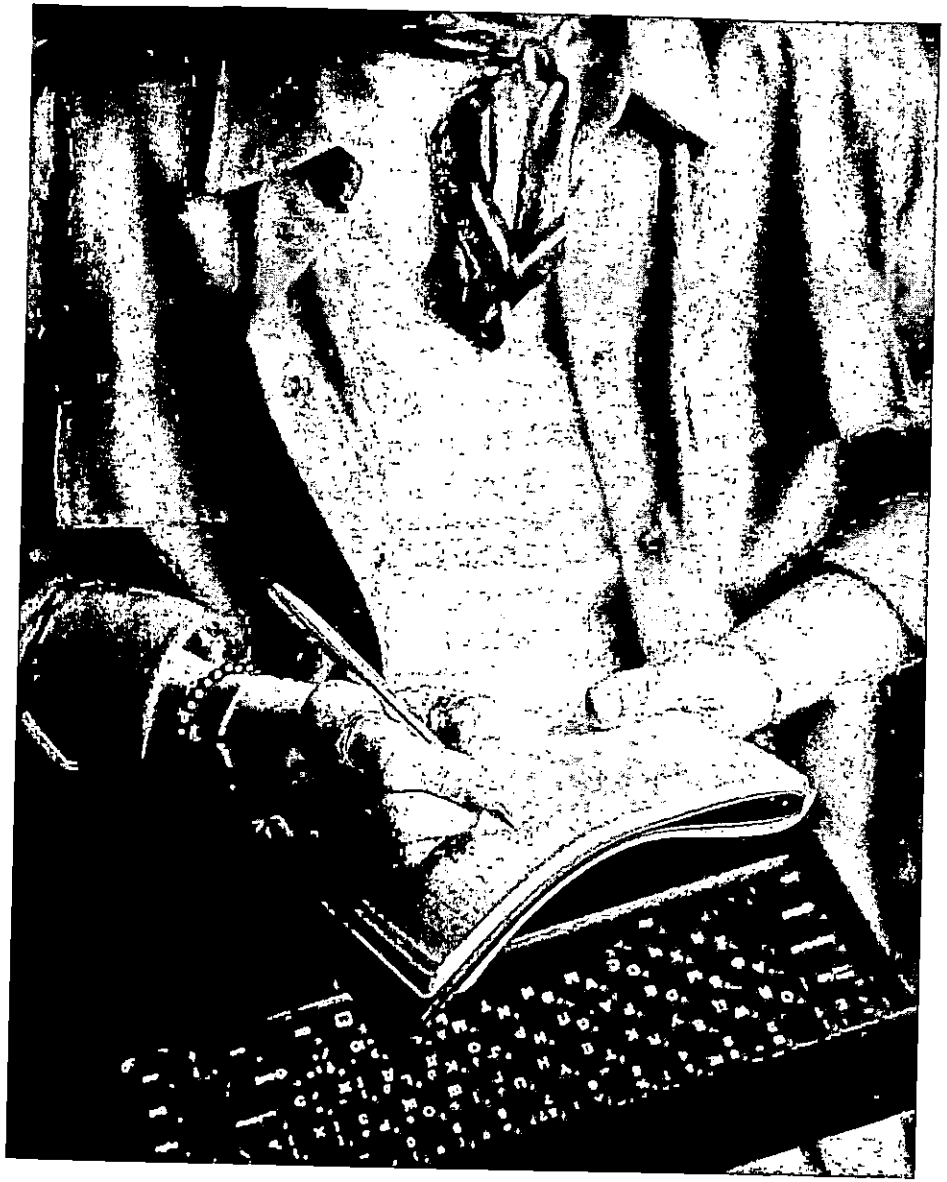
What is Tails?

Tails (The Amnesic Incognito Live System) is a *Linux-based* operating system that can be booted from a USB stick or DVD. It routes internet connections through the *Tor network*, ensuring **anonymous** online activities. Tails includes pre-installed tools for **encryption**, **secure communication**, and **data protection**, making it ideal for journalists, activists, and anyone concerned about privacy.



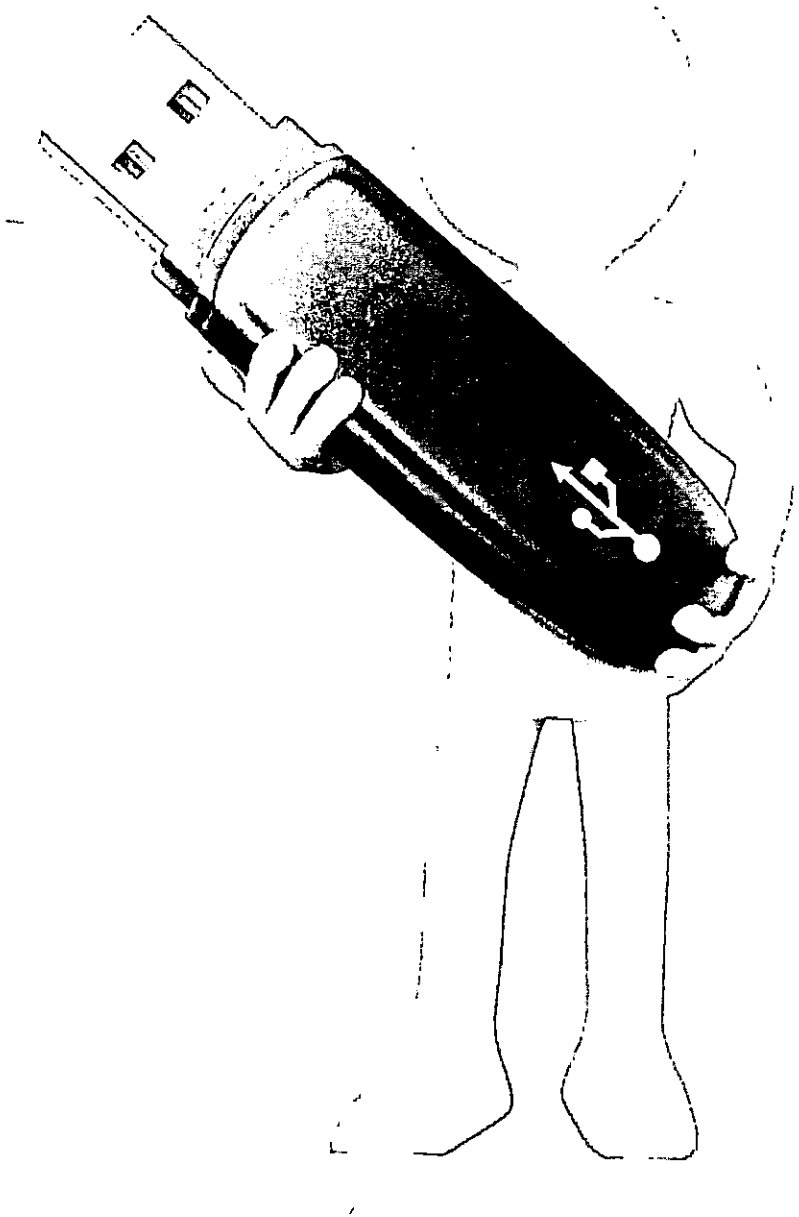
Key Features

Tails offers a range of **key features** that set it apart from traditional operating systems:
Amnesic nature: No traces are left on the host system.
Tor network integration: Anonymizes internet traffic.
Built-in encryption: Protects sensitive data.
Secure communication tools: Encrypted email, chat, and more.
Data recovery options: Safeguards against accidental loss.



Use Cases

Tails is widely used in various scenarios where **privacy** and **security** are paramount:
Journalism: Protecting sources and communicating securely.
Activism: Safeguarding sensitive information and organizing campaigns.
Whistleblowing: Anonymously sharing important disclosures.
Personal privacy: Preventing online tracking and surveillance.
Research: Conducting anonymous online investigations.

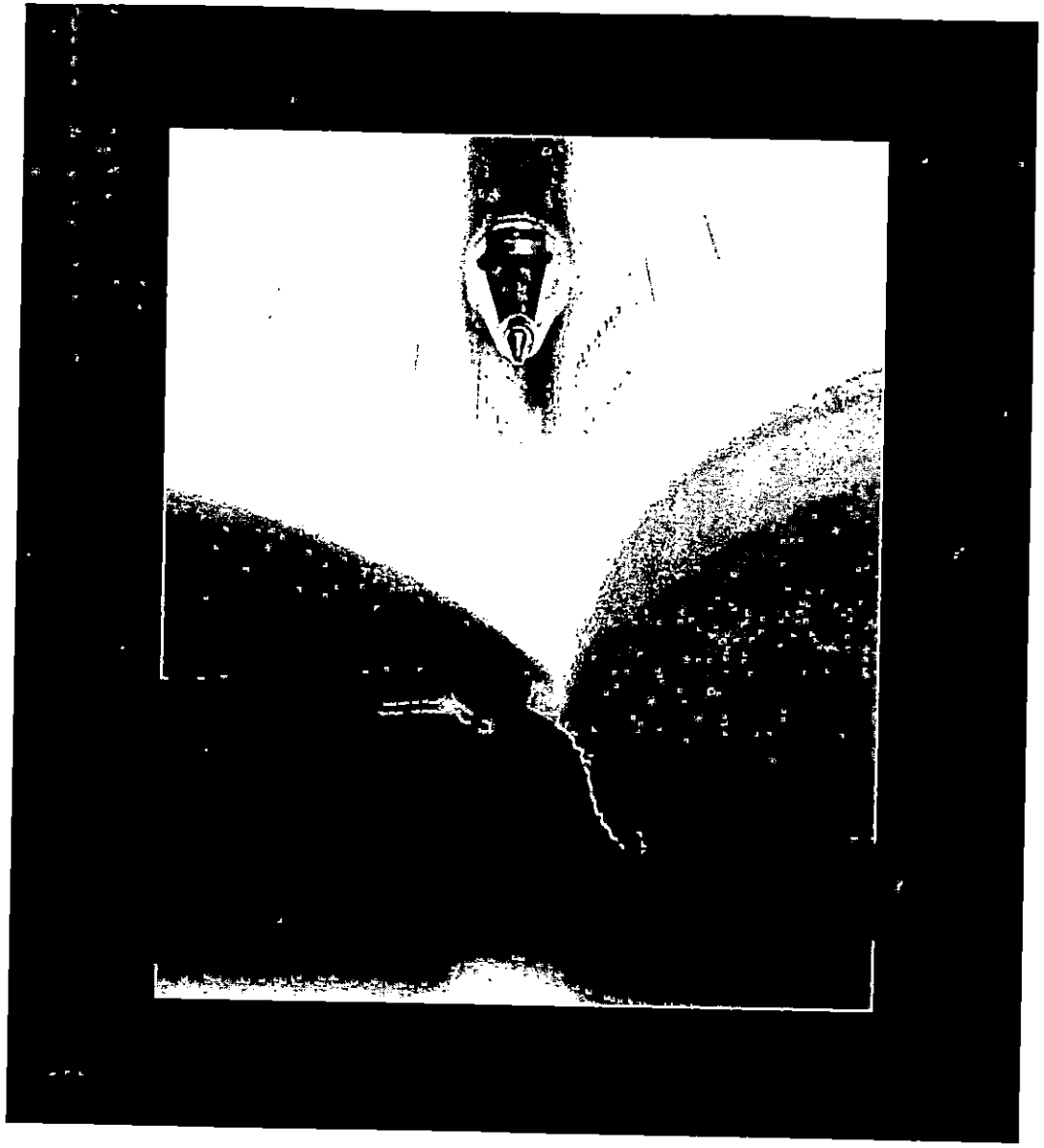


Installation and Usage

Getting started with Tails is straightforward:
Download the Tails ISO image from the official website.
Create a bootable USB stick or DVD using the provided instructions.
Boot your computer from the USB stick or DVD.
Enjoy the secure and private environment of Tails.
Remember to follow the recommended security practices while using Tails.

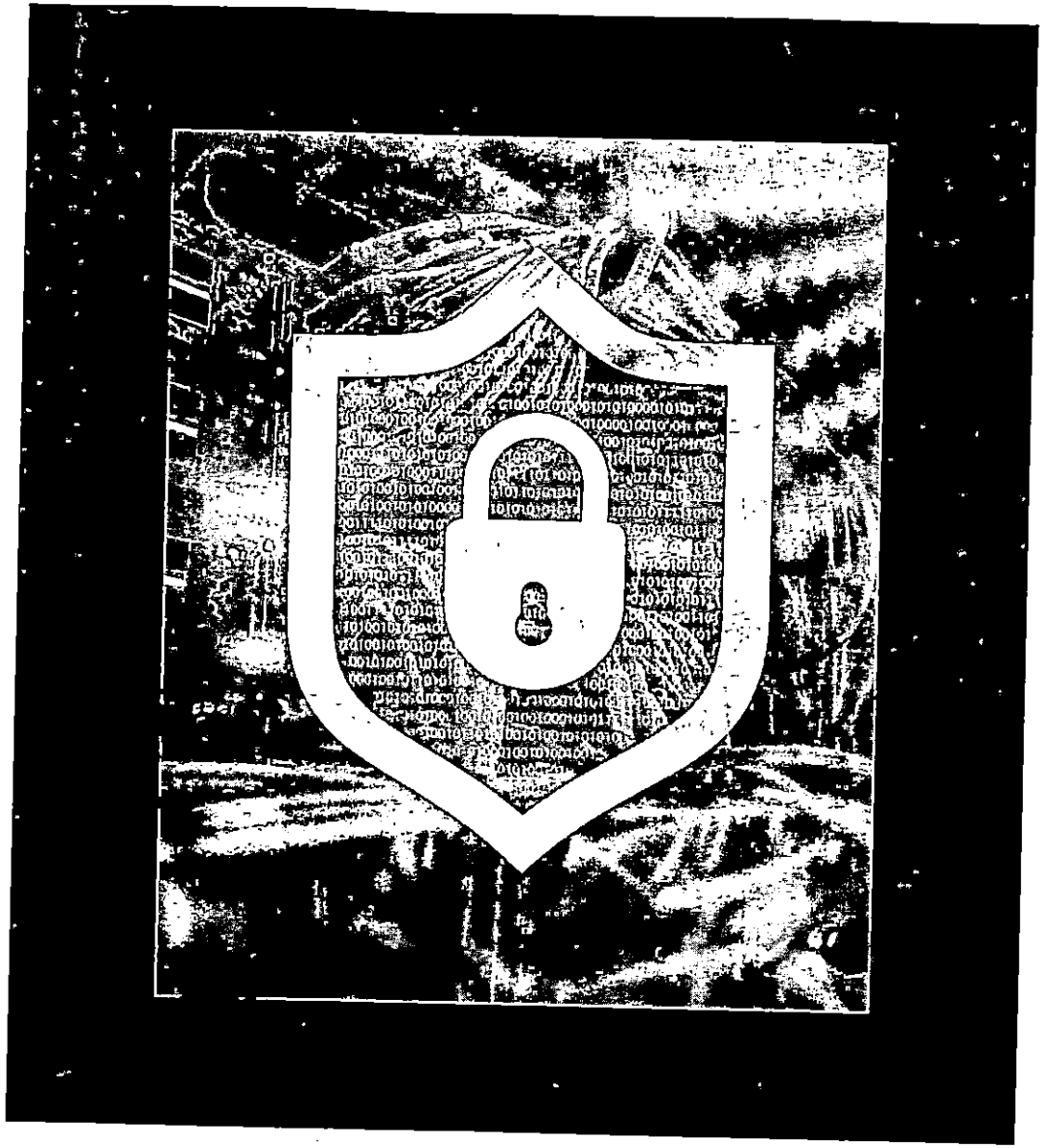
Tails vs. Traditional OS

Tails offers several advantages over traditional operating systems:
Privacy: Tails prioritizes user privacy and helps avoid tracking.
Anonymity: By routing traffic through Tor, Tails ensures anonymity.
Security: Built-in encryption and secure communication tools enhance security.
Portability: Tails can be used on any computer without leaving traces.
Usability: Despite its advanced features, Tails is designed to be user-friendly.



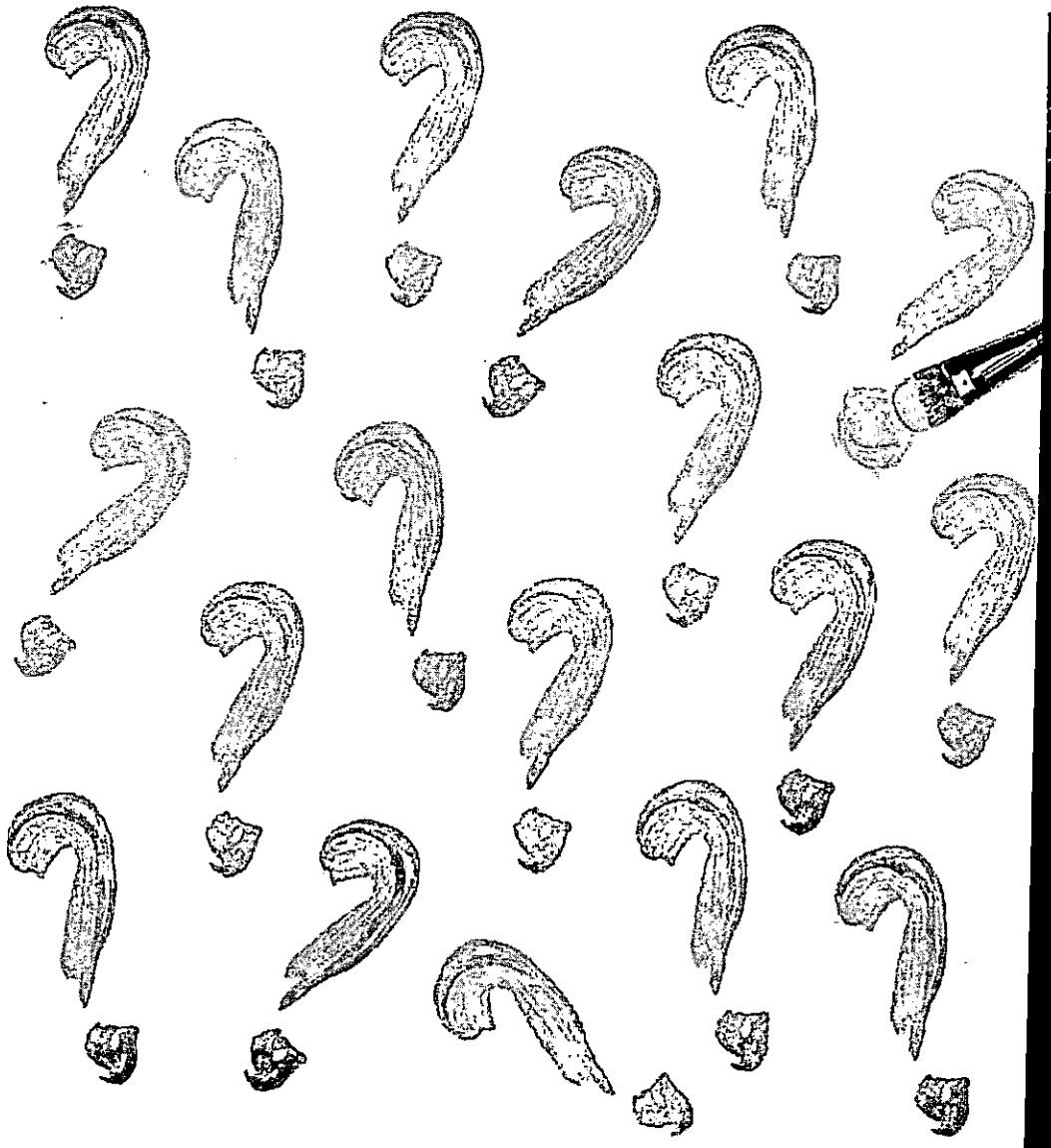
Potential Risks

While Tails provides strong privacy and security, it's important to be aware of potential risks:
Physical access: If someone gains access to your computer, they may compromise Tails.
Unsecure hardware: Malicious hardware or compromised firmware can undermine security.
User errors: Incorrect usage or misconfigurations may lead to privacy breaches.
Network vulnerabilities: Attacks targeting the Tor network or network interception can pose risks.



Tails Community

Tails has a vibrant and supportive community that contributes to its development and provides assistance:
Forums and mailing lists: Engage with other users and seek help.
Documentation and guides: Comprehensive resources for installation and usage.
Bug reporting and contributions: Help improve Tails by reporting issues or contributing code.
Events and meetups: Join gatherings to connect with like-minded individuals.



Frequently Asked Questions

Here are some common questions about Tails:

Is Tails legal?: Yes, Tails is legal to use as it promotes privacy and security.

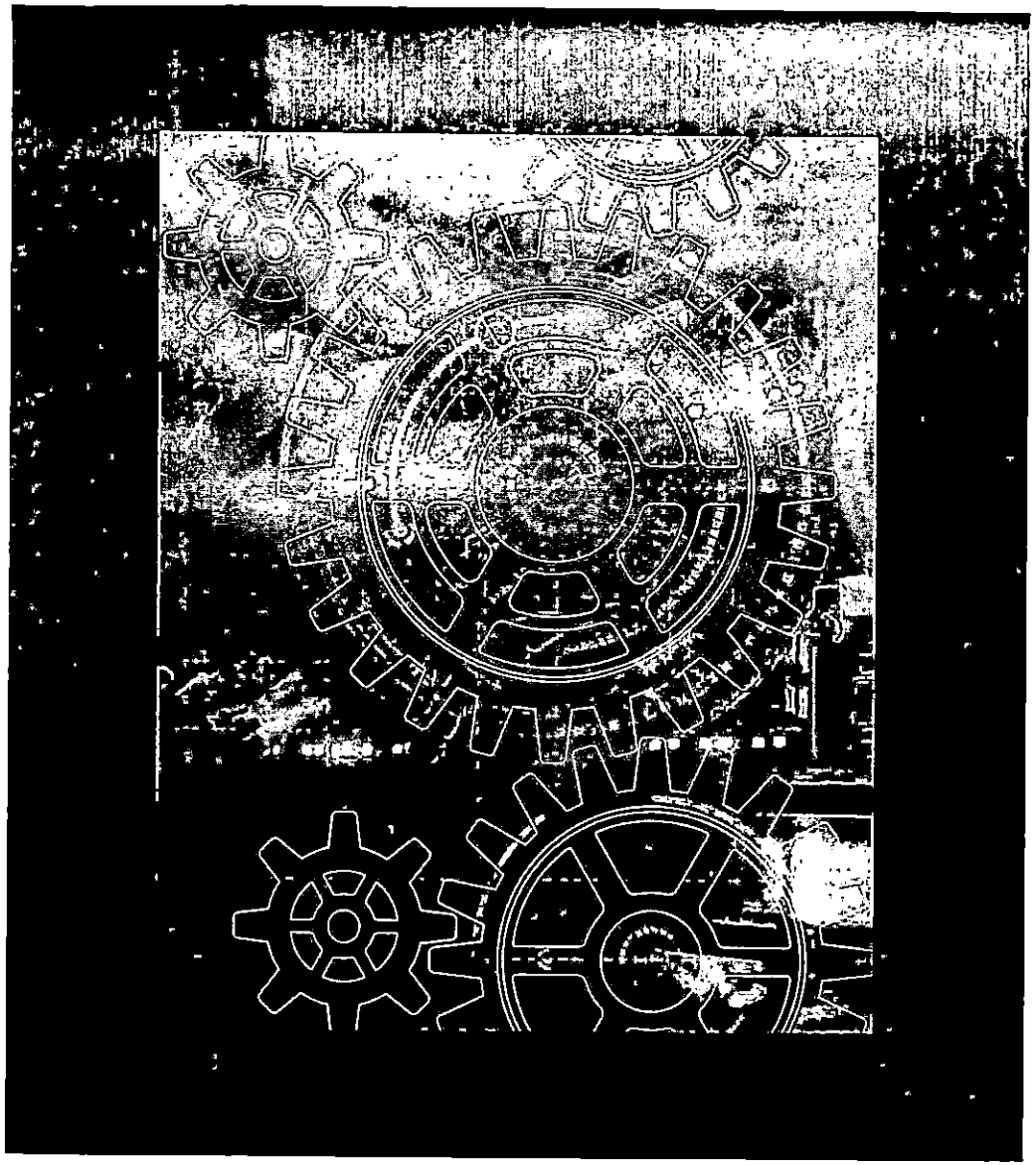
Can Tails be used on any computer?: Yes, Tails is compatible with most computers.

Can Tails be installed on the hard drive?: No, Tails is designed to run from external media.

Can Tails be used for everyday tasks?: While possible, Tails is primarily focused on privacy-sensitive activities.

Real-World Examples

Tails has been used successfully in real-world scenarios:
Edward Snowden: Whistleblower Edward Snowden relied on Tails for secure communications.
Journalists: Investigative journalists worldwide use Tails to protect sources and data.
Human rights activists: Tails enables activists to work securely in repressive regimes.
Privacy-conscious individuals: Many individuals choose Tails to maintain their online privacy.

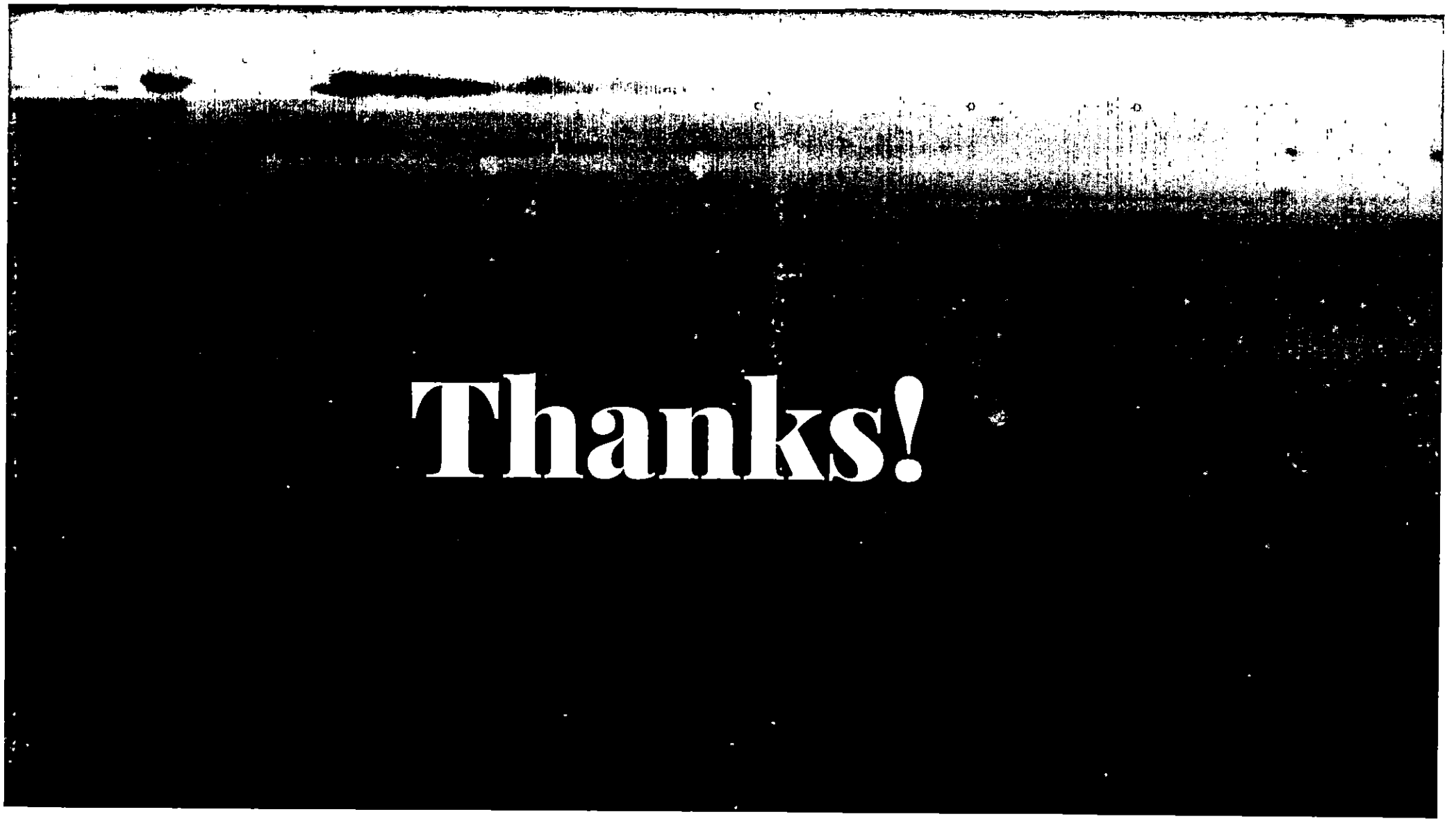


Future Developments

The future of Tails looks promising with ongoing developments:
Enhanced usability: Improving user experience without compromising security.
Expanded hardware support: Ensuring compatibility with a wider range of devices.
New security features: Continuously enhancing encryption and protection mechanisms.
Community-driven innovation: Collaborating with the community to drive innovation in privacy-focused technologies.

Conclusion

In conclusion, Tails provides an **unparalleled** level of privacy, security, and anonymity. Whether you're a journalist, activist, or privacy-conscious individual, Tails empowers you to take control of your digital life. With its unique features, strong community support, and ongoing developments, Tails continues to be a leading choice for those seeking a secure and private operating system.


Thanks!

