

# **DAYANANDA SAGAR UNIVERSITY**

Shavige Malleshwara Hills, Kumaraswamy Layout,  
Bengaluru - 560078, Karnataka.

## **SCHOOL OF ENGINEERING**



### **SCHEME & SYLLABUS FOR BACHELOR OF TECHNOLOGY ( B.Tech) – 2016**

#### **MECHANICAL ENGINEERING**

**(3<sup>rd</sup> to 8<sup>th</sup> Sem)**

**(With Effect from 2016-17)**

### SEMESTER III

SL. NO.	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
				L	T	P	S/P	C	CIA	END EXAM
1	16MA201	ENGINEERING MATHEMATICS	CR	03	01	--	--	04	40	60
2	16ME202	MECHANICS OF MATERIALS	CR	03	01	--	--	04	40	60
3	16ME203	THERMODYNAMICS	CR	03	01	--	--	04	40	60
4	16ME204	ENGINEERING DESIGN	CR	03	--	--	02	04	40	60
5	16ME205	MACHINE DRAWING	CR	01	--	04	--	03	40	60
6	16HU201	ECONOMICS FOR ENGINEERS	CR	03	--	--	--	03	40	60
7	16ME271	MATERIALS LABORATORY	CR	--	--	04	--	02	40	60
8	16ME272	MANUFACTURING PROCESS LABORATORY	CR	--	--	04	--	02	40	60
<b>GRAND TOTAL = 800</b>				<b>16</b>	<b>03</b>	<b>12</b>	<b>02</b>	<b>26</b>	<b>320</b>	<b>480</b>

### SEMESTER IV

SL. NO.	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
				L	T	P	S/P	C	CIA	END EXAM
1	16MA202	ENGINEERING MATHEMATICS	CR	03	01	--	--	04	40	60
2	16ME206	ENGINEERING MATERIALS	CR	03	--	--	--	03	40	60
3	16ME207	FLUID MECHANICS AND MACHINES	CR	03	01	--	--	04	40	60
4	16ME208	KINEMATICS OF MACHINES	CR	03	01	--	--	04	40	60
5	16ME209	MANUFACTURING TECHNOLOGY - I	CR	03	--	--	--	03	40	60
6	16ME210	MECHANICAL MEASUREMENTS	CR	03	--	--	--	03	40	60
7	16ME273	FLUID MECHANICS AND MACHINES LABORATORY	CR	--	--	04	--	02	40	60
8	16ME274	MEASUREMENT LABORATORY	CR	--	--	04	--	02	40	60
<b>GRAND TOTAL = 800</b>				<b>18</b>	<b>03</b>	<b>08</b>	<b>--</b>	<b>25</b>	<b>320</b>	<b>480</b>

**L : Lecture , T : Tutorial , P : Practical , S : Seminar , C : Credits , CIA : - Continuous Internal Evaluation : 40 Marks, 1. Two IA Tests (20 Marks), 2. Assignment or Mini project (10 Marks), 3. Any two of self-study presentation, survey reports, quiz, laboratory exercises, presentation in seminar & workshops (10 marks)., SEE : Semester End examinations**

## SEMESTER V

SL. NO.	COURSE CODE	COURSE CODE	CR/AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
				L	T	P	S	C	CIA	SEE
1	16ME301	HEAT TRANSFER	CR	03	--	--	--	03	40	60
2	16ME302	DESIGN OF MACHINE ELEMENTS-1	CR	03	--	--	--	03	40	60
3	16ME303	COMPOSITES	CR	03	--	--	--	03	40	60
4	16ME304	DYNAMICS OF MACHINERY	CR	03	--	--	--	03	40	60
5	16ME305	MANUFACTURING TECHNOLOGY-II	CR	03	--	--	--	03	40	60
6	16ME3XX	DEPARTMENT ELECTIVE-I	CR	03	--	--	--	03	40	60
7	16ME3XX	DEPARTMENT ELECTIVE-II	CR	03	--	--	--	03	40	60
8	16ME371	HEAT TRANSFER LABORATORY	CR	--	--	04	--	02	40	60
9	16ME372	FOUNDRY AND FORGING LAB	CR	--	--	04	--	02	40	60
<b>GRAND TOTAL 900</b>				<b>21</b>	<b>--</b>	<b>08</b>		<b>25</b>	<b>360</b>	<b>540</b>

