



# **M.I.E.T. ENGINEERING COLLEGE**

(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai)  
UG - CSE, EEE & MECH Programs Accredited by NBA, New Delhi.  
(An ISO 9001:2015 Certified Institution)  
TRICHY – PUDUKKOTTAI ROAD, TIRUCHIRAPPALLI – 620 007.  
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Ph: 0431 – 2660 303

# **MECHANICAL ENGINEERING**



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## Regulation– 2017 - UG

YEAR/SEMESTER : II/III	
<b>C201/MA8353-TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS</b>	
<b>C201.1</b>	Analyze Partial Differential Equations in various methods.
<b>C201.2</b>	Solving Fourier Series for different types of functions.
<b>C201.3</b>	Computing the solutions of the heat equation, wave equation and the Laplace equation subject to boundary conditions
<b>C201.4</b>	Deduce the Gaussian function in Self reciprocal form using Fourier Transforms.
<b>C201.5</b>	Formation of finite difference method in Z-transforms.
<b>C202/ME8391-ENGINEERING THERMODYNAMICS</b>	
<b>C202.1</b>	Apply the basic concepts of thermodynamics for energy conversion phenomenon.
<b>C202.2</b>	Calculate thermal efficiency and coefficient of performance for heat engines, refrigerators and heat pumps.
<b>C202.3</b>	Evaluate the performance of steam power cycles.
<b>C202.4</b>	Derive simple thermodynamic relations of ideal and real gases.
<b>C202.5</b>	Calculate the properties of air vapor mixtures using psychometrics
<b>C202.6</b>	Explain the performance of refrigeration systems and its environmental impacts.
<b>C203/CE8394-FLUID MECHANICS AND MACHINERY</b>	
<b>C203.1</b>	Apply the concept of fluid properties with their effects on fluid flow.
<b>C203.2</b>	Apply the concepts of general energy equations in fluid flow problems.
<b>C203.3</b>	Calculate the major and minor losses in flow through pipes.
<b>C203.4</b>	Apply the mathematical knowledge in boundary layer concepts.
<b>C203.5</b>	Understand the working principle of pumps and turbines.
<b>C203.6</b>	Analyze the various performance characteristics of pumps and turbines.
<b>C204/ME8351-MANUFACTURING TECHNOLOGY - I</b>	
<b>C204.1</b>	Understand the fundamentals of casting, Welding, Forging and Sheet metal process



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<b>C204.2</b>	Understand the basic concepts of Fusion and Non-Fusion Welding process
<b>C204.3</b>	Identify the different defects which occur in welding and casting process.
<b>C204.4</b>	Explain the various forming operations can performed in sheet metal process
<b>C204.5</b>	Compute the casting allowances and time taken for solidification in the process
<b>C204.6</b>	Understand the concepts of thermo and thermo setting plastics used in plastic manufacturing components
<b>C205/EE8353-ELECTRICAL DRIVES AND CONTROLS</b>	
<b>C205.1</b>	Select the rating and classes of duty of machines for particular application.
<b>C205.2</b>	Explain the mechanical and braking characteristics of dc and ac machines.
<b>C205.3</b>	Describe the starting methods of both dc and ac machines.
<b>C205.4</b>	Clarify conventional and solid state speed control of dc drives.
<b>C205.5</b>	Enlighten the speed control of dc and ac drive by conventional and solid state methods.
<b>C205.6</b>	Select the rating and classes of duty of machines for particular application.
<b>C206/ME8361-MANUFACTURING TECHNOLOGY LABORATORY - I</b>	
<b>C206.1</b>	Perform the taper turning operation in conventional lathe machine
<b>C206.2</b>	Perform the various thread operations for the given specification.
<b>C206.3</b>	Estimate the taper angle and machining time calculations in various machining operations.
<b>C206.4</b>	Perform the hexagonal bolts and square studs using shaper machine
<b>C206.5</b>	Calculate the eccentricity value to produce eccentric components
<b>C207/ME8381-COMPUTER AIDED MACHINE DRAWING</b>	
<b>C207.1</b>	Construct the machine drawing as per standards, Fits and Tolerances
<b>C207.2</b>	Identify proper computer graphics techniques for 2D drawing and 3D model.
<b>C207.3</b>	Develop the part model for any machine components by using modeling software.
<b>C207.4</b>	Develop the assembly model for machine components by using modeling software.



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<b>C207.5</b>	Develop the program code for CNC machines for simulation
<b>C207.6</b>	Machine the components by using CNC machine
<b>C208/EE8361-ELECTRICAL ENGINEERING LABORATORY</b>	
<b>C208.1</b>	Perform the load test, OCC, load characteristics and speed control of DC shunt and DC series motor
<b>C208.2</b>	Perform the load test, OC and SC test on a single phase transformer
<b>C208.3</b>	Examine the regulation of an alternator by EMF and MMF methods
<b>C208.4</b>	Conduct the load test, speed control on various phase of induction motor
<b>C208.5</b>	Explore the DC and AC starters
<b>C208.6</b>	Perform the load test, OCC, load characteristics and speed control of DC shunt and DC series motor
<b>C209/HS8381-INTERPERSONAL SKILLS / LISTENING &amp; SPEAKING</b>	
<b>C209.1</b>	Take international examination such as IELTS and TOEFL
<b>C209.2</b>	Participate in Group Discussion.
<b>C209.3</b>	Successfully answer questions in Interviews.
<b>C209.4</b>	Make effective Presentations.
<b>C209.5</b>	Participate confidently and appropriately in conversations both formal and informal
<b>YEAR/SEMESTER : II/IV</b>	
<b>C210/MA8452-STATISTICS AND NUMERICAL METHODS</b>	
<b>C210.1</b>	Define null and alternative hypothesis, Apply test statistic, level of significance and decision rule, Distinguish between Type I error and Type II errors to Explain the difference between one and two sided tailed of hypothesis.
<b>C210.2</b>	Explain the concept of analysis of variance to Distinguish between one and two factor analysis of variance tests.
<b>C210.3</b>	Solve Algebraic and Transcendental equations by various methods, Simultaneous linear equations using Direct and Indirect methods. Compute Eigen value of a matrix



