

## List of M.Sc. by Research / Ph.D. course work subjects that can be offered under Mechanical Engineering Group from 2006 onwards

Group I		Group II		Group III		Group IV	
Subject Code	Name of the subject	Subject Code	Name of the subject	Subject Code	Name of the subject	Subject Code	Name of the subject
05MPM253	Modern Trends in Management	05MMD152	Optimum Design	05MPD152	Knowledge Management	05MPM246	Nano Technology
05MMT11	Maintenance Engineering & Management	05MPY245	Project Management	05MES22	Energy Management	05MPD241	Product Data Management
05MPD251	Product Planning & Marketing	05MPD143	Quality by design	05MEM141	Human Resource Management	05MEM22	Financial Management
05MEM143	Industrial Relations	05MTP23	Thermal power station-II	05MEM151	Managerial Economics	05MEM152	Computer Applications in Management
05MPM156	Product data management	05MEM23	Organizational Behavior	05MMT152	Surface treatment & finishing	05MDE151	Dynamics and Mechanism Design
05MMD23	Composite Materials	05MEM251	Advanced Operation Research	05MTE12	Theory of Elasticity and Plasticity	05MPD11	Product Design and Development
05MDE153	Advanced Theory of Vibrations	05MDE141	Tribology and Bearing Design	05MDE143	Mechatronics system design	05MMD252	Smart material & structure
05MMD12	Experimental Stress Analysis	05MMD242	Rotor dynamics	05MDE243	Theory of Plates and Shells	05MTP254	Measurement systems & Experimental Techniques
05MPD21	Industrial Design & Economics	05MDE251	Fracture Mechanics	05MPD252	Virtual Reality	05MTP13	Thermal Power Station-I
05MTE143	Jigs and Fixtures Design	05MPD22	Rapid Prototyping	05MMD22	Advanced Machine Design	05MTP251	Design and analysis of piping
05MES11	Non Conventional Energy system	05MTE241	Design Analysis	05MMT21	Failure Mechanism and analysis	05MPD151	Design for manufacture
05MES151	Theory of SI and CI Engines	05MTE21	Finite Element Analysis	05MES12	Conventional Energy Conversion System	05MPM22	Advanced Metal Joining Process
05MES142	Energy Conversion-I	05MES152	Biomass Energy Systems	05MES143	Applied numerical analysis	05MPY242	Ferrous & non ferrous foundry practice
05MTP141	Heat Transfer	05MES252	Energy storage	05MES251	Energy from Wastes	05MPT151	Non Destructive Testing
05MPM21	Computer Integrated Manufacturing and Automation	05MTP22	Design of Heat Exchangers	05MTP151	Computational heat transfer & fluid flow	05MPT145	Production system & control

05MPY11	Theory of Metal Cutting	05MTP11	Advanced Fluid Mechanics	05MES241	Alternate Fuel for IC Engines	05MMD152	Optimum design
05MPM144	Quantitative Techniques in Decision Making	05MTP142	Conduction and Radiation Heat Transfer	05MES13	Thermodynamics and Combustion Engineering	05IAR252	Modeling of management information system
05MPM244	Fluid power and control Engg.	05MTP241	Theory and Design of Steam and Gas Turbines	05MTE251	CNC Machining	05IAR12	Robotics for industrial automation
05MMT22	Maintenance of Machinery	05MPM141	Robotics	05MPM13	Theory of Metal Forming	05MEA243	Micro Electro Mechanical Systems (MEMS)
05MCM11	Computer aided design	05MPD242	Simulation and Modeling of Mfg. System	05MTE11	Die Casting and Die Design	05MEA11	Theoretical stress & analysis
05MCM13	Advanced material technology	05MPY241	Tool Design	05MPT142	Quality and reliability Engg	05MES141	Wind Energy system
05MDE11	Computer graphics	05MPT23	Non Traditional Machining	05MTE141	Gauges and Measurements	05MCM12	Computer control of manufacturing system
05MEA153	Computational fluid dynamics	05MCM22	Flexible Manufacturing System	05MSE151	Agile Engineering	05MCM243	Machine Tool Dynamics
05MEA22	Power plant design	05IAR141	Modeling simulation and analysis of manufacturing system	05MPM255	Financial management	05MAE242	Structural Design
05IAR254	Artificial intelligence & expert system in automation	05IAR23	Microprocessor & Micro controller	05IAR151	Knowledge based management	05MPT244	Modeling and Analysis of thermal power engineering
05IAR152	Concurrent engineering for manufacturing	05MMD13	Theory of Elasticity	05MPD23	Lean manufacturing system	05MAE153	CAD/CAM
05MMD241	Theory of Plasticity	05MES242	Energy conversion-II	05MTP242	Nuclear Energy Conversion	05MAE252	Material Management & logistic support
05MEA141	Advanced product design	05MMT142	Operation and maintenance of hydraulic & Pneumatic systems	05MTP143	Convective Heat & Mass Transfer	05MCM142	Condition based maintenance
05MTP21	Advanced power plant cycles	05MMT241	Noise measurement analysis & control	05MEA143	Production tooling	05MTP243	Engine Flow & Combustion
05MTL01	Experimental Methods in Materials & Mfg. (Lab)	05MTL01	Experimental Methods in Materials & Mfg. (Lab)	05MTL01	Experimental Methods in Materials & Mfg. (Lab)	05MTL01	Experimental Methods in Materials & Mfg. (Lab)