CLASS ROOM ACTIVITY

Sl. No	Title of the Activity
1.	Alumni Talk
2.	Tech Talk
3.	MINI Project Expo
4	Startups and Incubation
5.	Photography Workshop
7	Project Expo by BCA and MCA
8.	Workshop on "Advent on Cyber Security" With Hands On (Hackthebox)
9.	Webinar On "Leadership and AGILE Methodology"

Event:-Alumni Talk

Date:-21/3/2024

On March 21/03/2024, Department of Computer Application has organised an Alumini Talk by Nilesh Krishna. He is an esteemed alumni of Dayananda Sagar university with over 3 years of experience in supply chain Analytics, delivered a compelling technical talk at our institution. Nilesh Kumar currently serves as an SAP EDI Analyst in Montreal, QC for peerless clothing, showcasing his expertise in the field.

During the talk, Nilesh shared invaluable insights glanced from his past experience at Zycus Infotech Pvt Ltd in Mumbai, where he served as a procurement business Analyst and his current role at peerless clothing. He Shared light on the intricacies of SAP and its role in modern business operations, providing clarity on its functionalities and the significance of his role as an SAP EDI Analyst.

Nilesh Kumar emphasized the importance of continuous learning and skill development, urging students to obtain course completion certificates in Oracle and make use of library facilities for reference learning. He encouraged active participation in lecturing and leveraging platforms like LinkedIn to expand the profile of knowledge we gained and build professional networks.

Moreover, Nilesh Shared Valuable advice on work lifebalance, effective communication and professional development. He emphasized the impastos of being proactive presenters, embracing mistakes as opportunities for growth, and maintaining a grounded attitude towards success.

Attendees were enlightened by Nilesh's comprehensive insights and practical advice gaining valuable knowledge on various aspects of career development and personal growth. The session proved to be an enriching experience, offering attendees a deeper understanding of the dynamics of the industry and practical strategies for success.

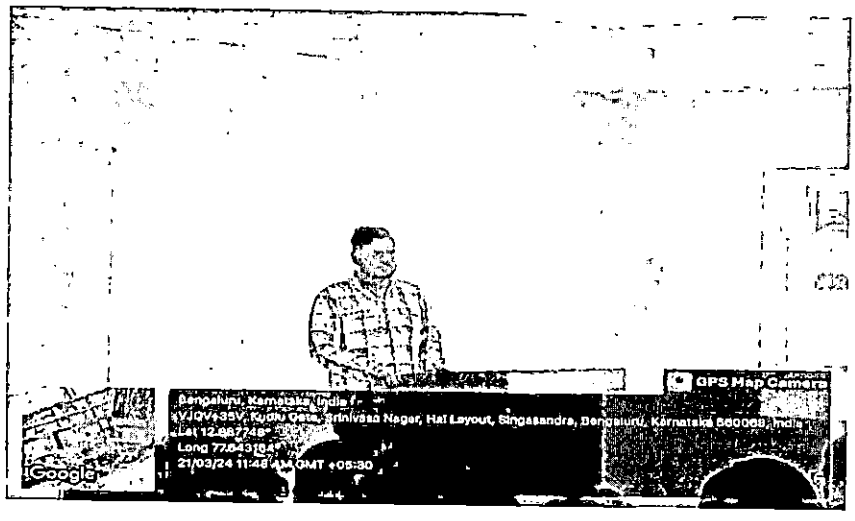
Organizers
Ms.Astalakshmi
Dr.R.Kokila
Ms.Priyanka Rukesh

21/3/24

Convenor
Dr. Vasanthi Kumari P

21/3/24

Chairperson
Department of Computer Applications
School of Engineering
Dayanand Sagar University
Kudlu Gate, Hosur Main Road
Bangalore – 560114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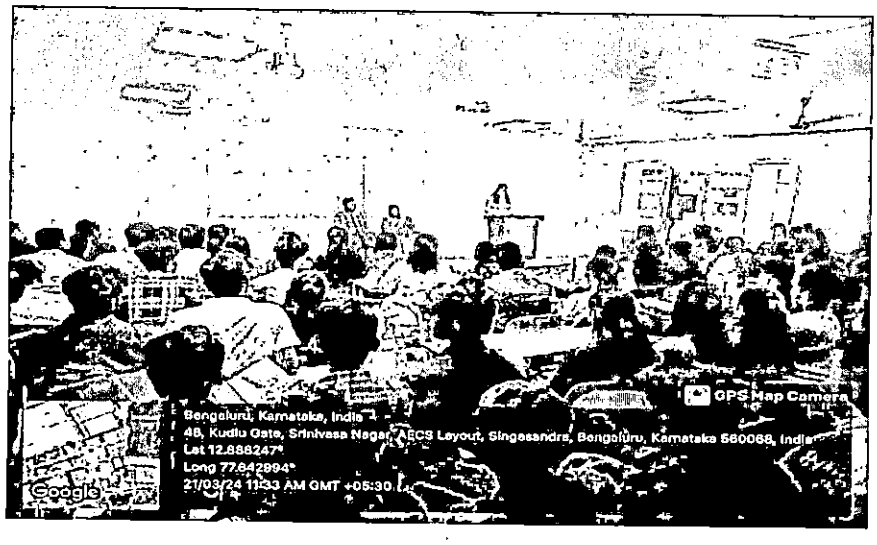
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48, Kudlu Gate, Srinivasa Nagar, AECS Layout, Singasandra, Bengaluru, Karnataka 560068, India
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Long 77.642894°
21/03/24 11:33 AM GMT +05:30
Google

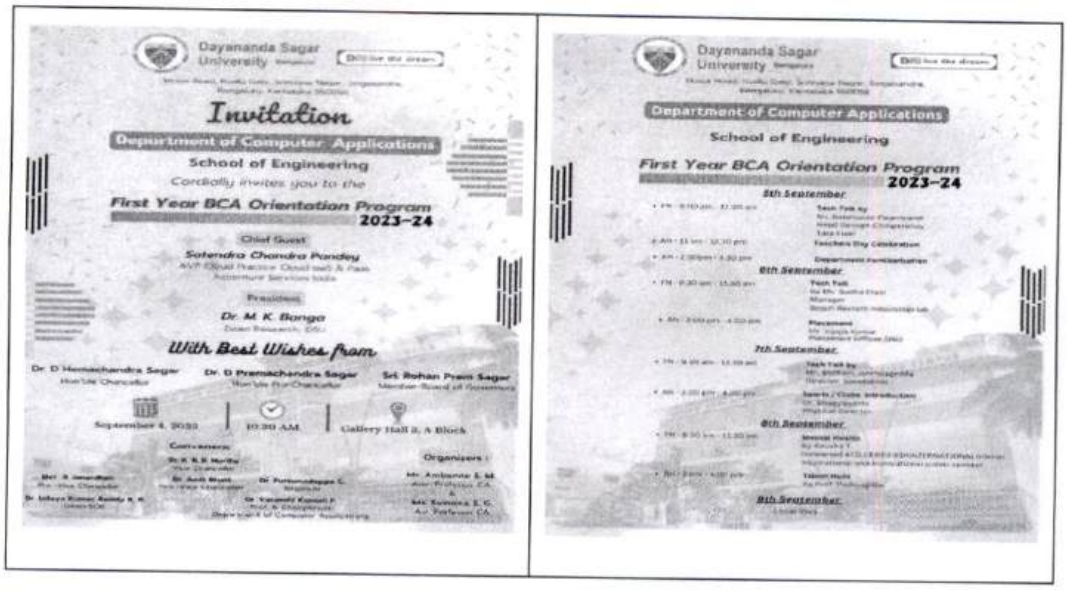
GPS Map Camera
Google

Event:- First Year Orientation Program of BCA 2023_24 Batch

TECH TALK

Date:-4th to 9th September 2023

The department has conducted orientation program from 4 to 9th September 2023. In theses days various guest speakers were invited and who delivered tech talks to the first year students. Sessions were conducted on Sports, NSS & Mental Health. Talent hunt session made the students to showcase their hidden talents. Last days students were taken to local visit to ISCKON RadheKrishna Temple, Rajaji Nagar, Bengaluru.



Organizer
Mr. Ambanna -

9/11/24

Chairperson
DR Vasanthi kumari

Chairperson
Department of Computer Applications
School of Engineering
Dayanand Sagar University
Kudlu Gate, Hosur Main Road
Bangalore – 560114

Event:-Project Expo By Mca Students

Date:- 5th May 2023

On May 5th 2023 Department of MCA organized Mini Project Expo, Which focused on Applications of data structure. The expo included students from is year MCA. The expo started with a few thoughtful words by our honorable chairperson of MCA department Dr. Vasanthi Kumari mam. The words impacted on us to do more innovative things in upcoming days.After the expo started by formal welcoming of all the dignitaries presented in the expo.

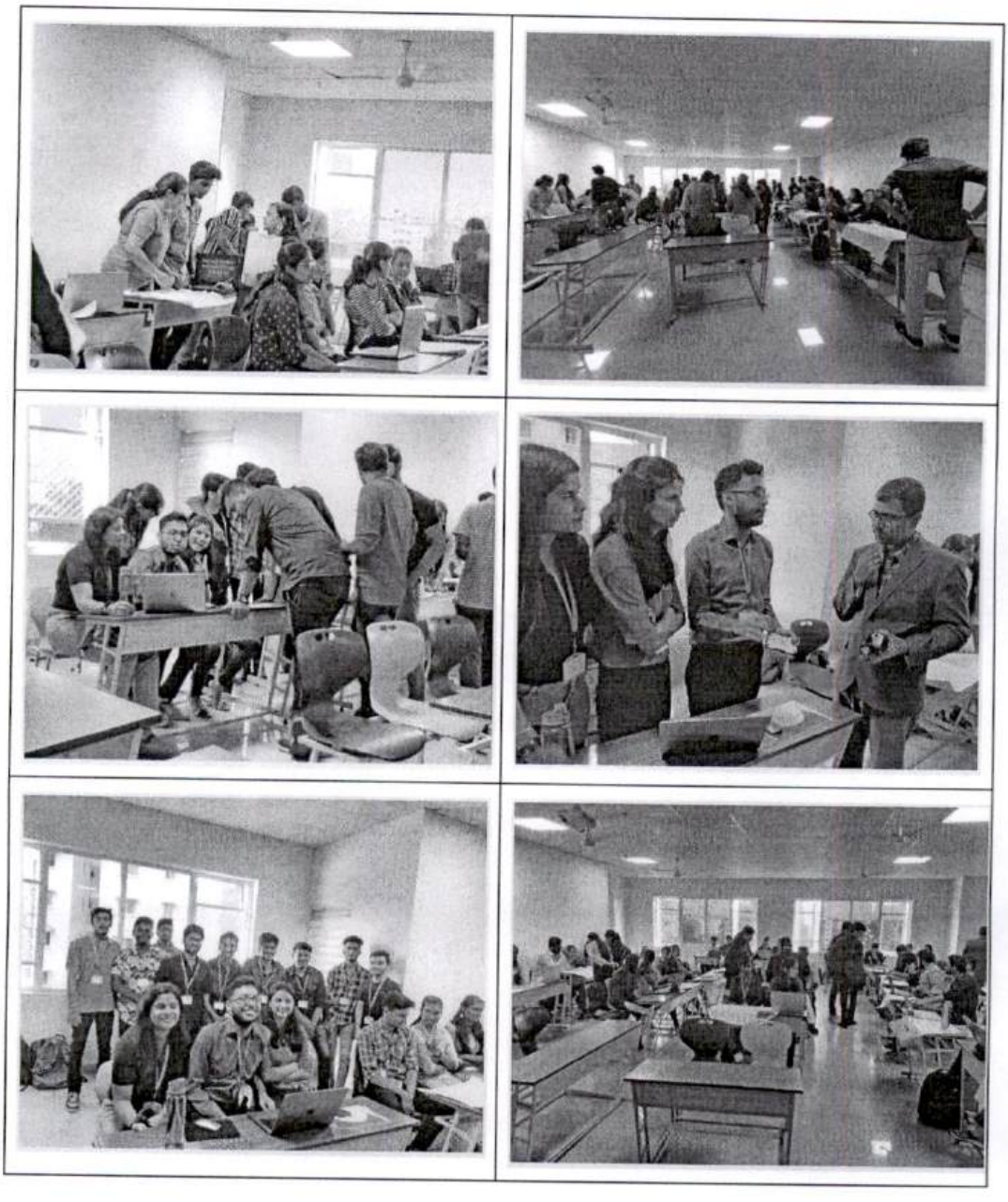
Students showcased their project team wise for the competition. The Judges of the event was Dr. Baby Maruthi mam and Dr.Pavitra mam. Meanwhile there was 21 project for the expo. All the faculty from MCA department and various other department faculties from CSE and Cyber security addressed the event.Faculties from CS department Dr. Ashwin sir was present and also Dr. Durbadal chattaraj sir from CYBER security department was also present for the event and addressed event with their meaningful speech for the students

Students were motivated for extraordinary performance by the token of appreciation. Out of 21 project 3 prizes and 1 consolation prizes were given. The winners were

Prize 1 : Manjunath & Darshan
Prize 2: Shouvik,Shamabhavi,Anjali
Prize 3: Sanjay,Charan,Bharath

Consolation Prize: Tejaswini,Shravani Mithkar,

The event was ended by the distribution of refreshments. This project gave us the opportunity to show our innovative skills and more courageous to do more such kind of expo in future days



5/5/23
(Coordinator)

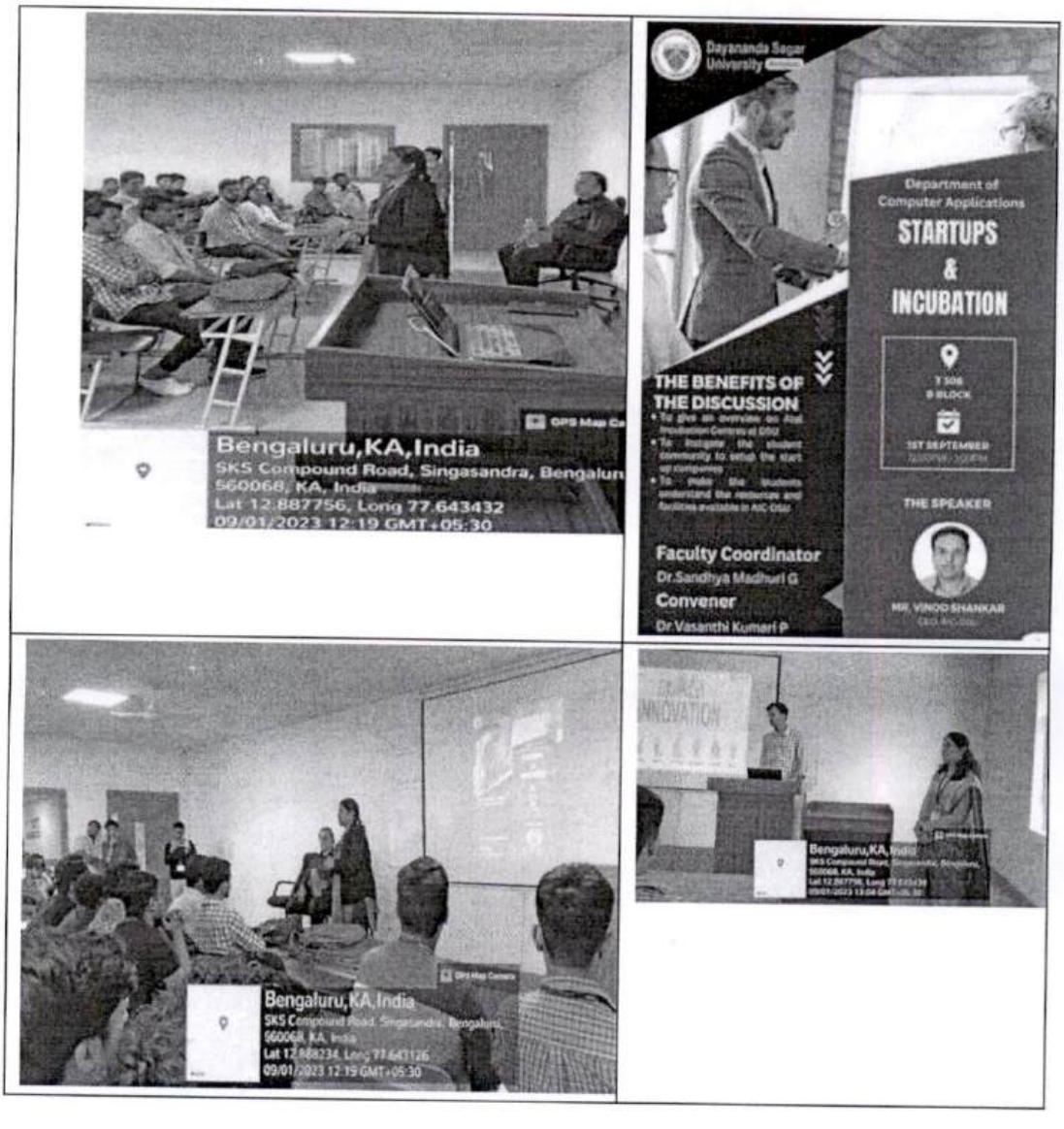
5/5/23
Chairperson

Chairperson
Department of Computer Applications
School of Engineering
Dayanand Sagar University
Kudlu Gate, Hosur Main Road
Bangalore – 560114

Event: Startups and Incubation – Expert -Talk

Date: 1- Sep 23

About the event: The Department of Computer Applications, Dayananda Sagar University, to give an overview on Atal Incubation Centre – DSU. The event was conducted to instigate the students to setup the startup companies and to make the students become aware of the resources of AIC-DSU.



Sandhya 1/9/23
Organizer - Dr. Sandhya Madhuri.

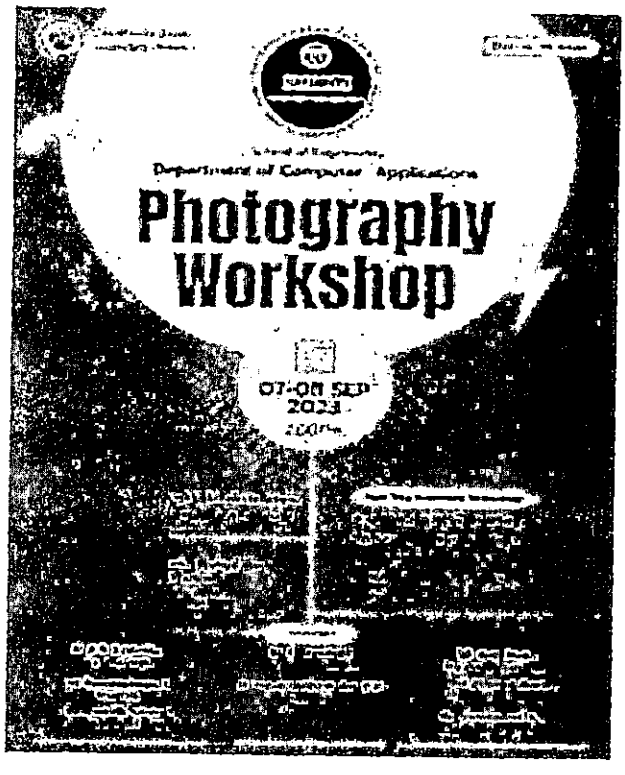
1/9/23
Chairperson

Chairperson
Department of Computer Applications
School of Engineering
Dayananda Sagar University
Kudlu Gate, Hosur Main Road
Bangalore – 560114

Event:- Photography Workshop Report

Date:- 7th and 8th September

Faculty coordinator : Mrs Padmageetha BG



The Two-Day Photography Workshop held on 7th and 8th of September 2023, was an engaging and informative event that brought together photography enthusiasts from various backgrounds. Organized by SRUSHTI club, the workshop aimed to enhance participants' photography skills and knowledge.

The first day began with an introductory session on the basics of photography. We began with listing out the various cameras in real world use. Guest speaker Mr. Rahul Dev Raman, a renowned Film maker and Academician who has more than 7 years' work experience in the field of film making. He provided enlightenment on various photo shot sizes and gave an illustrative knowledge about various camera angle significance with outputs.

Followed by this the second day was began with Mr. Unnikrishnan, the Director of photography and Lecturer who has more than 7 years' work experience in the field of Cinematography provided information and tips for better photography. He described various aspects to consider while clicking a picture such as contrast, colour, frame shape,

aspect ratio, balance, and more importantly the motive. He explained about the nature of humans finding the symmetric photos very attractive. He later briefed about the 3x3 Grid (Rule of Thirds) and Leading lines. With this the workshop ended with a task to implement the learnt concepts of the day to capture pictures.

8/9/24
(Coordinator)

8/9/24
(Chairperson)

Chairperson
Department of **Computer Applications**
School **of Engineering**
Dayanand **Sagar University**
Kudlu Gate, **Hosur Main** Road
Bangalore – 560114

Project Expo by MCA and BCA Students

Date:24/05/2024

The air buzzed with excitement on May 24th, 2024, as Dayananda Sagar University's School of Engineering, Department of Computer Application, hosted its annual Project Expo. The event was a testament to the ingenuity and dedication of students from the BCA and MCA departments. A vibrant tapestry of innovative projects, encompassing machine learning, AI, full-stack web development, mobile app development, and IoT applications, came to life, transforming the campus into a hub of innovation.

A Gathering of Minds:

The expo commenced with a warm welcome from the conveners, Dr. Uday Kumar Reddy, Dean-SOE, DSU, and Dr.Vasanthi Kumari P, Chairperson-CA, setting the stage for a day of intellectual exploration. The event was meticulously planned and executed by organizers, Ms. Padmageetha B G and Dr. R. Kokila, ensuring a smooth and rewarding experience for all participants.

Expert Guidance:

Mr. Sajeev Aravindan, the CTO of Vaultedge, served as an expert member, providing valuable insights and inspiring the students. His presence added a layer of prestige and practical guidance to the event, encouraging the students to push their boundaries and think beyond the classroom.

A Showcase of Innovation:

The event showcased a diverse array of projects, each a testament to the students' dedication and passion. From AI-powered solutions to user-friendly mobile applications, every project embodied the spirit of innovation and technological prowess.

BCA Department:

The BCA department witnessed a fierce competition, with teams presenting ground-breaking projects that pushed the boundaries of AI and web development:

1st Place: Dhanush B, Dharani Shree, Riya Sen, and Saikumar Reddy captivated the judges with their project, "Personalised AI for Chapter Generation," demonstrating an understanding of AI algorithms and their practical application.

2nd Place (Tie):

AtulyaBhadani and Vishal Mehra presented Project AVA, a sophisticated LLM-based AI capable of mimicking human emotions, showcasing their expertise in Natural Language Processing.

Arjun Balamurali and Anant Bhadani impressed with their project on Water Quality Measuring using a TDS Sensor, highlighting their ability to integrate IoT technologies for real-world applications.

3rd Place: Ryan George and Aniket Dutta secured the third place with their innovative "Open Events" project, a full-stack web application that re imagined event management and social networking, demonstrating their understanding of front-end and back-end development.

MCA Department:

The MCA department's projects were equally impressive, reflecting their expertise in computer vision, machine learning, and mobile application development:

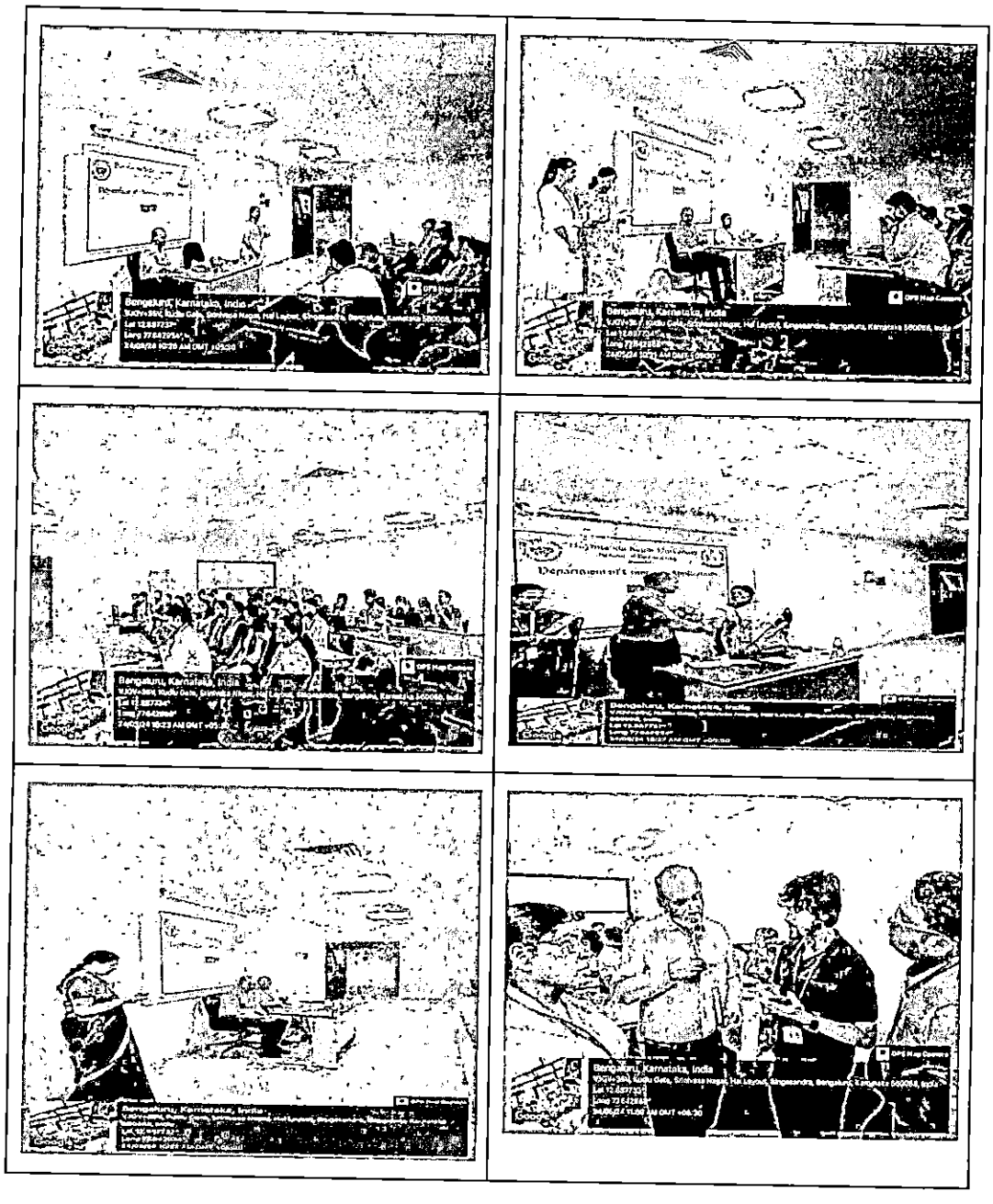
1st Place: Akshay DR, Yash Pandit, and Ahad Ismath's project on Attendance Monitoring using Facial Recognition showcased their proficiency in computer vision and security applications, a testament to their understanding of real-world problems.

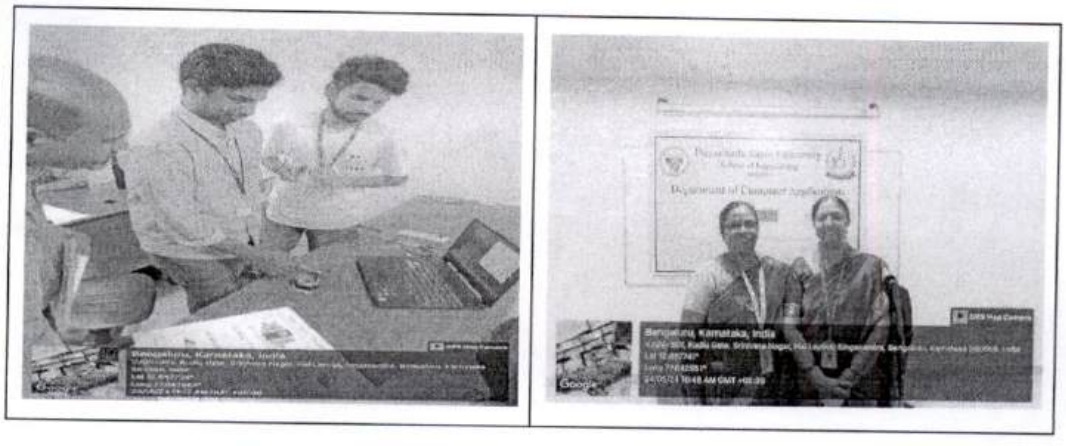
2nd Place:Smaran's project on Digital Handwriting Recognition showcased their expertise in machine learning and pattern recognition, demonstrating the potential of AI in everyday applications.

3rd Place: Abhishek Gautham and Manjuri's project, a Coffee Shop App, showcased their ability to develop user-friendly mobile applications, highlighting their understanding of user interface design and user experience.

A Day to Remember:

The Project Expo was more than just a competition; it was a celebration of creativity, collaboration, and a dedication to pushing the boundaries of technological innovation. The event fostered a sense of community, allowing students to share their ideas, learn from each other, and gain valuable feedback from experts. It served as a testament to the bright future of computer application talent at Dayananda Sagar University.





