13. Courses of Study and Scheme of Assessment
ME ENGINEERING DESIGN

(2021 REGULATIONS)
(Minimum No. of credits to be earned: 70*)

Course Code	Course Title	Hours / Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
I SEMESTER									
21MD01	Applied Numerical Methods	3	1	0	4	50	50	100	PC
21MD02	Applied Elasticity and Plasticity	3	0	0	3	50	50	100	PC
21MD03	Machinery Vibration and Diagnostics	3	0	0	3	50	50	100	PC
21MD04	Mechanisms and Robot Kinematics	3	1	0	4	50	50	100	PC
21MD05	Mechatronics System Design	3	0	0	3	50	50	100	PC
21MD06	Research Methodology and IPR	2	0	0	2	50	50	100	RMC
21MD72	Audit Course – I	2	0	0	Grade	100	0	100	MC
21MD51	Vibration Engineering Laboratory	0	0	4	2	50	50	100	PC
21MD52	Sensor Interface and Automation Laboratory	0	0	4	2	50	50	100	PC
	Total 29hrs	**19**	**2**	**8**	**23**	**500**	**400**	**900**	
II SEMESTER									
21MD07	Design for Manufacture and Assembly	3	1	0	4	50	50	100	PC
21MD08	Finite Element Analysis in Mechanical Design	3	1	0	4	50	50	100	PC
21MD__	Professional Elective – I	3	0	0	3	50	50	100	PE
21MD__	Professional Elective – II	3	0	0	3	50	50	100	PE
21MD__	Professional Elective – III	3	0	0	3	50	50	100	PE
21MD82	Audit Course – II	2	0	0	Grade	100	0	100	MC
21MD61	Computer Aided Engineering Laboratory	0	0	4	2	50	50	100	PC
21MD62	Advanced Analysis and Simulation Laboratory	0	0	4	2	50	50	100	PC
21MD63	Industrial visit and Technical Seminar	0	0	4	2	50	50	100	EEC
	Total 31hrs	**17**	**2**	**12**	**23**	**500**	**400**	**900**	
III SEMESTER									
21MD__	Professional Elective – IV	3	0	0	3	50	50	100	PE
21_____	Open Elective	3	0	0	3	50	50	100	OE
21MD71	Project Work - I	0	0	12	6	50	50	100	EEC
	Total 18hrs	**6**	**0**	**12**	**12**	**150**	**150**	**300**	
IV SEMESTER									
21MD81	Project Work - II	0	0	24	12	50	50	100	EEC
	Total 24 hrs	**0**	**0**	**24**	**12**	**50**	**50**	**100**	
PROFESSIONAL ELECTIVE THEORY COURSES (Four to be opted)									
21MD21	Modeling of Dynamic Systems	3	0	0	3	50	50	100	PE
21MD22	Mechanics of Composites and Smart Materials	3	0	0	3	50	50	100	PE
21MD23	Industrial Tribology	3	0	0	3	50	50	100	PE
21MD24	Geometric Modeling	3	0	0	3	50	50	100	PE

21MD25	Probabilistic Methods in Mechanical Design	3	0	0	3	50	50	100	PE
21MD26	Design and Failure Analysis	3	0	0	3	50	50	100	PE
21MD27	Strategies for product development	3	0	0	3	50	50	100	PE
21MD28	Design of Automotive Systems	3	0	0	3	50	50	100	PE
21MD29	Production Tool Design	3	0	0	3	50	50	100	PE
21MD30	Human Factors Engineering	3	0	0	3	50	50	100	PE
21MD31	Rotor Dynamics	3	0	0	3	50	50	100	PE
21MD32	Optimum Design of Mechanical Systems	3	0	0	3	50	50	100	PE
21MD33	Computational Fluid Dynamics	3	0	0	3	50	50	100	PE
21MD34	Advanced Strength of Materials	3	0	0	3	50	50	100	PE
21MD35	Design of Pressure Vessels	3	0	0	3	50	50	100	PE
21MD36	Fracture Mechanics	3	0	0	3	50	50	100	PE
21MD37	Experimental Stress Analysis	3	0	0	3	50	50	100	PE
21MD38	Design of Press Tools	3	0	0	3	50	50	100	PE
21MD39	Human Body Vibration Diagnostics	3	0	0	3	50	50	100	PE
21MD40	Advanced Finite Element Analysis	3	0	0	3	50	50	100	PE
OPEN ELECTIVE THEORY COURSES (One to be opted)									
21MD91	Business Analytics in Practice	3	0	0	3	50	50	100	OE
21MD92	Life Cycle Assessment and Eco-Design	3	0	0	3	50	50	100	OE
21MD93	Systems Engineering and Management	3	0	0	3	50	50	100	OE

* Indicated is the minimum number of credits to be earned by a student.
CAT – Category; PC – Professional Core; PE - Professional Elective; RMC - Research Methodology and IPR; EEC – Employability Enhancement Course; MC - Mandatory Course; Grade – Completed / Not Completed; OE – Open Elective.