

Master of Mechanical Engineering

FIRST SEMESTER

Theoretical Courses	Subjects		Periods/Weeks		Marks		Credit Points
	Subject Code	Specialization Subject Name	Lecture	Sessional	Examination	Sessional	
Departmental / Specialization Basket		Applied Mechanics (AM) Fluid Mechanics (FM) Heat Power (HP) Machine Design(MD) Production Engineering(PE)					
Paper-I	PG / ME / T / 111A	Theory of Elasticity	3		100		3
	PG / ME / T / 111B	Continuum Mechanics					
	PG / ME / T / 111C	Adv Fluid Mechanics I					
	PG / ME -AuE / T / 111D	Combustion Engine					
	PG / ME / T / 111E	Nuclear Power Engineering					
	PG / ME / T / 111 F	Stress and Deformation Analysis					
	PG / ME / T / 111G	Advanced Design of Weldment					
	PG / ME / T / 111 H	Machine Tool Design					
Paper-II	PG / ME / T / 112A	Theory of Mechanical Vibration	3		100		3
	PG / ME / T / 112B	Modal Analysis					
	PG / ME / T / 112C	Advanced Hydro Power engineering					
	PG / ME / T / 112D	Turbo Machinery I					
	PG / ME / T / 112E	Computational Heat Transfer					
	PG / ME / T / 112F	Analytical Methods in Heat Transfer					
	PG / ME / T / 112G	Principles of Tribology					
	PG / ME / T / 112 H	Stability of elastic systems					
PG / ME / T / 112 I	Theory of Metal Cutting						
Paper-III	PG / ME / T / 113A	Mechanics of Composite Materials	3		100		3
	PG / ME / T / 113B	Atmospheric Fluid Dynamics					
	PG / ME / T / 113C	Turbulence					
	PG / ME / T / 113D	Steam Generators					
	PG / ME / T / 113E	Analysis of Thermal Systems					
	PG / ME / T / 113F	Advanced design of mechanism					
	PG / ME / T / 113G	Contact Mechanics					
	PG / ME / T / 113H	Industrial Operations Research					
Note: The students have to select 3 subjects from the departmental/ specialization basket, i.e. one subject each from the list given in the baskets of Paper-I, Paper-II and Paper-III							

Theoretical Courses	Subjects		Periods/Weeks		Marks		Credit Points
	Subject Code	Subject Name	Lecture	Sessional	Examination	Sessional	
Inter-Disciplinary Basket							
Paper-IV	PG/ ME / T/ 114A	Mechanical Behavior of Materials	3		100		3
	PG/ ME / T/ 114B	Electro-Hydraulic Systems and Controls					
	PG/ ME / T/ 114C	Laser Material Processing					
	PG/ ME / T/ 114D	Project Management					
	PG/ ME / T/ 114E	Optimization Techniques For Engineering Design					
	PG/ ME / T/ 114F	Advanced Thermodynamics					
Paper-V	PG/ ME / T/ 115A	Reliability Engineering	3		100		3
	PG/ ME / T/ 115B	Basics of Finite Element Method					
	PG/ ME / T/ 115C	Experimental Methods in Mechanical systems					
	PG/ ME / T/ 115D	Renewable Energy					
	PG/ ME / T/ 115E	Cryogenic Engineering					
	PG/ ME / T/ 115F	Statistical Thermodynamics					
	PG/ ME / T/ 115G	Computer Aided Design					
Paper-VI	PG/ ME / T/ 116A	Integrated Management System	3		100		3
	PG/ ME / T/ 116B	Waste Management					
	PG/ ME / T/ 116C	Fracture Mechanics					
	PG/ ME / T/ 116D	Theory Of Pressure Vessels					
	PG/ ME / T/ 116E	Dynamic Modeling For Mechatronic Systems					
	PG/ ME / T/ 116F	Flight Dynamics					
	PG/ ME / T/ 116G	Industrial Pollution And Control					
	PG/ ME / T/ 116H	Heat and Mass Transfer					
	PG/ ME / T/ 116 I	Non-linear Vibration					
	PG/ ME / T/ 116 J	Advanced Dynamics					
	PG/ ME / T/ 116 K	Multi-body Dynamics					
<p>Note: The students have to select 3 subjects from the inter-departmental basket, i.e. one subject each from the list given in the baskets of Paper-IV, Paper-V and Paper-VI</p>							
Sessional Courses							
Sessional 1	PG/ ME / S/ 111	Laboratory		4		100	3
Sessional 2	PG/ ME / S/ 112	Seminar		3		200 marks to be included in 2 nd semester	
			18	7	600	100	21