Organizer-
Chairperson -

Ms. Padmageetha B G
Dr.Vasanthi Kumari P - Chairperson

Dr. R. Kokila

Chairperson
Department of Computer Applications
Engineering
University
Main Road
Bangalore - 560114

Event:-Workshop on "Advent on Cyber Security" With Hands On (Hackthebox)

Date:- 28th Feb 2023

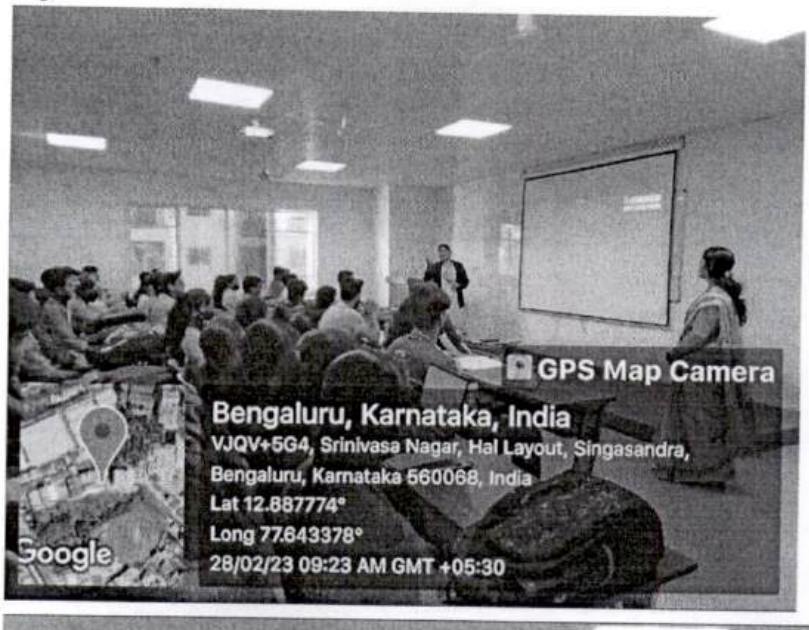
The Department of Computer Applications has successfully organized a 1 day Workshop on **"Advent on Cyber Security with Hands On (Hackthebox)".**
Prof. Sumana SG organized the workshop wherein participants were BCA students.The course was organized offline. Around 60+ students were registered for the course. All students were trained on both theoretical and practical knowledge of Cyber Security
Resource Students walked them through the topics from the road map to cyber security, the history of Linux , then across the various frameworks such as, security framework, NIST framework, ISO 27000 series framework and Mitre ATT & CK frameworks the cyber kill chain and unified kill chain and how it process, then the two cycles connected with the kill chains showing the in and through process.
Various other topics were also briefed in connection to Networking. Continuing to these, students had hands-on experience with practical knowledge on Linux commands, operations such as, CTF, Nmap and also gave an idea of how to get a specific professional certification done with proper guidance of knowledge and competitions.
While mostly participants shown keen interest in theory sessions and interacted with questions, this training also had hands on using Hackthebox. The students and faculties attended and interacted well in these sessions as well with keen interest and various implementation related queries Nmap and Hackthebox. Overall, it was a great discussion and learning for the participants.

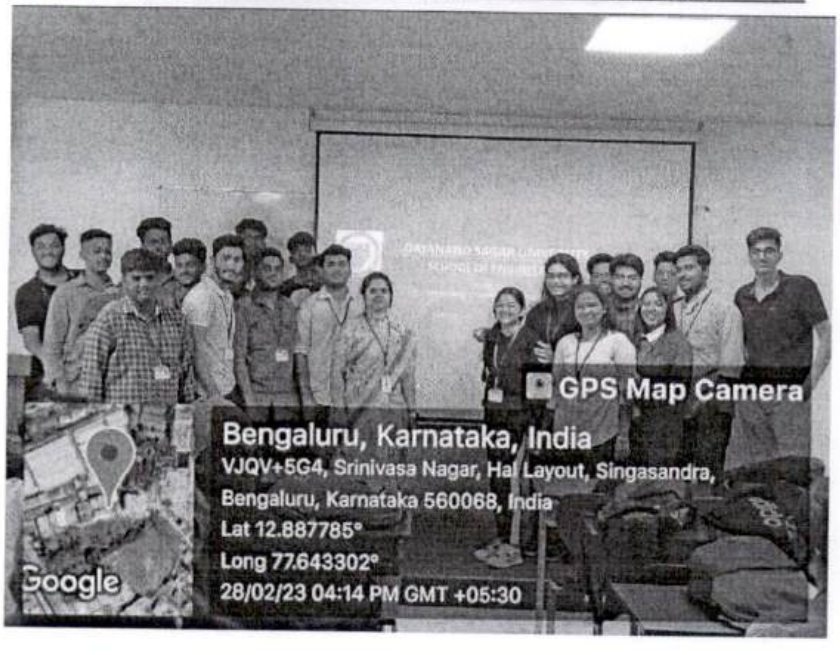
Captured Images:

Fig 5:

Fig 6:

Fig 7:





28/2/23

Sunanda. S.G

28/2/23

Chairperson
Department of Computer Applications
School of Engineering
Dayanand Sagar University
Kudlu Gate, Hosur Main Road
Bangalore – 560114

Event:-Webinar On "Leadership and AGILE Methodology"

Date: - 24/2/2023 & 25/2/2023

The Department of Computer Applications has successfully conducted and attended a webinar on "Leadership and Agile methodology" on 24th and 25th of Feb '2023. The targeted audience were BCA and MCA students.The webinar was organized online for both the days.

The mission of the webinar is to address challenges dealing with a complex environment, and guide the industry and young minds through such ambiguities by bringing best knowledge and information from pioneers and leaders of the world and define futuristic solutions.Discussion were mainly based on the current challenges created by a disruptive marketplace, and guide the industry to overcome uncertainty and be prepared for continuous transformation by bringing best knowledge and information from the pioneers of our world, and take the conversation forward to be more Agile as an industry.Speakers are some of the excelled leaders like Neeti Sharma is the Co-Founder & President of TeamLease Edtech, a TeamLease Group Company, Yeshasvini Ramaswamy Serial Entrepreneur & CEO, Great Place To Work® India, Luke Hohmann Chief Innovation Officer, Applied Frameworks and many more.

25/2/23

Sumana. SG

25/2/23

Chairperson
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School of Engineering
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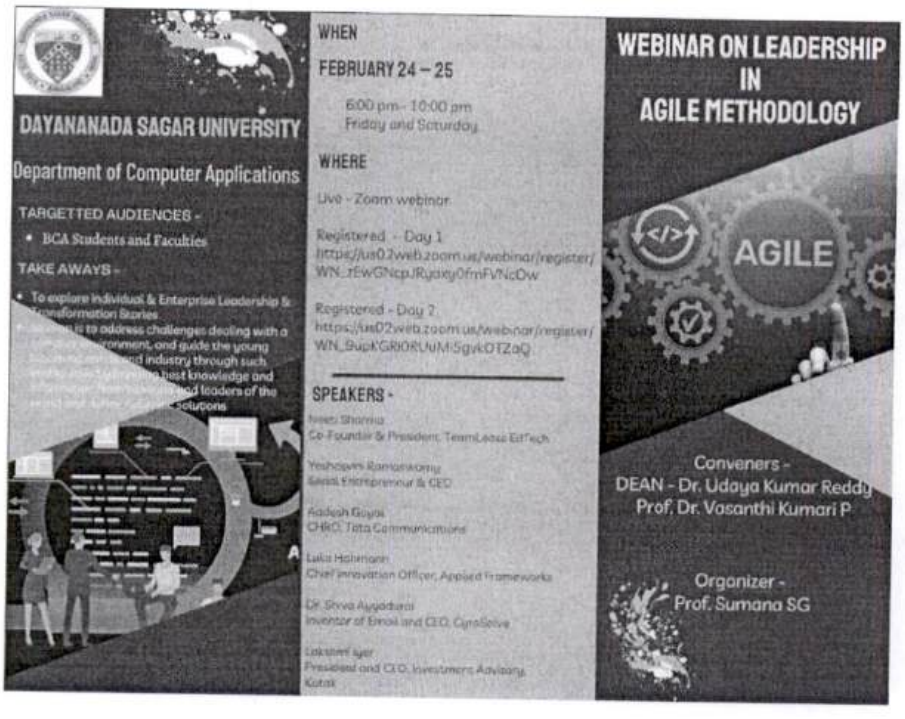
Bangalore – 560114



Copy
25/2/23
Sumana. S G

25/2/23

Chairperson
Department of Computer Applications
School of Engineering
Dayanand Sagar University
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Bangalore – 560114

Dayananda Sagar University

School of Commerce & Management Studies

POLICY FOR INDUSTRIAL VISITS

- Industrial visits will be permitted during semester.
- Class Representatives of each class, with the approval of Faculty In charge and Dean will act as Industrial Visit coordinators of the class.
- The Class Representatives will meet the Faculty In charge and Dean at regular intervals for discussion about the industrial visits.
- The coordinators are responsible for preparing a detailed plan for industrial visits (according to the norms of the institute) with the permission of Dean.
- The detailed plan, thus prepared, should be submitted to the Dean for approval, at least two weeks before the commencement of the industrial visits.
- The students are expected to spend a minimum of 3 to 4 hours per day in an industry during the period of their industrial visits.
- The accompanying faculty members will be responsible for the conduct of Industrial Visit as per the plan approved by the Dean.
- In case, girl students are attending the industrial visits, a lady faculty member must accompany the students.
- The faculty member who is accompanying the students for the industrial visits has the right to cut short the visit in consultation with Dean, at any point of time of the visit, in case of occurrence of any inappropriate incidence (violation of the plan approved by the Principal, misbehaviour, disobedience, accident, etc.) during the Industrial Visit.
- The bus journey has to start from college campus itself and return to the college campus within the stipulated time.
- Students under suspension are not eligible for industrial visits.
- It is compulsory that all students must submit a detailed report about the Industrial Visit. The date of submission of report should not be later than two weeks from the date of return.
- Disobedience of students towards accompanying faculty member must be reported and will be viewed seriously and dealt with accordingly as per college rules.
- Students undergoing Industrial visit should compulsorily carry their college Identity cards and wear them during industry visits.

Dean-SCMS

DAYANANDA SAGAR UNIVERSITY * SCHOOL OF COMMERCE & MANAGEMENT STUDIES * BANGALORE

Report on TVS Industrial Visit

Date of visit : 08/08/2023

Place : TVS Motor Company Limited, Hosur, Tamil Nadu

635109 Students : 40 Students from Masters of Business

Administration Faculty member : Prof. Padmalatha and Prof.

Purnendu Maji

Tour Guide : Yashaswini

Tour Time: 2 PM- 3:30 PM

Brief Description on TVS Motor Company Limited

TVS Motor Company is the third largest two-wheeler manufacturer in India, with a revenue of INR 26,378 crore in 2022-23. It is the flagship company of the Rs. 40,000 Cr TVS Group. The company has an annual sales of 36.83 lakh units and an annual capacity of over 4 million vehicles. TVS Motor Company is also the 2nd largest exporter in India with exports to over 60 Countries.TVS Motor Company Ltd (TVS Motor), member of the TVS Group, is the largest company of the group in terms of size and turnover, with more than 2.8 crore (28 million) customers riding a TVS bike.

Yashaswini, HR executive, accompanied us in the briefing about TVS history, current status and future plants.The students were shown the working of Assembly line of Plant No. 2 which contained about 32 operations and which manufactures economy range motor cycles and the higher end motorcycles including the motorcycles manufactured in collaboration with the BMW motorcycles. The unique production system adopted by TVS motors were briefly explained to the students. The inventory management system like Kanban and JIT (Just in Time) techniques were briefly explained to the students. They also witnessed how the robots (installed using German technology) were being used in the fabrication and the casting departments of the Plant No. 2.

VISIT Details

First tour guide took us to the moped manufacturing and assembly division where students were able to see and understand the process involved starting from manufacturing of connecting for various parts. Later visit continued towards engine assembly unit equipped with chain conveyer, assembling unit of whole vehicle body, quality checks in between, painting shop and testing of vehicles.

Later the guide took to the motorcycle manufacturing division where he explained the process involved in detail and had an interactive session student enriched their knowledge, procedure for internship, way to get in to TVS plan and got the glimpse of the overall plant. The session concluded with a brief on their description on BMW .

Conclusion

During the visit students were able to see the real world manufacturing process, different special purpose CNC machines, material selection strategy for different applications, process planning, batch planning, conveyer design, pneumatic application, robot applications, quality check, etc .

Industry Visit Coordinator

Dean

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF COMMERCE & MANAGEMENT STUDIES
BANGALORE

Dayananda Sagar University Bengaluru

School of Commerce and Management Studies - PG

INDUSTRY VISIT - TVS MOTOR COMPANY LIMITED, HOSUR : Dr.Padmalatha - 08/08/2023

Sl.no	USN Number	Name	Signature
1	CMS22MBA008	B S Dhanush Rao	
2	CMS22MBA~~004~~ 075	~~Akash R Y~~ AJAY. R	
3	CMS22MBA084	Darshan. D M	
4	CMS22MBA087	Durgaalakshmi R	
5	CMS22MBA093	Harisha T S	
6	CMS22MBA024	K B Suman	
7	CMS22MBA003	Ajay M	
8	CMS22MBA018	Deepalakshmi K	
9	CMS22MBA082	Chirag S.m	
10	CMS22MBA021	Ganesh Govind Naik	
11	CMS22MBA083	Damini	
12	CMS22MBA005	Amshumalini K	
13	CMS22MBA013	Chathurya	
14	CMS22MBA078	Annie	
15	CMS22MBA012	Bhoomika S	
16	CMS22MBA009	Bharath Kumar V B	
17	CMS22MBA010	Bhavana C	
18	CMS22MBA080	Bannappa Kallappa Muggannavar	
19	CMS22MBA076	Akhila A J	
20	CMS22MBA085	Dawood Ulla Baig	
21	CMS22MBA086	Deekshith K T	
22	CMS22MBA081	Bhavya Shree V	
23	CMS22MBA025	Karthik P G	
24	CMS22MBA069	Abhipsa Rani Dash	
25	CMS22MBA072	Adita Mallick	
26	CMS22MBA100	Karthik.s	
27	CMS22MBA079	Antara Das	
28	CMS22MBA001	Abhishek Dodawad	
29	CMS22MBA014	Chetana Devaraj Hegde	
30	CMS22MBA006	Anita Nagaraj Hegde	
31	CMS22MBA007	B Pooja Singh	
32	CMS22MBA148	Anastasia	
33	CMS22MBA095	Hemanth R	

	CMS22MBA011	Bheemesha	
35	CMS22MBA016	Chethan N	
36	CMS22MBA070	Abrar Sharieff	
37	CMS22MBA002	Abhishek Tikotekar	
38	CMS22MBA020	E Suhas	
39	CMS22MBA120	Palem Bhavana	
40	CMS22MBA030	Madhuchandra Durgad	

Coordinator Signature

Dean

TVS MOTOR COMPANY LIMITED,HOSUR

PROFILE SHEET FOR INDUSTRIAL VISIT

Name of the Institution :School of Commerce and Management Studies, Dayananada Sagar University

Place : Hosur Main Road , Kudlu Gate Visit Date : 8/8/2023

Course/Discipline/Semester :Master of Business Administration/Management/ II

Purpose of visit The purpose of the visit is to expose the students to the operations of reputed industries like yours and to expose the students to the multiple functions of a manufacturing company, the operational characteristics, the key aspects of each of the functions, the criticality of interactions or interfaces between different functions, etc. We believe that an interaction between the students and the executives of the different functions of your company would enhance their learning. :

Visitors Details

S.No.	Name	Gender	Contact Number	Mail Id
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39	P. Bhavana	F	9676401037	bhavanareddy0876@gmail.com
40	Madhuchandra Durgad	M	9504421909	madhuchandradurgad@gmail.com

*More than 40 members will not be accomdated for industrial visit.

Coordinator Name :Padmalatha N A
Contact Number :9902068885
Mail Id :drpadmalatha-socm@dsu.edu.in

Authorised Signature

DAYANANDA SAGAR UNIVERSITY SCHOOL OF COMMERCE & MANAGEMENT STUDIES BANGALORE

A REPORT ON

INDUSTRIAL VISIT TO IFB INDUSTRIES LTD

Course Title : OPERATIONS MANAGEMENT

Submitted to:

Prof. Padmalatha N A

Prof. Purnendu Maji

Submitted By:

(SECTION B)

Namita Gaonkar

Meghana Raj

Date of Report

18th August, 2023

MASTER OF BUSINESS ADMINISTRATION

SCHOOL OF COMMERCE AND MANAGEMENT STUDIES -PG

DAYANANDA SAGAR UNIVERSITY

Kudlu Gate, Bengaluru

Report on Industrial Visit IFB Industries Ltd

Date: 16-08-2023

Location: Plot No. 5, 4A, 4B, 3B, Malur Industrial Area, Kurandanahalli Village, Kasaba Hobli, Malur Taluk, Karnataka

Introduction:

On August 16, 2023, a group of 38 students were accompanied by Prof. Suresh and Prof. Purnendu Maji from the School of Commerce and Management at Dayanand Sagar University visited IFB Industries Ltd, a leading Mechanical components manufacturing company located in Malur, Karnataka. The purpose of the industrial visit was to gain practical insights into the manufacturing processes of Mechanical parts used in automobiles.

Company Profile:

IFB Industries Ltd is a renowned name in the Home appliances, Mechanical components manufacturing industry. The company was founded in 1974 and has since then established itself as a prominent player in producing a wide range of Mechanical components for various applications, including the automotive sector. The company's commitment to innovation, quality, and sustainability has earned it a significant reputation in the market.

IFB Industries Ltd's manufacturing facility at the Malur Industrial Area covers an expansive area and is equipped with advanced technologies and machinery to produce high-quality mechanical components. The company's products are known for their precision, durability, and adherence to international quality standards.

Industrial Visit Details:

The industrial visit began with a warm welcome from the company's representatives. The students were divided into smaller groups and were guided through different sections of the manufacturing facility. The visit primarily focused on the production processes related to Mechanical parts for automobiles.

Learning Experience:

We were firstly taken to the display area where the company's key components and awards were displayed. The guide briefed an introduction to the company, its components, and manufacturing capabilities (than includes fine blanking , conventional stamping , heat treatment, injection molding , sub assemblies, tool design, tool room and engineering service). The guide highlighted that employee safety, product quality and customer satisfaction as key elements in the organization.

Thereafter we were taken to the engineering batch. The company follows batch production and the policy of make and supply. Monthly planning of production is done and raw materials are procured as per the planning. A detailed review of planning and actual production along with the remarks are maintained in the workplace.

We witnessed conventional stapping and fine blanking. The company follows preventive maintenance. Week off are provided on Sunday and the the machines are checked thoroughly to detect any inconveniences.

The company uses solar energy and windmill energy in order to reduce consumption of electricity and reduce carbon footprint. The waste generated from the production is transferred to a seperate place through conveyor and there is no manual work. Some of the waste generated can be sold to other customers who make use of the waste generated.

Then we visited the heat treatment plant. Heat treatment plant is a mechanical process and has autonomous maintenance. It follows sequence quenching batches and has 6 furnaces. 3 days are required to start or turn off the machines at heat treatment plant and requires 1 week to shut it down completely. The company intends to use only LPG and electricity instead of fuel. Oil is used as the lubricant to cool the machines and the products. It also follows five S policy to clean the work place and machinery.

Key Takeaways:

1. Production Processes: The students learned about the step-by-step production processes involved in manufacturing Mechanical parts for automobiles. From component sourcing to assembly, testing, and packaging, the intricate journey of a product was thoroughly explained.

2. Quality Control: The visit highlighted the critical role of quality control in ensuring that the manufactured components meet the required specifications. The students observed various testing procedures that the products undergo before they are ready for distribution.

3. Technological Advancements: The students were exposed to advanced technologies and machinery used in the manufacturing process. This exposure to cutting-edge equipment showcased the evolution of the Mechanical components manufacturing industry.

4. Industrial Practices: Observing the work environment, safety measures, and efficient workflow gave the students an understanding of the practical aspects of industrial operations.

CSR activities:

1. Rain water harvesting - 7 lac litres can be saved
2. Educational facilities to weaker sections of societies
3. Employee benefits

Conclusion:

The industrial visit to IFB Industries Ltd provided the students with a valuable opportunity to bridge the gap between theoretical knowledge and practical application. The hands-on experience of witnessing the manufacturing processes of Mechanical parts for automobiles enriched their understanding of the industrial landscape. The visit was a great success in terms of achieving the intended learning outcomes and exposing the students to real-world industrial practices. The School of Commerce and Management at Dayanand Sagar University extends its gratitude to IFB Industries Ltd for facilitating this enlightening visit.

Acknowledgments:

We extend our heartfelt thanks to IFB Industries Ltd for hosting the students of Dayanand Sagar University and providing them with a comprehensive learning experience. Special

thanks to the company's representatives and experts who guided us through the facility and shared their knowledge, making the visit a memorable and insightful one.

Gallery:

Industry Visit Coordinator

Dean

Dayananda Sagar University (Bangalore)

School of Commerce and Management Studies - PG

INDUSTRY VISIT- IFB INDUSTRIES LTD, MALUR: Prof. PURNENDU MAJI- 16/08/2023

Sl.no	USN Number	Name	Signature
1	CMS22MBA022	Gangamma Valmiki G	G.Gangamma
2	CMS22MBA023	Goutami M Gouda	
3	CMS22MBA026	Keerthana M	
4	CMS22MBA028	M Mohanmurali	
5	CMS22MBA029	Madhankumar R	ABSENT.
6	CMS22MBA030	Madhuchandra Durgad	
7	CMS22MBA031	Madhukumar C	
8	CMS22MBA032	Manjunath H P	
9	CMS22MBA033	Mohammed Saqueeb Pasha	
10	CMS22MBA034	Mohammed Sufiyan A Shaikh	
11	CMS22MBA035	Namita Dattatraya Gaonkar	
12	CMS22MBA036	Naveen Kumar B	Naveen B
13	CMS22MBA037	Nikhil K S	Nikhil K S
14	CMS22MBA038	Nisarga E S	ABSENT
15	CMS22MBA039	Nithin R	Nithin R
16	CMS22MBA040	Nitish Mahabaleshwar Hedge	
17	CMS22MBA041	P A Sneha	
18	CMS22MBA042	P S Naveen	ABSENT
19	CMS22MBA043	Patil Sagar T	
20	CMS22MBA044	Ponnarasi Pooja	Ponnarasi
21	CMS22MBA045	Poornachandra G Hegde	ABSENT
22	CMS22MBA046	Prasannakumar S Munnoli	ABSENT
23	CMS22MBA047	Pravalika M	
24	CMS22MBA048	Raghavendra M Konaraddi	
25	CMS22MBA049	Ramya S	
26	CMS22MBA050	Ravi Kiran B H	ABSENT
27	CMS22MBA075	Akash	
28	CMS22MBA094	Harshita Chauhan	ABSENT
29	CMS22MBA097	Pavan Kalyan Jujaray	J.Kalyan
30	CMS22MBA098	Jhassi Durga Punjabi	ABSENT
31	CMS22MBA102	Krishnan.s	
32	CMS22MBA103	Kruthik Kashyap M	
33	CMS22MBA104	Kushalappa. M M	
34	CMS22MBA105	LeelaShankar S	
35	CMS22MBA106	Lekkala Vasavi Reddy	
36	CMS22MBA107	Likith Gowda G	ABSENT
37	CMS22MBA108	Lingaraju	

	CMS22MBA109	M Meghana Raj	
	CMS22MBA110	M.k Yogesh	
39	CMS22MBA111	Mahadev Ghosh	
40	CMS22MBA112	Mohan R	
41	CMS22MBA113	Moidin Mahammad Ashbak	ABSENT
42	CMS22MBA114	Nancy	ABSENT
43	CMS22MBA115	Nandish.b.baligar	ABSENT
44	CMS22MBA116	Nellore Chandana	ABSENT
45	CMS22MBA117	Nikhil A	
46	CMS22MBA119	Nune Suhail	
47	CMS22MBA120	Palem Bhavana	
48	CMS22MBA121	Pradeep Nilaj	
49	CMS22MBA122	Pradum Chetry	
50	CMS22MBA123	Prajna Acharya	ABSENT
51	CMS22MBA124	Praveen G S	ABSENT
52	CMS22MBA125	Premnath Reddy	ABSENT
53	CMS22MBA126	M P Poorna Chandran	ABSENT
54	CMS22MBA127	R Bhavana	
55	CMS22MBA128	Raghuvamshi	ABSENT
56	CMS22MBA129	Rajendra Ittina	
57	CMS22MBA130	Rakesh S	
58	CMS22MBA131	Ramya M	ABSENT
59	CMS22MBA132	Rithika K	
60			

Coordinator Signature

Dean

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF COMMERCE & MANAGEMENT STUDIES
BANGALORE

SCHOOL OF
COMMERCE & MANAGEMENT STUDIES

School of Commerce and Management Studies-PG Program

Title: Industry Visit
Date: 25.01.2024
Time: 9 am to 4 PM
Mode: Offline: Visit to Blueneem Medical Devices Private Limited

Brief Description:

Objective : Industrial visits serve as indispensable tools in augmenting students' comprehension of fundamental management concepts. These experiences afford students the unique opportunity to witness the practical implementation of theories acquired in classrooms.

Resource Person : Prof . Avijit Ranjan Das & Prof. Purnendu Maji

Outcome of the Event : It was an impactful industrial visit meticulously organized to Blueneem Medical Devices Private Limited, with the explicit goal of bridging the gap between students' theoretical knowledge and its real-world applications.

Learning Experience : It was a truly immersive learning experience. Representatives of Blueneem explained all the processes starting from sourcing methods of raw materials , demand planning , inventory management , production planning and quality control.

SCHOOL OF COMMERCE & MANAGEMENT STUDIES

School of Commerce and Management Studies

Industrial Visit To Blueneem Medical Devices Pvt Ltd : 25th January 2024

Sl No.	USN	Name	Specialization	Mobile Number	Signature
1	CMS22MBA052	Sandeep M	FINANCE MANAGEMENT	8151938533	
2	CMS22MBA055	Saurabh Kumar	FINANCE MANAGEMENT	8050444897	
3	CMS22MBA056	Sharanabasava M	FINANCE MANAGEMENT	9611979947	
4	CMS22MBA057	Sharath M S	FINANCE MANAGEMENT	9743285936	
5	CMS22MBA058	Sharath U Shetty	FINANCE MANAGEMENT	9148608255	
6	CMS22MBA059	Shashank Sateesh Marathe	FINANCE MANAGEMENT	8762374576	
7	CMS22MBA060	Srujana P	MARKETING MANAGEMENT	7619585074	
8	CMS22MBA061	Sudarshan B R	FINANCE MANAGEMENT	6363724264	
9	CMS22MBA062	Sudeep B M	FINANCE MANAGEMENT	9900898197	
10	CMS22MBA063	Suprith U N	FINANCE MANAGEMENT	9148363171	
11	CMS22MBA064	Tejashree M	FINANCE MANAGEMENT	9902997137	
12	CMS22MBA065	V R Prasad	FINANCE MANAGEMENT	9480715600	
13	CMS22MBA066	Vaibhav M K	FINANCE MANAGEMENT	8971679226	
14	CMS22MBA067	Vandita Anant Bhat	FINANCE MANAGEMENT	7406313006	
15	CMS22MBA133	Rohith. S	FINANCE MANAGEMENT	9886702504	
16	CMS22MBA134	Rucheeth Kumar N S	FINANCE MANAGEMENT	9008704545	
17	CMS22MBA137	Sahitya S Patil	FINANCE MANAGEMENT	7975039318	
18	CMS22MBA138	Sai Mourya R	FINANCE MANAGEMENT	9480106414	
19	CMS22MBA140	Samarth H R	FINANCE MANAGEMENT	6364124954	
20	CMS22MBA141	Satwik Goudar	FINANCE MANAGEMENT	8431334102	
21	CMS22MBA143	Sharathkumar N Chittawadagi	MARKETING MANAGEMENT	9880753516	
22	CMS22MBA144	Shashank M	IT & SYSTEMS MANAGEMENT	6366783131	
23	CMS22MBA146	Shreelakshmi	FINANCE MANAGEMENT	8867124628	
24	CMS22MBA147	Shreya Sunkad	FINANCE MANAGEMENT	9663289190	
25	CMS22MBA149	Sindhu. M	FINANCE MANAGEMENT	9110253447	
26	CMS22MBA151	Suchithra Hk	FINANCE MANAGEMENT	8884914930	
27	CMS22MBA153	Sughosh Madhukar	FINANCE MANAGEMENT	6363199352	
28	CMS22MBA154	Suman K N	FINANCE MANAGEMENT	8548920047	

29	CMS22MBA156	Tanveer Ahmed R	FINANCE MANAGEMENT	8667358080	
30	CMS22MBA157	Tejas	MARKETING MANAGEMENT	9449449722	
31	CMS22MBA158	Tejashwini M	MARKETING MANAGEMENT	7892753246	
32	CMS22MBA161	V. Sneha	IT & SYSTEMS MANAGEMENT	8296376600	
33	CMS22MBA162	Vaishali Patil	IT & SYSTEMS MANAGEMENT	7483010790	
34	CMS22MBA163	Varuni C Kulkarni	FINANCE MANAGEMENT	9141016924	
35	CMS22MBA165	Vikram Mahabaleshwar Gummani	FINANCE MANAGEMENT	6362194106	
36	CMS22MBA166	Vikram Tiwari	FINANCE MANAGEMENT	9451019233	
37	CMS22MBA170	Vivek Bikkannavar	FINANCE MANAGEMENT	7204671377	
38	CMS22MBA171	Yugashree I R	FINANCE MANAGEMENT	9741907401	
39	CMS22MBA178	Suman Shantappa Biradar	IT & SYSTEMS MANAGEMENT	9538265512	
40	CMS22MBA179	Syeda Hafsa	FINANCE MANAGEMENT	8431704209	

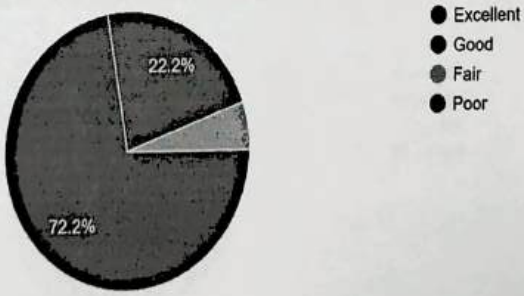
Event Coordinator

Dean SCMS

41	CMS22MBA[illegible]	Manjunath H.P	Finance Management	7483010957	
42	CMS22MBA025	Karthik P G	Finance Management	8431651668	
43	CMS22MBA[illegible]	M.K. YOGESH	SCM	9945018391	M.K. Yogesh
44	CMS22MBA[illegible]	AKASH. H	SCM	8667224815	
45	CMS22MBA026	Poorna Chandran MP	SCM	7358674368	
46	CMS22MBA132	Pritika K	Scm	9642006773	
47.	CMS22MBA[illegible]	Patil Sagar	MM	9632652511	Patil Sagar

How would you rate your overall experience during the industry tour?