COURSE CODE	DEPARTMENT ELECTIVE-I	COURSE CODE	DEPARTMENT ELECTIVE-II
16ME321	REFRIGERATION AND AIR CONDITIONING	16ME325	PRODUCT DESIGN AND MANUFACTURING
16ME322	QUALITY AND RELIABILITY ENGINEERING	16ME326	SURFACE ENGINEERING
16ME323	NON-DESTRUCTIVE EVALUATION AND TESTING	16ME327	RENEWABLE ENERGY SOURCES
16ME324	TOOL DESIGN	16ME328	ROBOTICS
16ME339	FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE & MACHINE LEARNING		

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## SEMESTER VI

SL. NO.	COURSE CODE	COURSE CODE	CR/AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
				L	T	P	S	C	CIA	SEE
1	16ME306	FINITE ELEMENT METHOD	CR	03	--	--	--	03	40	60
2	16ME307	DESIGN OF MACHINE ELEMENTS-II	CR	03	--	--	--	03	40	60
3	16ME308	MECHANICAL VIBRATIONS	CR	03	--	--	--	03	40	60
4	16ME309	MECHATRONICS	CR	03	--		--	03	40	60
5	16ME3XX	DEPARTMENT ELECTIVE-III	CR	03	--	--	--	03	40	60
6	16ME3XX	DEPARTMENT ELECTIVE-IV	CR	03	--	--	--	03	40	60
7	16ME373	DESIGN ENGINEERING LABORATORY	CR	--	--	04	--	02	40	60
8	16ME374	MODELING, ANALYSIS AND SIMULATION LABORATORY	CR	--	--	04	--	02	40	60
9	16ME375	ENERGY CONVERSION LABORATORY	CR	--	--	04	--	02	40	60
<b>GRAND TOTAL 900</b>				<b>18</b>	<b>--</b>	<b>12</b>		<b>24</b>	<b>360</b>	<b>540</b>

COURSE CODE	DEPARTMENT ELECTIVE-III	COURSE CODE	DEPARTMENT ELECTIVE-IV
16ME329	PRINCIPLES OF FRACTURE MECHANICS	16ME333	ADVANCED MACHINING PROCESSES
16ME330	INTERNAL COMBUSTION ENGINES	16ME334	GAS DYNAMICS AND JET PROPULSION
16ME331	MODELLING AND SIMULATION OF MANUFACTURING SYSTEMS	16ME335	MEMS (MICRO ELECTRO MECHANICAL SYSTEMS)
16ME332	ADVANCED MATERIAL TECHNOLOGY	16ME336	DESIGN OF COMPOSITE MATERIALS

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### SEMESTER - VII

SL. NO.	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
				L	T	P	S/P	C	CIA	END EXAM
1	16ME401	CONTROL ENGINEERING	CR	03	--	--	--	03	40	60
2	16ME402	OPERATION RESEARCH	CR	03	--	--	--	03	40	60
3	16ME403	HYDRAULICS AND PNEUMATICS	CR	02	--	--	02	03	40	60
4	16ME4XX	DEPARTMENT ELECTIVE -V	CR	03	--	--	--	03	40	60
5	16ME4XX	DEPARTMENT ELECTIVE -VI	CR	03	--	--	--	03	40	60
6	16ME404	LAW FOR MECHANICAL ENGINEERS	CR	03	--	--	--	03	40	60
7	16IE4XX	INSTITUTIONAL ELECTIVE-I	CR	03	--	--	--	03	40	60
8	16ME471	CONTROL ENGINEERING LABORATORY	CR	--	--	04	--	02	40	60
9	16ME481	PROJECT WORK STAGE - I	CR	--	--	04	--	02	40	60
<b>GRAND TOTAL = 900</b>				<b>20</b>		<b>08</b>	02	<b>08</b>	<b>360</b>	<b>540</b>

DEPARTMENT ELECTIVE-V		DEPARTMENT ELECTIVE-VI	
COURSE CODE	COURSE TITLE	COURSE CODE	COURSE TITLE
16ME421	RAPID MANUFACTURING TECHNOLOGIES	16ME425	TRIBOLOGY AND BEARING DESIGN
16ME422	DESIGN FOR MANUFACTURING	16ME426	PLASTIC PROCESSING TECHNOLOGY
16ME423	COMPUTATIONAL FLUID DYNAMICS	16ME427	AUTOMOBILE ENGINEERING
16ME424	OPERATIONS MANAGEMENT	16ME428	FUELS AND COMBUSTION

**CIA :30 Marks**, 1. Two IA Tests (20 Marks), 2. Assignment or Mini project (05 Marks), 3. Any two of self-study presentation, survey reports, quiz, laboratory exercises, presentation in seminar & workshops (05 marks).

