13. Courses of Study and Scheme of Assessment
BE MECHANICAL ENGINEERING (2019 Regulations)

Course Code	Course Title	Periods / week				Maximum Marks			
		Lecture	Tutorial	Practical	Credits	CA	FE	Total	CAT
SEMESTER VII									
19M701	Finite Element Analysis	3	0	0	3	50	50	100	PC
19	Open Elective II	3	0	0	3	50	50	100	OE
19M	Professional Elective - I	3	0	0	3	50	50	100	PE
19M	Professional Elective - II	3	0	0	3	50	50	100	PE
19M	Professional Elective III	3	0	0	3	50	50	100	PE
19M	Professional Elective - IV	3	0	0	3	50	50	100	PE
19M710	Finite Element Analysis Laboratory	0	0	2	1	50	50	100	PC
19M720	Project Work - I	0	0	4	2	50	50	100	EEC
	Total 24 periods	**18**	**0**	**6**	**21**	**400**	**400**	**800**	
SEMESTER VIII									
19M___	Professional Elective V	3	0	0	3	50	50	100	PE
19M___	Professional Elective VI	3	0	0	3	50	50	100	PE
19M820	Project Work II	0	0	8	4	50	50	100	EEC
	Total 14 periods	**6**	**0**	**8**	**10**	**150**	**150**	**300**	

CA Continuous Assessment
FE Final Examination

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PROFESSIONAL ELECTIVES

Design Stream

19M001 Geometric Modeling
19M002 Advanced Strength of Materials
19M003 Advanced Finite Element Analysis
19M004 Failure Analysis and Design
19M005 Vibration and Noise Engineering
19M006 Mechanical Design of CNC Machine Tools
19M007 Theory of Elasticity and Plasticity
19M008 Mechanics of Composite Materials
19M009 Introduction to Aircraft Systems
19M010 System Modeling and Control
19M011 Foundation Skills in Integrated Product Development
19M012 Design of Automotive Systems
19M013 Automobile Engineering

Manufacturing Stream

19M026 Manufacture and Inspection of Gears
19M027 Pneumatic and Hydraulic Systems
19M028 Non-Traditional Machining
19M029 Additive Manufacturing
19M030 Flexible Manufacturing Systems
19M031 Artificial Intelligence and Deep Learning
19M032 Solid State Joining Processes
19M033 Internet of Things for Mechanical Applications
19M034 Production Tooling

Industrial Engineering Stream

19M051 Lean Manufacturing
19M052 Supply Chain Management
19M053 Quality Engineering
19M054 Engineering Economics
19M055 Enterprise Resource Planning
19M056 Six Sigma in Manufacture and Service
19M057 Statistical Process Analysis and Optimization
19M058 Value Analysis and Value Engineering

Thermal Stream

19M076 Computational Fluid Dynamics
19M077 Refrigeration and Air Conditioning
19M078 Renewable Energy
19M079 Solar Energy Conversion Systems
19M080 Energy Conservation and Management
19M081 Advanced Heat and Mass Transfer
19M082 Energy and Climate Change
19M083 Power Plant Engineering
19M084 Advanced Fluid Dynamics

ONE-CREDIT COURSES

MECHANICAL ENGINEERING

19MF01 Simulators for Integrated Products
19MF02 Corrosion Science and Engineering
19MF03 Non-Destructive Testing of Aircraft Structures
19MF04 Cooling of Electronic Equipment
19MF05 Experimental Methods in Thermal and Fluid Sciences
19MF06 Challenges in Implementing Lean Manufacturing
19MF07 Process Engineering and Costing
19MF08 Applications of Value Engineering
19MF09 Pressure Vessel and Piping
19MF10 Design Validation and Qualification: Testing and Evaluation
19MF11 High Temperature Materials for Energy Applications
19MF12 Nanotechnology for Clean Energy Applications

ENGLISH

19GF01 Interpersonal and Organizational Communication
19GF02 Human Values through Literature

HUMANITIES

19OFA1 Export – Import Practices
19OFA2 Insurance - Concepts and Practices
19OFA3 Public Finance
19OFA4 Security Analysis and Portfolio Management

LANGUAGE ELECTIVES

19G001 Communication Skills for Engineers
19G002 German- Level A1.1
19G003 French Language Level 1
19G004 Basic Japanese

Summary of Credit Distribution

BE MECHANICAL ENGINEERING										
S. No	**Course Category**	**Credits Per Semester**								**Total Credits**
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	
1	HS	3	2	3	0	4	0	0	0	12
2	BS	12	8	3	3	0	0	0	0	26
3	ES	4	8	4	7	0	0	0	0	23
4	PC	0	3	12	13	18	17	4	0	67
5	PE	0	0	0	0	0	0	12	6	18
6	OE	0	0	0	0	0	3	3	0	6
7	EEC	0	0+2£	0	1	1	3	2	4	13
8	MC	-	-	-	-	-	-	-	-	-
	TOTAL	**19**	**21+2£**	**22**	**24**	**23**	**23**	**21**	**10**	**165**

£ Summer Term Course(s)

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