18 responses



What aspects of the industry tour did you find most valuable or interesting?

18 responses

- Interaction with CEO about challenges in the beginning
- The planning of raw materials
- Production process
- Quality Control procedures

Did the industry tour meet your expectations?

18 responses

- Yes
- No

How likely are you to recommend future industry tours to your peers based on your experience?

18 responses

- Very Likely
- Likely
- Neutral
- Unlikely

Coordinators Signature

Dean-SCMS-(PG) Signature

SCHOOL OF
COMMERCE & MANAGEMENT STUDIES

School of Commerce and Management Studies-PG Program

Title: Industry Visit
Date: 15.03.2024
Time: 9 am to 2.30 pm
Mode:

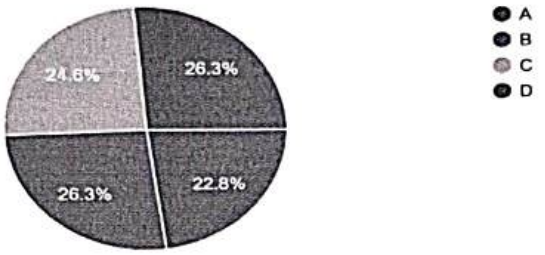
Offline: Visit to Blueneem Medical Devices Private Limited

The industrial visit to Blueneem Medical Devices Private Limited, spearheaded by Prof. Purnendu Maji, was a pivotal endeavor aimed at enriching students' grasp of fundamental management concepts through practical exposure. This meticulously orchestrated excursion was designed to bridge the gap between theoretical knowledge and its real-world applications, offering students a unique opportunity for immersive learning. Throughout the visit, students were immersed in the operational dynamics of Blueneem, gaining invaluable insights into various facets of management. From understanding the intricacies of raw material sourcing to delving into demand planning, inventory management, production scheduling, and quality control processes, representatives of Blueneem provided comprehensive explanations, enhancing students' understanding of management principles. The visit served as a catalyst for deepening comprehension, allowing students to witness firsthand the practical implementation of theories discussed in classrooms. It was a transformative learning experience, where theoretical concepts seamlessly merged with real-world scenarios, empowering students with practical insights that are essential for their professional growth. By offering this immersive learning opportunity, the industrial visit to Blueneem significantly contributed to the holistic development of students, preparing them to navigate the complexities of the corporate world with confidence and competence.

GPS Map Camera
Ramanagara, Karnataka, India
MCCR+455, Ramanagara, Hulisiddegowdanadoddi, Karnataka 562112, India
Lat 12.670555°
Long 77.439985°
15/03/24 12:03 PM GMT +05:30
Google

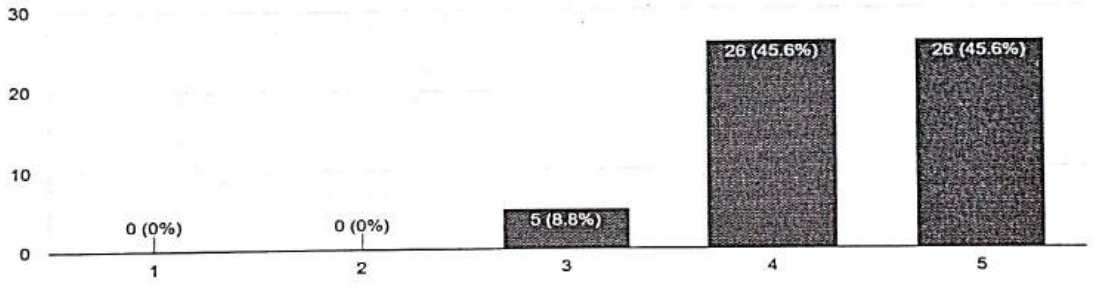
Section

57 responses



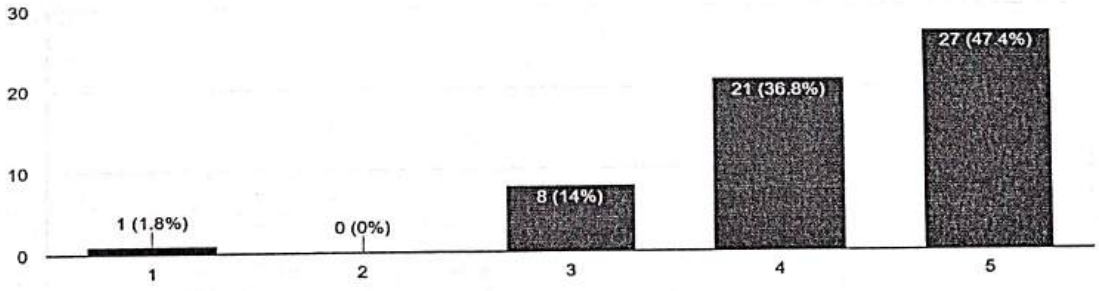
How was your experience of visiting the company ?

57 responses

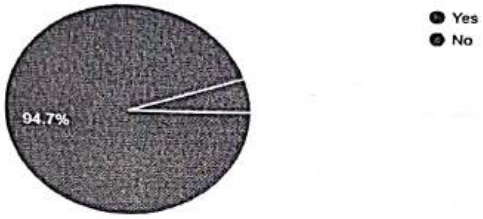


Your Learning from the Blueneem factory Visit ?

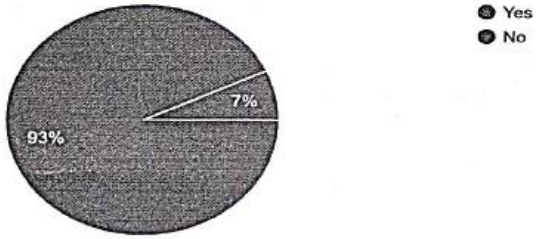
57 responses



Would you like such visits in future ?
57 responses



Was the visit relevant with respect to your course of study.
57 responses



Coordinators
Signature

Dean-SCMS-(PG)
Signature

SCHOOL OF
COMMERCE & MANAGEMENT STUDIES

School of Commerce and Management Studies

Industry Visit : Blueneem Medical Devices Pvt Ltd Date: 15-03-24

Section	Name of Student	Signature
A	Aishwarya Anil	
A	Ravi Kharwar	
A	B Karthik	
A	Varun Kumar Tiwari	
A	Bhavana N	
A	Bhavya S Kumar	
A	M Leander Aravind	
A	Malabika Biswas	
A	Preetham H R	
A	Raksha D	
A	Sivanesan K	
A	Thanusha K	
A	Tuvijat.a	
A	V.kiran	
A	Boppana Bhumika	
B	Fiza Mohd Hasan Mirzani	
B	Sowndarya M	
B	Srikanth Bode	
B	Sumaiya Kauser	
B	Sneha Nair	
B	M. Sneha	
B	Vani Menon	
B	Chennuri Hema Sai	
B	Yalavarthi Chetan Sai	
B	Marisree K R	
B	Bhavana P	
B	Viswa P	
B	Samiksha V	
B	Bhagat Chaitanya	
B	Shilpa A	
C	Dipali Kumari	
C	Satyabrata Sahoo	
C	Girija J	
C	Mohana Priya B	
C	Yogesh.s	
C	Pooja A	
C	Rashmitha D N	
C	Rohith A Palled	
C	Roopesh.varadaraj	
C	Yashwin K B	
C	MAANSI K	

C	Monisha Urs S	
C	Manmohan S	
C	Madhu.j	
C	Noor Saba	
D	SRIVATHSA S	
D	LIKESH BABU S	
D	Deepak Kumar Kumar Sharma	
D	B MAHALAKSHMI	
D	PREETHI BHAVANA P	
D	CHAITHANYA M K	
D	RAMITA RAJAN TALEKAR	
D	AMRUTA JAGADEESH PAI	
D	DEEPIKA shetty	
D	SHASHANK BHUMAR	
D	SHODHAN SHETTY	
D	ROHIT GANESHMURTHY HEGDE	
D	Shiva Kumar M	
D	M HEMANTH	
D	SHETTY RUCHITA MANJAYYA	

B. Shipra Suri

B. Shohan Khan.

Event Coordinator

Dean - SCMS

SCHOOL OF
COMMERCE & MANAGEMENT STUDIES

This report details a one-day visit to Titan Engineering and Automation Limited (TEAL) on May 17, 2024, as part of an MBA program curriculum. TEAL, a subsidiary of Titan Company Limited, is a prominent Indian player in automation solutions and high-precision component manufacturing. The event was organized and coordinated by Prof. Purnendu Maji. A group of 41 selected students joined the program from all four sections of MBA (PG) 2023-25 batch. The objective of this visit was to gain insights into TEAL operations, engineering and automation practices, management practices and its contribution to the Indian manufacturing sector.

The introductory session of the visit provided a comprehensive overview of the TEAL journey. TEAL originated as an internal engineering team for Titan Company Limited, focusing on in-house automation and component production. This focus on self-reliance fostered a deep understanding of their parent company's needs and a culture of innovation. Over time, their expertise expanded, leading them to offer their services to a global clientele across diverse industries.

The program included several enriching experiences. The introductory presentation by TEAL's Head of Operations and Head of Quality delved into TEAL core competencies and detailed information about their high-precision component manufacturing capabilities for the aerospace and defence sectors. This included insights into the materials and processes at use for creating critical components with tight tolerances.

Additionally, the presentation showcased TEAL's expertise in automation solutions, highlighting their ability to cater to various industries like transportation, energy, electronics, life sciences, and consumer packaged goods. Students learned about their process for designing and implementing customized automation solutions, including robotic integration, assembly line automation, and testing systems. Finally, the presentation emphasized TEAL's capability to deliver complete turnkey assembly and testing solutions, showcasing their ability to manage projects from start to finish.

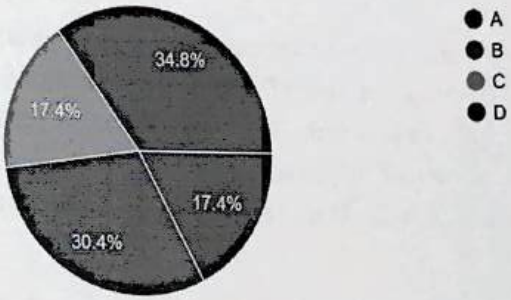
The guided tour of the TEAL facility provided a firsthand view of their advanced manufacturing capabilities which includes CNC machining centres, high-speed multi-axis models to specialized equipment for intricate geometries robotics and automation systems in action, including robotic arms performing assembly tasks and automated conveyors streamlining production flow.

A highlight of the visit was the opportunity to interact with TEAL's engineers and management team. This interactive session provided valuable insights into the challenges and opportunities present in the automation industry. The engineers discussed their approach to project management, emphasizing collaboration, risk mitigation strategies, and adherence to strict quality control procedures.

In conclusion, the visit to TEAL was a significant learning experience that provided an insightful perspective on the vital role automation plays in modern manufacturing. Witnessing their advanced engineering capabilities, unwavering commitment to quality, and dedication to customer satisfaction was highly informative. The insights gained from this visit will be invaluable for MBA program, particularly when analysing and strategizing for manufacturing-based companies. Furthermore, this exposure will serve as a valuable benchmark for understanding best practices in the automation industry which can be leveraged in future career endeavours of our MBA students.

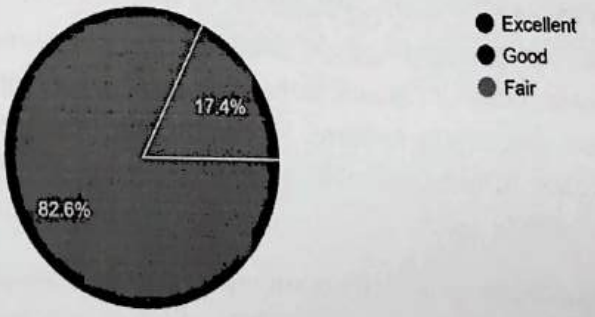
Section

23 responses



How would you rate the overall experience of the industry visit ?

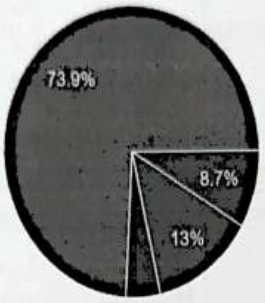
23 responses



ghtful
their

What aspects of the industry visit did you find most valuable and why?

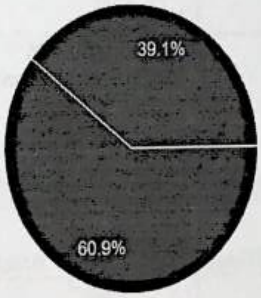
23 responses



- Overview of company operations
- Insights into manufacturing processes
- Interaction with industry professionals
- Exposure to advanced technologies and machinery
- Understanding of management practices
- All of the above

How effectively did the industry professionals explain the different processes and management practices?

23 responses



- Very effectively
- Effectively
- Somewhat effectively
- Not effectively

Would you like to participate in future events of this nature that enhance your practical knowledge?

23 responses

- Yes
- No
- Maybe

Feedback and suggestions :

Timestamp	Name	USN	Section	What suggestions do you have for improving future industry visits?	How has this industry visit influenced your understanding of management principles ?
5/21/2024 12:22:38	M Hemanth	CMS23MBA041	D	Nothing	It has helped me to gain knowledge about how the manufacturing company works.
5/21/2024 12:27:11	Ravi Kharwar	CMS23MBA189	A	NA	We understood how operational activities were carried out in shop floor and how the implementing good values and objective improve overall industry
5/21/2024 12:30:39	Himani shekar	CMS23MBA131	B	Nothing	It gave us more understanding about the industry practices taking place there
5/21/2024 12:33:43	M. Anjaneyulu Reddy	CMS23MBA165	B	No	The way they are managing everything within the time
5/21/2024 12:34:37	Mohd Saad Soudagar	CMS23MBA160	A	These visits are exceptionally great looking forward to go in these companies	Well it improved a lot...
5/21/2024 12:35:00	Preeti Vasanth Hebbar	CMS23MBA052	D	NO suggestion	The industry visit provided practical insights into management principles, showcasing their real-world application. Observing effective leadership, team collaboration, and operational efficiency emphasized the importance of strategic planning and adaptability. It highlighted how theoretical concepts are crucial for problem-solving and decision-making. Overall, it deepened my appreciation for the dynamic nature of management in practice.

5/21/2024 12:38:52	Ramya sm	CMS23MBA187	C	No	Yes
5/21/2024 12:39:05	LIKESH BABU S	CMS23MBA038	D	Visiting service based companies	The culture of the organisation and the customer centric approach
5/21/2024 12:40:42	Abhishek Nyamagoud	CMS23MBA098	C	Explaining students about importance of industrial visits and creating a network with more industries	By watching their way of working and their value proposition
5/21/2024 12:46:15	Nikhil	CMS23MBA170	A	None	This industry visit to Titan Engineering and Automation Limited has deepened my understanding of management principles by showcasing the importance of precision, efficiency, and innovation in achieving operational excellence and strategic goals.
5/21/2024 13:02:10	Vani Menon	CMS23MBA157	B	NA	More detailed knowledge about Manufacturing process
5/21/2024 13:11:22	Sahana S R	CMS23MBA063	D	Make it more related to management sector, as it was more related to technical concepts which many are not familiar with.	The way the products and services are managed.
5/21/2024 13:16:06	Likhitha	CMS23MBA039	C	Nil	To a great extent
5/21/2024 13:22:09	Aakefa Sultana	CMS23MBA096	A	Similar visits	How the organizational structure works in practical
5/21/2024 13:31:11	Lal Bahadur R	CMS23MBA036	C	Take the entire section at once, ensuring no students are left out.	The industry visit provided practical insights into applying management principles, showcasing effective leadership, and resource management in a real-world setting.
5/21/2024 13:31:32	Bhagat Chaitanya Vikrambhai	CMS23MBA106	B	None	Industry visits can really bring management principles to life, showing how they work in practice and giving a clearer understanding of their impact.

5/21/2024 13:43:40	Ayush Immanuel	CMS23MBA013	D	It was a great opportunity.	It it rather different fro what we study here in the syllabus.
5/21/2024 17:45:19	Sumaiya Kauser	CMS23MBA216	B	The selection of industry can be more closely related to managerial roles and skills so that we can get most relevant learning opportunities.	The manufacturing industry did not have many managerial roles or functions, however, we learnt how quality control and efficiency of manufacturing process and production are crucial in the business.
5/21/2024 17:56:38	Abhay bharadwaj	CMS23MBA097	B	By setting clear goals beforehand, getting involved with demos and discussions during the visit, and following up afterwards, we can turn them into super-focused, engaging experiences that leave a lasting impression.	My industry visit totally changed how I see management principles. Witnessing them in action at a real company gave me a fresh perspective. It wasn't just textbook theory anymore! I saw how they adapt to challenges and the different approaches companies take. It even helped me identify skills I need to develop for my future career!
5/21/2024 18:42:54	Srivathsa S	CMS23MBA078	D	No Suggestion	Application of theoretical concepts, understanding of the organization structure, Supply chain management
5/21/2024 19:56:37	Shivaraj Gadachi	CMS23MBA203	B	we would like to have such more visits and get a exposure	I learnt about how we as management studies have to take the initiatives and how we can manage the things
5/22/2024 12:44:21	Prashant Manoj	CMS23MBA049	D	No	Helped us to understand about the company and how it operate , how are the problem solved in company and employees management
5/22/2024 12:52:42	Purshotham	CBS23MBA053	D	Was amazing	This made me understand how the industry are working.. which was really helpful
5/22/2024 13:24:53	Tuvijat. A	CMS23MBA224	A	Great	Good

5/22/2024 13:41:26	Varun Kumar Tiwari	CMS23MBA225	A	N/A	Industry visits offer a firsthand glimpse into how management principles are applied in real-world settings. By observing operations, interacting with professionals, and experiencing the challenges firsthand, I can better grasp the practical applications of management theories and understand their nuances beyond textbook knowledge. It allows me to see how strategies are implemented, decisions are made, and teams are led, providing valuable insights that enhance my understanding of management principles.

SCHOOL OF
COMMERCE & MANAGEMENT STUDIES

Industry Visit : Titan Engineering & Automation Limited on 17.05.2024

Sr. no.	Section	Name	Signature
1	D	Kavitha N S	
2	B	Vishwa P.	
3	A	Ravi Kharwar	
4	B	M. Sneha	
5	A	Varun Kumar Tiwari	
6	B	Vani Menon	
7	B	Fiza Mirzani	
8	C	Roopesh Varadaraj	
9	D	Srivathsa	
10	D	Ayush Immanuel	
11	D	Likesh Babu	
12	D	M Hemanth (F)	
13	B	Bhagat Chaitanya	
14	B	Shipra Suri	
15	B	Abhay Bharadwaj	
16	B	Lipsa Parida	
17	B	Shohan Khan	
18	B	Sumaiya Kauser	
19	A	Tuvijat A	
20	B	Shivraj ~~Patil~~ Gadachi	
21	B	Monisha M	
22	B	Sanjeevi	
23	C	Komathi	
24	C	Aswathy B	
25	A	Akifa	
26	A	Sharfuddin	
27	A	Saad	
28	C	Lal Bahadur	
29	B	~~Janardan~~ Shreya.E	
30	D	Preeti Vasanth Hebbar	
31	D	Sahana S R	
32	B	Himani Shekhar	
33	A	Nikhil	
34	B	Mohd Akhtar	
35	C	Prasanth Manoj	
36	B	Pujitha Babu	
37	C	Abhishek Neymagoud	
38	C	Dinesh	
39	C	Likitha	
40	C	Ramya S M	
41	B	Anjan eyalu Reddy	

Coordinator

Dean - SCMS

Dayananda Sagar University Bengaluru

School of Commerce and Management Studies-PG Program

1. Title: Eagles Outbound
2. Date: 28th & 29th November 2023
3. Time: 2 Days
   8:30 AM to 10 PM
   8:30 AM to 5:30 PM

4. Venue of the Event: Eagles Outbound, KMS farms, Off Kanakapura Road, Bangalore

5. Brochure of the Event

6. Brief Description:

- Objective of the event: Understand concepts of leadership, teamwork, group dynamics etc. through different activities.

Faculty coordinator: Dr. Sagar Manjunath
Prof. Silky Sharma
Prof. Navita Vijay
Prof Abhijit Ranjan Das

- Outcome of the Event: Two-day workshop followed by a detailed on-campus debrief to reinforce learning through a set of physical activities, adventurous activities and Team building exercises.

- Learning Experience for students:
  1. Build and nurture team spirit.
  2. Conquer the fear.
  3. Planning skills.
  4. Problem Solving Skills.
  5. Leadership Skills.
  6. Confidence building.
  7. Handling Failures.
  8. Conflict Handling Skills

- How Many Attended the Event (Attendance Sheet to be Attached): 114 students.

SCHOOL OF
COMMERCE & MANAGEMENT STUDIES

School of Commerce and Management Studies

MBA 2023 - 2025: Eagles Outbound - Outbound Activity - 28 & 29 Nov 2023

Sl No.	Name	Sec		Wani		
1	Aakash Gm	A	✓	✓	✓	
2	Aditi Roy	A	AB	AB		
3	Alshwarya Anil	A	✓	✓	✓	
4	Angshuman Deepankar	A	✓	✓	✓	
5	Arun K M	A	✓	✓	✓	
6	Ayush Mandal	A	AB	DB		
7	Bharath Parameshwar Naik	A	✓	✓	✓	
8	Bhavana N	A	✓	✓	✓	
9	Bhavya S Kumar	A	✓	✓	✓	
10	Bibek Barman	A	A	A	A	
11	Brajesh Mohta	A	✓	✓	✓	
12	Dhilsha Kappadan	A	✓	✓	✓	
13	Dipali Kumari	A	✓	✓	✓	
14	G L Vinay	A	✓	✓	✓	
15	Ganesha S	A	✓	✓	✓	
16	Gururaj Sharad Khande	A	✓	✓	✓	
17	Javed Akhtar	A	✓	✓	✓	
18	Konda Vijaya Durga	A	✓	✓	✓	
19	Kush Mehta	A	AB	DB		
20	Kushal G L	A	✓	✓	✓	
21	Luswala Mustufa Abdulkadar	A	AB	DB		
22	M Leander Aravind	A	✓	✓	✓	
23	Malabika Biswas	A	✓	✓	✓	
24	Marisree K R	A	AB	DB		
25	Mohammed Ashish I	A	✓	✓	✓	
26	Monalisha Singh Deo	A	AB	DB		
27	N K Vidisha	A	✓	✓	✓	
28	Nandagopala Bhatter MR	A	✓	✓	✓	
29	Niharika Hazarika	A	AB	DB		
30	Nikhil G Peejari	A	✓	✓	✓	
31	Nirusha K	A	AB	DB		
32	Preetham H R	A	✓	✓	✓	
33	Raksha D	A	✓	✓	✓	
34	Ramya Pv	A	✓	✓	✓	
35	Ravi Kharwar	A	✓	✓	✓	
36	Satyabrata Sahoo	A	AB	DB		
37	Selvam S	A	✓	✓	✓	
38	Shama Hasna	A	✓	✓	✓	
39	Shivaraj Gadachi	A	✓	✓	✓	
40	Shreyas Kumar T	A	✓	✓	✓	

1	Shrusti Somshetty	A				
2	Sivanesan K	A				
3	Subhash Deekshith Tm	A				
14	Sunil Verma	A				
15	Sushanta Banik	A				
46	Sweta Debnath	A				
47	Thanusha K	A				
48	Tuvijat.a	A				
49	V.kiran	A				
50	Vani Menon	A				
51	Varun Kumar Tiwari	A				
52	Veeranna Basavaraj Nitali	A				
53	Vinaykumar Kushwaha	A				
54	Vishwa P	A				
55	Yalavarthi Chetan Sai	A				
56	Yogesh.s	A				
57	Sanjeevi S	A				
58	B Karthik	A				
59	S Roshan Zaheer Khan	A				
60	Meghana SB	A				
61	Shilpa A	A				
62	Sandeep Kumar K R	A				
63	Abhishek Nyamagoud	A				
64	Navodhaya P Reddy	A				
65	Shreya E	A				
66	Shreya K	A				
67	Karan N	A				
68	Suhas S K	A				
69	Farveez	A				
70	Aditya V Jartarghar	A				
71	Sharfuddin Khan	A				
72	Sumaiya Kauser	A				
73	Neha R	A				
74	Nikhil N	A				
	Faculty Signature					
75	Karthik M S					
76	Deepak T					
77	Lal Bahadur R					

SCHOOL OF COMMERCE & MANAGEMENT STUDIES

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School of Commerce and Management Studies

MBA 2023 - 2025: Eagles Outbound - Outbound Activity - 28th & 29 th Nov 2023

Sl No.	Name	Sec			29/11/23	
1	Abhay Bharadwaj	B				
2	Abhin R Gowda	B				
3	Balakrishna B R	B				
4	Bhagat Chaitanya Vikrambhai	B				
5	Bhavana P	B				
6	Boppana Bhumika Absent	B	Ab	Ab		
7	Chennuri Hema Sai	B				
8	D. Sai Tvaritha	B				
9	Drumil Gohel Absent	B	Ab	Ab		
10	Girija J Absent	B	Ab	Ab		
11	Gujjula Bhanu Prakash	B				
12	H J Ujwal	B				
13	Harsha B N	B				
14	Harsha G B	B				
15	Himani Shekar	B				
16	Janesh K	B				
17	Jayashruthi S	B				
18	Karan Hinduja Absent	B	Ab	Ab		
19	Kiran Kumar R	B				
20	Komathi N	B				
21	Likhitha N Murthy	B				
22	Likith S Reddy	B				
23	Lipsa Parida Absent	B	Ab	Ab		
24	M Ajay Presanth	B				
25	M. Sneha	B				
26	Manesh G	B				
27	Mohammed Akhtar P M	B				
28	Mohammed Saad Soudagar	B				
29	Mohana Priya B	B				
30	Monisha Urs S	B				
31	Monisha.M	B				
32	Mutra Anjaneyulu Reddy	B				
33	Nikita Kumari Gupta	B				
34	P Abhishek	B				
35	Pooja A	B				
36	Poojitha Babu	B				
37	Pramod Absent	B	Ab	Ab		
38	Pranay G N	B				
39	Rahul Prakash Absent	B	Ab			
40	Raj Shekar Reddy M A Absent	B	Ab			

