

Master of Technology

Course Name: M.Tech in Civil

Duration of Course: 2 Years

Eligibility: B.Tech/B.E in Relevant Trade

First Semester

First Semester			Second Semester		
Code	Subject	Credits	Code	Subject	Credits
MFC1	Numerical Methods in Civil Engineering	4	MFC5	Advanced Structural Analysis 3	3
MFC2	Applied Elasticity & Plasticity	4	MFC6	Geotechnical Engineering	4
MFC3	Behaviour & Design of reinforced Concrete Structure	3	MFC7	Finite Element Method in Engg.	4
MFC4	Pavement Material	4	MFC8	Highway Engineering	4
MFC3P	Behaviour & Design of reinforced Concrete Structure Practica	1	MFC5P	Advanced Structural Analysis Practical	1
	Total Credits	16		Total Credits	16

Third Semester

Code	Subject	Credits
MSC1	Prestressed Concrete	3
MSC2	High Rise Structures	4
MSC3	Planning & Design of Airports	4
MSC4	Transportation System Planning	4
MSC1P	Prestressed Concrete Practical	1
	Total Credits	16

Fourth Semester

Specialization Options	
Highway & Transportation Engineering	
MSHW01	Highway Engineering Economics
MSHW02	Highway Engineering & Design
MSHW03	Highway Maintenance and Management System
Ms04	Project
Hydrology & Water Resourced Engineering	
MSHWR01	Irrigation and Water Resourced Engineering
MSHWR02	Water Resourced System & Planning
MSHWR03	Hydrology
Ms04	Project
Structural Engineering	
MSS01	Design of Industrial Structures & Bridges
MSS02	Design of Hydraulic Structures
MSS03	Plastic Analysis of Metallic Structures
Ms04	Project
	Total Credits per specialisation
	16



Course Name: M.Tech in Electrical
Duration of Course: 2 Years
Eligibility: B.Tech/B.E in Relevant Trade

First Semester

First Semester			Second Semester		
Code	Subject	Credits	Code	Subject	Credits
MFE1	Machine Drives	3	MFE5	Electrical sub-station Engg. & Practices	4
MFE2	Power Electronic Converter	4	MFE6	Power Electronics	3
MFE3	Control Theory	4	MFE7	Electrical Design, Estimating & Costing	4
MFE4	EHV Transmission	4	MFE8	Electrical Power System	4
MFE1P	Machine Drives Practical	1	MFE6P	Power Electronics Practical	1
	Total Credits	16		Total Credits	16

Third Semester

Code	Subject	Credits
MSE1	Machine Analysis	4
MSE2	Optimal Control	3
MSE3	Advanced Control Theory	4
MSE4	Power System Protection	4
MSE2P	Optimal Control Practical	1
	Total Credits	16

Fourth Semester

Specialization Options	
Control & Instrumentation	
MSCI01	Industrial Instrumentation and Control
MSCI02	Digital control and state variable methods
MSCI03	Electronic Instruments and System
Ms04	Project
Power System Control	
MSPT01	Electrical Power System Design
MSPT02	Power System Analysis and Dynamics
MSPT03	Power System Reliability
Ms04	Project
Total Credits per specialisation	
	16



Course Name: M.Tech in Electronics and Telecommunication

Duration of Course: 2 Years

Eligibility: B.Tech/B.E in Relevant Trade

First Semester

First Semester			Second Semester		
Code	Subject	Credits	Code	Subject	Credits
MFET1	Semiconductor Devices and Modelling	3	MFET5	Solid State Circuits	3
MFET2	VLSI Technology and Process Modeling	4	MFET6	Digital Circuits & Systems	4
MFET3	Modern Digital Communication Technology	4	MFET7	Optimal Control	4
MFET4	Digital Voice and Picture Communication	4	MFET8	Satellite Communication System	4
MFET1P	Semiconductor Devices and Modelling Practical	1	MFET6P	Digital Circuits & Systems Practical	1
Total Credits		16	Total Credits		16

Third Semester

Code	Subject	Credits
MSET1	Digital Signal Processing	4
MSET2	Digital Image Processing	4
MSET3	Optical Communication Systems	3
MSET4	Telecommunication Switching and Network	4
MSET4P	Telecomm. Switching and Network Practical	1
Total Credits		16