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	by power method.
<b>C210.4</b>	Interpret the data for Interpolation using various methods and compute the Numerical differentiation for Equal & Unequal intervals. Using Trapezoidal and Simpsons method for Numerical Integration solution.
<b>C210.5</b>	Solving first order differential equations using various types of single and multi step methods.
<b>C210.6</b>	Applying finite difference methods for solving II order differential equations.
<b>C211/ME8492-KINEMATICS OF MACHINERY</b>	
<b>C211.1</b>	Understand the various kinematic concepts in different mechanisms.
<b>C211.2</b>	Analyze the velocity and acceleration of links at any point in various mechanisms.
<b>C211.3</b>	Construct the various cam profiles with follower motion.
<b>C211.4</b>	Solve the problems on gear and gear trains
<b>C211.5</b>	Recognize the effect of friction in different friction drives.
<b>C211.6</b>	Design the various motion transmission elements with their relative movements.
<b>C212/ME8451-MANUFACTURING TECHNOLOGY– II</b>	
<b>C212.1</b>	Understand the constructional features of lathe and special machines
<b>C212.2</b>	Explain the various mechanism used in special machines
<b>C212.3</b>	Develop the part program in CNC milling and turning centers.
<b>C212.4</b>	Compute the tool nomenclature and tool life calculation in metal cutting process
<b>C212.5</b>	Select the suitable grinding wheels used in different grinding process
<b>C212.6</b>	Identify the suitable process to manufacture simple engineering components
<b>C213/ME8491-ENGINEERING METALLURGY</b>	
<b>C213.1</b>	Describe the various phase diagram for engineering metals
<b>C213.2</b>	Identify the different types of engineering materials in industrial applications
<b>C213.3</b>	Understand the various isothermal transformation in heat treatment process
<b>C213.4</b>	Understand the effects of alloying elements on Ferrous and Non-Ferrous materials.



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<b>C213.5</b>	Discuss the properties and applications of Polymers, Ceramics and Composite materials
<b>C213.6</b>	Identify the mechanical properties and deformation using various mechanical testing methods.
<b>C214/ME8395-STRENGTH OF MATERIALS FOR MECHANICAL ENGINEERS</b>	
<b>C214.1</b>	Understand the concept of deformation due to different loading conditions.
<b>C214.2</b>	Understand the fundamentals of various stresses and strains in the structural member.
<b>C214.3</b>	Construct the shear force and bending moment diagram for load transferring mechanism in different beams.
<b>C214.4</b>	Apply the basic equations to design the shaft and helical springs.
<b>C214.5</b>	Determine the slope and deflection in beams using different methods.
<b>C214.6</b>	Design thin and thick cylinders subjected to internal and external pressures
<b>C215/ME8493-THERMAL ENGINEERING-I</b>	
<b>C215.1</b>	Calculate the efficiency of various gas power cycles.
<b>C215.2</b>	Compute the performance test on IC engines
<b>C215.3</b>	Estimate the concert of single and multi stage steam turbines
<b>C215.4</b>	Apply the thermodynamic concepts in various thermal systems.
<b>C215.5</b>	Calculate the properties of air vapor mixtures using psychometrics
<b>C215.6</b>	Explain the importance of efficient energy utilization in engineering practices and its impact on the environment
<b>C216/ME8462-MANUFACTURING TECHNOLOGY LABORATORY–II</b>	
<b>C216.1</b>	Calculate the various cutting forces using tool dynamometers.
<b>C216.2</b>	Generate gears using gear hobbling machines
<b>C216.3</b>	Perform surface finish operations using surface grinding and cylindrical grinding machines.
<b>C216.4</b>	Develop CNC part programming for turning and milling operations



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<b>C216.5</b>	Perform contour milling operation in various milling machine.
<b>C216.6</b>	Perform gear cutting operation using milling machine.
<b>C217/CE8381-STRENGTH OF MATERIALS &amp; FLUID MECHANICS AND MACHINERY LABORATORY</b>	
<b>C217.1</b>	Determine the elastic constants by using tensile and torsion test machine for mild steel (MS) specimen
<b>C217.2</b>	Conduct hardness test for different metals and carry out impact test for MS specimen
<b>C217.3</b>	Determine deflection in beams
<b>C217.4</b>	Determine the discharge coefficients for venture meter & Orifice meter
<b>C217.5</b>	Analyze the flow measurement by using flow measuring equipment
<b>C217.6</b>	Evaluate the performance of hydraulic turbines & pumps under different working conditions.
<b>C218/HS8461-ADVANCED READING AND WRITING</b>	
<b>C218.1</b>	Make effective Presentations.
<b>C218.2</b>	Participate in Group Discussion.
<b>C218.3</b>	Successfully answer questions in Interviews.
<b>C218.4</b>	Take international examination such as IELTS and TOEFL
<b>C218.5</b>	Participate confidently and appropriately in conversations both formal and informal
<b>C218.6</b>	Take international examination such as IELTS and TOEFL
<b>YEAR/SEMESTER : III/V</b>	
<b>C301/ME8595-THERMAL ENGINEERING-II</b>	
<b>C301.1</b>	Understand the basic design parameters of various machine elements
<b>C301.2</b>	Understand the various stresses induce due to different loading conditions.
<b>C301.3</b>	Apply the basic design procedure to design the shafts, bearing and couplings.
<b>C301.4</b>	Apply the basic design steps to design the temporary and permanent joints.
<b>C301.5</b>	Design the various energy storing elements and engine components.



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<b>C301.6</b>	Design the various machine members as per standard design catalogues.
<b>C302/ME8593-DESIGN OF MACHINE ELEMENTS</b>	
<b>C302.1</b>	Understand the basic laws of heat transfer in the engineering systems.
<b>C302.2</b>	Compute the temperature distribution in steady and unsteady state heat conduction.
<b>C302.3</b>	Evaluate the heat transfer coefficient for convection
<b>C302.4</b>	Calculate the phase change properties and the heat exchanger performance by varying the methods
<b>C302.5</b>	Calculate radiation heat transfer between black and gray body surfaces.
<b>C302.6</b>	Analyze the diffusion and convective mass transfer occurring in different applications
<b>C303/ME8501-METROLOGY AND MEASUREMENTS</b>	
<b>C303.1</b>	Discuss the concepts of measurements in metrological instruments.
<b>C303.2</b>	Explain the principles of linear and angular measuring instruments for industrial applications.
<b>C303.3</b>	Understand the concepts of various computer aided inspection tools.
<b>C303.4</b>	Explain the different form measurements in industry.
<b>C303.5</b>	Understand the basic concepts of interchangeability and selective assembly.
<b>C303.6</b>	Understand the working principle of measuring equipments to measure intensive and extensive properties.
<b>C304/ME8594-DYNAMICS OF MACHINES</b>	
<b>C304.1</b>	Understand the various force-motion relationships in different mechanisms
<b>C304.2</b>	Apply the principles of statics and dynamics to machinery
<b>C304.3</b>	Analyze the balancing masses in the rotating and reciprocating machines
<b>C304.4</b>	Solve the free vibration problems in longitudinal, transverse and torsional systems
<b>C304.5</b>	Apply the basic principles to reduce the undesirable effects of forced vibrations
<b>C304.6</b>	Apply the principles in mechanisms used for speed control and stability control