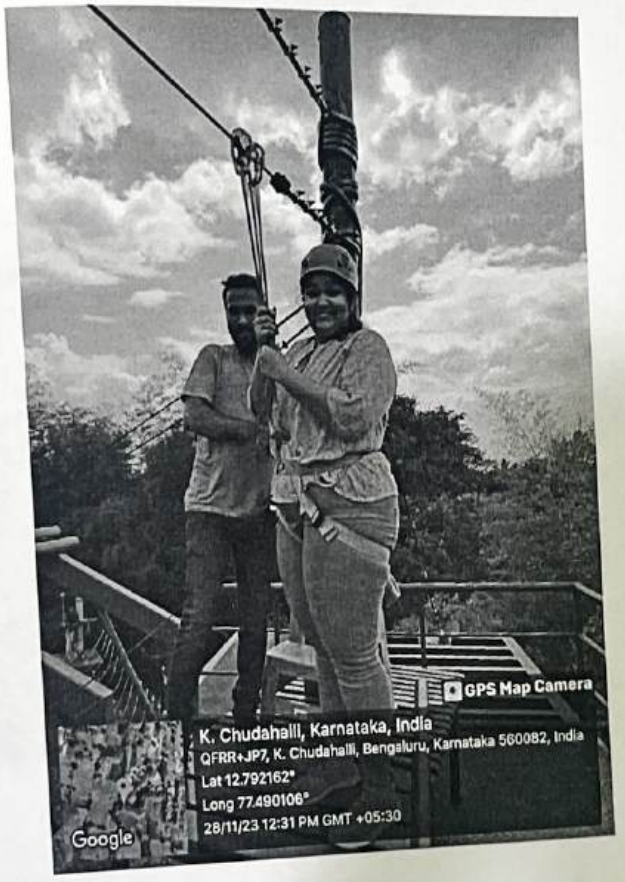
23

Ab	41	Rashmitha D N Ab	B	Ab			
	42	Rohith A Palled	B				
	43	Roopesh.varadaraj	B				
	44	Shohan Khan	B				
	45	Sneha Nair	B				
	46	Sowndarya M	B				
	47	Srikanth Bode	B				
	48	Sumanth M R	B				
	49	Swapnil Banik	B				
	50	Tejas G V	B				
	51	Tharun H R	B				
	52	Vignesh S Absent	B	Ab	Ab		
	53	Vikyath Gowda	B				
	54	Vinayaka M.h	B				
	55	Yashwin K B	B				
	56	Vikas Kumar M	B				
	57	Dinesh.k.k	B				
	58	Samiksha V Absent	B	Ab	Ab		
	59	Priyamvada Shah Deo Absent	B	Ab	Ab		
	60	Gb Manish Gowda Absent	B	Ab	Ab		
	61	Punith J Absent	B	Ab	Ab		
	62	Fiza Mohd Hasan Mirzani	B				
	63	Jeevan N	B				
	64	MAANSI K	B				
Ab	65	Sanjana G Kottur Absent	B	Ab			
Ab	66	Shipra Suri Absent	B	Ab			
Ab	67	Fardeen Abdul Latif Sayed Ab	B	Ab			
	68	Manmohan S	B				
	69	Sonu C B	B				
	70	Madhu.j	B				
	71	Ramya S M	B				
	72	Aswathy B	B				
Ab	73	Nithin Kumar M Absent	B	Ab			
Ab	74	Sai Abhiram Reddy Y Absent	B	Ab			
		Faculty Signature					

55

FILE NO

7. Photos: (Geo Tagged)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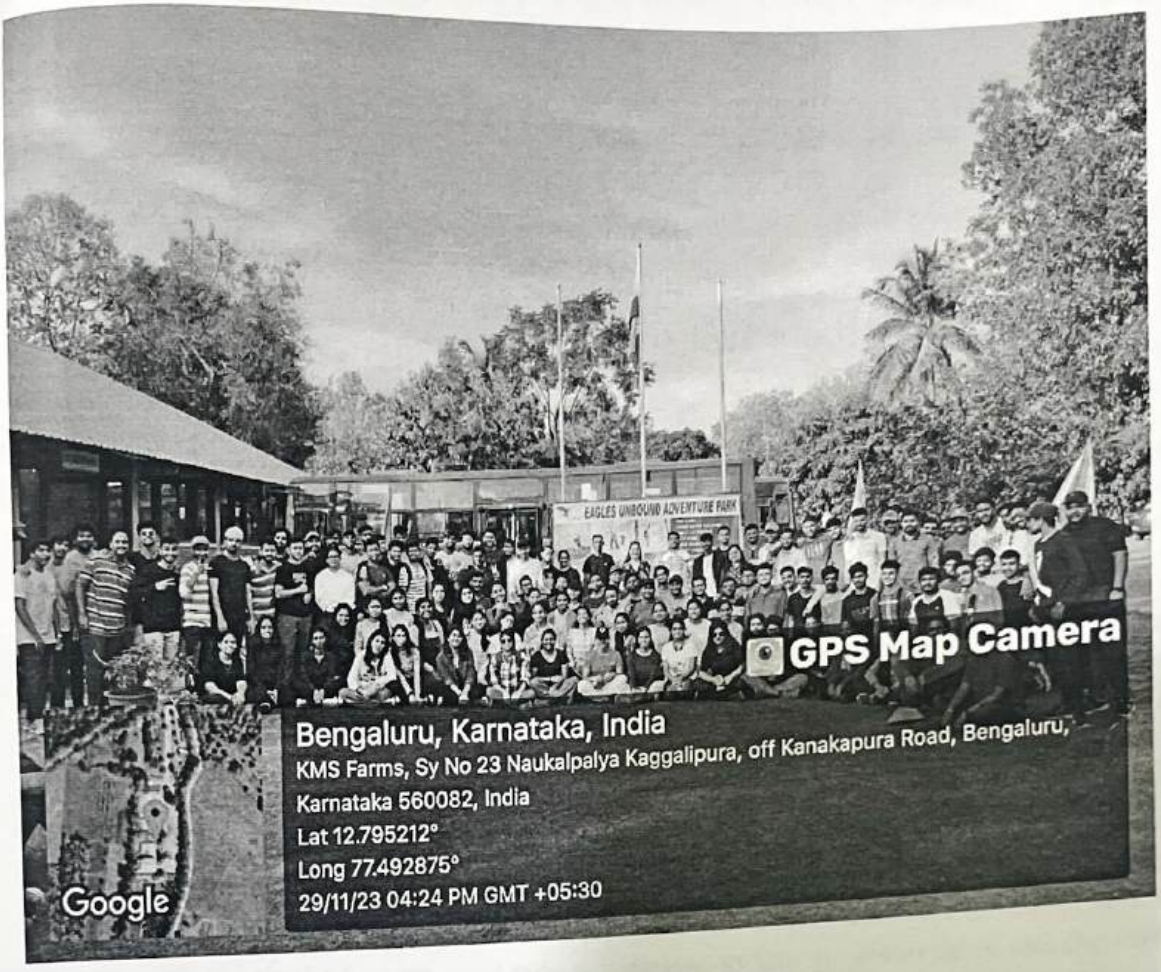
Google


EAGLES UNBOUND ADVENTURE PARK
GPS Map Camera
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Google

8. Feedback from the participants:

Summary of Student's experience at Eagle Unbound

Event Overview:

Eagles Unbound organized an outbound activity on November 28th and 29th along Kanakapura Road in Bengaluru. This event was supervised by Major General VPS Bhakuni and other Indian Army veterans.

Participating in an outing with Eagles Unbound became one of the most unforgettable experiences in the participants' lives. Full of excitement and learning, spending a day with them provided with an opportunity to discover ourselves, develop skills, and forge lifelong friendships.

Students improved our teamwork, leadership, and management abilities through various mind games and team tasks. After that, students challenged themselves with individual and group obstacles of different difficulty levels, all conducted with top-notch safety measures in place.

Moreover, students had the chance to test our skills in archery, air rifle/pistol shooting, guided by experienced ex-defence instructors who offered valuable tips for improvement.

The primary goal of this event was to invigorate people, foster positivity, and ensure an enjoyable time while learning and exploring new activities."

Event Highlights:

Day 1:

Our faculty coordinator asked us to gather at 8 am, and as planned, we set off from the college at 10 am sharp. Arriving at Eagles Outbound by 11 am, we were greeted with a refreshing welcome drink. The team wasted no time and promptly divided us into groups to delve into the various activities they had in store.

Our first stop was the adventure area, featuring rock climbing, zip-lining, and a high rope course, all equipped with safety belts. Overcoming our fear of heights and pushing our limits became a thrilling physical and mental challenge. Despite the initial apprehension, it turned out to be an incredibly fun experience.

A satisfying lunch break followed, after which we were guided to a grass field where we learned the art of setting up a tent. Subsequently, we engaged in team-building games, divided into six teams, which emphasized the essence of teamwork. This segment turned out to be the most enjoyable as we bonded over games and got to know each other better.

Later, we ventured into rain dancing, where artificial rain and music encouraged us to let loose and dance. Despite initial shyness, both I and my classmates had a blast dancing with our fellow maes, bridging the gap between us.

As evening approached around 6 pm, we refreshed ourselves, enjoyed tea, and some crispy snacks before being tasked with setting up our tents. It was a novel experience for me and my friends, as none of us had ever set up a tent before. It felt cool and exciting.

The day concluded with a lively bonfire where music filled the air, and we danced alongside our classmates and teachers. It was amusing to see our faculties enthusiastically participating in all adventurous activities.

After a delicious dinner, we settled into our tents for the night. It turned out to be an eventful night as we got acquainted with army cadets training there, sharing laughs over a game of UNO and engaging in delightful conversations. Sleeping in the tent was a unique experience for me.

This summed up my thrilling first day at Eagles Outbound.

Day 2:

The second day began with an early rise at 5 am, eager to kick start the day. Upon freshening up, I noticed some early risers already up and about. Deciding to take a tranquil walk with my music on, I relished the peaceful morning. By 7 am, most of my friends were up, and by 9 am, we were served a hearty breakfast before being asked to pack up our tents.

The activities for the day commenced with a visit to the target range, providing us with the opportunity to try our hand at using air rifles and bows and arrows. Shooting with the rifle went smoothly, but handling the bow proved to be physically demanding and challenging. Nevertheless, it was an entirely new and thrilling experience for all of us.

Next on the agenda was the hurdles challenge, originally designed for army cadet training, which put our physical fitness to the test. Following this, we engaged in a group brain puzzle that rigorously examined our analytical skills, decision-making abilities, leadership qualities, and team spirit. It was both enjoyable and mentally stimulating.

After a fulfilling lunch, the highlight of the day occurred when Major General Bhakuni delivered an inspiring speech. His words left a lasting impact, motivating us in various ways.

Wrapping up the activities, we participated in a lively tug of war session, capturing the moment with a group photo before boarding the bus back to our college. We arrived at our university by 6 pm, concluding the second day—a mixture of fun-filled activities and physically/ mentally draining challenges.

List of events:

- High-Rope Course
- Low-Rope Course
- Individual Obstacles
- Group Obstacles
- Fun Games
- Mind Games
- Wall Climbing
- Zip Line
- Rappelling
- ATV
- Archery

- Air Gun

Coordinators
Signature

Dean-SCMS-(PG)
Signature

शिक्षा मंत्रालय
MINISTRY OF EDUCATION

Azadi Ka Amrit Mahotsav

G20 भारत अनुभव INDIA

mygov मेरी सरकार

SHIKSHA SANKALP

Certificate

This is to certify that
in the year of India's presidency of G-20 during the AMRIT Kaal

Hari Prasad

has taken the **Shiksha Sankalp** to sincerely pursue education and lifelong learning to contribute towards the progress of the Nation and to keep on developing skills and knowledge to become a responsible citizen of India.

7556874259

July, 07 2023

CHRIST COLLEGE
OF SCIENCE AND MANAGEMENT

[Affiliated to Bengaluru North University, Recognized by Govt. of Karnataka]
Hosur-Malur Main Road, Alambady, Malur, Karnataka - 563160

CERTIFICATE
of Appreciation

DEPARTMENT OF MANAGEMENT

SCHERZO 2K23

National Level Business Quiz

This certificate is issued to Ms/ Mr. MARISHREE. K.B of DAYANANDA SAGAR UNIVERSITY for securing SECOND prize in SCHERZO 2K23 - Intercollegiate Business Quiz, organized by Department of Management, Christ College of Science and Management on 16th December 2023.

Event Coordinator

Head of the Department

Principal

SURANA EDUCATIONAL INSTITUTIONS

HQ: No.16, SOUTH END ROAD, BENGALURU-560004

STUDENT RESEARCH CONFERENCE

Certificate Of Participation

This is to certify that Mr/Ms MARISREE.K.R

from Dayananda Sagar University has presented a research paper

titled An analysis of Gender Empowerment in Gig Economy.

in the Student Research Conference on

"Gig Economy and India: Prospects, Challenges, and Way Forward Strategies" on 9th May 2024.

Your contribution to the conference through research paper presentation is greatly appreciated.

Dean-Research and Consultancy Cell
Surana Educational Institutions

Dean-Academics
Surana Educational Institutions

Principal
Surana College Autonomous

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SCHOOL OF
COMMERCE & MANAGEMENT STUDIES

Report on Short Study Report

Introduction

A short study report was conducted for the MBA 2nd semester students under the guidance of Dean-SCMS Prof. Capt. A. Nagaraj Subbarao from July 23 to July 30, 2024, culminating in a Viva Voce on July 31, 2024. This initiative aimed to enhance the practical learning experience of the students by engaging them in real-world projects under the guidance of esteemed faculty members. The short project was coordinated by Dr. Padmalatha N A, Dr. Abhijit Ranjan Das, and Prof. Mohan Srinivasan.

Participation

A total of 81 students participated in this project, showcasing their commitment to applying theoretical knowledge in practical scenarios. The project was supervised by a dedicated team of faculty members, including:

- Dr. Sagar Manjunath
- Dr. Chinmoy Kumar
- Dr. Suresh R
- Dr. Abhijit Ranjan Das
- Dr. Priyanka Roy
- Dr. Padmalatha N A
- Prof. Jitendranath Patri
- Prof. Mohan Srinivasan
- Prof. Anurag Jalan

The diverse expertise of the faculty provided valuable insights and mentorship throughout the project, ensuring that students received comprehensive guidance.

Project Overview

The project involved various aspects of business management, allowing students to explore different methodologies and frameworks relevant to their coursework. Students were encouraged to collaborate in teams, fostering teamwork and communication skills essential for their future careers.

During the project period, students conducted research, analyzed data, and developed presentations to showcase their findings. The Viva Voce on July 31 provided an opportunity for students to present their work to the faculty and receive constructive feedback.

Outcomes

The study report served multiple educational objectives:

- **Practical Application**: Students were able to apply theoretical concepts learned in class to real-world situations, enhancing their understanding of business dynamics.
- **Skill Development**: The project helped students develop critical skills such as research, analysis, teamwork, and presentation abilities.
- **Feedback Mechanism**: The Viva Voce allowed students to engage with faculty, receive feedback, and refine their understanding of the subject matter.

Photos (Geo Tagged)

GPS Map Camera
Bengaluru, Karnataka, India
VJQV+35V, Kudlu Gate, Srinivasa Nagar, Hal Layout, Singasandra, Bengaluru, Karnataka 560068, India
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Google

GPS Map Camera
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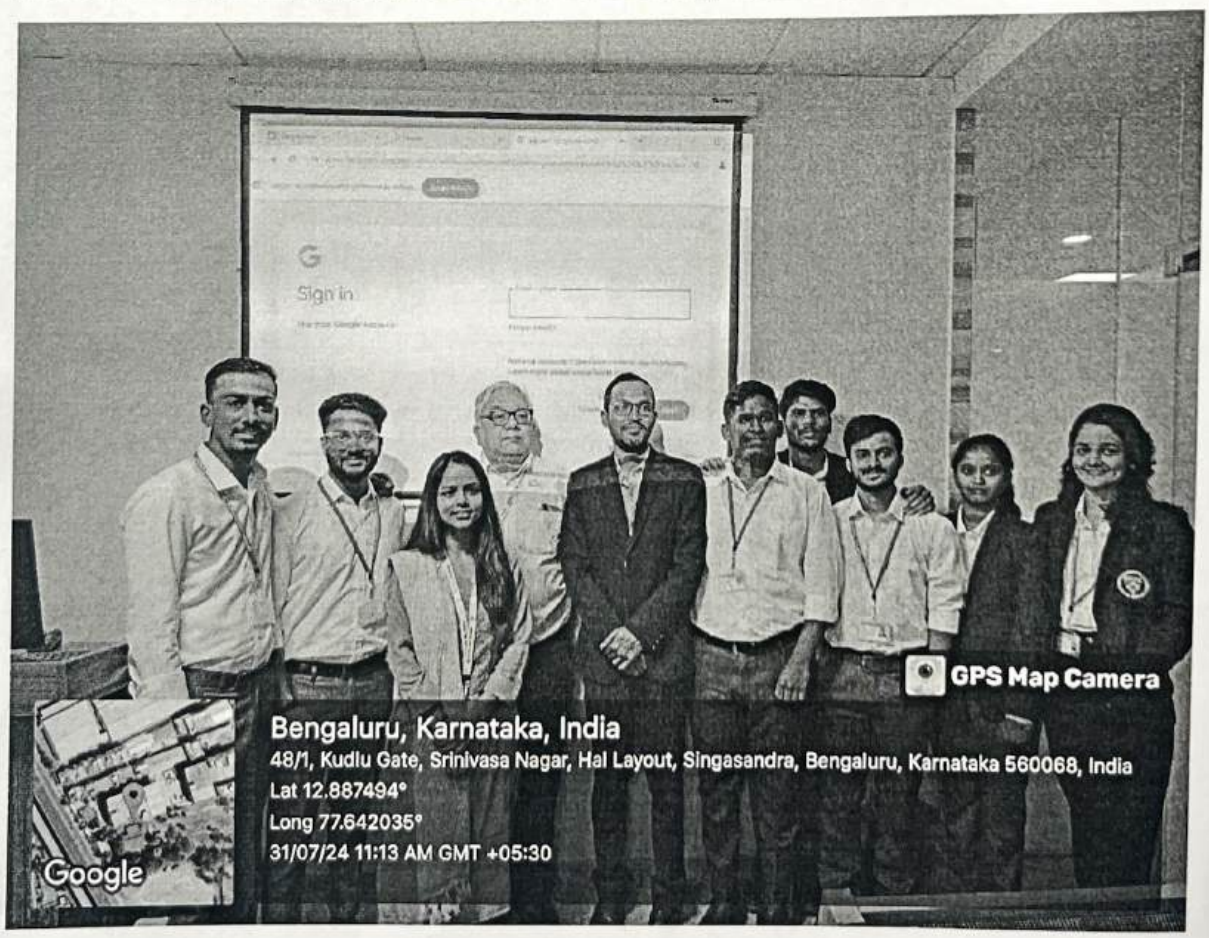
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Google

List of students and guides

Sl. No.	USN	Student Name	Gender	Group	Mentor
1	CMS23MBA001	ABHISHEK J	Male	1	Dr. Padmalatha NA
2	CMS23MBA006	AKHILA P HONAKATTI	Female	1	Dr. Padmalatha NA
3	CMS23MBA018	CHAITHANYA M K	Male	1	Dr. Padmalatha NA
4	CMS23MBA038	LIKESH BABU S	Male	1	Dr. Padmalatha NA
5	CMS23MBA042	MAHALAXMI S HULLUR	Female	1	Dr. Padmalatha NA
6	CMS23MBA057	RIHAN ALI ABDUL RAOOF SHAIKH	Male	1	Dr. Padmalatha NA
7	CMS23MBA066	SANJANA BASAVARAJ KOULAGI	Female	1	Dr. Padmalatha NA
8	CMS23MBA074	SHUBHAM SAJJAN PUJARI	Male	1	Dr. Padmalatha NA
9	CMS23MBA003	ADITYA RAGHUVEER NAIK	Male	2	Prof. Purnendu Maji
10	CMS23MBA009	AMRUTA JAGADEESH PAI	Female	2	Prof. Purnendu Maji
11	CMS23MBA020	DEEPAKKUMAR KISHORE SHARMA	Male	2	Prof. Purnendu Maji
12	CMS23MBA044	MONIKA K	Female	2	Prof. Purnendu Maji
13	CMS23MBA058	ROHIT GANESHMURTHY HEGDE	Male	2	Prof. Purnendu Maji
14	CMS23MBA070	SHETTY RUCHITA MANJAYYA	Female	2	Prof. Purnendu Maji
15	CMS23MBA076	SRIDHAR L	Male	2	Prof. Purnendu Maji
16	CMS23MBA089	VIGNESH R V MASKE	Male	2	Prof. Purnendu Maji
17	CMS23MBA005	AJAYA I M	Male	3	Dr. Suresh R
18	CMS23MBA011	ANJALI	Female	3	Dr. Suresh R
19	CMS23MBA041	M HEMANTH	Male	3	Dr. Suresh R
20	CMS23MBA051	PREETHI BHAVANA P	Female	3	Dr. Suresh R
21	CMS23MBA059	ROHIT S	Male	3	Dr. Suresh R
22	CMS23MBA077	SRINIVASA YAMANAPPA MULANGI	Male	3	Dr. Suresh R
23	CMS23MBA082	SUSHMA A G	Female	3	Dr. Suresh R
24	CMS23MBA090	VIJAY KUMAR B	Male	3	Dr. Suresh R
25	CMS23MBA007	AKSHAY SURESHA GOUDA	Male	4	Dr. Chinmoy Kumar
26	CMS23MBA014	B MAHALAKSHMI	Female	4	Dr. Chinmoy Kumar
27	CMS23MBA024	FAHAD KHAN M	Male	4	Dr. Chinmoy Kumar
28	CMS23MBA052	PREETI VASANTH HEBBAR	Female	4	Dr. Chinmoy Kumar
29	CMS23MBA065	SANDEEP	Male	4	Dr. Chinmoy Kumar
30	CMS23MBA078	SRIVATHSA S	Male	4	Dr. Chinmoy Kumar
31	CMS23MBA083	TANIYA R MALOO	Female	4	Dr. Chinmoy Kumar
32	CMS23MBA091	VISHAL G M	Male	4	Dr. Chinmoy Kumar
33	CMS23MBA008	ALLAN REUEL M	Male	5	Dr. Sagar Manjunath
34	CMS23MBA015	BHAGYASHREE	Female	5	Dr. Sagar Manjunath
35	CMS23MBA025	G BALAKRISHNA	Male	5	Dr. Sagar Manjunath
36	CMS23MBA046	NAVEEN KUMAR R	Male	5	Dr. Sagar Manjunath

37	CMS23MBA055	RAMITA RAJAN TALEKAR	Female	5	Dr. Sagar Manjunath
38	CMS23MBA067	SHARATH GOWDA K V	Male	5	Dr. Sagar Manjunath
39	CMS23MBA079	SUNIL BIST R	Male	5	Dr. Sagar Manjunath
40	CMS23MBA087	VAISHNAVI ANIL NAYAK	Female	5	Dr. Sagar Manjunath
41	CMS23MBA092	VISHAL U	Male	5	Dr. Sagar Manjunath
42	CMS23MBA010	ANANTH RAJ URS M	Male	6	Prof. Jitendranath Patri
43	CMS23MBA021	DEEPIKA	Female	6	Prof. Jitendranath Patri
44	CMS23MBA026	GANESH	Male	6	Prof. Jitendranath Patri
45	CMS23MBA048	PRAMODA M	Male	6	Prof. Jitendranath Patri
46	CMS23MBA056	RASHMI NAIRY S	Female	6	Prof. Jitendranath Patri
47	CMS23MBA068	SHASHANK BHUMAR	Male	6	Prof. Jitendranath Patri
48	CMS23MBA080	SURAJ CHOPRA	Male	6	Prof. Jitendranath Patri
49	CMS23MBA094	YASHASWINI D	Female	6	Prof. Jitendranath Patri
50	CMS23MBA012	ARBAJ MURASAB MIRJI	Male	7	Prof. Mohan Srinivasan
51	CMS23MBA022	DIKSHA D NAIK	Female	7	Prof. Mohan Srinivasan
52	CMS23MBA028	GOURAV R	Male	7	Prof. Mohan Srinivasan
53	CMS23MBA049	PRASHANT GAUTAM MANOJ	Male	7	Prof. Mohan Srinivasan
54	CMS23MBA060	RUCHITHA P	Female	7	Prof. Mohan Srinivasan
55	CMS23MBA069	SHASHANK P	Male	7	Prof. Mohan Srinivasan
56	CMS23MBA081	SURYA KIRAN M D	Male	7	Prof. Mohan Srinivasan
57	CMS23MBA088	VATIKUTI RAGHU	Male	7	Prof. Mohan Srinivasan
58	CMS23MBA013	AYUSH IMMANUEL	Male	8	Dr. Priyanka Roy
59	CMS23MBA023	DINESH S	Male	8	Dr. Priyanka Roy
60	CMS23MBA030	IBBANI B R	Female	8	Dr. Priyanka Roy
61	CMS23MBA031	JANARDHANA K N	Male	8	Dr. Priyanka Roy
62	CMS23MBA050	PRATHIK BHARADWAJ	Male	8	Dr. Priyanka Roy
63	CMS23MBA062	SAHANA C H	Female	8	Dr. Priyanka Roy
64	CMS23MBA071	SHIVA KUMAR M	Male	8	Dr. Priyanka Roy
65	CMS23MBA084	ULLAS M I	Male	8	Dr. Priyanka Roy
66	CMS23MBA016	BHUVAN KUMAR G M	Male	9	Dr. Abhijit Ranjan Das
67	CMS23MBA033	KARTHIK R	Male	9	Dr. Abhijit Ranjan Das
68	CMS23MBA034	KAVITHA N S	Female	9	Dr. Abhijit Ranjan Das
69	CMS23MBA040	LOHITH KUMAR C P	Male	9	Dr. Abhijit Ranjan Das
70	CMS23MBA053	PURSHOTHAM J KALAL	Male	9	Dr. Abhijit Ranjan Das
71	CMS23MBA063	SAHANA S R	Female	9	Dr. Abhijit Ranjan Das
72	CMS23MBA072	SHODHAN	Male	9	Dr. Abhijit Ranjan Das
73	CMS23MBA085	V ROHITH	Male	9	Dr. Abhijit Ranjan Das
74	CMS23MBA017	CHAITANREDDY	Male	10	Prof. Anurag Jalan
75	CMS23MBA035	KISHOR G S	Male	10	Prof. Anurag Jalan
76	CMS23MBA037	LEELAVATHI D P	Female	10	Prof. Anurag Jalan

77	CMS23MBA045	MUDDU KRISHNA	Male	10	Prof. Anurag Jalan
78	CMS23MBA054	RAHUL J	Male	10	Prof. Anurag Jalan
79	CMS23MBA064	SAIJAL K SHARMA	Female	10	Prof. Anurag Jalan
80	CMS23MBA073	SHREYAS R JOSHI	Male	10	Prof. Anurag Jalan
81	CMS23MBA086	VAIBHAV	Male	10	Prof. Anurag Jalan

Attendance

SCHOOL OF

Attendance Sheet- Panel 1, G-05

Study Report

Date: 31.07.2024

SL No.	USN	Name of the student	Signature
1	CMS23MBA001	ABHISHEK J	
2	CMS23MBA006	AKHILA P HONAKATTI	
3	CMS23MBA018	CHAITHANYA M K	ABSENT
4	CMS23MBA038	LIKESH BABU S	
5	CMS23MBA042	MAHALAXMI S HULLUR	
6	CMS23MBA057	RIHAN ALI ABDUL RAOOF SHAIKH	
7	CMS23MBA066	SANJANA BASAVARAJ KOULAGI	ABSENT
8	CMS23MBA074	SHUBHAM SAJJAN PUJARI	
9	CMS23MBA003	ADITYA RAGHUVEER NAIK	ABSENT
10	CMS23MBA009	AMRUTA JAGADEESH PAI	
11	CMS23MBA020	~~DEEPAKKUMAR KISHORE SHARMA~~ MARISREE M	
12	CMS23MBA044	MONIKA K	
13	CMS23MBA058	ROHIT GANESHMURTHY HEGDE	ABSENT
14	CMS23MBA070	SHETTY RUCHITA MANJAYYA	ABSENT
15	CMS23MBA076	SRIDHAR L	
16	CMS23MBA089	VIGNESH R V MASKE	
17	CMS23MBA005	AJAYA I M	ABSENT
18	CMS23MBA011	ANJALI	
19	CMS23MBA041	M HEMANTH	
20	CMS23MBA051	PREETHI BHAVANA P	
21	CMS23MBA059	ROHIT S	
22	CMS23MBA077	SRINIVASA YAMANAPPA MULANGI	
23	CMS23MBA082	SUSHMA A G	ABSENT
24	CMS23MBA090	VIJAY KUMAR B	

Dr. Padmalatha NA
Dr. Suresh R
Prof. Purnendu Maji

Dean-SCMS

SCHOOL OF

Attendance Sheet- Panel 2, G-06

Study Report

Date: 31.07.2024

SL No.	USN	Name of the student	Signature	
1	CMS23MBA007	AKSHAY SURESHA GOUDA		Dr. Chinmoy Kumar
2	CMS23MBA014	B MAHALAKSHMI		
3	CMS23MBA024	FAHAD KHAN M	ABSENT	
4	CMS23MBA052	PREETI VASANTH HEBBAR		
5	CMS23MBA065	SANDEEP	ABSENT	
6	CMS23MBA078	SRIVATHSA S	Srivathsa. S	
7	CMS23MBA083	TANIYA R MALOO	ABSENT	
8	CMS23MBA091	VISHAL G M	ABSENT	
9	CMS23MBA008	ALLAN REUEL M		Dr. Sagar Manjunath
10	CMS23MBA015	BHAGYASHREE		
11	CMS23MBA025	G BALAKRISHNA		
12	CMS23MBA046	NAVEEN KUMAR R		
13	CMS23MBA055	RAMITA RAJAN TALEKAR		
14	CMS23MBA067	SHARATH GOWDA K V	Absent	
15	CMS23MBA079	SUNIL BIST R		
16	CMS23MBA087	VAISHNAVI ANIL NAYAK		
17	CMS23MBA092	VISHAL U	Absent	
18	CMS23MBA010	ANANTH RAJ URS M		Prof. Jitendranath Patri
19	CMS23MBA021	DEEPIKA	Dshetty	
20	CMS23MBA026	GANESH	ABSENT	
21	CMS23MBA048	PRAMODA M		
22	CMS23MBA056	RASHMI NAIRY S		
23	CMS23MBA068	SHASHANK BHUMAR		
24	CMS23MBA080	SURAJ CHOPRA		
25	CMS23MBA094	YASHASWINI D		
26	CMS23MBA012	ARBAJ MURASAB MIRJI		Prof. Mohan Srinivasan
27	CMS23MBA022	DIKSHA D NAIK		
28	CMS23MBA028	GOURAV R		
29	CMS23MBA049	PRASHANT GAUTAM MANOJ		
30	CMS23MBA060	RUCHITHA P	Ruchitha	
31	CMS23MBA069	SHASHANK P	Shashank.P	
32	CMS23MBA081	SURYA KIRAN M D	ABSENT	
33	CMS23MBA088	VATIKUTI RAGHU		

Dr. Chinmoy Kumar 30/7/24.

