

**13. Courses of Study and Scheme of Assessment
ME COMPUTER INTEGRATED MANUFACTURING**

**(2021 REGULATIONS)
(Minimum No. of credits to be earned:71*)**

Course Code	Course Title	Hours / Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
I SEMESTER									
21MC01	Statistical Inference and Multivariate Analysis	3	1	0	4	50	50	100	PC
21MC02	Integrated Product Development	3	1	0	4	50	50	100	PC
21MC03	Business Operations Integration	3	1	0	4	50	50	100	PC
21MC04	Industrial Automation and Control	3	1	0	4	50	50	100	PC
21MC05	Smart Manufacturing	3	0	0	3	50	50	100	PC
21MC06	Research Methodology and IPR	2	0	0	2	50	50	100	RMC
21MC72	Audit Course – I	2	0	0	Grade	100	0	100	MC
21MC51	Sensor Interface and Robotics Laboratory	0	0	4	2	50	50	100	PC
21MC52	Manufacturing Simulation and IoT laboratory	0	0	4	2	50	50	100	PC
Total 31 hrs		19	4	8	25	500	400	900	
II SEMESTER									
21MC07	Industrial Robotics	3	0	0	3	50	50	100	PC
21MC08	Computer Controlled Machine Tools	3	1	0	4	50	50	100	PC
21MC__	Professional Elective – I	3	0	0	3	50	50	100	PE
21MC__	Professional Elective – II	3	0	0	3	50	50	100	PE
21MC__	Professional Elective – III	3	0	0	3	50	50	100	PE
21MC82	Audit Course – II	2	0	0	Grade	100	0	100	MC
21MC61	CAD/CAM/CAE Laboratory	0	0	4	2	50	50	100	PC
21MC62	Automated Manufacturing Systems Laboratory	0	0	4	2	50	50	100	PC
21MC63	Industrial visit and Technical Seminar	0	0	4	2	50	50	100	EEC
Total 30 hrs		17	1	12	22	500	400	900	
III SEMESTER									
21MC__	Professional Elective – IV	3	0	0	3	50	50	100	PE
21_____	Open Elective	3	0	0	3	50	50	100	OE
21MC71	Project Work - I	0	0	12	6	50	50	100	EEC
Total 18 hrs		6	0	12	12	150	150	300	
IV SEMESTER									
21MC81	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)									
21MC21	Data Structures and Computer Programming	3	0	0	3	50	50	100	PE
21MC22	Artificial Intelligence and Machine Learning	3	0	0	3	50	50	100	PE
21MC23	Virtual Manufacturing	3	0	0	3	50	50	100	PE
21MC24	Automatic Control Systems	3	0	0	3	50	50	100	PE
21MC25	Industrial Internet of Things	3	0	0	3	50	50	100	PE

21MC26	Additive Manufacturing	3	0	0	3	50	50	100	PE
21MC27	Advanced Manufacturing Processes	3	0	0	3	50	50	100	PE
21MC28	Metrology and Automated Inspection	3	0	0	3	50	50	100	PE
21MC29	Sheet Metal Cutting and Bending Technologies	3	0	0	3	50	50	100	PE
21MC30	Manufacturing Systems Design and Analysis	3	0	0	3	50	50	100	PE
21MC31	Production Tooling and Cost Estimation	3	0	0	3	50	50	100	PE
21MC32	Product Design for Manufacture and Assembly	3	0	0	3	50	50	100	PE
21MC33	Operations Management	3	0	0	3	50	50	100	PE
21MC34	Lean Six Sigma in Manufacturing and Service	3	0	0	3	50	50	100	PE
21MC35	Costing and Engineering Economics	3	0	0	3	50	50	100	PE
21MC36	Geometric Modeling	3	0	0	3	50	50	100	PE
21MC37	Supply Chain Management	3	0	0	3	50	50	100	PE
OPEN ELECTIVE THEORY COURSES (One to be opted)									
21MC91	Business Analytics in Practice	3	0	0	3	50	50	100	OE
21MC92	Life Cycle Assessment and Eco-Design	3	0	0	3	50	50	100	OE
21MC93	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; OE - Open Elective; Grade – Completed / Not Completed.