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<b>C305/OIM552-LEAN MANUFACTURING (Open Elective-1)</b>	
<b>C305.1</b>	Understand the concept of conventional manufacturing and Lean manufacturing
<b>C305.2</b>	Understand the cellular manufacturing theory, and uses of Lean production tools such as JIT, Kuban & TPM
<b>C305.3</b>	Apply the 'set up time' reduction principles and implementation of TQM & 5S principles
<b>C305.4</b>	Analyze the statistical consideration, variability reduction and design of experiment using SIC-ZIGMA implementation
<b>C305.5</b>	Understand the waste in any process, minimize waste through proper kaizens and other methods
<b>C305.6</b>	To improve the organization's efficiency through the use of LM tools
<b>C306/ME8511-KINEMATICS AND DYNAMICS LABORATORY</b>	
<b>C306.1</b>	Understand the concept of differential gear trains and kinematic links
<b>C306.2</b>	Evaluate the frequency of the vibrating system
<b>C306.3</b>	Analyze the controlling mechanisms
<b>C306.4</b>	Analyze the balancing masses in the rotating and reciprocating machines
<b>C306.5</b>	Determination of mass moment of inertia for different component
<b>C306.6</b>	Use the measuring devices for dynamic testing
<b>C307/ME8512-THERMAL ENGINEERING LABORATORY</b>	
<b>C307.1</b>	Conduct a test to find thermal conductivity of various engineering materials
<b>C307.2</b>	Measure the heat transfer rate in natural and forced convection environment
<b>C307.3</b>	Evaluate radiation heat transfer between black body surfaces and grey body surfaces
<b>C307.4</b>	Analyze the effectiveness of parallel and counter flow heat exchanger
<b>C307.5</b>	Compare the performance of theoretical and experimental refrigeration and air conditioning systems.
<b>C307.6</b>	Evaluate the performance of air compressors.



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<b>C308/ME8513-METROLOGY AND MEASUREMENTS LABORATORY</b>	
<b>C308.1</b>	Ability to handle different measurement tools and perform measurements in quality impulsion
<b>C308.2</b>	Identify various gauges for measurement.
<b>C308.3</b>	Demonstrate linear and angular measurement using precision instruments.
<b>C308.4</b>	Apply the load cell to measure the force and torque
<b>C308.5</b>	Use thermocouple and comparator for taking measurement.
<b>C308.6</b>	Measure bore diameter using Bore gauge, telescope gauge and surface roughness using Surface Finish Measuring Equipment
<b>YEAR/SEMESTER : III/VI</b>	
<b>C310/ME8651-DESIGN OF TRANSMISSION SYSTEMS</b>	
<b>C310.1</b>	Select the materials for mechanical transmission system.
<b>C310.2</b>	Apply the design knowledge to design the various flexible drives.
<b>C310.3</b>	Apply the design concepts to design the parallel axis mating gear.
<b>C310.4</b>	Apply the basic design steps to design the perpendicular and oblique axis mating gear.
<b>C310.5</b>	Apply the design procedure to design the gear box.
<b>C310.6</b>	Apply the design principles to design the various friction drives.
<b>C311/ME8691-COMPUTER AIDED DESIGN AND MANUFACTURING</b>	
<b>C311.1</b>	Understand the concept of 2D and 3D transformations and clipping algorithm.
<b>C311.2</b>	Understand the fundamentals of parametric curves, surfaces and Solids
<b>C311.3</b>	Apply the visual realism by using different algorithm
<b>C311.4</b>	Apply the mass property calculations on different parts
<b>C311.5</b>	Understand the different types of CAD Standards.
<b>C311.6</b>	Apply the various CAD algorithms in the area of product design and development.
<b>C312/ME8693-HEAT AND MASS TRANSFER</b>	



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<b>C312.1</b>	Understand the basic laws of heat transfer in the engineering systems.
<b>C312.2</b>	Compute the temperature distribution in steady and unsteady state heat conduction.
<b>C312.3</b>	Evaluate the heat transfer coefficient for convection
<b>C312.4</b>	Calculate the phase change properties and the heat exchanger performance by varying the methods
<b>C312.5</b>	Calculate radiation heat transfer between black and gray body surfaces.
<b>C312.6</b>	Analyze the diffusion and convective mass transfer occurring in different applications
<b>C313/ME8692-FINITE ELEMENT ANALYSIS</b>	
<b>C313.1</b>	Solve Boundary value problems in structural and non-structural application.
<b>C313 .2</b>	Apply finite element methods in one dimensional Problem.
<b>C313 .3</b>	Solve dynamic problem by using finite element procedure.
<b>C313 .4</b>	Apply finite element technique in two dimensional scalar Problems.
<b>C313 .5</b>	Apply finite element method in two dimensional Vector problems.
<b>C313 .6</b>	Apply finite element procedure to solve problems on iso-parametric element
<b>C314/ME8694-HYDRAULICS AND PNEUMATICS</b>	
<b>C314.1</b>	Explain the Fluid power and operation of different types of pumps.
<b>C314.2</b>	Summarize the features and functions of Hydraulic motors, actuators and Flow control valves
<b>C314.3</b>	Explain the different types of Hydraulic circuits and systems
<b>C314.4</b>	Explain the working of different pneumatic circuits and systems
<b>C314.5</b>	Summarize the various trouble shooting methods and applications of hydraulic and pneumatic systems.
<b>C314.6</b>	Design the hydraulic circuit for multi-functional operations
<b>C315/ME8091-AUTOMOBILE ENGINEERING (Professional Elective-1)</b>	
<b>C315.1</b>	To understand basics of Automobile Engineering, conversant with drive train and



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	transmission.
<b>C315.2</b>	To make the student conversant with Axles, Steering System & Tyre Wheel assembly and to understand basic and types of steering system
<b>C315.3</b>	To make the student conversant with Suspension and Brake System
<b>C315.4</b>	To make the student conversant with Vehicle Performance & Safety also able to understand basics of Vehicle maintenance.
<b>C315.5</b>	To make the student conversant with Vehicle Maintenance & Garage Practice also able to perform garage practices
<b>C315.6</b>	To understand the various Automobile Electrical System and latest advancement in vehicles
<b>C316/ME8681-C.A.D. / C.A.M. LABORATORY</b>	
<b>C316.1</b>	Construct the machine drawing as per standards, Fits and Tolerances
<b>C316.2</b>	Identify proper computer graphics techniques for 2D drawing and 3D model.
<b>C316.3</b>	Develop the part model for any machine components by using modeling software.
<b>C316.4</b>	Develop the assembly model for machine components by using modeling software.
<b>C316.5</b>	Develop the program code for CNC machines for simulation
<b>C316.1</b>	Machine the components by using CNC machine
<b>C317/ME8682-DESIGN AND FABRICATION PROJECT</b>	
<b>C317.1</b>	Identify problems with their technical skills
<b>C317.2</b>	Design a product as per requirement
<b>C317.3</b>	Develop the detailed drawing for fabrication product with latest tool
<b>C317.4</b>	Create prototype of a working model
<b>C317.5</b>	Contribute effectively as an individual and as a member in a team
<b>C317.6</b>	Develop detailed report for new product
<b>C318/HS8581-PROFESSIONAL COMMUNICATION</b>	
<b>C318.1</b>	Take international examination such as IELTS and TOEFL