Dr. Sagar manjunath 30.07.24

Prof. Mohan Srinivasan

Prof. Jitendranath Patri

Dean-SCMS

SCHOOL OF

Attendance Sheet- Panel 3, G-07

Study Report

Date: 31.07.2024

SL No.	USN	Name of the student	Signature
1	CMS23MBA013	AYUSH IMMANUEL	
2	CMS23MBA023	DINESH S	
3	CMS23MBA030	IBBANI B R	ABSENT
4	CMS23MBA031	JANARDHANA K N	
5	CMS23MBA050	PRATHIK BHARADWAJ	
6	CMS23MBA062	SAHANA C H	
7	CMS23MBA071	SHIVA KUMAR M	ABSENT
8	CMS23MBA084	ULLAS M I	ABSENT
9	CMS23MBA016	BHUVAN KUMAR G M	ABSENT
10	CMS23MBA033	KARTHIK R	
11	CMS23MBA034	KAVITHA N S	
12	CMS23MBA040	LOHITH KUMAR C P	
13	CMS23MBA053	PURSHOTHAM J KALAL	
14	CMS23MBA063	SAHANA S R	
15	CMS23MBA072	SHODHAN	
16	CMS23MBA085	V ROHITH	
17	CMS23MBA017	CHAITANREDDY	ABSENT
18	CMS23MBA035	KISHOR G S	
19	CMS23MBA037	LEELAVATHI D P	
20	CMS23MBA045	MUDDU KRISHNA	
21	CMS23MBA054	RAHUL J	
22	CMS23MBA064	SAIJAL K SHARMA	
23	CMS23MBA073	SHREYAS R JOSHI	
24	CMS23MBA086	VAIBHAV	

Dr. Priyanka Roy

Dr. Abhijit Ranjan Das

Prof. Anurag Jalan

Prof. Anurag Jalan
Dr. Priyanka Roy 31/7/2024
Dr. Abhijit Ranjan Das

Dean-SCMS

Faculty Coordinators

Dr. Padmalatha NA

Dr. Abhijit Ranjan Das

Prof. Mohan Srinivasan

Dean-SCMS

Prof. Capt. A. Nagaraj

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF COMMERCE & MANAGEMENT STUDIES
BANGALORE

SCHOOL OF
COMMERCE & MANAGEMENT STUDIES

Report on Nasdaq Mock Stock Challenge

Date: 6th May – 10th May, 2024
Time: 7:00pm onwards

Venue: Virtual

Vriddhi - The Fintech Club of SCMS, in collaboration with Stockbyte, successfully organized the Nasdaq Mock Stock Challenge from May 6, 2024, to May 10, 2024. The event aimed to provide participants with a simulated experience of trading on the Nasdaq stock exchange, enhancing their understanding of stock market dynamics, trading strategies, and financial decision-making. The challenge was designed to replicate real-world trading conditions, allowing participants to engage in buying and selling stocks, managing portfolios, and competing for the highest returns. The challenge was conducted over five days, with each day representing a simulated trading day on the Nasdaq stock exchange. Participants were given virtual capital of $100,000 to start trading and had access to real-time stock data and news updates. The event was divided into;

1. **Orientation and Training:**

On May 3, 2024, Around 50 participants attended an orientation session that included training on using the Stockbyte trading platform, understanding market indicators, and formulating trading strategies.

2. **Trading Sessions:**

Participants engaged in daily trading sessions. Each session included periods for market analysis, executing trades, and reviewing portfolio performance.

3. **Leader board:**

A dynamic leader board was maintained to track the performance of participants.

Winners of the Nasdaq Mock Stock Challenge:

- **Mr. Dinesh S – Winner** – receives 3 Certification courses will be unlocked offered by Stockbyte
- **Mr. Rohit Hegde – 1st Runner Up** - receives 2 Certification courses will be unlocked offered by Stockbyte
- **Mr. Ayush Immanuel – 2nd Runner Up** - receives 1 Certification course will be unlocked offered by Stockbyte

Benefits for Participants

- Additionally top 10 participants would get 1 certificate course for free
- All participants will receive free Demat account

The Nasdaq Mock Stock Challenge was a resounding success, achieving its objectives of enhancing financial literacy and providing practical trading experience. The event not only fostered a deeper understanding of stock markets but also encouraged participants to develop critical thinking and analytical skills necessary for successful trading.

Faculty Coordinators

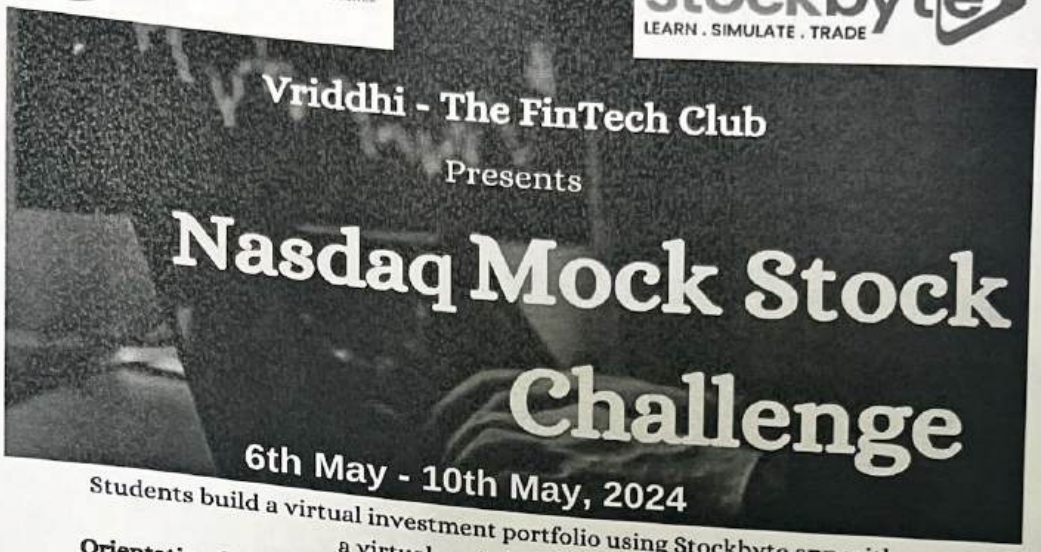
Dean - SCMS

DAYANANDA SAGAR U. SCHOOL OF COMMERCE & MANAGEMENT STUDIES BANGALURE

SCHOOL OF COMMERCE & MANAGEMENT STUDIES

VRIDDHI

stockbyte
LEARN . SIMULATE . TRADE



Vriddhi - The FinTech Club

Presents

Nasdaq Mock Stock Challenge

6th May - 10th May, 2024

Students build a virtual investment portfolio using Stockbyte app with a virtual capital of $100,000

Orientation for Mock Stock Challenge

- **Date: 3rd May, 2024**
- **Time: 2:00PM - 3:00PM**
- **Venue: Gallery 2, City Innovation Campus**

Competition Details

- 1 Portfolio per participant
- Platform: Stockbyte App
- Duration: 1 week

Benefits for Participants

- Participants will receive free Demat account
- Test your strategies risk-free with virtual money

Winner: 3 Certificate Course will be unlocked

Runner Up: 2 Certificate Course will be unlocked

2nd Runner Up: 1 Certificate Course will be unlocked

Additionally : Top 10 participants would get 1 certificate course for free

To Register for Mock Stock Challenge:

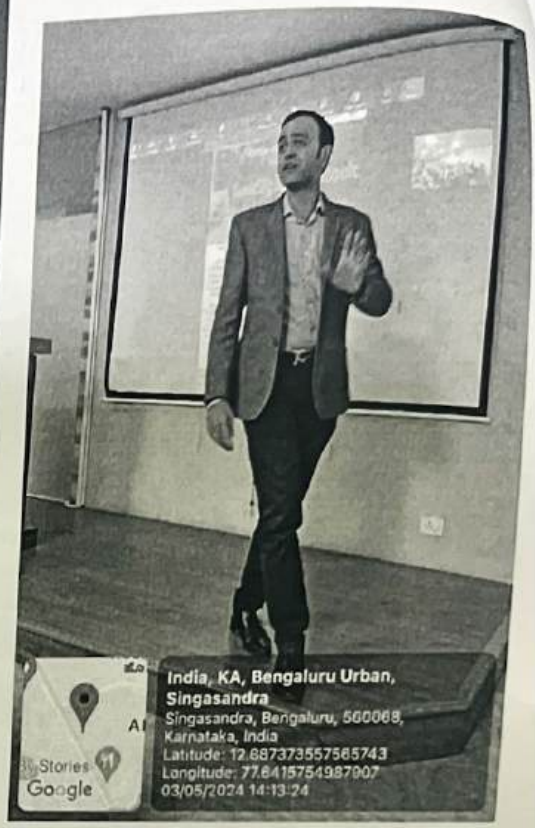
Hosted By: Prof. Capt. Nagaraj A Subbarao, Ph.D

Faculty Coordinators: Dr. Nisha Goyal

Prof. Jayashree N

Contact details - +91 95130 34597

Photos of Orientation of Nasdaq Mock Stock Challenge



Dayananda Sagar University

School of Commerce & Management Studies

Registration Form Nasdaq Mock Stock Challenge

Timestamp	Email Address	Name	USN	Section	Contact number
5/1/2024 19:31:48	pooja88255reddy@gmail.com	Poojitha Babu	CMS23MBA176	B	8825533283
5/1/2024 19:39:29	hegderohit63@gmail.com	Rohit G Hegde	CMS23MBA058	D	6361691304
5/1/2024 19:40:20	shohank794@gmail.com	Shohan khan	Cms23MBA204	B	9740656802
5/1/2024 19:53:25	yashwinkb27@gmail.com	Yashwin K B	CMS23MBA234	C	8431852282
5/1/2024 20:56:24	ayush.immanuel@gmail.com	Ayush Immanuel	CMS23MBA013	D	9036148491
5/1/2024 22:47:24	sridhar.me6@gmail.com	Sridhar L	CMS23MBA076	D	6362329603
5/2/2024 10:18:48	tuvijat.a@gmail.com	Tuvijat. A	Cms 23mba224	A	9843889990
5/2/2024 10:20:35	ravikharwar4667@gmail.com	RavibKharwar	Cms23mba189	A	6203478361
5/2/2024 10:21:29	roopesh.varadaraj98@gmail.com	Roopesh varadaraj	CMS23MBA191	C	8867062790
5/2/2024 10:27:37	aakefasharieff56@gmail.com	Aakefa	CMS23MBA096	A	9964560667
5/2/2024 10:46:12	likesh9480@gmail.com	Likesh babu s	CMS23MBA038	D	6461576673
5/2/2024 10:48:19	monisha14367@gmail.com	Monisha M	CMS23MBA163	B	8778470699
5/2/2024 10:49:04	ruchithavaraprasad@gmail.com	Ruchitha P	CMS23MBA060	D	7338285574
5/2/2024 10:51:35	biswasmalabika991@gmail.com	Malabika Biswas	CMS23MBA152	A	6289147594
5/2/2024 10:52:51	vaibhavkharvi01@gmail.com	Vaibhav	CMS23MBA086	D	8497886650
5/2/2024 10:54:57	varuntiwari0102@gmail.com	Varun Kumar Tiwari	CMS23MBA225	A	8709106043
5/2/2024 11:42:02	shodhanshett@gmail.com	Shodhan	CMS23MBA072	D	9019818980
5/2/2024 11:42:09	bharadwajprathik12@gmail.com	Prathik Bharadwaj	CMS23MBA050	D	8310825827
5/2/2024 14:21:47	rohithgowda0816@gmail.com	V Rohith	CMS23MBA085	D	8660565286
5/2/2024 14:22:25	prashantmanoj9@gmail.com	Prashant Manoj	CMS23MBA049	D	7204040247
5/2/2024 14:22:37	spshubham757@gmail.com	Shubham SP	CMS23MBA074	D	8748803953
5/2/2024 15:23:15	abhaybharadwaj001@gmail.com	Abhay Bharadwaj	CMS23MBA097	B	9880249578
5/2/2024 15:37:49	ramyapv2002@gmail.com	Ramya pv	CMS23MBA186	A	9916460302
5/2/2024 15:39:03	vkiran0505@gmail.com	Kiran.v	CMS23MBA139	A	6363349239
5/2/2024 15:39:04	sushmaag203@gmail.com	Sushma A G	CMS23MBA082	D	9008221857
5/2/2024 15:49:53	sahanach9@gmail.com	Sahana CH	CMS23MBA062	D	8660997615

5/2/2024 15:55:25	khandegururaj@gmail.com	Gururaj S Khande	CMS23MBA029	A	9481743496
5/2/2024 16:18:48	ananthrajurs0001g@gmail.com	Ananth Raj Urs M	CMS23MBA010	D	9740026928
5/2/2024 16:20:19	karthikrajark06@gmail.com	Karthik R	CMS23MBA033	A	8618239496
5/2/2024 16:25:53	shashanklucky84@gmail.com	Shashank Bhumar	CMS23MBA068	D	8431884400
5/2/2024 22:17:14	raghu97babu@gmail.com	Vatikuti Raghu	CMS23MBA088	D	7619315600
5/2/2024 23:41:40	kishorgsreddy2024@gmail.com	KISHOR G S	CMS23MBA035	D	7022744474
5/3/2024 7:50:37	janardhanreddy9663@gmail.com	Janardhana K N	CMS23MBA031	D	9663680359
5/3/2024 9:04:21	nyamagoudam@gmail.com	Abhishek Nyamagoud	CMS23MBA098	C	9538583173
5/3/2024 9:04:31	rainatharunhr2001@gmail.com	Tharun H R	CMS23MBA223	C	8618869643
5/3/2024 9:05:47	manmohan7603@gmail.com	Manmohan S	CMS23MBA154	C	6369322415
5/3/2024 9:11:42	nikhilnagaraj200@gmail.com	Nikhil N	CMS23MBA171	C	9739378273
5/3/2024 9:12:13	kkd73795@gmail.com	Dinesh.k.k	CMS23MBA119	C	6374181042
5/3/2024 10:33:58	shivarajgadachi@gmail.com	Shivaraj S Gadachi	CMS23MBA203	B	8197825665
5/3/2024 10:56:21	sahanasr1708@gmail.com	Sahana S R	CMS23MBA063	D	9731048880
5/3/2024 10:56:57	srivathsa.030@gmail.com	Srivathsa S	CMS23MBA078	D	8296884174
5/3/2024 12:21:14	preetivhebbar99@gmail.com	Preeti Vasanth Hebbar	CMS23MBA052	D	9480587422
5/3/2024 12:47:28	vikky13vignesh@gmail.com	Vignesh S	CMS23MBA227	B	9940882379
5/3/2024 13:43:08	sandeepnc40@gmail.com	Sandeep NC	CMS23MBA065	D	8296538007
5/3/2024 13:54:30	12gouravr@gmail.com	Gourav R	CMS23MBA028	D	8197184830
5/3/2024 14:37:45	abhipb304@gmail.com	Abhishek J	CMS23MBA001	D	9380216536
5/3/2024 14:55:47	chaithanyamk163mkc@gmail.com	Chaithanya M K	CMS23MBA018	D	9148214668
5/3/2024 21:42:35	rashminairys@gmail.com	Rashmi Nairy S	CMS23MBA056	D	7676788576
5/4/2024 13:31:44	dinuritu2925@gmail.com	Dinesh.S	CMS23MBA023	D	9986976513
5/5/2024 23:54:03	surya0334@gmail.com	Surya Kiran M D	CMS23MBA081	D	7795509385
5/7/2024 11:25:11	rajshekarreddy1471@gmail.com	Raj shekar Reddy	CMS23MBA185	B	9591014665
5/8/2024 9:26:45	preethibhavana25@gmail.com	Preethi bhavana.p	CMS23MBA051	D	6363951036
5/8/2024 9:28:22	ramitatalekar@gmail.com	Ramita Rajan Talekar	CMS23MBA055	D	8073432615

Dayananda Sagar University

School of Commerce & Management Studies

Nasdaq Mock Stock Challenge Result Sheet

Sl No	Name of the Participant	Profit Percentage
1	Dinesh.S	231.61
2	Rohit Hegde	136.8
3	Ayush Immanuel	62.08
4	Prathik Bharadwaj	43.42
5	Likesh	5.84
6	Sridhar L	3.84
7	Srivathsa S	2.04
8	Shivaraj S Gadachi	1.94
9	Sahana S R	1.52
10	Sahana C H	1.34
11	Abhishek J	1.26
12	Prashant G Manoj	0.94
13	Shohan khan	0.79
14	Chaithanya M K	0.62
15	Gourav R	0.14
16	Karthik R	0
17	V Rohith	0
18	Abhishek Nyamagoud	0
19	Mohammed Imtiyaz	0
20	Pavithra	0
21	Shiva Kumar M	0
22	Dinesh K K	0
23	Yalavarthi Chetan Sai	-0.03
24	Ramita Rajan Talekar	-0.06
25	Vignesh R V Maske	-0.09
26	Shreyas Joshi	-0.15
27	Henil Goyani	-0.16
28	Varun Kumar Tiwari	-0.17
29	Tharun H R	-0.43
30	Poojitha babu	-0.53
31	KISHOR	-0.53
32	Preethi bhavana.p	-0.73
33	Janardhana K N	-0.74
34	Preeti Vasanth Hebbar	-1.1
35	Kishore BS	-1.27
36	Rashmi Nairy S	-1.32
37	Ruchitha P	-1.54

38	Shubham Sajjan pujari	-1.74
39	Sanjeevi S	-2.05
40	Nikhil N	-2.33
41	Yashwin K B	-2.35
42	Aditya Raghuveer Naik	-3
43	KISHOR G S	-3
44	Vatikuti Raghu	-3.06
45	Janardhan	-4.22
46	Sandeep N.C	-5.51
47	KISHOR G S	-6.39
48	Shashank Bhumar	-12.36
49	Ananth Raj Urs M	-13.26

Timestamp	Email Address	Full Name	Phone Number	College Name	How would you rate the overall user experience of the Stockbyte App?	Were you able to easily navigate through the platform to access necessary features?	Did you encounter any technical issues while using the platform? If yes, please describe.	How would you rate the platform's speed and responsiveness?	Did you find the duration of the competition (5 days) appropriate?	Did you find the competition educational and beneficial to your understanding of stock trading?	Would you participate in similar competitions in the future?	Were you satisfied with the accuracy of the data provided on the platform (stock prices, market trends, etc.)?	Did you find the platform's educational resources (tutorials, guides, etc.) helpful in understanding stock trading?	Would you recommend any specific improvements or new features for the platform?	How likely are you to use the Mockstock trading platform again in the future?	Any additional comments or suggestions related to the platform?
5/28/2024 17:48:27	shivarajgadachi@gmail.com	Shivaraj S Gadachi	8197825665	DSU	Excellent	Yes, very easy		Excellent	Yes, it was just right	Yes	Yes	Yes	Yes	It's really good	Likely	Good Brainstorming Session But I have come in top 10 of mock stock competition it would be great if i would have got a participation certificate
5/28/2024 17:48:53	saharach6@gmail.com	Sahana CH	8660097515	DSU	Excellent	Yes, very easy	No	Excellent	Yes, it was just right	Yes	Yes	Yes	Yes	No	Very likely	No
5/28/2024 17:48:55	preethihebbar99@gmail.com	PREETI VASANTH HEBBAR	9480587422	DSU	Good	Yes, somewhat easy		Good	No, it was too short.	Yes	Yes	Yes	Yes	No	Very likely	No
5/28/2024 17:52:17	yashwinkb27@gmail.com	Yashwin K B	8431852282	DSU	Excellent	Yes, somewhat easy	Login issue	Fair	No, it was too short.	Yes	Yes	Yes	Yes	competitions should be held for longer duration	Likely	na
5/28/2024 17:50:31	shashankbhumar6@gmail.com	Shashank Bhumar	8431884400	DSU	Fair	Yes, somewhat easy	-	Fair	No, it was too short.	No	Yes	Yes	Yes	Needs to be improved in fixing login issue which will occur sometimes. Needs to develop good user interface.	Likely	Nothing
5/28/2024 19:21:56	ayush.immanuel@gmail.com	Ayush Immanuel	9036148491	DSU	Excellent	Yes, very easy	None at all tbh.	Excellent	Yes, it was just right	Yes	Yes	Yes	Yes	-	Neutral	-
5/28/2024 19:06:10	saharasr1708@gmail.com	Sahana S R	9731048880	DSU	Good	Yes, somewhat easy		Good	No, it was too short.	Yes	Yes	Yes	Yes	The courses must be updated time and again.	Very likely	None.
5/28/2024 19:08:19	srivathsa.030@gmail.com	Srivathsa S	8296884174	DSU	Good	Yes, somewhat easy		Good	Yes, it was just right	Yes	Yes	Yes	Yes	NA	Neutral	NA
5/28/2024 19:27:21	ananthrajurs0001g@gmail.com	Ananth Raj Urs M	9740026928	DSU	Good	Yes, very easy		Excellent	No, it was too short.	Yes	Yes	Yes	Yes	Please make it more user-friendly	Neutral	Please make it more user-friendly
5/28/2024 20:52:38	ramyapv2002@gmail.com	Ramya PV	9916460302	DSU	Good	Yes, very easy		Good	Yes, it was just right	Yes	Yes	Yes	Yes	Precise analysis and understanding of stock buying would help in future for trading	Very likely	New design for analyzing stocks with new specific tools in consideration
5/31/2024 13:46:24	shohank794@gmail.com	Shohan khan	9740656802	DSU	Excellent	Yes, very easy		Fair	Yes, it was just right	Yes	Yes	Yes	Yes	-	Neutral	-
5/31/2024 13:46:59	dinesh.k.k@gmail.com	Dinesh.k.k	6374181042	DSU	Good	Yes, somewhat easy	Yes	Good	No, it was too short.	Yes	Yes	Yes	Yes	No	Very likely	No
5/31/2024 13:47:09	chetanbhagat2001@gmail.com	Bhagat Chaitanya Vikrambhai	7022449577	DSU	Excellent	Yes, very easy		Good	Yes, it was just right	Yes	Yes	Yes	Yes	Yes	Likely	No
5/31/2024 13:47:27	fahadkhan62465@gmail.com	Fahad khan M	7483081277	DSU	Fair	Yes, somewhat easy	No	Excellent	Yes, it was just right	Yes	Yes	Yes	Yes	No	Likely	No
5/31/2024 13:47:44	shivarajgadachi@gmail.com	Shivaraj S Gadachi	8197825665	DSU	Excellent	Yes, somewhat easy		Excellent	Yes, it was just right	Yes	Yes	Yes	Yes	No	Very likely	Good
5/31/2024 13:47:54	pranaygnm10@gmail.com	Pranay G N	7892868487	DSU	Good	Yes, somewhat easy	NA	Good	No, it was too short.	Yes	Yes	Yes	Yes	NA	Likely	NA
5/31/2024 13:48:58	abhaybharadwaj2502@gmail.com	Abhay bharadwaj	9880249578	DSU	Good	Yes, somewhat easy	No	Good	No, it was too short.	Yes	Yes	Yes	Yes	No	Likely	No
5/31/2024 13:48:59	sushantabank005@gmail.com	Sushanta Bank	8822316532	DSU	Good	Yes, very easy		Good	Yes, it was just right	Yes	Yes	Yes	Yes	Not at all.	Likely	No
5/31/2024 13:49:01	saharasr1708@gmail.com	Sahana S R	9731048880	DSU	Good	Yes, very easy	NA	Good	No, it was too short.	Yes	Yes	Yes	Yes	NA	Neutral	NA
5/31/2024 13:48:17	shashankbhumar6@gmail.com	Shashank Bhumar	8431884400	DSU	Excellent	Yes, very easy	Yes Their are some bugs and glitches inside the app	Good	No, it was too short.	Yes	Yes	Yes	Yes	-	Neutral	-
5/31/2024 13:49:28	ananthrajurs0001g@gmail.com	Ananth Raj Urs M	9740026928	DSU	Excellent	Yes, very easy		Good	No, it was too short.	Yes	Yes	Yes	Yes	New design for better stock analysis with more information accessible for purchasing stock	Likely	Minimum of 2 weeks for any future mock stock challenges

3/7/2024 13:54:53	likesh8480@gmail.com	LIKESH BABU S	6361576873	DSU	Good	Yes, very easy	No	Good	No, it was too short.	Yes	No	Yes	Yes	Nothing	Very likely	No
3/7/2024 13:55:49	vanimenon2001@gmail.com	Vani Menon	8779796147	DSU	Excellent	Yes, somewhat easy	N/A	Excellent	No, it was too short.	Yes	Yes	Yes	Yes	N/a	Likely	No
3/7/2024 13:56:51	maneshvaidu2002@gmail.com	MANESH G	7795840475	DSU	Excellent	Yes, very easy		Good	Yes, it was just right	Yes	Yes	Yes	Yes	na	Very likely	do same mock stock trading in indian stock market
3/7/2024 13:57:25	hegderohit63@gmail.com	Rohit G Hegde	6361691304	DSU	Good	Yes, somewhat easy	App will stop working sometimes	Fair	Yes, it was just right	Yes	Yes	Yes	Yes	Price update is very slow, improvement in user interface	Very likely	Nothing
3/7/2024 14:32:48	fizamirzani123@gmail.com	Fiza Mohd Hasan Mirzani	7483417897	DSU	Good	Yes, somewhat easy	Yes	Fair	Yes, it was just right	Yes	Yes	Yes	Yes	Yes	Likely	No
3/7/2024 14:14:06	verunthwari6102@gmail.com	Varun Kumar Tiwari	8709106043	DSU	Excellent	Yes, somewhat easy	No	Good	No, it was too short.	Yes	Yes	Yes	Yes	No	Likely	Na
3/7/2024 14:18:32	vidhar.mefe@gmail.com	Sridhar L	6362329603	DSU	Excellent	Yes, somewhat easy	No	Good	Yes, it was just right	Yes	Yes	Yes	Yes	No	Likely	No
3/7/2024 14:27:31	shreyasjoshi1457@gmail.com	Shreyas	8762268380	DSU	Good	Yes, somewhat easy	No	Good	No, it was too short.	Yes	Yes	Yes	Yes	No	Likely	Thank you
3/7/2024 14:28:57	12gouravr@gmail.com	Gourav R	8197184830	DSU	Excellent	No, it was somewhat difficult		Good	Yes, it was just right	Yes	Yes	Yes	Yes	More user friendly interface	Likely	No
3/8/2024 16:22	12gouravr@gmail.com	Gourav R	8197184830	DSU	Fair	Yes, somewhat easy		Good	Yes, it was just right	Yes	Yes	Yes	Yes	No	Likely	No
3/8/2024 16:23	akshaygouda0206@gmail.com	Akshay Suresha Gouda	9353530149	DSU	Good	Yes, somewhat easy	No	Good	Yes, it was just right	Yes	Yes	Yes	Yes	.	Likely	
3/8/2024 16:24	poojitha88255reddy@gmail.com	Poojitha Babu	8825533283	DSU	Good	Yes, somewhat easy	no	Fair	Yes, it was just right	Yes	Yes	Yes	Yes	yes,it was specifically good and practical.	Likely	we will like to perform next competitions in the future.
3/8/2024 16:27	hegderohit63@gmail.com	Rohit G Hegde	6361691304	DSU	Good	Yes, somewhat easy	App freez	Good	Yes, it was just right	Yes	Yes	Yes	Yes	App interface should be changed	Neutral	Nothing
3/8/2024 16:36	shodhanshetty@gmail.com	Shodhan Shetty	9019818980	DSU	Excellent	Yes, somewhat easy	No	Excellent	No, it was too short.	Yes	Yes	Yes	Yes	No	Neutral	Nothing
3/8/2024 16:53	ayush.invmanuel@gmail.com	Ayush Immanuel	9036148491	DSU	Excellent	Yes, very easy	None at all. It was a pleasure to have been a participant of the competition.	Excellent	Yes, it was just right	Yes	Yes	Yes	Yes	It should incorporate real time trading allowances also.	Likely	None.
3/8/2024 16:54	raghu87babu@gmail.com	Vatkudi Raghu	7619315600	DSU	Good	Yes, very easy		Good	No, it was too short.	No	Yes	Yes	Yes	No	Likely	No
3/8/2024 17:00	janardhanreddy9663@gmail.com	Janardhana K N	9663680259	DSU	Good	Yes, very easy		Excellent	Yes, it was just right	Yes	Yes	Yes	Yes	.	Very likely	.
3/8/2024 17:01	skd73795@gmail.com	Dinesh.k.k	6374161042	DSU	Good	Yes, somewhat easy	Yes	Good	Yes, it was just right	Yes	Yes	Yes	Yes	Yes	Neutral	No
3/8/2024 17:28	shivaraj.gadachi@gmail.com	Shivaraj S Gadachi	8197825665	DSU	Good	Yes, somewhat easy		Good	Yes, it was just right	Yes	Yes	Yes	Yes	Nothing	Likely	Good Session
3/8/2024 18:34	anantvirajurs0001p@gmail.com	Ananth Raj Urs M	9740026928	DSU	Good	Yes, very easy		Good	No, it was too short.	Yes	Yes	Yes	Yes	Nothing is wrong with it	Likely	No
3/8/2024 18:42	pranaygnn10@gmail.com	Pranay G N	7892868467	DSU	Good	Yes, somewhat easy	NA	Good	No, it was too short.	Yes	Yes	Yes	Yes	Na	Likely	Na
3/8/2024 20:12	abhaybharadwaj2502@gmail.com	Abhay bharadwaj	9686249578	DSU	Good	Yes, somewhat easy	No	Good	No, it was too short.	Yes	Yes	Yes	Yes	No	Likely	No
3/8/2024 20:12	chetanbhagat2001@gmail.com	Bhagat Chaitanya Vikrambhai	7622449577	DSU	Good	Yes, somewhat easy		Good	Yes, it was just right	Yes	Yes	Yes	Yes	No	Likely	None
3/8/2024 22:00	chaithanyamk183mku@gmail.com	CHAITHANYA M K	9148214668	DSU	Good	Yes, very easy		Excellent	No, it was too short.	Yes	Yes	Yes	Yes	NOTHING	Very likely	NOTHING

Certificates:

stockbyte

Certificate of Excellence

This certifies that

Dinesh S

of

Dayananda Sagar University, School of Commerce and Management studies has traded in NASDAQ for 5 days and

has demonstrated outstanding skills and acume in the field of financial literacy by emerging as the Winner in the Mock Stock Competition.

