Kathir College of Engineering

[Approved by AICTE | Affiliated to Anna University | Accredited by NAAC]
Wisdom Tree, Neelambur, Avinashi Road, Coimbatore-62

MECHANICAL ENGINEERING

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Regulation– 2017 – UG

YEAR/SEMESTER : I/I	
C101/HA8151- COMMUNICATIVE ENGLISH	
C101.1	Speak clearly, confidently, comprehensibly, and communicate with one or many listeners using appropriate communicative strategies.
C101.2	Write cohesively and coherently and flawlessly avoiding grammatical errors, using a wide vocabulary range, organizing their ideas logically on a topic.
C101.3	Read different genres of texts adopting various reading strategies.
C101.4	Listen/view and comprehend different spoken discourses/excepts in different accents.
C101.5	Gaining capacity, skills enabling the students to write personal letters, official letters and E-mails in English effectively. Enabling students to enhance their conversational skills in spoken and written forms.
C102/MA8151-ENGINEERING MATHEMATICS -I	
C102.1	Have basic knowledge and understanding in one field of materials, integral and differential calculus.
C102.2	Utilize methods of integration to compute volumes of objects with circular shaped aspects, and compute lengths of curves.
C102.3	Read and understand problem descriptions, then be able to formulate equations modelling the problem usually by applying geometric or physical principles.
C102.4	Use integration to compute problems important in physics and engineering.
C102.5	Find the area of plane curves and volume of solids using double and triple integrals.
C103/ PH8151 - ENGINEERING PHYSICS	
C103.1	Have knowledge on the basics of physics related to properties of matter, optics, and acoustics.
C103.2	Apply these fundamental principles to solve practical problems related to materials used for engineering applications.
C103.3	Understand working principle of a LASER, components and working of different laser system and their engineering applications
C103.4	Understand the principle and working of particle detectors
C103.5	Examine the characteristics of laser and optical fiber.
C104/ CY8151 ENGINEERING CHEMISTRY	
C104.1	Apply this knowledge to the analysis and design of batteries.
C104.2	Phase rule concept is used to know the heat treatment process of alloy.

C104.3	Know the properties of Lubricants
C104.4	The knowledge gained on polymer chemistry, thermodynamics, Spectroscopy, phase rule and nano materials will provide a strong platform to understand the concepts on these subjects for further learning.
C104.5	Outline the synthesis, characteristics and the applications of nano materials.
C105/ GE8151- PROBLEM SOLVING AND PYTHON PROGRAMMING	
C105.1	Develop algorithmic solutions to simple computational problems.
C105.2	Read, write, execute by hand simple Python programs.
C105.3	Structure simple Python programs for solving problems.
C105.4	Decompose a Python program into functions.
C105.5	Represent compound data using Python lists, tuples, dictionaries. Read and write data from/to files in Python Programs.
C106/ GE8152-ENGINEERING GRAPHICS	
C106.1	Familiarize with the fundamentals and standards of Engineering graphics
C106.2	Perform freehand sketching of basic geometrical constructions and multiple views of objects.
C106.3	Project orthographic projections of lines and plane surfaces.
C106.4	Draw projections and solids and development of surfaces.
C106.5	Visualize and to project isometric and perspective sections of simple solids.
C107/ GE8161-Problem Solving and Python Programming Laboratory	
C107.1	Write, test, and debug simple Python programs.
C107.2	Implement Python programs with conditionals and loops.
C107.3	Develop Python programs step-wise by defining functions and calling them.
C107.4	Use Python lists, tuples, dictionaries for representing compound data.
C107.5	Read and write data from/to files in Python.
BS8161 - PHYSICS AND CHEMISTRY LABORATORY C108/ BS8161-Chemistry Laboratory	
C108.1	The students will be outfitted with hands-on knowledge in the quantitative chemical analysis of water quality related to parameters.
C108.2	To determine the amount of metal ions through volumetric and spectroscopic techniques
C108.3	To analyse and determine the composition of alloys