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<b>C318.2</b>	Participate in Group Discussion.
<b>C318.3</b>	Successfully answer questions in Interviews.
<b>C317.4</b>	Make effective Presentations.
<b>C318.5</b>	Participate confidently and appropriately in conversations both formal and informal
<b>C318.6</b>	Take international examination such as IELTS and TOEFL
<b>YEAR/SEMESTER : IV/VII</b>	
<b>C401/ME8792-POWER PLANT ENGINEERING</b>	
<b>C401.1</b>	Understand the layout and components of various power plants
<b>C401.2</b>	Understand different types of cycles and it's efficiencies in various power plants.
<b>C401.3</b>	Understand the sources and concepts of renewable energy
<b>C401.4</b>	Calculate the factors associated with power plant economics.
<b>C401.5</b>	Select the suitability of site for a power plant.
<b>C401.6</b>	Identify safety aspects of power plants
<b>C402/ME8793-PROCESS PLANNING AND COST ESTIMATION</b>	
<b>C402.1</b>	Introduce the process planning concepts to make cost estimation for various products after process planning
<b>C402.2</b>	Identify the documents required for the process planning
<b>C402.3</b>	Calculate the material cost of a product.
<b>C402.4</b>	Explain the various associated in manufacturing shops.
<b>C402.5</b>	Calculate the machining time for various machining operations.
<b>C402.6</b>	Analyzing and approving subcontractor's capabilities and their quality plans.
<b>C403/ME8791-MECHATRONICS</b>	
<b>C403.1</b>	Explain mechatronics design process
<b>C403.2</b>	Choose sensors based on their working principle.
<b>C403.3</b>	Discuss the working of various actuators.
<b>C403.4</b>	Discuss the architecture of microprocessors and microcontroller.



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<b>C403.5</b>	Explain the architecture of PLC and contrast it from PC and relay systems.
<b>C403.6</b>	Discuss the various case studies.
<b>C404/OIE751 ROBOTICS (Open Elective-2)</b>	
<b>C404.1</b>	To develop the student's knowledge in various robot structures and their workspace
<b>C404.2</b>	To develop student's skills in performing spatial transformations associated with rigid body motions
<b>C404.3</b>	To develop student's skills in perform kinematics analysis of robot systems
<b>C404.4</b>	To provide the student with knowledge of the singularity issues associated with the operation of robotic systems
<b>C404.5</b>	To provide the student with some knowledge and analysis skills associated with trajectory planning
<b>C404.6</b>	To provide the student with some knowledge and skills associated with robot control
<b>C405/GE 8077 TOTAL QUALITY MANAGEMENT (Professional Elective-2)</b>	
<b>C405.1</b>	Describe the dimensional barrier regarding Quality.
<b>C405.2</b>	Summarize the Total quality principles.
<b>C405.3</b>	Demonstrate the tools utilization for quality improvement.
<b>C405.4</b>	Discover the new decision of principle in real time projects.
<b>C405.5</b>	Analyze the various types of techniques are used to measure quality.
<b>C405.6</b>	Apply the various quality systems in implementation of Total quality management.
<b>C406/ME8097 NON DESTRUCTIVE TESTING AND EVALUATION (Professional Elective-3)</b>	
<b>C406.1</b>	The student shall be able to select an appropriate NDT technique as per requirement
<b>C406.2</b>	The student shall be able to set various process parameters and control the NDT process for the desired output parameters
<b>C406.3</b>	The student shall be able to find the internal flaws in the material by NDT and take measures to eliminate them
<b>C406.4</b>	The student shall be able to solve various problems encountered like leakage, cracks,



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	blowholes etc with the manufacturing process by analyzing the data.
<b>C406.5</b>	The student shall be competent enough to make use of modern tools and softwares for analyzing and solving real life problems
<b>C406.6</b>	The student shall be able to introduce environmental friendly solutions to achieve organizational sustainability
<b>C407/ME8711-SIMULATION AND ANALYSIS LABORATORY</b>	
<b>C407.1</b>	Simulate the dynamic system by using MAT lab software.
<b>C407.2</b>	Simulate the mechanism by using multi-body dynamic software
<b>C407.3</b>	Analyze the stresses for trusses and beams using analysis software
<b>C407.4</b>	Analyze the stresses for axis-symmetric components by using analysis software
<b>C407.5</b>	Analyze the response of vibrating system analysis software
<b>C407.6</b>	Analyze the Thermal stress and heat transfer analysis of plates and cylindrical shells analysis software
<b>C408/ME8781-MECHATRONICS LABORATORY</b>	
<b>C408.1</b>	Simulate Hydraulic, Pneumatic circuit using software tool.
<b>C408.2</b>	Simulate Electro pneumatic circuits using trainer kits.
<b>C408.3</b>	Design and test various fluid power circuits using software tool
<b>C408.4</b>	Interface stepper motor with 8051 micro controller
<b>C408.5</b>	Conduct experiments using servo controller and stepper motor.
<b>C408.6</b>	Conduct experiments PID Controller interfacing
<b>C409/ME8712-TECHNICAL SEMINAR</b>	
<b>C409.1</b>	Enrich the communication skills of the student technical topics of interest
<b>C409.2</b>	Familiarize the preparation of content of technical writing
<b>C409.3</b>	Enrich the presentations skills of the student technical topics of interest
<b>C409.4</b>	Participate confidently and appropriately in conversations both formal and informal
<b>C409.5</b>	Participate in technical group discussion.
<b>C409.6</b>	Participate in technical quiz programs



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<b>YEAR/SEMESTER : IV/VIII</b>	
<b>C410/ME8591-PRINCIPLES OF MANAGEMENT</b>	
<b>C410.1</b>	Identifies the global context for taking managerial organization.
<b>C410.2</b>	Predict the global opportunity that will impact the management of an organization.
<b>C410.3</b>	Prepare the management principles into management practices.
<b>C410.4</b>	Analyze the managerial problem with ethical practice standards.
<b>C410.5</b>	Breakdown the managerial task executed in the variety of circumstances.
<b>C410.6</b>	Identify the most effective Action to take in the specific situation of addressing issues.
<b>C411/IE8693-PRODUCTION PLANNING AND CONTROL (Professional Elective– IV)</b>	
<b>C411.1</b>	Understand the production planning processes to convert the raw material into finished product.
<b>C411.2</b>	Prepare the production planning activities chart for work study to reduce the production time.
<b>C411.3</b>	Improve the market sale of existing product by changing the product planning
<b>C411.4</b>	Select the suitable process planning for manufacturing of a product.
<b>C411.5</b>	Analyze the production schedule for the given product.
<b>C411.6</b>	Analyze the inventory for a new product with help of latest software.
<b>C412/ME8811-PROJECT WORK</b>	
<b>C412.1</b>	Identify real world problems of core engineering and related systems
<b>C412.2</b>	Formulate new set of problems
<b>C412.3</b>	Take on with industrial changes
<b>C412.4</b>	Evaluate to obtain solution for problems in mechanical engineering systems
<b>C412.5</b>	Adapt to work as a team for the successful completion of the project
<b>C412.6</b>	Document preparation and communication very clearly







