

13. Courses of Study and Scheme of Assessment

ME VIRTUAL PROTOTYPING AND DIGITAL MANUFACTURING

(2015 REGULATIONS)
(Minimum No. of credits to be earned: 75*)

Course Code	Course Title	Hours/Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
I SEMESTER									
15PM01	Linear Systems Theory	2	2	0	3	50	50	100	FC
15PM02	Concepts of Digital Manufacturing	3	2	0	4	50	50	100	PC
15PM03	Virtual Reality Systems	3	0	0	3	50	50	100	FC
15PM04	Computer Graphics for Virtual Reality I	2	2	0	3	50	50	100	PC
15PM05	Geometric Modeling and Computer Aided Design	3	2	0	4	50	50	100	PC
15PM55	Object Computing and Data Structures Laboratory	0	0	4	2	100	0	100	PC
15PM61	Industry Visit & Technical Seminar	0	0	2	1	100	0	100	EEC
Total 27 Hrs		13	8	6	20	450	250	700	
II SEMESTER									
15PM06	Computer Graphics for Virtual Reality II	2	2	0	3	50	50	100	PC
15PM07	Modeling and Simulation of Virtual Systems	3	0	0	3	50	50	100	PC
15PM08	Product Lifecycle Management	3	0	0	3	50	50	100	PC
15PM09	Mathematical Modeling and Computer Aided Engineering	3	2	0	4	50	50	100	PC
15PM10	Scientific and Engineering Data Visualization	3	0	0	3	50	50	100	PC
15PM__	Elective – 1	3	0	0	3	50	50	100	PE
15PM51	Virtual Modeling and Simulation Laboratory	0	0	4	2	100	0	100	PC
Total 25 Hrs		17	4	4	21	400	300	700	
III SEMESTER									
15PM__	Elective – 2	3	0	0	3	50	50	100	PE
15PM__	Elective – 3	3	0	0	3	50	50	100	PE
15PM__	Elective – 4	3	0	0	3	50	50	100	PE
15PM__	Elective – 5	3	0	0	3	50	50	100	PE
15PM__	Elective – 6	3	0	0	3	50	50	100	PE
15PM52	Virtual Prototyping and Design Laboratory	0	0	4	2	100	0	100	PC
15PM71	Project Work I	0	0	6	3	100	0	100	EEC
Total 25 Hrs		15	0	10	20	450	250	700	
IV SEMESTER									
15PM72	Project Work II	0	0	28	14	50	50	100	EEC
Total 28 Hrs		0	0	28	14	50	50	100	
ELECTIVE THEORY COURSES (Six to be opted)									
15PM21	Simulation and Modelling Techniques	2	2	0	3	50	50	100	PE
15PM22	Human Computer Interaction	3	0	0	3	50	50	100	PE
15PM23	Object Oriented Analysis and Design	3	2	0	4	50	50	100	PE
15PM24	Mechatronics System	3	0	0	3	50	50	100	PE
15PM25	Database Management Systems	3	2	0	4	50	50	100	PE
15PM26	Enterprise Computing	3	0	0	3	50	50	100	PE
15PM27	Image Processing and Machine Vision	3	0	0	3	50	50	100	PE

* Indicated is the minimum number of credits to be earned by a student.

CAT – Category; FC – Foundation Course; PC – Professional Core; PE – Professional Elective; EEC – Employability Enhancement Course

ONE CREDIT COURSES

15PK01	Process Improvement and Product Design through Lean Six Sigma
15PK02	Design and Optimization Technology
15PK03	Supply Chain Management
15PK04	Introduction to Precision Machining
15PK05	Theory of Constraints and its Thinking Process
15PK06	Press Tool Design
15PK07	Injection Mold Design
15PK08	Advanced Metrology and Calibration

SCIENCE ELECTIVES

15ID01	Micro Electro Mechanical Systems (MEMS)
15ID02	Sensors for Engineering Applications
15ID03	Laser Processing of Materials
15ID04	Plasma Technology
15ID05	Nanosensor and its Applications
15ID06	Nano Magnetism and Spintronics
15ID07	Corrosion Science and Engineering
15ID08	Instrumental Methods of Chemical Analysis
15ID09	Polymer Science and Technology
15ID10	Nanomaterials and Nanotechnology
15ID11	Thin Film Technology

HUMANITIES AND LANGUAGES ONE CREDIT COURSES

15OK01	Research Writing in Engineering Sciences
15OK02	Indian Ethos and Human Values
15OK03	Personality Development
15OK04	Financial Accounting and Cost Accounting