DAYANANDA SAGAR UNIVERSITY

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

SCHOOL OF ENGINEERING

SCHEME & SYLLABUS
FOR
MASTER OF TECHNOLOGY (M.Tech) – 2020

MECHANICAL   ENGINEERING

SPECIALIZATION: DESIGN ENGINEERING

(With Effect from 2020-21)

SEMESTER I

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	$\frac{CR}{AU}$	SCHEME OF TEACHING				
					L	T	P	S/P	C
1	204	20MDE5101	APPLIED MATHEMATICS	CR	03	–	02	–	05
2	204	20MDE5102	FINITE ELEMENT METHOD	CR	03	–	02	–	05
3	204	20MDE5103	SOLID MECHANICS	CR	03	–	02	–	05
4	204	20MDE5XXX	DEPARTMENT ELECTIVE–I	CR	02	–	02	–	04
5	204	20MDE5XXX	DEPARTMENT ELECTIVE–II	CR	02	–	02	–	04
6	204	20MDE5104	SPECIAL TOPICS–1	CR	–	–	02	–	02
					13	–	12	–	25

SEMESTER II

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	$\frac{CR}{AU}$	SCHEME OF TEACHING				
					L	T	P	S/P	C
1	204	20MDE5201	ADVANCED MATERIALS AND MANUFACTURING TECHNOLOGY	CR	03	–	02	–	05
2	204	20MDE5202	MECHANICS OF COMPOSITE MATERIALS	CR	03	–	02	–	05
3	204	20MDE5203	ADVANCED MACHINE DESIGN	CR	03	–	02	–	05
4	204	20MDE5XXX	DEPARTMENT ELECTIVE–III	CR	02	–	02	–	04
5	204	20MDE5XXX	DEPARTMENT ELECTIVE–IV	CR	02	–	02	–	04
6	204	20MDE5204	SPECIAL TOPICS–2	CR	–	–	02	–	02
					13	–	12	–	25

SEMESTER III

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	$\frac{CR}{AU}$	SCHEME OF TEACHING				
					L	T	P	S/P	C
1	204	20MDE5301	MOOC COURSE-1**	CR	02	02	–	–	04
2	204	20MDE5302	DISSERTATION PHASE-1	CR	–	–	–	24	12
					02	02	–	12	16

SEMESTER IV

SL	PROGRAM CODE	COURSE CODE	COURSE TITLE	$\frac{CR}{AU}$	SCHEME OF TEACHING				
					L	T	P	S/P	C
1	204	20MDE5401	MOOC COURSE-2**	CR	02	02	–	–	04
2	204	20MDE5402	DISSERTATION PHASE-2	CR	–	–	–	24	12
					02	02	–	12	16

CONTINUOUS EVALUATION: SELF-STUDY PRESENTATION/SURVEY REPORTS/QUIZ/SURPRISE TEST/ ASSIGNMENTS /PROGRAMMING EXERCISES/PRESENTATION SEMINAR & WORK SHOPS

**MOOC COURSE CAN BE CHOSEN FROM ANY INTERDISCIPLINARY OR FROM THE MECHANICAL DOMAIN.

DEPARTMENTAL ELECTIVES – I

SL. NO.	COURSE CODE	COURSE
1	20MDE5031	EXPERIMENTAL STRESS ANALYSIS
2	20MDE5032	KINEMATICS & DYNAMICS OF LINKAGES
3	20MDE5033	PRODUCT DEVELOPMENT
4	20MDE5034	TRIBOLOGY
5	20MDE5035	ROBOTICS

DEPARTMENTAL ELECTIVES – II

SL. NO.	COURSE CODE	COURSE
6	20MDE5036	DIGITAL CONTROL SYSTEMS
7	20MDE5037	SENSORS AND SIGNAL CONDITIONING
8	20MDE5038	DESIGN OF HYDRAULIC AND PNEUMATIC SYSTEMS
9	20MDE5039	LEAN MANUFACTURING
10	20MDE5040	SMART MATERIALS AND STRUCTURES

DEPARTMENTAL ELECTIVES – III

SL. NO.	COURSE CODE	COURSE
11	20MDE5041	MECHATRONICS SYSTEM DESIGN
12	20MDE5042	MODELLING AND SIMULATION
13	20MDE5043	MECHANISM DESIGN
14	20MDE5044	INDUSTRIAL DESIGN AND ERGONOMICS
15	20MDE5045	ADDITIVE MANUFACTURING
16	20MDE5046	RESEARCH METHODOLOGY

DEPARTMENTAL ELECTIVES – IV

SL. NO.	COURSE CODE	COURSE
17	20MDE5047	EMBEDDED SYSTEMS
18	20MDE5048	MICRO ELECTRICAL MECHANICAL SYSTEMS (MEMS)
19	20MDE5049	AUTOMOTIVE ELECTRONICS
20	20MDE5050	OPTIMIZATION TECHNIQUES
21	20MDE5051	RELIABILITY AND FAILURE ANALYSIS
22	20MDE5052	ADVANCED MECHANICAL VIBRATIONS