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C204.3	3	3	2	2	-	-	-	-	-	-	-	-	3	2
C204.4	3	3	2	2	-	-	-	-	-	-	-	-	3	2
C204.5	3	3	2	2	-	-	-	-	-	-	-	-	3	2
C204.6	3	3	2	2	-	-	-	-	-	-	-	-	3	2
<b>C205/EE8353-ELECTRICAL DRIVES AND CONTROLS</b>														
C205.1	3	2	-	-	-	-	-	-	-	-	-	-	3	3
C205.2	3	2	-	-	-	-	-	-	-	-	-	-	3	3
C205.3	3	2	-	-	-	-	-	-	-	-	-	-	3	3
C205.4	3	2	-	-	-	-	-	-	-	-	-	-	3	3
C205.5	3	2	-	-	-	-	-	-	-	-	-	-	3	3
C205.6	3	2	-	-	-	-	-	-	-	-	-	-	3	3
<b>C206/ME8361-MANUFACTURING TECHNOLOGY LABORATORY - I</b>														
C206.1	3	2	2	-	-	-	-	-	-	-	-	-	3	-
C206.2	3	2	2	-	-	-	-	-	-	-	-	-	3	-
C206.3	3	2	2	-	-	-	-	-	-	-	-	-	3	-
C206.4	3	2	2	-	-	-	-	-	-	-	-	-	3	-
C206.5	3	2	2	-	-	-	-	-	-	-	-	-	3	-
<b>C207/ME8381-COMPUTER AIDED MACHINE DRAWING</b>														
C207.1	3	-	2	-	-	-	-	-	-	-	-	-	3	2
C207.2	3	-	2	-	-	-	-	-	-	-	-	-	3	2
C207.3	3	-	2	-	-	-	-	-	-	-	-	-	3	2
C207.4	3	-	2	-	-	-	-	-	-	-	-	-	3	2
C207.5	3	-	2	-	-	-	-	-	-	-	-	-	3	2
C207.6	3	-	2	-	-	-	-	-	-	-	-	-	3	2
<b>C208/EE8361-ELECTRICAL ENGINEERING LABORATORY</b>														





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<b>C211.6</b>	3	3	2	-	-	-	-	-	-	-	-	-	3	2
<b>C212/ME8451-MANUFACTURING TECHNOLOGY– II</b>														
<b>C212.1</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	3
<b>C212.2</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	3
<b>C212.3</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	3
<b>C212.4</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	3
<b>C212.5</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	3
<b>C212.6</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	3
<b>C213/ME8491-ENGINEERING METALLURGY</b>														
<b>C213.1</b>	3	-	-	-	-	-	-	-	-	-	-	-	3	2
<b>C213.2</b>	3	-	-	-	-	-	-	-	-	-	-	-	3	2
<b>C213.3</b>	3	-	-	-	-	-	-	-	-	-	-	-	3	2
<b>C213.4</b>	3	-	-	-	-	-	-	-	-	-	-	-	3	2
<b>C213.5</b>	3	-	-	-	-	-	-	-	-	-	-	-	3	2
<b>C213.6</b>	3	-	-	-	-	-	-	-	-	-	-	-	3	2
<b>C214/ME8395-STRENGTH OF MATERIALS FOR MECHANICAL ENGINEERS</b>														
<b>C214.1</b>	2	3	-	-	-	-	-	-	-	-	-	-	2	-
<b>C214.2</b>	2	3	-	-	-	-	-	-	-	-	-	-	2	-
<b>C214.3</b>	2	3	-	-	-	-	-	-	-	-	-	-	2	-
<b>C214.4</b>	2	3	-	-	-	-	-	-	-	-	-	-	2	-
<b>C214.5</b>	2	3	-	-	-	-	-	-	-	-	-	-	2	-
<b>C214.6</b>	2	3	-	-	-	-	-	-	-	-	-	-	2	-
<b>C215/ME8493-THERMAL ENGINEERING-I</b>														
<b>C215.1</b>	3	3	2	-	-	-	2	-	-	-	-	-	3	2
<b>C215.2</b>	3	3	2	-	-	-	2	-	-	-	-	-	3	2







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<b>C304.3</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	2
<b>C304.4</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	2
<b>C304.5</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	2
<b>C304.6</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	2
<b>C305/OIM552-LEAN MANUFACTURING (Open Elective-1)</b>														
<b>C305.1</b>	3	2	-	-	-	-	-	-	-	-	-	-	2	3
<b>C305.2</b>	3	2	-	-	-	-	-	-	-	-	-	-	2	3
<b>C305.3</b>	3	2	-	-	-	-	-	-	-	-	-	-	2	3
<b>C305.4</b>	3	2	-	-	-	-	-	-	-	-	-	-	2	3
<b>C305.5</b>	3	2	-	-	-	-	-	-	-	-	-	-	2	3
<b>C305.6</b>	3	2	-	-	-	-	-	-	-	-	-	-	2	3
<b>C306/ME8511-KINEMATICS AND DYNAMICS LABORATORY</b>														
<b>C306.1</b>	3	3	2	2	-	-	-	-	-	-	-	-	3	2
<b>C306.2</b>	3	3	2	2	-	-	-	-	-	-	-	-	3	2
<b>C306.3</b>	3	3	2	2	-	-	-	-	-	-	-	-	3	2
<b>C306.4</b>	3	3	2	2	-	-	-	-	-	-	-	-	3	2
<b>C306.5</b>	3	3	2	2	-	-	-	-	-	-	-	-	3	2
<b>C306.6</b>	3	3	2	2	-	-	-	-	-	-	-	-	3	2
<b>C307/ME8512-THERMAL ENGINEERING LABORATORY</b>														
<b>C307.1</b>	2	-	-	-	-	-	3	3	-	-	-	-	2	2
<b>C307.2</b>	2	-	-	-	-	-	3	3	-	-	-	-	2	2
<b>C307.3</b>	2	-	-	-	-	-	3	3	-	-	-	-	2	2
<b>C307.4</b>	2	-	-	-	-	-	3	3	-	-	-	-	2	2
<b>C307.5</b>	2	-	-	-	-	-	3	3	-	-	-	-	2	2