**SEMESTER VIII**

SL. NO.	COURSE CODE	COURSE TITLE	CR / AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
				L	T	P	S/P	C	CIA	END EXAM
1	16ME4XX	DEPARTMENT ELECTIVE-VII	CR	03	--	--	--	03	40	60
2	16IEXXX	INSTITUTIONAL ELECTIVE-II	CR	03	--	--	--	03	40	60
3	16ME482	SEMINAR	CR	--	--	--	02	01	50	--
4	16ME483	PROJECT WORK STAGE - II	CR	--	--	--	20	10	100	100
<b>GRAND TOTAL = 450</b>				<b>06</b>	<b>--</b>	<b>--</b>	<b>22</b>	<b>17</b>	<b>230</b>	<b>220</b>

**CIA : 40 Marks;** 1. Two IA Tests (20 Marks), 2. Assignment or Mini project (10 Marks), 3. Any two of self-study presentation, survey reports, quiz, laboratory exercises, presentation in seminar & workshops (10 Marks).

<b>DEPARTMENT ELECTIVE-VII</b>	
<b>COURSE CODE</b>	<b>COURSE TITLE</b>
16ME429	FEM- STRUCTURAL MECHANICS APPLICATIONS
16ME430	DESIGN OF EXPERIMENTS
16ME431	AUTOMATION IN MANUFACTURING
16ME432	ORGANIZATIONAL BEHAVIOUR AND PROFESSIONAL COMMUNICATION

**INSTITUTIONAL ELECTIVES LIST - B.TECH PROGRAMME****GENERAL COURSE CODE: 16IE4XX**

<b>SL.No</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>OFFERING DEPARTMENT</b>
1	16IE401	ARTIFICIAL INTELLIGENCE	CSE
2	16IE402	DATA STRUCTURES& ALGORITHMS	CSE
3	16IE403	WEB TECHNOLOGIES	CSE
4	16IE404	MANAGEMENT INFORMATION SYSTEM	CSE
5	16IE405	SOCIAL NETWORKS AND ANALYTICS (15CS338)	CSE
6	16IE421	SENSORS, NETWORKS AND PROTOCOLS	ECE
7	16IE422	IMAGE PROCESSING AND COMPUTER VISION	ECE
8	16IE423	AUTOMOTIVE EMBEDDED SYSTEMS	ECE
9	16IE424	EVOLUTION OF TELECOMMUNICATIONS	ECE
10	16IE441	ENTREPRENEURSHIP MANAGEMENT	CT
11	16IE442	INNOVATION AND ENTREPRENEURSHIP	CT
12	16IE443	LOGISTICS AND SUPPLY CHAIN MANAGEMENT	CT
13	16IE444	DIGITAL MARKETING	CT
14	16IE445	ADVANCED ORGANIZATIONAL BEHAVIOR(15CT449)	CT
15	16IE461	INDUSTRIAL ROBOTICS & AUTOMATION	ME
16	16IE462	TOTAL QUALITY MANAGEMENT	ME
<b>17</b>	<b>16IE463</b>	<b>FUNDAMENTALS OF AUTOMOBILE ENGINEERING</b>	<b>ME</b>
18	16IE464	RENEWABLE ENERGY SOURCES	ME
19	16IE465	PRODUCT & INDUSTRIAL DESIGN	ME
<b>20</b>	<b>16IE466</b>	<b>PRODUCT ENGINEERING &amp; ENTREPRENEURSHIP</b>	<b>CT</b>
<b>21</b>	<b>16IE467</b>	<b>FUNDAMENTALS OF CLOUD COMPUTING</b>	<b>CSE</b>
<b>22</b>	<b>16IE468</b>	<b>MACHINE LEARNING WITH PYTHON</b>	<b>CSE</b>
<b>23</b>	<b>16IE469</b>	<b>FUNDAMENTALS OF AEROSPACE ENGINEERING</b>	<b>ASE</b>

**UPDATED ON 11.11.2020**