

# **DAYANANDA SAGAR UNIVERSITY**

Shavige Malleshwara Hills, Kumaraswamy Layout,  
Bengaluru - 560111, Karnataka.

## **SCHOOL OF ENGINEERING**



### **SCHEME & SYLLABUS FOR MASTER OF TECHNOLOGY ( M.Tech) – 2019**

### **MECHANICAL ENGINEERING**

### **SPECIALIZATION: DESIGN ENGINEERING**

**(With Effect from 2019-20)**

**SEMESTER I**

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR/AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
					L	T	P	S/P	C	CIA	END EXAM
1	204	19MDE5101	APPLIED MATHEMATICS	CR	03	01	-	-	04	50	50
2	204	19MDE5102	FINITE ELEMENT METHOD	CR	03	-	-	-	03	50	50
3	204	19MDE5103	SOLID MECHANICS	CR	03	-	-	-	03	50	50
4	204	19MDE5XXX	DEPARTMENT ELECTIVE - I	CR	03	-	02	-	04	50	50
5	204	19MDE5XXX	DEPARTMENT ELECTIVE - II	CR	03	-	02	-	04	50	50
6	204	19MDE5171	DESIGN LAB - I	CR	-	-	04	-	02	50	50
7	204	19MDE5172	DESIGN LAB - II	CR	-	-	04	-	02	50	50
<b>GRAND TOTAL = 700</b>					<b>15</b>	<b>01</b>	<b>12</b>	<b>-</b>	<b>22</b>	<b>350</b>	<b>350</b>

**SEMESTER II**

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	CR/AU	SCHEME OF TEACHING					SCHEME OF EVALUATION	
					L	T	P	S/P	C	CIA	END EXAM
1	204	19MDE5201	ADVANCES IN MATERIAL TECHNOLOGY	CR	03	01	-	-	04	50	50
2	204	19MDE5202	MECHANICS OF COMPOSITE MATERIALS	CR	03	-	-	-	03	50	50
3	204	19MDE5203	ADVANCED MACHINE DESIGN	CR	03	-	-	-	03	50	50
4	204	19MDE5XXX	DEPARTMENT ELECTIVE - III	CR	03	-	02	-	04	50	50
5	204	19MDE5XXX	DEPARTMENT ELECTIVE - IV	CR	03	-	02	-	04	50	50
6	204	19MDE5271	DESIGN LAB - III	CR	-	-	04	-	02	50	50
7	204	19MDE5272	DESIGN LAB - IV	CR	-	-	04	-	02	50	50
<b>GRAND TOTAL = 700</b>					<b>15</b>	<b>-</b>	<b>14</b>	<b>-</b>	<b>22</b>	<b>350</b>	<b>350</b>

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS,  
CIA – CONTINUOUS INTERNAL ASSESSMENT

**SEMESTER III**

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	$\frac{CR}{AU}$	SCHEME OF TEACHING					SCHEME OF EVALUATION	
					L	T	P	S/P	C	CIA	END EXAM
1	204	19MDE5XXX	DEPARTMENT ELECTIVE – V	CR	03	-	02	-	04	50	50
2	204	19MOE53XX	OPEN ELECTIVE	CR	03	-	-	-	03	50	50
3	204	19MDE5381	DISSERTATION	CR	-	-	06	-	03	50	50
<b>GRAND TOTAL = 300</b>					<b>06</b>	<b>-</b>	<b>08</b>	<b>-</b>	<b>10</b>	<b>150</b>	<b>150</b>

**SEMESTER IV**

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	$\frac{CR}{AU}$	SCHEME OF TEACHING					SCHEME OF EVALUATION	
					L	T	P	S/P	C	CIA	END EXAM
1	204	19MDE5XXX	DEPARTMENT ELECTIVE – VI	CR	03	-	02	-	04	50	50
2	204	19MDE5481	DISSERTATION	CR	-	-	12	-	06	150	150
<b>GRAND TOTAL = 400</b>					<b>03</b>	<b>-</b>	<b>14</b>	<b>-</b>	<b>10</b>	<b>200</b>	<b>200</b>

CR – CREDIT, AU – AUDIT, L – LECTURE, T – TUTORIAL, P – PRACTICAL, S/P – SEMINAR/PROJECT, C – NO. OF CREDITS,  
CIA – CONTINUOUS INTERNAL ASSESSMENT

**DEPARTMENTAL ELECTIVES – I/II/III/IV**

<b>SL</b>	<b>COURSE CODES</b>	<b>COURSE TITLE</b>
1	19MDE5031	EXPERIMENTAL STRESS ANALYSIS
2	19MDE5032	DYNAMICS
3	19MDE5033	PRODUCT DEVELOPMENT
4	19MDE5034	DATA VISUALIZATION
5	19MDE5035	ROBOTICS
6	19MDE5036	DIGITAL CONTROL SYSTEMS
7	19MDE5037	SENSORS AND SIGNAL CONDITIONING
8	19MDE5038	DESIGN OF HYDRAULIC AND PNEUMATIC SYSTEMS
9	19MDE5039	LEAN MANUFACTURING
10	19MDE5040	SMART MATERIALS AND STRUCTURES
11	19MDE5041	MECHATRONICS SYSTEM DESIGN
12	19MDE5042	MODELLING AND SIMULATION
13	19MDE5043	MECHANISM DESIGN
14	19MDE5044	INDUSTRIAL DESIGN AND ERGONOMICS
15	19MDE5045	ADDITIVE MANUFACTURING

**DEPARTMENTAL ELECTIVES - V/VI**

<b>SL</b>	<b>COURSE CODES</b>	<b>COURSE TITLE</b>
1	19MDE5061	RESEARCH METHODOLOGY
2	19MDE5062	EMBEDDED SYSTEMS
3	19MDE5063	FRACTURE MECHANICS
4	19MDE5064	MICRO ELECTRICAL MECHANICAL SYSTEMS (MEMS)
5	19MDE5065	TRIBOLOGY
6	19MDE5066	AUTOMOTIVE ELECTRONICS
7	19MDE5067	JIGS AND FIXTURES DESIGN
8	19MDE5068	OPTIMIZATION TECHNIQUES
9	19MDE5069	DESIGN OF EXPERIMENTS
10	19MDE5070	RELIABILITY AND FAILURE ANALYSIS
11	19MDE5071	ROBUST DESIGN
12	19MDE5072	FINITE ELEMENT METHODS FOR STRUCTURAL MECHANICS APPLICATIONS
13	19MDE5073	DESIGN OF MATERIALS HANDLING SYSTEMS
14	19MDE5074	THEORY OF PLASTICITY
15	19MDE5075	NON LINEAR ANALYSIS

**OPEN ELECTIVES**

<b>SL</b>	<b>COURSE CODE</b>	<b>COURSE TITLE</b>	<b>OFFERING DEPARTMENT</b>
1	19MOE5301	DIGITAL MARKETING	COMPUTER SCIENCE & ENGINEERING
2	19MOE5302	PRODUCT LIFE CYCLE MANAGEMENT	MECHANICAL ENGINEERING
3	19MOE5303	PROJECT MANAGEMENT	ELECTRONICS & COMMUNICATION ENGINEERING