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C307.6	2	-	-	-	-	-	3	3	-	-	-	-	2	2
<b>C308/ME8513-METROLOGY AND MEASUREMENTS LABORATORY</b>														
C310.1	3	3	-	2	2	-	-	-	-	-	-	-	3	2
C310.2	3	3	-	2	2	-	-	-	-	-	-	-	3	2
C310.3	3	3	-	2	2	-	-	-	-	-	-	-	3	2
C310.4	3	3	-	2	2	-	-	-	-	-	-	-	3	2
C310.5	3	3	-	2	2	-	-	-	-	-	-	-	3	2
C310.6	3	3	-	2	2	-	-	-	-	-	-	-	3	2
<b>C311/ME8691-COMPUTER AIDED DESIGN AND MANUFACTURING</b>														
C311.1	3	2	-	2	-	-	2	-	-	-	-	-	3	2
C311.2	3	2	-	2	-	-	2	-	-	-	-	-	3	2
C311.3	3	2	-	2	-	-	2	-	-	-	-	-	3	2
C311.4	3	2	-	2	-	-	2	-	-	-	-	-	3	2
C311.5	3	2	-	2	-	-	2	-	-	-	-	-	3	2
C311.6	3	2	-	2	-	-	2	-	-	-	-	-	3	2
<b>C312/ME8693-HEAT AND MASS TRANSFER</b>														
C312.1	3	3	3	2	-	-	-	-	-	-	-	-	3	2
C312.2	3	3	3	2	-	-	-	-	-	-	-	-	3	2
C312.3	3	3	3	2	-	-	-	-	-	-	-	-	3	2
C312.4	3	3	3	2	-	-	-	-	-	-	-	-	3	2
C312.5	3	3	3	2	-	-	-	-	-	-	-	-	3	2
C312.6	3	3	3	2	-	-	-	-	-	-	-	-	3	2
<b>C313/ME8692-FINITE ELEMENT ANALYSIS</b>														
C313.1	2	-	-	-	2	-	-	3	-	-	3	-	2	2
C313 .2	2	-	-	-	2	-	-	3	-	-	3	-	2	2







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<b>C316.6</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	2
<b>C317/ME8682-DESIGN AND FABRICATION PROJECT</b>														
<b>C317.1</b>	3	3	2	2	2	-	-	-	-	-	-	-	3	2
<b>C317.2</b>	3	3	2	2	2	-	-	-	-	-	-	-	3	2
<b>C317.3</b>	3	3	2	2	2	-	-	-	-	-	-	-	3	2
<b>C317.4</b>	3	3	2	2	2	-	-	-	-	-	-	-	3	2
<b>C317.5</b>	3	3	2	2	2	-	-	-	-	-	-	-	3	2
<b>C317.6</b>	3	3	2	2	2	-	-	-	-	-	-	-	3	2
<b>C318/HS8581-PROFESSIONAL COMMUNICATION</b>														
<b>C318.1</b>	3	3	3	-	3	-	-	-	-	-	-	-	3	3
<b>C318.2</b>	3	3	3	-	3	-	-	-	-	-	-	-	3	3
<b>C318.3</b>	3	3	3	-	3	-	-	-	-	-	-	-	3	3
<b>C317.4</b>	3	3	3	-	3	-	-	-	-	-	-	-	3	3
<b>C318.5</b>	3	3	3	-	3	-	-	-	-	-	-	-	3	3
<b>C318.6</b>	3	3	3	-	3	-	-	-	-	-	-	-	3	3
<b>C401/ME8792-POWER PLANT ENGINEERING</b>														
<b>C401.1</b>	3	2	-	-	-	-	2	-	-	-	-	-	3	2
<b>C401.2</b>	3	2	-	-	-	-	2	-	-	-	-	-	3	2
<b>C401.3</b>	3	2	-	-	-	-	2	-	-	-	-	-	3	2
<b>C401.4</b>	3	2	-	-	-	-	2	-	-	-	-	-	3	2
<b>C401.5</b>	3	2	-	-	-	-	2	-	-	-	-	-	3	2
<b>C401.6</b>	3	2	-	-	-	-	2	-	-	-	-	-	3	2
<b>C402/ME8793-PROCESS PLANNING AND COST ESTIMATION</b>														
<b>C402.1</b>	3	-	-	-	2	3	2	-	-	-	-	-	3	2
<b>C402.2</b>	3	-	-	-	2	3	2	-	-	-	-	-	3	2



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C402.3	3	-	-	-	2	3	2	-	-	-	-	-	3	2
C402.4	3	-	-	-	2	3	2	-	-	-	-	-	3	2
C402.5	3	-	-	-	2	3	2	-	-	-	-	-	3	2
C402.6	3	-	-	-	2	3	2	-	-	-	-	-	3	2
<b>C403/ME8791-MECHATRONICS</b>														
C403.1	3	2	-	2	-	-	-	-	-	-	-	-	3	2
C403.2	3	2	-	2	-	-	-	-	-	-	-	-	3	2
C403.3	3	2	-	2	-	-	-	-	-	-	-	-	3	2
C403.4	3	2	-	2	-	-	-	-	-	-	-	-	3	2
C403.5	3	2	-	2	-	-	-	-	-	-	-	-	3	2
C403.6	3	2	-	2	-	-	-	-	-	-	-	-	3	2
<b>C404/OIE751 ROBOTICS (Open Elective-2)</b>														
C404.1	3	2	2	2	-	-	-	-	-	-	-	-	3	2
C404.2	3	2	2	2	-	-	-	-	-	-	-	-	3	2
C404.3	3	2	2	2	-	-	-	-	-	-	-	-	3	2
C404.4	3	2	2	2	-	-	-	-	-	-	-	-	3	2
C404.5	3	2	2	2	-	-	-	-	-	-	-	-	3	2
C404.6	3	2	2	2	-	-	-	-	-	-	-	-	3	2
<b>C405/GE 8077 TOTAL QUALITY MANAGEMENT (Professional Elective-2)</b>														
C405.1	3	3	2	-	2	-	-	-	-	-	2	-	3	3
C405.2	3	3	2	-	2	-	-	-	-	-	2	-	3	3
C405.3	3	3	2	-	2	-	-	-	-	-	2	-	3	3
C405.4	3	3	2	-	2	-	-	-	-	-	2	-	3	3
C405.5	3	3	2	-	2	-	-	-	-	-	2	-	3	3
C405.6	3	3	2	-	2	-	-	-	-	-	2	-	3	3







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## Regulation – 2017 - PG

### M.E. – MANUFACTURING ENGINEERING

YEAR/SEMESTER : I/I	
S.No	Course Outcome
<b>C101/ MA5160-APPLIED PROBABILITY AND STATISTICS</b>	
C101.1	Apply the concept to find moments and moment generating functions of distributions using the definition of a random variable.
C101.2	Find marginal, conditional distribution, statistical average for the standard probability function.
C101.3	For the standard probability function, find the marginal, conditional distribution, statistical average.
C101.4	Find the M.L.E. and fit curves and regression lines using the least squares principle.
C101.5	Small and large samples should be identified, and hypothesis testing should be used.
C101.6	The students should have the ability to use the appropriate and relevant, fundamental and applied mathematical and statistical knowledge, methodologies and modern computational tools.
<b>C102/MF5101-ADVANCES IN MANUFACTURING TECHNOLOGY</b>	
C102.1	To generate useful test results in the machining of a variety of materials.
C102.2	Create hybrid machining techniques using this experience.
C102.3	Use of this experience to solve problems on the shop floor.
C102.4	To gain a better understanding of special machining methods, unconventional machining processes, and micromachining.
C102.5	To gain a better understanding of nano fabrication and rapid prototyping.
<b>C103/MF5102 - COMPUTER INTEGRATED MANUFACTURING SYSTEMS</b>	
C103.1	To achieve useful research results in the field of computer-assisted manufacturing.