C108.4	To quantitively analyse the impurities in solution by electroanalytical techniques
C109/BS8161 - PHYSICS LABORATORY	
C109.1	Apply principles of elasticity, optics and thermal properties for Engineering applications
C109.2	Determine the Modulus of elasticity of materials and Coefficient of Viscosity of liquids and to determine the Thermal Conductivity of bad conductor using Lee's disc method
C109.3	Measure the wavelength of prominent spectral lines of Mercury Spectrum and particle size of powder using diffraction phenomenon and thickness of thin materials using interference phenomenon, Determine the band gap energy of a semiconductor
C109.4	Calculate water quality parameters such as hardness, alkalinity of the given water sample, Estimate the amount of the given acids using conductometric titrations.
C109.5	Estimate the amount of the given acids using pH titrations, Determine the amount of iron content in the given substance using potentiometric titration, Determine the amount of chloride content in the given water sample.
YEAR/SEMESTER : I/II	
C201/HS8251-TECHNICAL ENGLISH	
C201.1	Speak convincingly, express their opinions clearly, initiate a discussion, negotiate, and argue using appropriate communicative strategies.
C201.2	Write effectively and persuasively and produce different types of writing such as narration, description, exposition and argument as well as creative, critical, analytical and evaluative writing.
C201.3	Read different genres of texts, infer implied meanings and critically analyse and evaluate them for ideas as well as for method of presentation.
C201.4	Listen/view and comprehend different spoken excerpts critically and infer unspoken and implied meanings.
C201.5	Enhancing student's skills in report writing, job application, paragraph writing and other forms of writing skills.
C202/MA8251-ENGINEERING MATHEMATICS – II	
C202.1	Develop the fundamentals and basic concepts in vector calculus, ODE, Laplace transform and complex functions.
C202.2	Solve problems related to engineering applications by using these techniques.
C202.3	To have an ability of mathematical modelling of systems using differential equations and ability to solve the differential equations.
C202.4	Use Green's theorem to evaluate line integrals along simple closed contours on the plane and use Stokes' theorem to give a physical interpretation of the curl of a vector

	field.
C202.5	Expand functions of two variables as Taylor's and Laurent's series and evaluate contour integrals using Cauchy's formula.
C203/PH8251-MATERILAS SCIENCE	
C203.1	Knowledge on the various phase diagrams and their applications
C203.2	Knowledge on Fe-Fe3C phase diagram, various microstructures and alloys
C203.3	Knowledge on mechanical properties of materials and their measurement
C203.4	Knowledge on magnetic, dielectric and superconducting properties of materials
C203.5	Understand the basics of ceramics, composites and nanomaterials.
C204/BE8254-BASIC ELECTRICAL,ELECTRONICS AND INSTRUMENTATION ENGINEERING	
C204.1	Understand electric circuits and working principles of electrical machines
C204.2	Understand the concepts of various electronic devices
C204.3	Appropriate instruments for electrical measurement for a specific application
C205/ GE8291-ENVIRONMENTAL SCIENCE AND ENGINEERING	
C205.1	Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection.
C205.2	Public awareness of environmental is at infant stage.
C205.3	Ignorance and incomplete knowledge has lead to misconceptions
C205.4	Development and improvement in std. of living has lead to serious environmental disasters
C206/ GE8292- ENGINEERING MECHANICS	
C206.1	Illustrate the vectorial and scalar representation of forces and moments
C206.2	Analyse the rigid body in equilibrium
C206.3	Evaluate the properties of surfaces and solids
C206.4	Calculate dynamic forces exerted in rigid body
C206.5	Determine the friction and the effects by the laws of friction
C207/ GE8261- ENGINEERING PRACTICES LABORATORY	

C207.1	Fabricate carpentry components and pipe connections including plumbing works.
C207.2	Apply welding equipments to join the structures.
C207.3	Carry out the basic machining operation
C207.4	Make the models using sheet metal works
C207.5	Illustrate on centrifugal pump, Air conditioner, operations of smithy, foundry and fittings
C207.6	Carry out basic home electrical works and appliances
C207.7	Measure the electrical quantities
C207.8	Elaborate on the components, gates, soldering practices.
C208/ BE8261-BASIC ELECTRICAL, ELECTRONICS AND INSTRUMENTATION ENGINEERING LABORATORY	
C208.1	Ability to determine the speed characteristic of different electrical machines
C208.2	Ability to design simple circuits involving diodes and transistors
C208.3	Ability to use operational amplifiers

YEAR/SEMESTER : II/III	
C301/MA8353-TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS	
C301.1	Analyze Partial Differential Equations in various methods.
C301.2	Solving Fourier Series for different types of functions.
C301.3	Computing the solutions of the heat equation, wave equation and the Laplace equation subject to boundary conditions
C301.4	Deduce the Gaussian function in Self reciprocal form using Fourier Transforms.
C301.5	Formation of finite difference method in Z-transforms.
C302/ME8391-ENGINEERING THERMODYNAMICS	
C302.1	Apply the basic concepts of thermodynamics for energy conversion phenomenon.
C302.2	Calculate thermal efficiency and coefficient of performance for heat engines, refrigerators and heat pumps.
C302.3	Evaluate the performance of steam power cycles.
C302.4	Derive simple thermodynamic relations of ideal and real gases.
C302.5	Calculate the properties of air vapor mixtures using psychometrics and explain the performance of refrigeration systems and its environmental impacts.
C303/CE8394-FLUID MECHANICS AND MACHINERY	
C303.1	Apply the concept of fluid properties with their effects on fluid flow.
C303.2	Calculate the major and minor losses in flow through pipes.
C303.3	Apply the mathematical knowledge in boundary layer concepts.
C303.4	Analyze the various performance characteristics of pumps
C303.5	Analyze the various performance characteristics of turbines.
C304/ME8351-MANUFACTURING TECHNOLOGY - I	
C304.1	Understand the fundamentals of casting and defects