Their exceptional performance, strategic decision-making, and adeptness in navigating the complexities of the stock market were commendable throughout the competition.

Kishore BS
Co Founder & CEO
Stock Market Institute

Date: **4/11/2024**
4/16/2024

stockbyte

Certificate of Excellence

This certifies that

Rohit Hegde

of

Dayananda Sagar University, School of Commerce and Management Studies has traded in NASDAQ for 5 days and

has demonstrated outstanding skills and acume in the field of financial literacy by emerging as the Runner in the Mock Stock Competition.

Their exceptional performance, strategic decision-making, and adeptness in navigating the complexities of the stock market were commendable throughout the competition.

Kishore BS
Co Founder & CEO
Stock Market Institute

5/11/2024
Date:

VODDHI

stockbyte

Certificate of Excellence

This certifies that

AYUSH IMMANUEL

of

Dayananda Sagar, School of Commerce and Management Studies has traded in NASDAQ for 5 days and

has demonstrated outstanding skills and acume in the field of financial literacy by emerging as the 2nd runner up in the Mock Stock Competition.

Their exceptional performance, strategic decision-making, and adeptness in navigating the complexities of the stock market were commendable throughout the competition.

Kishore B.S

Kishore BS
Co Founder & CEO
Stock Market Institute

Date: 5/11/2024

SCHOOL OF
COMMERCE & MANAGEMENT STUDIES

VIDDHI

Report on FinTellect- A Presentation Competition

About the Event

On the Valedictory ceremony of Value Added Program the Fintech, School of Commerce and Management Studies has organised FinTellect- a presentation competition for MBA students on Dec. 22nd, 2023. Unveiling the future of finance, this event served as a platform that brings together innovative minds to showcase cutting-edge solutions and ground breaking ideas. Total 33 students have participated and presented in the competition. Participants have presented various aspects of 5 Fintech Companies (InstaMojo, BillDesk, PineLabs, PhonePAy, Paytm). Participants have presented the intricacies of financial technology, their research findings, and technological advancements in the rapidly evolving field of financial technology. Evaluation of the Presentation was based on content knowledge, quality of presentation, analysis and interpretation and clarity of response. The competition concluded in the announcement of winners who demonstrated outstanding competency in their presentations.

Date: Dec. 22nd, 2023 Venue: Gallery-3, city Innovation Campus

Time: 2:00PM- 4:00 PM

Mode: Hybrid (Online & Offline)

Zoom Link: https://zoom.dsuedu.in/fintech

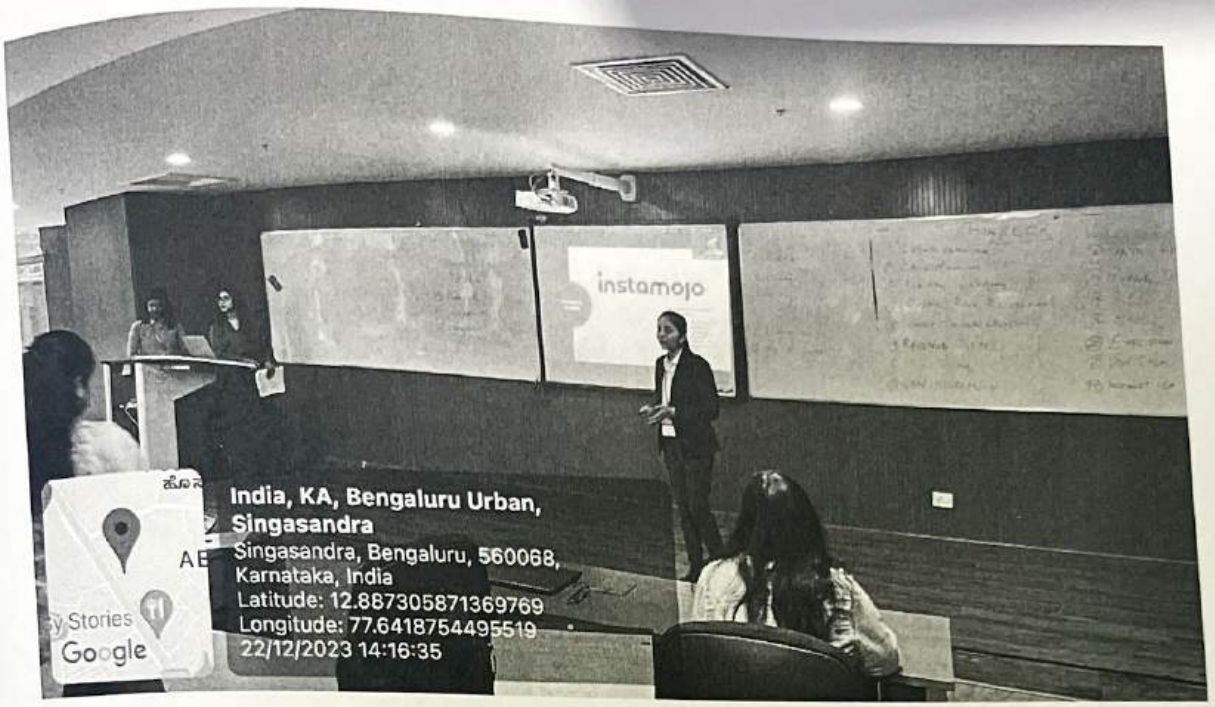
Panel members of the Event

1. Prof. Mohan Srinivasan
2. Mr. Anand Rastogi, Director, Actyv.ai
3. Mr. SriKanth Chakravarthi, Director, EFUNDZZ
4. Mr. Prashant Prabhakaran, Co-Founder, Watchyourhealth.com

Winners of the Event

Name	USN
Durgaa Lakshmi R	CMS22MBA087
Amshumalini K	CMS22MBA005
Ajay M	CMS22MBA003
Deepalakshmi K	CMS22MBA018
Abhishek Dodawad	CMS22MBA001
Sai Mourya R	CMS22MBA138
Ganesh Govind Naik	CMS22MBA021
Nellore chandana	CMS22MBA116
Sharath Shetty	CMS22MBA058
Bhoomika S	CMS22MBA012

Photos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Singasandra
Singasandra, Bengaluru, 560068,
Karnataka, India
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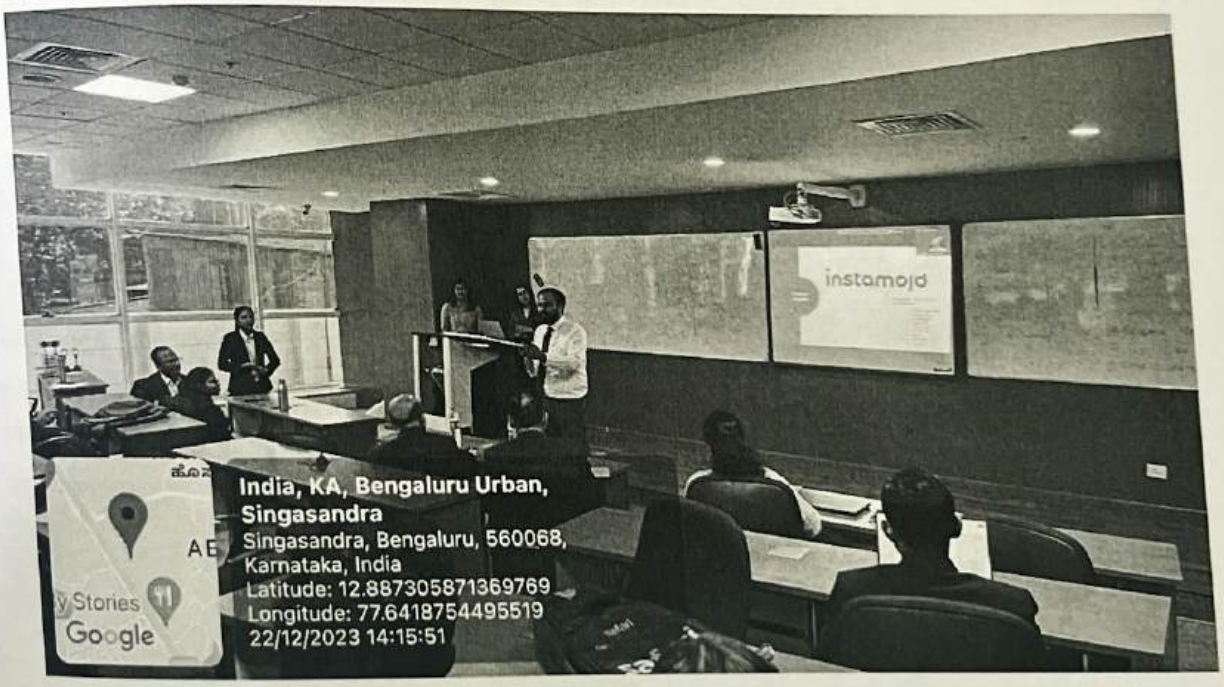
Google

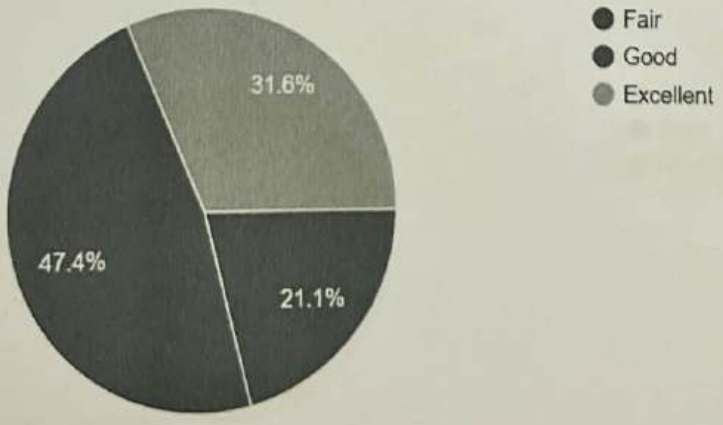

instamojo
India, KA, Bengaluru Urban,
Singasandra
Singasandra, Bengaluru, 560068,
Karnataka, India
Latitude: 12.887305871369769
Longitude: 77.6418754495519
22/12/2023 14:15:51
Google

Vote of thanks was offered by Dr. Nisha Goyal

Feedback

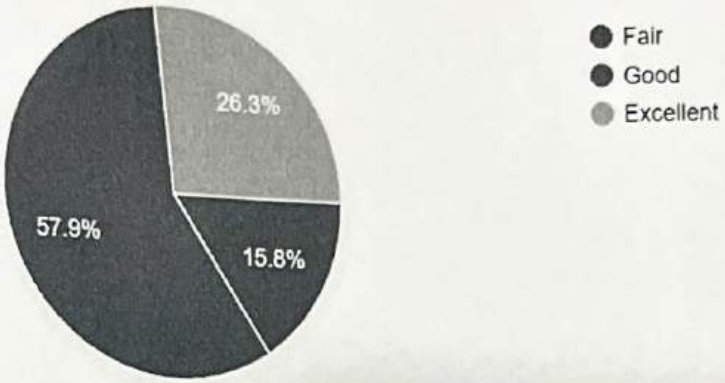
How would you rate your overall experience participating in the competition?

19 responses



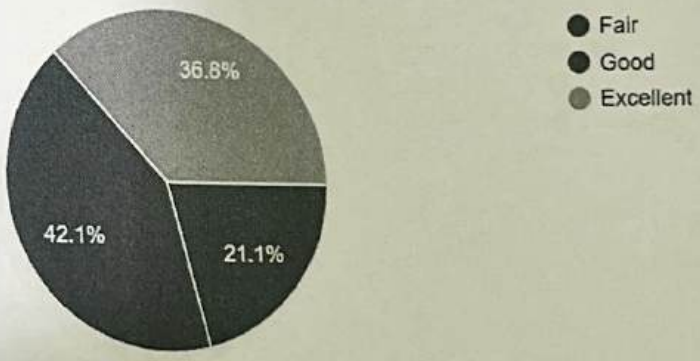
Did you find the format of the competition suitable and engaging?

19 responses



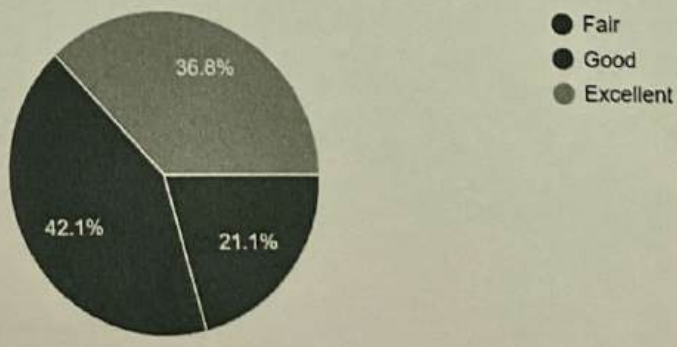
Did it provide a good platform for showcasing your skills or knowledge?

19 responses



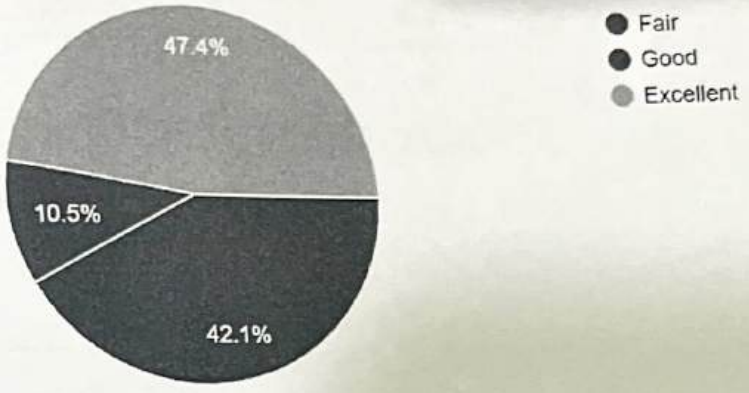
How would you rate the competition venue and facilities?

19 responses



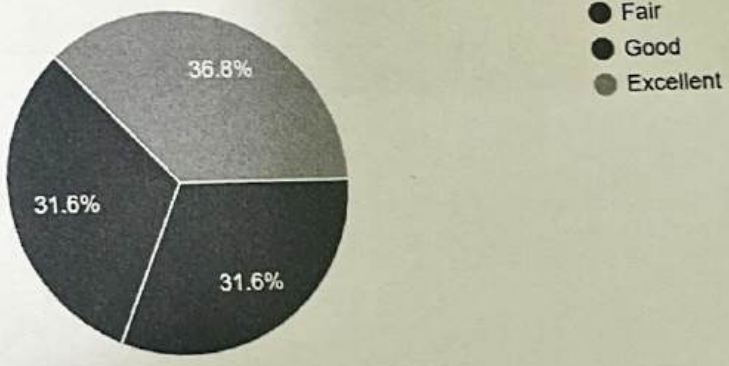
Were the competition rules clear and effective?

19 responses



Was the competition well organized?

19 responses



Please let us know if you have any comments or suggestions-

19 responses

.

Thank you.

Some practical or hands on should have been included

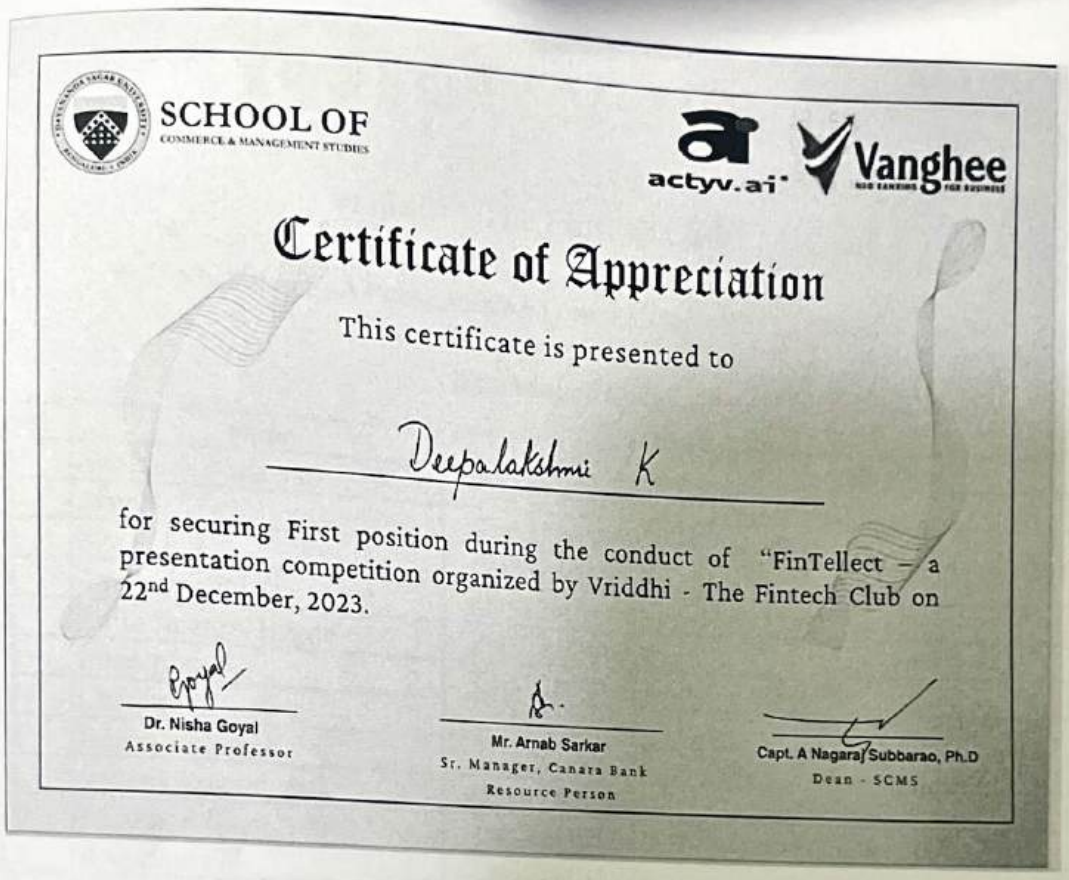
It was a great opportunity .

It was a good program

The overall competition was well organised.

The Fintech presentation competition has been organised well. We as a students gained more insights in the areas of fintech.

Certificate



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actyv.ai · Vanghee

Certificate of Appreciation

This certificate is presented to

Deepalakshmi K

for securing First position during the conduct of "FinTellect – a presentation competition organized by Vriddhi - The Fintech Club on 22nd December, 2023.

Dr. Nisha Goyal
Associate Professor

Mr. Arnab Sarkar
Sr. Manager, Canara Bank
Resource Person

Capt. A Nagaraj Subbarao, Ph.D
Dean - SCMS

Goyal Jayashree

Dr. Nisha & Prof. Jayashree
Faculty Coordinators

Capt. A. Nagaraj Subbarao, Ph.D
Dean-SCMS

DAYANANDA SAGAR UNIVERSITY
SCHOOL OF COMMERCE & MANAGEMENT STUDIES
BANGALORE

SCHOOL OF
COMMERCE & MANAGEMENT STUDIES

Vriddhi – The Fintech Club

FinTellect - A Presentation Competition - 22/12/2023

Attendance Sheet

Sl No.	Name	USN	Signature
1	Abhishek Dodawad	CMS22MBA001	
2	Ajay M	CMS22MBA003	
3	Akash R Y	CMS22MBA004	
4	Amshumalini K	CMS22MBA005	
5	Anita Nagaraj Hegde	CMS22MBA006	
6	Bhoomika S	CMS22MBA012	
7	Chethan N	CMS22MBA016	
8	Deepalakshmi K	CMS22MBA018	
9	Ganesh Govind Naik	CMS22MBA021	
10	Karthik P G	CMS22MBA025	
11	Keerthana M	CMS22MBA026	
12	M MohanMurali	CMS22MBA028	
13	Manjunath HP	CMS22MBA032	
14	Mohammed saqueeb pasha	CMS22MBA033	
15	Namita Dattatraya Gaonkar	CMS22MBA035	
16	Naveen Kumar B	CMS22MBA036	
17	Nithin R	CMS22MBA039	
18	Nitish Hegde	CMS22MBA040	
19	Pravalika.M	CMS22MBA047	
20	Ravi Kiran B H	CMS22MBA050	
21	Sandeep M	CMS22MBA052	
22	Saurabh kumar	CMS22MBA055	
23	Sharanabasava M	CMS22MBA056	
24	Sharath M S	CMS22MBA057	
25	Sharath Shetty	CMS22MBA058	
26	Sudarshan B R	CMS22MBA061	
27	Sudeep B M	CMS22MBA062	
28	Suprith U N	CMS22MBA063	
29	Tejashree M	CMS22MBA064	
30	Vandita Anant Bhat	CMS22MBA067	
31	Vinay Nagendra Gouli	CMS22MBA068	
32	Annie	CMS22MBA078	
33	Bannappa Muggannavar	CMS22MBA080	
34	Damini	CMS22MBA084	

35	Durgaa Lakshmi R	CMS22MBA087	
36	Hemanth R	CMS22MBA095	
37	Istarth S S	CMS22MBA096	
38	Leelashankar S	CMS22MBA105	
39	M Meghana Raj	CMS22MBA109	
40	Mohan R	CMS22MBA112	
41	Nellore chandana	CMS22MBA116	
42	Pradeep nilaj	CMS22MBA121	
43	Prajna Acharya	CMS22MBA123	
44	Rajendra Ittina	CMS22MBA129	
45	Rohith S	CMS22MBA133	
46	Sachin N B	CMS22MBA135	
47	Sahitya S Patil	CMS22MBA137	
48	Sai Mourya R	CMS22MBA138	
49	Shreelakshmi	CMS22MBA146	
50	Shreya R Sunkad	CMS22MBA147	
51	Sindhu.M	CMS22MBA149	
52	Suchithra.H.K	CMS22MBA151	
53	Suman K N	CMS22MBA154	
54	SumanthaRao A	CMS22MBA155	
55	Tanveer Ahmed R	CMS22MBA156	
56	Varuni C Kulkarni	CMS22MBA163	
57	Vikram Tiwari	CMS22MBA166	
58	Vivek bikkannavar	CMS22MBA170	
59	Yugashree IR	CMS22MBA171	
60	Syeda Hafsa	CMS22MBA179	

Faculty Coordinators

Dr. Nisha Goyal

Prof. Jayashree N

DAYANANDA SAGAR UNIVERSITY
DEAN - SCMS
SCHOOL OF COMMERCE & MANAGEMENT STUDIES
BANGALORE

SCHOOL OF
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School of Commerce and Management Studies-PG Program

Case study work shop

on

People Management, The Mantra for Success: The Case of Singhania and Partners

Date:27/01/2024
Time:10.00 AM
Mode: Offline – Room no. 20 SCMS Dayananda Sagar University, kudlu gate

The objective of the event is to encourage the participants to analyse and evaluate the real world situations and develop the critical thinking skills by examining the complex problems, proposing the available solutions.

The purpose is to enhance the decision making skills required to make informed choices based on the information and to develop the ability to weigh pros and cons and consider various perspectives.

Foster teamwork and collaboration by assigning case studies that require group discussion and joint problem-solving and to improve communication and interpersonal skills within the team.

This case study session is taken by Aravind Warrier, an HR manager from an leading MNC, is a motivational speaker . He has 18 years of experience in HR field.

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School of Commerce and Management Studies

Case Study Session: People Management, The Mantra for Success: The Case of Singhania and Partners: 27/01/2024

Sl No.	Name	Section	Signature
1	Aakash Gm		
2	Aditi Roy		
3	Aishwarya Anil		
4	Angshuman Deepankar		
5	Arun K M	A	
6	Ayush Mandal		
7	Bharath Parameshwar Naik		
8	Bhavana N		
9	Bhavya S Kumar	A	
10	Brajesh Mohta		
11	Dhilsha Kappadan	A	
12	Ganesha S		
13	Gururaj Sharad Khande		
14	Javed Akhtar		
15	Konda Vijaya Durga	A	
16	Kush Mehta	A	
17	Kushal G L		
18	Luswala Mustufa Abdulkadar	A	
19	M Leander Aravind	A	
20	Malabika Biswas	A	
21	Mohammed Ashish I	A	
22	Monalisha Singh Deo	A	
23	Nandagopala Bhatter MR		
24	Niharika Hazarika		
25	Nikhil		
26	Nirusha K		
27	Preetham H R	A	
28	Raksha D		
29	Ramya Pv	A	
30	Selvam S		
31	Shama Hasna		
32	Shreyas Kumar T		
33	Sivanesan K	A	
34	Sunil Verma		
35	Sweta Debnath		
36	Thanusha K		
37	Tuvijat.a	A	
38	V.kiran		
39	Vinaykumar Kushwaha		
40	B Karthik		

41	Aditya V Jartarghar		A.V Jartar
42	Jayashruthi S		
43	Mohammed Saad Soudagar	A	
44	Manesh G	A	
45	Monisha.M	B.	Monisha
46	Swapnil Banik		
47	Subhash Deekshith Tm		
48	Vani Menon	B	
49	S Roshan Zaheer Khan		
50	Sharfuddin Khan		
51	Boppana Bhumika	A	B. Bhumika
52	Aakefa Sultana	A	Aakefa Sultana.
53	Suhas R		
54	Basavaraj Hanamantagoud Patil	A	Patil
55	Sneha P		
56	N K Vidisha		
57	Ravi Kharwar	A	Ravi Kharwar
58	Shivaraj Gadachi		
59	Sushanta Banik		
60	Varun Kumar Tiwari		Varun kumar Tiwari
61	G L Vinay		
62	Marisree K R		K.R. Marisree
63	Veeranna Basavaraj Nitali		
64	Vishwa P		
65	Yalavarthi Chetan Sai		Y. Chetanjai.
66	Sanjeevi S		
67	Meghana SB	B	Meghana. S.B.
68	Sandeep Kumar K R		
69	Shreya E	B	Shreya
70	Karan N		
71	Suhas S K		
72	Farveez		
73	Abhay Bharadwaj		
74	Abhin R Gowda		
75	Balakrishna B R	B	Balakrishna B.R

Event Coordinator

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BANGALORE

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School of Commerce and Management Studies

Case Study Session: People Management, The Mantra for Success: The Case of Singhania and Partners: 27/01/2024

Sl No.	Name	Section	Signature
1	Bhagat Chaitanya Vikrambhai		
2	Bhavana P		
3	Chennuri Hema Sai		
4	D. Sai Tvaritha		
5	Drumil Gohel		
6	Gujjula Bhanu Prakash		
7	H J Ujwal	B	
8	Harsha B N	B	
9	Himani Shekar		
10	Janesh K		
11	Kiran Kumar R		
12	Lipsa Parida		
13	M. Sneha	B	
14	Monisha Urs S	C	
15	Mutra Anjaneyulu Reddy	B	
16	Nikita Kumari Gupta		
17	Raj Shekar Reddy M A	B	
18	Sowndarya M	B	
19	Srikanth Bode	B	B. Srikanth.
20	Poojitha Babu	B	Poojitha babu.
21	Vignesh S		
22	Samiksha V	B	
23	Fiza Mohd Hasan Mirzani	B	
24	Shipra Suri		
25	Fardeen Abdul Latif Sayed	B	
26	Pramod		
27	Rahul Prakash		
28	Shohan Khan	B	Shohan Khan.
29	Sneha Nair	B	
30	R Karthiik Nandan		
31	Prajwal M S		
32	Harsha G B		
33	Bibek Barman		
34	Dipali Kumari	C	Dipali Kumari
35	Satyabrata Sahoo		
36	Shrusti Somshetty		
37	Yogesh.s		
38	Shilpa A	B	Shilpa. A
39	Sumaiya Kauser	B	Sumaiya.
40	Girija J	C	

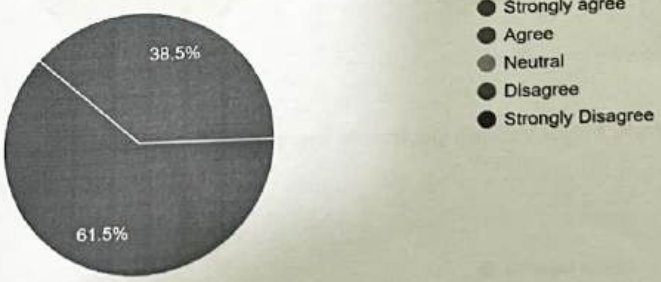
41	Neha R		
42	Nikhil N	C	
43	Karthik M S		
44	Lal Bahadur R	C	Lal Bahadur.R
45	Abhishek Nyamagoud	C	
46	Karan Hinduja		
47	Komathi N		
48	Likhitha N Murthy		
49	Likith S Reddy		
50	M Ajay Presanth	C	
51	Mohammed Akhtar P M		
52	Mohana Priya B		
53	P Abhishek		
54	Pooja A		
55	Pranay G N		
56	Rashmitha D N		
57	Rohith A Palled		
58	Roopesh.varadaraj		
59	Sumanth M R		
60	Tharun H R	C	Tharun.HR
61	Vikyath Gowda		
62	Vinayaka M.h		
63	Yashwin K B	C	
64	Vikas Kumar M		
65	Dinesh.k.k		
66	Priyamvada Shah Deo		
67	Gb Manish Gowda		
68	Punith J		
69	Jeevan N		
70	MAANSI K		
71	Sanjana G Kottur	C	
72	Manmohan S		
73	Sonu C B		
74	Madhu.j	C	Madhu.J
75	Ramya S M	C	Ramya S.M
76	Aswathy B		
77	Sai Abhiram Reddy Y		
78	Deepak T	C	
79	Tarun V		
80	S R Sirisha	C.	
81	Noor Saba		

Event Coordinator

DEAN
SCMS

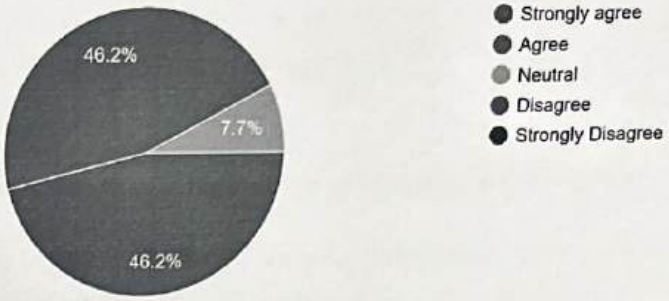
The objectives of the case study session clearly communicated to the participants?