Fourth Semester

Specialization Options			
Communication System		Control & Instrumentation	
MSCS01	Communication System	MSCI01	Electronic Instruments and Systems
MSCS02	Radar System	MSCI02	Digital Control and state variable methods
MSCS03	Wireless Communication	MSCI03	Industrial Instrumentation and Control
Ms04	Project	Ms04	Project
Digital VLSI Design		Microwave & Optical Communication	
MSVD01	Embedded System Design	MSMOC01	Microwave
MSVD02	Digital VLSI Design	MSMOC02	Optical Electronics and Fiber Optics Communications
MSVD03	Verilog Hardware Description Language	MSMOC03	Communication System
MSVD04	Project	Ms04	Project
Multimedia		Power System	
MSMM01	Interactive Multimedia	MSPE01	Electrical Power System Design
MSMM02	Web Programming	MSPE02	Power System Analysis and Dynamics
MSMM03	Programming Microsoft ASP.NET	MSPE03	Power System Reliability
Ms04	Project	MSPE04	Project
VLSI Design and Embedded System			
MSVD01	Embedded System Design		
MSVD02	Digital VLSI Design		
MSVD03	Verilog Hardware Description Language		
MSVD04	Project		
Total Credits per specialisation			16



Course Name: M.Tech in Computer

Duration of Course: 2 Years

Eligibility: B.Tech/B.E in Relevant Trade

First Semester

Second Semester

Code	Subject	Credits	Code	Subject	Credits
MFCO1	Data Structures Object Representation	3	MFCO5	Advanced Operating System	3
MFCO2	Advanced Computer System Architecture	4	MFCO6	Computer Communications Network	4
MFCO3	Design and Analysis of Algorithm	4	MFCO7	Neural Network and Applications	4
MFCO4	Pattern Recognition and Application	4	MFCO8	Parallel Processing	4
MFCO1P	Data Structure and Object Representation Prac.	1	MFCO6P	Computer Comm. Network Practical	1
	Total Credits	16		Total Credits	16

Third Semester

Code	Subject	Credits
MSCO1	Automation Engineering	4
MSCO2	Mobile Computing	3
MSCO3	Fuzzy Set Theory & Application	4
MSCO4	Design Principles of Language Translator	4
MSCO2P	Mobile Computing Practical	1
	Total Credits	16

Fourth Semester

Specialization Options		
Multimedia		
MSMM01	Interactive Multimedia	
MSMM02	Web Programming	
MSMM03	Programming Microsoft ASP.NET	
Ms04	Project	
Object Oriented Software Development		
MSDB01	Java 2 Programming	
MDBN02	Oracle 9i Database	
MSDB03	Database Design Development and Deployment	
Ms04	Project	
VLSI Design		
MSVD01	Embedded System Design	
MSVD02	Digital VLSI Design	
MSVD03	Verilog Hardware Description Language	
MSVD04	Project	
Total Credits per specialisation		16



Course Name: M.Tech in Mechanical

Duration of Course: 2 Years

Eligibility: B.Tech/B.E in Relevant Trade

First Semester

Second Semester

Code	Subject	Credits	Code	Subject	Credits
MFM1	Machine Vibration Analysis	3	MFM5	Applied Elasticity & Plasticity	4
MFM2	Advanced Mechanics of Solids	4	MFM6	Finite Elements Methods in Engineering	3
MFM3	Concurrent Engineering	4	MFM7	Mechanical Estimating & Costing	4
MFM4	Management of Technology	4	MFM8	Materials Mgmt. & Materials Handling	4
MFM1P	Mechanical Estimating & Costing Practical	1	MFM7P	Machine Vibration Analysis Practical	1
	Total Credits	16		Total Credits	16

Third Semester

Code	Subject	Credits
MSM1	Jig and Fixtures Design	3
MSM2	Mechatronics	4
MSM3	Industrial Automation	4
MSM4	Quality Control and Reliability Engineering	4
MSM1P	Jig and Fixtures Design Practical	1
	Total Credits	16

Fourth Semester

Specialization Options	
Mechanical Design	
MSMD01	Thermal System Design
MSMD02	Design of Machinery
MSMD03	Mechanical Engineering Design
Ms04	Project
Production Technology	
MSPT01	Metal Forming Technology
MSPT02	Machine Tool Design
MSPT03	CAD/CAM
Ms04	Project
Thermal Engineering	
MST01	Advanced Thermodynamics
MST02	Refrigeration and Air conditioning Technology
MST03	Steam and Gas Turbines Project
MST01	Project
Total Credits per specialisation	
	16



Course Name: M.Tech in Telecom
Duration of Course: 2 Years
Eligibility: B.Tech/B.E in Relevent Trade

Semester 1st

CODE	SUBJECTS	CREDITS
MFTE1	Distributed Computing	4
MFTE2	Electromagnetic Theory	4
MFTE3	Advanced Circuits and Systems	4
MFTE4	Telecommunication Switching	4
	Total Credits	16

Semester 2nd

CODE	SUBJECTS	CREDITS
MFTE 5	Computational Intelligence	4
MFTE 6	Advanced Digital Signal Processing	4
MFTE 7	Embedded and Real-Time Systems	4
MFTE 8	Advanced Instrumentation and Systems Design	4
	Total Credits	16