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<b>C103.2</b>	Make use of your skills to create programming techniques.
<b>C103.3</b>	Use of this expertise to make computer-aided planning more practical
<b>C103.4</b>	For a typical production system, design automated material handling and storage systems.
<b>C103.5</b>	Create a cellular manufacturing device and a manufacturing cell.
<b>C104/MF5103-ADVANCES IN CASTING &amp; WELDING</b>	
<b>C104.1</b>	Understanding of casting style
<b>C104.2</b>	Understanding of casting metallurgy
<b>C104.3</b>	Understanding of current casting and foundry layout patterns
<b>C104.4</b>	Understanding of welding metallurgy and architecture
<b>C104.5</b>	Understanding of welding most current patterns
<b>C105/ MF5104-METAL CUTTING THEORY AND PRACTICE</b>	
<b>C105.1</b>	Ability to comprehend how material removal processes function.
<b>C105.2</b>	Understanding of the tool nomenclature scheme
<b>C105.3</b>	Understanding of machining thermal dimensions
<b>C105.4</b>	Awareness of tool materials, tool life, and tool wear
<b>C105.5</b>	Understanding of machining wear mechanisms and chatter
<b>C106/ MF5003-MICRO MANUFACTURING (Professional Elective-I)</b>	
<b>C106.1</b>	The aim is to familiarize students with the concepts, basic machine tools, and innovations in the micro manufacturing process, as well as research trends in the field.
<b>C106.2</b>	To disseminate information on micromachining using beam energy.
<b>C106.3</b>	to gain knowledge of the nano polishing process used on micro machined components
<b>C106.4</b>	To gain a better understanding of the micro forming and welding processes
<b>C106.5</b>	To gain a better understanding of the metrology and calculation methods used on



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	micro machined surfaces. to learn about the most current developments in the sector
<b>C107/ MF5111-CAD/CAM LAB</b>	
<b>C107.1</b>	In sketcher mode, create complex geometries of system components.
<b>C107.2</b>	Ability to use modeling software to build 2D and 3D part models.
<b>C107.3</b>	Create complex engineering assemblies using acceptable assembly constraints.
<b>C107.4</b>	Ability to Understand the CNC Control in Modern Manufacturing System.
<b>C107.5</b>	Ability to Prepare CNC Part Programming and Produce
<b>C110/MF5201- OPTIMIZATION TECHNIQUES IN MANUFACTURING</b>	
<b>C110.1</b>	The student has a basic understanding of the history of optimization problems, their formulation, classification, and solutions. application in a variety of engineering fields
<b>C110.2</b>	Ability to approach and solve linear equations in organizational research problems that apply to real-world engineering problems.
<b>C110.3</b>	Ability to approach and solve non-linear equations of operational research problems that are relevant to real-world engineering business problems.
<b>C110.4</b>	Ability to solve various experimental experiments using various optimization methods in order to achieve the best objective function value.
<b>C110.5</b>	The student understands various simulation methods and how to apply them to various experimental experiments in order to achieve the best objective function value.
<b>C111/CM5251- ADVANCES IN METROLOGY AND INSPECTION</b>	
<b>C111.1</b>	Ability to comprehend metrology principles and measurement errors
<b>C111.2</b>	Understanding of the applications of surface roughness calculation
<b>C111.3</b>	Ability to comprehend the fundamentals of interferometer and its significance.
<b>C111.4</b>	Understanding of measurement devices and laser metrology
<b>C111.5</b>	Image processing capability for metrology





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<b>C112/ MF5202-THEORY OF METAL FORMING</b>	
<b>C112.1</b>	Enable students to be exposed to the concepts of plasticity and the representation of stress states in various coordinate systems
<b>C112.2</b>	Understanding of the different bulk forming processes that are used
<b>C112.3</b>	Ability to teach students about the various sheet metal forming processes that are used
<b>C112.4</b>	Awareness of powder metallurgy techniques and special forming processes is transferable.
<b>C112.5</b>	Understanding of surface treatment for different processes
<b>C113/MF5203-TOOLING FOR MANUFACTURING</b>	
<b>C113.1</b>	To achieve practical research results in the form of tool design for various manufacturing processes.
<b>C113.2</b>	Ability to demonstrate how metal removal procedures are carried out using tooling
<b>C113.3</b>	Ability to demonstrate how metal forming processes use tooling
<b>C113.4</b>	To gain a better understanding of the tooling used in metal casting and joining processes
<b>C113.5</b>	To be able to state the state of the art in manufacturing and inspection tooling
<b>C114/ME5009-NON DESTRUCTIVE TESTING &amp; EVALUATION (NDT) (Professional Elective-II)</b>	
<b>C114.1</b>	Be able to List and define different defects that occur in welding shown through Non-Destructive Examination/Destructive Testing.
<b>C114.2</b>	Be able to identify the types of equipment used for each Non-Destructive and Destructive Examination
<b>C114.3</b>	Be able to explain the purpose of the Equipment, Application, and standard techniques required to perform major non-destructive and destructive examinations of weld



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<b>C114.4</b>	Be able to go to specific Code, Standard, or Specification related to each testing method
<b>C114.5</b>	Have the knowledge and essential skills to identify strengths and weaknesses in materials used in fabrication
<b>C115/MF5071-LEAN MANUFACTURING (Professional Elective-III)</b>	
<b>C115.1</b>	The student must have a clear understanding of manufacturing production, classification, and lean manufacturing techniques
<b>C115.2</b>	Understanding of the fundamental concepts of job requirements, 5S, and layouts in production and productive maintenance
<b>C115.3</b>	Ability to comprehend the JIT and Kanban implementation approaches with a pull method
<b>C115.4</b>	Understanding of the Autonomy and Poke Yoke Processes in Lean Implementation
<b>C115.5</b>	The student is familiar with a variety of quality principles as well as a structured planning approach
<b>C116/MF5211-AUTOMATION AND METAL FORMING LABORATORY</b>	
<b>C116.1</b>	Ability to design and implement pneumatic circuits using trainer kits
<b>C116.2</b>	Understanding of metal forming techniques and the evaluation of associated parameters
<b>C116.3</b>	Ability to use hydro-pneumatic software to plan and conduct pneumo-hydraulic circuits
<b>C116.4</b>	Ability to assess and understand material strain hardening
<b>C116.5</b>	Understanding of sheet metal formability and shaping techniques
<b>C117/MF5212-TECHNICAL SEMINAR</b>	
<b>C117.1</b>	Develop reading, writing, comprehension, and presentation skills for research papers
<b>C117.2</b>	To assess the breadth of knowledge and coverage of recent areas of manufacturing engineering research