13 responses



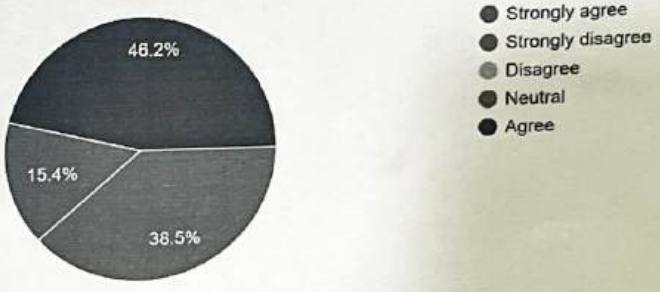
The chosen case study relevant to the participants' roles and the organization's context?

13 responses



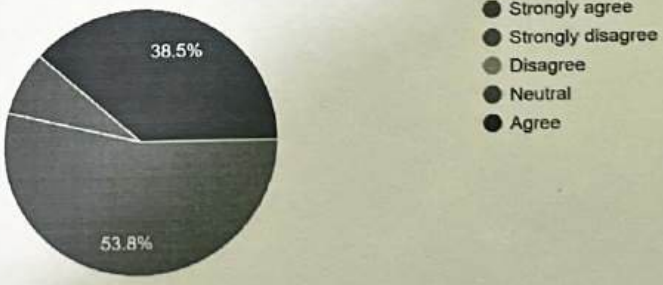
The case study session align with the broader learning objectives of the people management program or course?

13 responses



The theoretical concepts of people management effectively applied to the practical scenarios presented in the case study?

13 responses



Did participants understand the purpose and expected outcomes of the session?

12 responses

Yes
Clarity was missing with a lot of communication
Yes understood
Yes it was a informative session
I had a very good experience by analysing the case study with Arvind sir
S
Yes. The case study was indeed a great opportunity to match the theories and concepts of HRM with the situation(case study). This event gave us the opportunity to brainstorm with the team members and pitch possible solutions to the scenario. Thank you

Co-ordinator

Signature

Dean-SCMS(PG)

Signature

Sl No	USN	Name of the students	Title of Work	Place of work
1	CMS22MBA001	Abhishek Dodawad	Internship at Vijay Industries	Vijay Industries, Bailhongal ,Gurgaon
2	CMS22MBA002	Abhishek Tikotekar	Internship at Web Digital Mantra IT Services Pvt. Ltd	Web Digital Mantra IT Services Pvt. Ltd, Bengaluru
3	CMS22MBA004	Akash R Y	Internship at Team Work Financial Services Pvt. Ltd	Team Work Financial Services Pvt. Ltd, Delhi
4	CMS22MBA005	Amshumalini K	Internship at TestAIng Solutions Pvt. Ltd	TestAIng Solutions Pvt. Ltd, Bikaner
5	CMS22MBA006	Anita Nagaraj Hegde	Internship at ITC Limited	ITC Limited, Bengaluru
6	CMS22MBA007	B Pooja Singh	Internship at TestAIng Solutions Pvt. Ltd	TestAIng Solutions Pvt. Ltd, Bikaner
7	CMS22MBA008	B S Dhanush Rao	Internship at SBVR Private Ltd.	SBVR Private Ltd, Bengaluru
8	CMS22MBA009	Bharath Kumar V B	Internship at KR Swamy & Associates Charted Accountants	KR Swamy & Associates Charted Accountants, Bengaluru
9	CMS22MBA010	Bhavana C	Internship at Paessler Solutions AG	Paessler Solutions AG, Bengaluru
10	CMS22MBA011	Bheemesha	Internship at Sri Bhiralingeswara Traders	Sri Bhiralingeswara Traders, Bellary
11	CMS22MBA012	Bhoomika S	Internship at Quest EMS Pvt Ltd.	Quest EMS Pvt Ltd, Bengaluru
12	CMS22MBA013	Chathurya	Internship at Frontier Business Systems Pvt Ltd,	Frontier Business Systems Pvt Ltd, Bengaluru
13	CMS22MBA014	Chetana Devaraj Hegde	Internship at Yellapur Taluka Agricultural Produce Cooperative Marketing Society Ltd,	Yellapur Taluka Agricultural Produce Cooperative Marketing Society Ltd,Yellapur
14	CMS22MBA015	Chetana K Jain	Internship at Bosch Mobility Platforms and Solutions India Pvt Ltd.	Bosch Mobility Platforms and Solutions India Pvt Ltd, Bengaluru

15	CMS22MBA016	Chethan N	Internship at Sri Vari Developers	Sri Vari Developers, Bengaluru
16	CMS22MBA017	Chinmay Devadiga	Internship at Advit Ventures Pvt Ltd.	Advit Ventures Pvt Ltd, Bengaluru
17	CMS22MBA018	Deepalakshmi K	Internship at WUDSTREET WNU mutual Fund Distribution Services Pvt Ltd.	WUDSTREET WNU mutual Fund Distribution Services Pvt Ltd, Bengaluru
18	CMS22MBA019	Duleep S	Internship at ADSMIT Media	ADSMIT Media, Prayagraj
19	CMS22MBA020	E Suhas	Internship at Sandeep B K & CO.,	Sandeep B K & CO., Bengaluru
20	CMS22MBA021	Ganesh Govind Naik	Internship at MYLOGIC	MYLOGIC, Bengaluru
21	CMS22MBA022	Gangamma Valmiki G	Internship at BMM Ispat Ltd.	BMM Ispat Ltd, Hosapete
22	CMS22MBA023	Goutami M Gouda	Internship at Quess Corp Ltd	Quess CorpLtd, Bengaluru
23	CMS22MBA024	K B Suman	Internship at KPIT Technologies Ltd.	KPIT Technologies Ltd., Pune
24	CMS22MBA025	Karthik P G	Internship at Schneider Electric President Systems Ltd	Schneider Electric President Systems Ltd, Bengaluru
25	CMS22MBA026	Keerthana M	Internship at Maruthi Industries	Maruthi Industries, Bengaluru
26	CMS22MBA028	M Mohanmurali	Internship at IFB Industries LTD	IFB Industries LTD, Bengaluru
27	CMS22MBA029	Madhankumar R	Internship at Universal Adventures	Universal Adventures, Gurgaon
28	CMS22MBA031	Madhukumar C	Internship at Kumbhat & CO	Kumbhat & CO, Bengaluru
29	CMS22MBA032	Manjunath H P	Internship at BABAI TIFFINS	BABAI TIFFINS, Bengaluru
30	CMS22MBA033	Mohammed Saqueeb Pasha	Internship at EY Global Delivery Services India L.L.P	EY Global Delivery Services India L.L.P, Bengaluru
31	CMS22MBA034	Mohammed Sufiyan A Shaikh	Internship at Quess Corp Ltd	Quess CorpLtd, Bengaluru
32	CMS22MBA035	Namita Dattatraya Gaonkar	Internship at PRAKRUTI Products Pvt Ltd.	PRAKRUTI Products Pvt Ltd, Bengaluru
33	CMS22MBA036	Naveen Kumar B	Internship at Kumbhat & CO	Kumbhat & CO, Bengaluru

34	CMS22MBA037	Nikhil K S	Internship at OUTLOOK Group	OUTLOOK Group, Bengaluru
35	CMS22MBA038	Nisarga E S	Internship at International Affairs & Admissions, DSU	ational Affairs & Admissions, DSU, Bengaluru
36	CMS22MBA039	Nithin R	Internship at Toyota Kirsloskar Motor Private Ltd.	Toyota Kirsloskar Motor Private Ltd, Bidadi
37	CMS22MBA040	Nitish Mahabaleshwar Hedge	Internship at Interop Consulting Private Ltd.	Interop Consulting Private Ltd, Bengaluru
38	CMS22MBA041	P A Sneha	Internship at iValue InfoSolutions Private Limited	iValue InfoSolutions Private Limited, Bengaluru
39	CMS22MBA042	P S Naveen	Internship at ABB India Limited	ABB India Limited, Begaluru
40	CMS22MBA043	Patil Sagar T	Internship at Next Footstep Pvt Ltd	Next Footstep Pvt Ltd, Bengaluru
41	CMS22MBA044	Ponnarasi Pooja	Internship at Zain Design	Zain Design, Bengaluru
42	CMS22MBA045	Poornachandra G Hegde	Internship at KS Analytical Consulting	KS Analytical Consulting, Hospet
43	CMS22MBA046	Prasannakumar S Munnoli	Internship at Panchajanya Fashions Pvt Ltd	Panchajanya Fashions Pvt Ltd, Bengaluru
44	CMS22MBA047	Pravalika M	Internship at Orchids International School	Orchids International School, Bengaluru
45	CMS22MBA048	Raghavendra M Konaraddi	Internship at Woxen Digital	Woxen Digital, New Delhi
46	CMS22MBA049	Ramya S	Internship at K R Swamy & Associates	K R Swamy & Associates, Bengaluru
47	CMS22MBA050	Ravi Kiran B H	Internship at EY Global Delivery Services India L.L.P	EY Global Delivery Services India L.L.P, Bengaluru
48	CMS22MBA051	Sampath Kumar S. Gouda Biradar	Internship at Chaitanya India Fin Credit Private Limited	Fin Credit Private Limited, Bengaluru
49	CMS22MBA052	Sandeep M	Internship at Shiva Ferric Pvt. Ltd	Shiva Ferric Pvt. Ltd, Bengaluru
50	CMS22MBA053	Sanjana Prakash Gaonkar	Internship at Happiest Minds	Happiest Minds, Bengaluru
51	CMS22MBA054	Sarim Khan	Internship at Reliance Retail	Reliance Retail, Bengaluru
52	CMS22MBA055	Saurabh Kumar	Internship at TestAIng Solutions Pvt. Ltd	TestAIng Solutions Pvt. Ltd, Bikaner

53	CMS22MBA056	Sharanabasava M	Internship at Panchajanya Fashions	Panchajanya Fashions, Bengaluru
54	CMS22MBA057	Sharath M S	Internship at Singhvi Dev & Unni LLP	Singhvi Dev & Unni LLP, Bengaluru
55	CMS22MBA058	Sharath U Shetty	Internship at Orchids International School	Orchids International School, Bengaluru
56	CMS22MBA059	Shashank Sateesh Marathe	Internship at Sinope Integrated (OPC) Pvt Ltd.	Sinope Integrated (OPC) Pvt Ltd., Bengaluru
57	CMS22MBA060	Srujana P	Internship at THE LEADING SOLUTIONS Pvt Ltd	THE LEADING SOLUTIONS Pvt Ltd, Bengaluru
58	CMS22MBA061	Sudarshan B R	Internship at Deal Squard	Deal Squard, Ghaziabad
59	CMS22MBA062	Sudeep B M	Internship at Vyavasaya Seva Sahakara Sangha Niyamitha	Vyavasaya Seva Sahakara Sangha Niyamitha, Bengaluru
60	CMS22MBA063	Suprith U N	Internship at A John Moris & Co.	A John Moris & Co., Bengaluru
61	CMS22MBA064	Tejashree M	Internship at M/S. Lakshmi Kantha Rao & Co.	M/S. Lakshmi Kantha Rao & Co., Bengaluru
62	CMS22MBA065	V R Prasad	Internship at Interop Consulting Pvt Ltd.	Interop Consulting Pvt Ltd., Bengaluru
63	CMS22MBA066	Vaibhav M K	Internship at Manasa Jagadeesh & Associates	Manasa Jagadeesh & Associates, Bengaluru
64	CMS22MBA067	Vandita Anant Bhat	Internship at india1 Payments	india1 Payments, Bengaluru
65	CMS22MBA068	Vinay Nagendra Gouli	Internship at EY Global Delivery Services India L.L.P	EY Global Delivery Services India L.L.P, Bengaluru
66	CMS22MBA069	Abhipsa Rani Dash	Internship at Proyo Technologies Pvt Ltd.	Proyo Technologies Pvt Ltd., New Delhi
67	CMS22MBA070	Abrar Sharieff	Internship at TestAIng Solutions Pvt. Ltd	TestAIng Solutions Pvt. Ltd, Bikaner
68	CMS22MBA071	Adisiri C B	Internship at MP24 Construction Company	MP24 Construction Company, Bengaluru
69	CMS22MBA072	Adita Mallick	Internship at Business Plus India	Business Plus India, Bengaluru
70	CMS22MBA073	Ajay. R	Internship at Zielhoch	Zielhoch, New Delhi

71	CMS22MBA074	Akash M	Internship at Sri Sangeetha Traders	Sri Sangeetha Traders, Chennai
72	CMS22MBA075	Akash	Internship at TestAIng Solutions Pvt. Ltd	TestAIng Solutions Pvt. Ltd, Bikaner
73	CMS22MBA076	Akhila A J	Internship at OUTLOOK Group	OUTLOOK Group, Bengaluru
74	CMS22MBA078	Annie	Internship at EY Global Delivery Services India L.L.P & Unified Mentor	EY Global Delivery Services India L.L.P, Bengaluru & Unified Mentor, Bengaluru
75	CMS22MBA079	Antara Das	Internship at Nobroker Technologies Solutions Pvt Ltd	Nobroker Technologies Solutions Pvt Ltd, Bengaluru
76	CMS22MBA080	Bannappa Kallappa Muggannavar	Internship at ABB India Limited	ABB India Limited, Bengaluru
77	CMS22MBA081	Bhavya Shree V	Internship at Paessler Solutions AG	Paessler Solutions AG, Bengaluru
78	CMS22MBA082	Chirag S.m	Internship at Surya Financial Technologies Pvt Ltd.	Surya Financial Technologies Pvt Ltd., Bengaluru
79	CMS22MBA083	Damini	Internship at MSI Services Pvt. Ltd.	MSI Services Pvt. Ltd., Bengaluru
80	CMS22MBA084	Darshan. D M	Internship at GRB	GRB, Bengaluru
81	CMS22MBA085	Dawood Ulla Baig	Internship at K R Swamy & Associates	K R Swamy & Associates, Bengaluru
82	CMS22MBA086	Deekshith K T	Internship at OUTLOOK Group	OUTLOOK Group, Bengaluru
83	CMS22MBA087	Durgaalakshmi R	Internship at Wendt	Wendt, Bengaluru
84	CMS22MBA088	Dwijesh Veerupaksh Amrutkar	Internship at Kumada Cars Private Limited	Kumada Cars Private Limited, Bagalkot
85	CMS22MBA089	Gojjala Reddeppa	Internship at Rent2Stays.com	Rent2Stays.com, Bengaluru
86	CMS22MBA090	Gourab Pramanik	Internship at SBV Realty Capital Pvt. Ltd	SBV Realty Capital Pvt. Ltd, Bengaluru
87	CMS22MBA091	Grubakharan Ra	Internship at Wenger & Watson INC.,	Wenger & Watson INC.,Bengaluru
88	CMS22MBA092	Hari Prasad S	Internship at Jumana Steels	Jumana Steels, Chennai

89	CMS22MBA093	Harisha T S	Internship at N J Suresh & Associates	N J Suresh & Associates, Bengaluru
90	CMS22MBA095	Hemanth R	Internship at BEML Limited	BEML Limited, Bengaluru
91	CMS22MBA096	Istarth S S	Internship at Chaitanya India Fin Credit Private Limited	Chaitanya India Fin Credit Private Limited, Bengaluru
92	CMS22MBA097	Pavan Kalyan Jujaray	Internship at Britannia	Britannia, Bengaluru
93	CMS22MBA098	Jhassi Durga Punjabi	Internship at Medicover Hospitals	Medicover Hospitals, Visakapatnam
94	CMS22MBA099	Karthik N	Internship at Globe Capital Market Limited	Globe Capital Market Limited, New Delhi
95	CMS22MBA100	Karthik.s	Internship at ANKH & Associates Charted Accountants	ANKH & Associates Charted Accountants, Bengaluru
96	CMS22MBA101	Kothamasu Abhinai	Internship at ADSMIT Media	ADSMIT Media, Bengaluru
97	CMS22MBA102	Krishnan.s	Internship at OUTLOOK Group	OUTLOOK Group, Bengaluru
98	CMS22MBA103	Kruthik Kashyap M	Internship at PK Groups	PK Groups, Bengaluru
99	CMS22MBA104	Kushalappa. M M	Internship at Quess Corp Ltd	Quess Corp Ltd, Bengaluru
100	CMS22MBA105	LeelaShankar S	Internship at EXEED LOGISTIK INDIA Pvt Ltd.	EXEED LOGISTIK INDIA Pvt Ltd., Bengaluru
101	CMS22MBA106	Lekkala Vasavi Reddy	Internship at Lito Marine Exports Pvt Ltd.	Lito Marine Exports Pvt Ltd., Visakapatnam
102	CMS22MBA107	Likith Gowda G	Internship at Contriver	Contriver, Bengaluru
103	CMS22MBA108	Lingaraju	Internship at Woxen Digital	Woxen Digital, New Delhi
104	CMS22MBA109	M Meghana Raj	Internship at Saisukrithkar Supplements Private Limited	Saisukrithkar Supplements Private Limited, Bengaluru
105	CMS22MBA110	M.k Yogesh	Internship at SLV Builders & Developers Pvt. Ltd.	SLV Builders & Developers Pvt. Ltd., Bengaluru
106	CMS22MBA111	Mahadev Ghosh	Internship at Dream Light Merchants Pvt. Ltd.	Dream Light Merchants Pvt. Ltd., Kolkata
107	CMS22MBA112	Mohan Murali R	Internship at IFB Industries LTD	IFB Industries LTD, Bengaluru
108	CMS22MBA113	Moidin Mahammad Ashbak	Internship at Medicover Hospitals	Medicover Hospitals, Visakapatnam
109	CMS22MBA114	Nancy	Internship at Paessler Solutions AG	Paessler Solutions AG, Bengaluru

110	CMS22MBA115	Nandish.b.baligar	Internship at TestAIng Solutions Pvt. Ltd	TestAIng Solutions Pvt. Ltd, Bikaner
111	CMS22MBA116	Nellore Chandana	Internship at BUSSINESSONBOT PVT LTD	BUSSINESSONBOT PVT LTD, Bengaluru
112	CMS22MBA117	Nikhil A	Internship at K R Swamy & Associates	K R Swamy & Associates, Bengaluru
113	CMS22MBA119	Nune Suhail	Internship at Bulls & Bears Advisors	Bulls & Bears Advisors, Bengaluru
114	CMS22MBA120	Palem Bhavana	Internship at A John Moris & Co.	A John Moris & Co., Bengaluru
115	CMS22MBA121	Pradeep Nilaj	Internship at NEXT FOOT STEP Pvt Ltd	NEXT FOOT STEP Pvt Ltd, Bengaluru
116	CMS22MBA122	Pradum Chetry	Internship at M/S TECHNOWORTH	M/S TECHNOWORTH, Tinsukia, Assam
117	CMS22MBA123	Prajna Acharya	Internship at AdonMo Private Limited	AdonMo Private Limited, Hyderabad
118	CMS22MBA124	Praveen G S	Internship at Chitra Agro	Chitra Agro, Chitradurga
119	CMS22MBA125	Premnath Reddy	Internship at MOON FITNESS	MOON FITNESS, Bengaluru
120	CMS22MBA126	M P Poorna Chandran	Internship at TOyota Kirsloskar Motor Private Ltd.	TOyota Kirsloskar Motor Private Ltd., Bidadi
121	CMS22MBA128	Raghuvamshi	Internship at Simply Vyapar Apps Pvt. Ltd.	Simply Vyapar Apps Pvt. Ltd., Bengaluru
122	CMS22MBA129	Rajendra Ittina	Internship at BHASKAR REDDY . V Charted Accountants	BHASKAR REDDY . V Charted Accountants, Bengaluru
123	CMS22MBA130	Rakesh S	Internship at R V KALI & Associates	R V KALI & Associates, Bengaluru
124	CMS22MBA131	Ramya M	Internship at LEARNOVATE ECOMMERCE	LEARNOVATE ECOMMERCE, Bengaluru
125	CMS22MBA132	Rithika K	Internship at Schneider Electric President Systems Ltd	Schneider Electric President Systems Ltd., Bengaluru
126	CMS22MBA133	Rohith. S	Internship at Deal Squard	Deal Squard, Ghaziabad
127	CMS22MBA134	Rucheeth Kumar N S	Internship at GRB	GRB, Bengaluru
128	CMS22MBA135	Sachin N. B	Internship at ABB India Limited	ABB India Limited, Bengaluru

129	CMS22MBA136	Sagar K B	Internship at LEARNOVATE ECOMMERCE	LEARNOVATE ECOMMERCE, Bengaluru
130	CMS22MBA137	Sahitya S Patil	Internship at Oaktree	Oaktree, Bengaluru
131	CMS22MBA138	Sai Mourya R	Internship at International Affairs & Admissions, DSU	International Affairs & Admissions, DSU, Bengaluru
132	CMS22MBA139	Sai Varnitha T	Internship at Next Foot Step Pvt Ltd	Next Foot Step Pvt Ltd, Bengaluru
133	CMS22MBA140	Samarth H R	Internship at International Affairs & Admissions, DSU	International Affairs & Admissions, DSU, Bengaluru
134	CMS22MBA141	Satwik Goudar	Internship at Kadamba Marketing Souharda Sahakari Niyamita	Kadamba Marketing Souharda Sahakari Niyamita, Sirsi
135	CMS22MBA142	Sharath P	Internship at Wenger & Watson INC.,	Wenger & Watson INC.,Bengaluru
136	CMS22MBA143	Sharathkumar N Chittawadagi	Internship at Next Foot Step Pvt Ltd	Next Foot Step Pvt Ltd, Bengaluru
137	CMS22MBA144	Shashank M	Internship at Paessler Solutions AG	Paessler Solutions AG, Bengaluru
138	CMS22MBA145	Shilpa M Naik	Internship at LEARNOVATE ECOMMERCE	LEARNOVATE ECOMMERCE, Bengaluru
139	CMS22MBA146	Shreelakshmi	Internship at A John Moris & Co.	A John Moris & Co., Bengaluru
140	CMS22MBA147	Shreya Sunkad	Internship at SHASHIKANT UTTURI AND CO., Charted Accountants	SHASHIKANT UTTURI AND CO., Charted Accountants, Hubballi
141	CMS22MBA148	Anastasia	Internship at STAZI Technologies PVT LTD	STAZI Technologies PVT LTD, Bengaluru
142	CMS22MBA149	Sindhu. M	Internship at Oaktree	Oaktree, Bengaluru
143	CMS22MBA150	Souradip Sarkar	Internship at PROGYAN EDUCATIONS	PROGYAN EDUCATIONS, Bengaluru
144	CMS22MBA151	Suchithra Hk	Internship at Chaitanya India Fin Credit Private Limited	Chaitanya India Fin Credit Private Limited, Bengaluru
145	CMS22MBA152	Sudeep Sawant	Internship at Square Yards Consultancy Pvt. Ltd	Square Yards Consultancy Pvt. Ltd,

146	CMS22MBA153	Sughosh Madhukar	Internship at Kadamba Marketing Souharda Sahakari Niyamita	Kadamba Marketing Souharda Sahakari Niyamita, Sirsi
147	CMS22MBA154	Suman K N	Internship at SMI Global Learning Pvt. Ltd	SMI Global Learning Pvt. Ltd, Bengaluru
148	CMS22MBA155	Sumantharao A	Internship at Assetz Property Managenent Services Private Limited	Assetz Property Managenent Services Private Limited., Bengaluru
149	CMS22MBA156	Tanveer Ahmed R	Internship at SREENIVASA INDUSTRIES	SREENIVASA INDUSTRIES, Bengaluru
150	CMS22MBA157	Tejas	Internship at repurpose Global	repurpose Global, Bengaluru
151	CMS22MBA158	Tejashwini M	Internship at SRINIVAS ENTERPRISES	SRINIVAS ENTERPRISES, Bengaluru
152	CMS22MBA159	Thaaneshwar S	Internship at Saisukrithkar Supplements Private Limited	Saisukrithkar Supplements Private Limited, Bengaluru
153	CMS22MBA160	Thushar Madhusudhan	Internship at Max Lifestyle International Pvt. Ltd	Max Lifestyle International Pvt. Ltd., Bengaluru
154	CMS22MBA161	V. Sneha	Internship at LEARNOVATE ECOMMERCE	LEARNOVATE ECOMMERCE, Bengaluru
155	CMS22MBA162	Vaishali Patil	Internship at Surya Financial Technologies Pvt Ltd.	Surya Financial Technologies Pvt Ltd.
156	CMS22MBA163	Varuni C Kulkarni	Internship at International Affairs & Admissions, DSU	International Affairs & Admissions, DSU, Bengaluru
157	CMS22MBA164	Venkatesh M S	Internship at Aarya Hi Tech Agriseeds Pvt. Ltd.	Aarya Hi Tech Agriseeds Pvt. Ltd., Bengaluru
158	CMS22MBA165	Vikram Maha Gummani	Internship at The Totgars Co - operative Sale Society limited	The Totgars Co - operative Sale Society limited, SIRSI
159	CMS22MBA166	Vikram Tiwari	Internship at The Leading Solutions Pvt Ltd	The Leading Solutions Pvt Ltd. New Delhi
160	CMS22MBA167	Vinay	Internship at Unlock Ghar	Unlock Ghar, Bengaluru
161	CMS22MBA168	Vinay H G	Internship at LEARNOVATE ECOMMERCE	LEARNOVATE ECOMMERCE, Bengaluru
162	CMS22MBA169	Vinutha K V	Internship at LEARNOVATE ECOMMERCE	LEARNOVATE ECOMMERCE, Bengaluru

163	CMS22MBA170	Vivek Bikkannavar	Internship at Singhvi Dev & Unni LLP	Singhvi Dev & Unni LLP, Bengaluru
164	CMS22MBA171	Yugashree I R	Internship at TRIPATHY & CO., Charted Accountants	TRIPATHY & CO., Charted Accountants., Bengaluru
165	CMS22MBA172	Anirudh Anand Kulkarni	Internship at SBV Realty Capital Pvt. Ltd	SBV Realty Capital Pvt. Ltd., Bengaluru
166	CMS22MBA175	Hari Prasad	Internship at Stanza Living	Stanza Living., Bengaluru
167	CMS22MBA176	Faizan Mukhtiyar	Internship at WoXen Digital PVT. Ltd.	WoXen Digital PVT. Ltd., New Delhi
168	CMS22MBA177	Gagan	Internship at LEARNOVATE ECOMMERCE	LEARNOVATE ECOMMERCE, Bengaluru
169	CMS22MBA178	Suman Shantappa Biradar	Internship at Surya Financial Technologies Pvt Ltd.	Surya Financial Technologies Pvt Ltd., Bengaluru
170	CMS22MBA179	Syeda Hafsa	Internship at AIWF Yechnologies Private Limited	AIWF Yechnologies Private Limited., Bengaluru
171	CMS22MBA180	Chaitanya K Vernekar	Internship at Quess Corp Ltd	Quess Corp Ltd., Bengaluru
172	CMS22MBA181	Vishrudh V S	Internship at Capgemini Technology Services India Limited	Capgemini Technology Services India Limited., Bengaluru