Semester 3rd

CODE	SUBJECTS	CREDITS
MSTE 1	Digital Communication Network	4
MSTE 2	Electronic and Photonic Devices and Components	4
MSTE 3	Microelectronics Technology	4
MSTE 4	Micro and Nanoelectromechanical Systems	4
	Total Credits	16

Semester 4th

CODE	SUBJECTS	CREDITS
MSTE 5	Advanced Digital Integrated Circuit Design	4
MSTE 6	Quantum and Nanoelectronic Devices and Systems	4
MSTE 7	VLSI Architecture and Design Methodologies	4
MSTE 8	Advanced Digital Control Systems	4
	Total Credits	16

Course Name: M.Tech Chemical
Duration of Course: 2 Years
Eligibility: B. Tech/B.E in Relevent Trade

Semester 1st

CODE	SUBJECTS	CREDITS
MFCH 1	PROCESS INTEGRATION	4
MFCH 2	PIPING DESIGN	3
MFCH 3	ADVANCED PROCESS EQUIPMENT DESIGN	3
MFCH 4	CHEMICAL PROCESS ECONOMICS & MANAGEMNT	3
MFCH 5	ADVANCED SEPARATION TECHNIQUES	3
	Total Credits	16

Semester 2nd

CODE	SUBJECTS	CREDITS
MFCH 6	COMMUNICATION SKILL FOR ENGINEERS	4
MFCH 7	PROCESS AND PRODUCT DEVELOPMENT	3
MFCH 8	ADVANCED CATALYTIC REACTION ENGINEERING	3
MFCH 9	PROCESS PLANT SIMULATION	3
MFCH 10	ENVIRONMENT AND SAFETY IN PROCESS INDUSTRIES	3
	Total Credits	16

Semester 3rd

CODE	SUBJECTS	CREDITS
MSCH 1	ADVANCED PROCESS CONTROL	4
MSCH 2	FLUIDIZATION ENGINEERING	4
MSCH 3	ADVANCED PETROLEUM REFINING PROCESSES	3
MSCH 4	ADVANCED PROCESS OPTIMISATION	3
MSCH 5	SemINAR-I	2
	Total Credits	16

Semester 4th

CODE	SUBJECTS	CREDITS
MSTE 6	SemINAR-II	8
MSCH 6	MAJOR PROJECT	8
	Total Credits	16



Course Name: M.Tech Mathematics**Duration of Course:** 2 Years**Eligibility:** M.Sc in Mathematics**Semester 1st**

CODE	SUBJECTS	CREDITS
MFMH 1	Linear Algebra	4
MFMH 2	C-Programming	3
MFMH 3	Operating Systems	3
MFMH 4	Algebra	3
MFMH 5	Numerical Analysis	3
	Total Credits	16

Semester 2nd

CODE	SUBJECTS	CREDITS
MFMH 6	Foundations of Analysis	4
MFMH 7	Complex Analysis	3
MFMH 8	Data Structures with C	3
MFMH 9	Programming in C++	3
MFMH 10	Differential Equations	3
	Total Credits	16

Semester 3rd

CODE	SUBJECTS	CREDITS
MSMH 1	Discrete Mathematics	4
MSMH 2	Design and Analysis of Algorithms	4
MSMH 3	Coding Theory	4
MSMH 4	Probability Theory	4
	Total Credits	16

Semester 4th

CODE	SUBJECTS	CREDITS
MSMH 5	Field Theory	8
MSMH 6	Differential Geometry	8
	Total Credits	16

Course Name: M.Tech Physics**Duration of Course:** 2 Years**Eligibility:** M.Sc in Physics**Semester 1st**

CODE	SUBJECTS	CREDITS
MFP 1	Thermodynamics and Statistical Physics	4
MFP 2	Atomic and Molecular Physics	4
MFP 3	Solid State Physics	4
MFP 4	Nuclear and Particle Physics	4
	Total Credits	16

Semester 2nd

CODE	SUBJECTS	CREDITS
MFP 5	Mathematical Physics:	4
MFP 6	Classical Mechanics	4
MFP 7	Electromagnetic Theory	4
MFP 8	Quantum Mechanics	4
	Total Credits	16

Semester 3rd

CODE	SUBJECTS	CREDITS
Msp 1	Electronics	4
Msp 2	Measurement	4
Msp 3	Motion	4
Msp 4	Circular Motion	4
	Total Credits	16

Semester 4th

CODE	SUBJECTS	CREDITS
Msp 5	Liquids	4
Msp 6	Elasticity	4
Msp 7	Universe	4
Msp 8	Oscillations And Waves	4
	Total Credits	16