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<b>C117.3</b>	To assess the consistency of presentation content (PPT/OHP) on recent manufacturing engineering research topics
<b>C117.4</b>	To improve the student's communication skills by presenting topics on recent engineering/technology advances
<b>C117.5</b>	To establish an analysis of current research problems and developments
<b>YEAR/SEMESTER : II/III</b>	
<b>C201/MF5014-MANUFACTURING MANAGEMENT (Professional Elective-IV)</b>	
<b>C201.1</b>	The student must have a basic understanding of manufacturing plant layout, classification, and material handling techniques.
<b>C201.2</b>	Understanding of the fundamental concepts of motion economy, as well as the tools and methods used in work studies and measurements
<b>C201.3</b>	Understanding of process planning and forecasting models is a must
<b>C201.4</b>	Understanding of project management and scheduling methods
<b>C201.5</b>	Personnel management and marketing methods have been studied and understood by the student.
<b>C202/MF5072-RESEARCH METHODOLOGY (Professional Elective-V)</b>	
<b>C202.1</b>	Understand some basic concepts of research and its methodologies
<b>C202.2</b>	Identify appropriate research topics
<b>C202.3</b>	Select and define appropriate research problem and parameters
<b>C202.4</b>	Prepare a project proposal, write a research report and thesis, write a research proposal (grants)
<b>C202.5</b>	organize and conduct research (advanced project) in a more appropriate manner
<b>C203/MF5016-MATERIAL TESTING &amp; CHARACTERIZATION TECHNIQUES (Professional Elective-VI)</b>	



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<b>C203.1</b>	To determine the grain size and classify the crystal structure.
<b>C203.2</b>	Students will be able to learn about electron microscopic characterization techniques.
<b>C203.3</b>	Chemical and thermal analysis approaches include the ability to comprehend their working concepts and instrumentation. The characterization analysis must be deciphered
<b>C203.4</b>	The aim of this course is to learn how to perform mechanical testing under static loading and to recognise the various testing codes for metallic and composite materials
<b>C203.5</b>	Mechanical research under complex loading conditions: ability to comprehend
<b>C204/MF5311-PROJECT PHASE - I</b>	
<b>C204.1</b>	Choose a subject in Manufacturing Engineering's advanced areas. Determine how to conduct tests and what materials to use
<b>C204.2</b>	Review the literature to find differences and describe the work's goals and scoop
<b>C204.3</b>	Create and incorporate new social-benefit concepts
<b>C204.4</b>	Analyze and explain the findings in order to draw sound conclusions
<b>C204.5</b>	Restructure procedures with a focus on culture, the community, and ethics
<b>YEAR/SEMESTER : II/IV</b>	
<b>C210/MF5411-PROJECT PHASE - II</b>	
<b>C210.1</b>	Determine a subject in advanced Manufacturing Engineering. Determine experimental methods and materials
<b>C210.2</b>	Review the literature to find differences and describe the work's goals and scope
<b>C210.3</b>	Restructure procedures with a focus on culture, the community, and ethics
<b>C210.4</b>	Create and incorporate new social-benefit concepts
<b>C210.5</b>	Analyze and explain the findings in order to draw sound conclusions







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<b>C111/CM5251- ADVANCES IN METROLOGY AND INSPECTION</b>														
<b>C111.1</b>	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C111.2</b>	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C111.3</b>	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C111.4</b>	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C111.5</b>	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C112/ MF5202-THEORY OF METAL FORMING</b>														
<b>C112.1</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	2
<b>C112.2</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	2
<b>C112.3</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	2
<b>C112.4</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	2
<b>C112.5</b>	3	2	-	-	-	-	-	-	-	-	-	-	3	2
<b>C113/MF5203-TOOLING FOR MANUFACTURING</b>														
<b>C113.1</b>	2	2	3	-	-	-	-	-	-	-	-	-	3	2
<b>C113.2</b>	2	2	3	-	-	-	-	-	-	-	-	-	3	2
<b>C113.3</b>	2	2	3	-	-	-	-	-	-	-	-	-	3	2
<b>C113.4</b>	2	2	3	-	-	-	-	-	-	-	-	-	3	2
<b>C113.5</b>	2	2	3	-	-	-	-	-	-	-	-	-	3	2
<b>C114/ME5009-NON DESTRUCTIVE TESTING &amp; EVALUATION (NDT) (Professional Elective-II)</b>														
<b>C114.1</b>	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C114.2</b>	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C114.3</b>	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C114.4</b>	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C114.5</b>	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C115/MF5071-LEAN MANUFACTURING (Professional Elective-III)</b>														







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C202.2	2	3	2	-	-	-	-	-	-	-	-	-	2	2
C202.3	2	3	2	-	-	-	-	-	-	-	-	-	2	2
C202.4	2	3	2	-	-	-	-	-	-	-	-	-	2	2
C202.5	2	3	2	-	-	-	-	-	-	-	-	-	2	2
<b>C203/MF5016-MATERIAL TESTING &amp; CHARACTERIZATION TECHNIQUES (Professional Elective-VI)</b>														
C203.1	2	2	-	-	-	-	-	-	-	-	-	-	2	2
C203.2	2	2	-	-	-	-	-	-	-	-	-	-	2	2
C203.3	2	2	-	-	-	-	-	-	-	-	-	-	2	2
C203.4	2	2	-	-	-	-	-	-	-	-	-	-	2	2
C203.5	2	2	-	-	-	-	-	-	-	-	-	-	2	2
<b>C204/MF5311-PROJECT PHASE – I</b>														
C204.1	3	3	3	3	3	2	3	2	3	3	3	3	3	3
C204.2	3	3	3	3	3	2	3	2	3	3	3	3	3	3
C204.3	3	3	3	3	3	2	3	2	3	3	3	3	3	3
C204.4	3	3	3	3	3	2	3	2	3	3	3	3	3	3
C204.5	3	3	3	3	3	2	3	2	3	3	3	3	3	3
<b>C210/MF5411-PROJECT PHASE – II</b>														
C210.1	3	3	3	3	3	2	3	2	3	3	3	3	3	3
C210.2	3	3	3	3	3	2	3	2	3	3	3	3	3	3
C210.3	3	3	3	3	3	2	3	2	3	3	3	3	3	3
C210.4	3	3	3	3	3	2	3	2	3	3	3	3	3	3
C210.5	3	3	3	3	3	2	3	2	3	3	3	3	3	3

**PRINCIPAL**