Total Periods/Week = 25

Total Marks = 700

SECOND SEMESTER

Theoretical Courses	Subjects		Periods/Weeks		Marks		Credit Points
	Subject Code	Specialization Subject Name	Lecture	Sessional	Examination	Sessional	
Departmental / Specialization Basket		Applied Mechanics (AM) Fluid Mechanics (FM) Heat Power (HP) Machine Design(MD) Production Engineering(PE)					
Paper-VII	PG / ME / T/ 127A	Rotor Dynamics	3		100		3
	PG / ME / T/ 127B	Random Vibration					
	PG / ME / T/ 127C	Gas Dynamics					
	PG / ME / T/ 127D	Turbo Machinery II					
	PG / ME / T/ 127E	Convection Heat Transfer					
	PG / ME -AuE / T/ 127F	Adv. Refrigeration & Air Conditioning Methods					
	PG / ME / T/ 127G	Energy Conservation and Management					
	PG / ME / T/ 127 H	Lubrication Engineering					
	PG / ME / T/ 127 I	Design of Industrial Drives					
	PG / ME / T/ 127 J	Advanced Manufacturing Systems					
Paper-VIII	PG / ME / T/ 128A	Principles and Applications of Linear Control Theory	3		100		3
	PG / ME / T/ 128B	Dynamics of Electro-Mechanical Systems					
	PG / ME / T/ 128C	Acoustics and Machinery Noise Control					
	PG / ME / T/ 128D	Adv Fluid Mechanics II					
	PG / ME / T/ 128E	Radiation Heat Transfer					
	PG / ME / T/ 128F	Two Phase Flow, Boiling and Condensation					
	PG / ME / T/ 128G	Advanced Power Plants					
	PG / ME / T/ 128H	Design of Structural Elements					
	PG / ME / T/ 128 I	Design of Industrial pressure vessels					
	PG / ME / T/ 128J	Design of Mechanical Handling Systems					
PG / ME / T/ 128K	Advanced Manufacturing Science						
Paper-IX	PG / ME / T/ 129A	Finite Element Analysis in Engineering	3		100		3
	PG / ME / T/ 129B	Computational Fluid Dynamics					
	PG / ME / T/ 129C	Conduction Heat Transfer					
	PG / ME / T/ 129D	Advanced Computational Heat Transfer					
	PG / ME / T/ 129E	Heat Exchangers					
	PG / ME / T/ 129F	Combustion Engineering					
	PG / ME / T/ 129G	Design for Fracture, Fatigue and Creep					
	PG / ME / T/ 129H	Mechanical systems and vibration control					
	PG / ME / T/ 129 I	Advanced Manufacturing Processes					
	PG / ME / T/ 129J	Advanced Methods of Machining					
<p>Note: The students have to select 3 subjects from the departmental/ specialization basket, i.e. one subject each from the list given in the baskets of Paper-VII, Paper-VIII and Paper-IX</p>							

Theoretical Courses	Subjects		Periods/Weeks		Marks		Credit Points
	Subject Code	Subject Name	Lecture	Sessional	Examination	Sessional	
Inter-Disciplinary Basket							
Paper-X	PG / ME / T/ 1210A	Introduction to Concurrent Engineering	3		100		3
	PG / ME / T/ 1210B	Total Quality Management					
	PG / ME / T/ 1210C	Solar Energy Engg					
	PG / ME / T/ 1210D	Safety Engineering					
	PG / ME / T/ 1210E	Micro scale Heat Transfer					
	PG / ME / T/ 1210F	Robotics And Automation					
	PG / ME / T/ 1210G	Manufacturing Aspects Of Design					
	PG / ME / T/ 1210H	Control of Mechatronic Systems					
	PG / ME / T/ 1210I	Wind Effects On Structures					
	PG / ME / T/ 1210J	Theory of Plasticity					
	PG / ME / T/ 1210K	Theory of Plates and Shells					
Note: The students have the freedom to choose one subject from the list under Paper-X.							
Sessional Courses							
Sessional 1	PG / ME / S/ 121	Term Paper Leading to Thesis		3		100	3
Sessional 2	PG / ME / S/ 122	Seminar		3		200	6
			12	6	400	300	21

Total Periods/Week = 18

Total Marks = 700

THIRD and FOURTH SEMESTER

Courses							
1	PG / ME / TH / 21	Thesis Work		16		300	12
2	PG / ME / VV / 22	Viva-Voce on Thesis				100	
				16		400	12

Total Periods/Week = 16

Total Marks = 400