C304.2	Understand the basic concepts of Fusion and Non-Fusion Welding process
C304.3	Explain the various forming operations
C304.4	Explain the various sheet metal making process
C304.5	Understand the concepts of thermo and thermo setting plastics used in plastic manufacturing components
C305/EE8353-ELECTRICAL DRIVES AND CONTROLS	
C305.1	Select the rating and classes of duty of machines for particular application.
C305.2	Explain the mechanical and braking characteristics of dc and ac machines.
C305.3	Describe the starting methods of both dc and ac machines.
C305.4	Clarify conventional and solid state speed control of dc drives.
C305.5	Enlighten the speed control of dc and ac drive by conventional and solid state methods.
C306/ME8361-MANUFACTURING TECHNOLOGY LABORATORY - I	
C306.1	Perform the taper turning operation in conventional lathe machine
C306.2	Perform the various thread operations for the given specification.
C306.3	Estimate the taper angle and machining time calculations in various machining operations.
C306.4	Perform the hexagonal bolts and square studs using shaper machine
C306.5	Calculate the eccentricity value to produce eccentric components
C307/ME8381-COMPUTER AIDED MACHINE DRAWING	
C307.1	Construct the machine drawing as per standards, Fits and Tolerances
C307.2	Identify proper computer graphics techniques for 2D drawing
C307.3	Identify proper computer graphics techniques for 3D model
C307.4	Develop the part model for any machine components by using modeling software.

C307.5	Develop the assembly model for machine components by using modeling software.
C308/EE8361-ELECTRICAL ENGINEERING LABORATORY	
C308.1	Perform the load test, OCC, load characteristics and speed control of DC shunt and DC series motor
C308.2	Perform the load test, OC and SC test on a single phase transformer
C308.3	Examine the regulation of an alternator by EMF and MMF methods
C308.4	Conduct the load test, speed control on various phase of induction motor
C308.5	Explore the DC and AC starters, Perform the load test, OCC, load characteristics and speed control of DC shunt and DC series motor
C309/HS8381-INTERPERSONAL SKILLS / LISTENING & SPEAKING	
C309.1	Take international examination such as IELTS and TOEFL
C309.2	Participate in Group Discussion.
C309.3	Successfully answer questions in Interviews.
C309.4	Make effective Presentations.
C309.5	Participate confidently and appropriately in conversations both formal and informal
YEAR/SEMESTER : II/IV	
C401/MA8452-STATISTICS AND NUMERICAL METHODS	
C401.1	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.
C401.2	Explain the concept of analysis of variance to Distinguish between one and two factor analysis of variance tests.
C401.3	Solve Algebraic and Transcendental equations by various methods, Simultaneous linear equations using Direct and Indirect methods. Compute Eigen value of a matrix

	by power method.
C401.4	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.
C401.5	Solving first order differential equations using various types of single and multi step Methods and applying finite difference methods for solving II order differential equations.
C402/ME8492-KINEMATICS OF MACHINERY	
C402.1	Understand the various kinematic concepts in different mechanisms.
C402.2	Analyze the velocity and acceleration of links at any point in various mechanisms.
C402.3	Construct the various cam profiles with follower motion.
C402.4	Solve the problems on gear and gear trains
C402.5	Recognize the effect of friction in different friction drives.
C403/ME8451-MANUFACTURING TECHNOLOGY– II	
C403.1	Understand the constructional features of lathe and special machines
C403.2	Explain the various mechanism used in turningl machines
C403.3	Explain the various mechanism used in special machines
C403.4	Compute the tool nomenclature and tool life calculation in metal cutting process
C403.5	Develop the part program in CNC milling and turning centers.
C404/ME8491-ENGINEERING METALLURGY	
C404.1	Identify the different types of engineering materials in industrial applications
C404.2	Understand the various isothermal transformation in heat treatment process
C404.3	Understand the effects of alloying elements on Ferrous and Non-Ferrous materials.
C404.4	Discuss the properties and applications of Polymers, Ceramics and Composite materials

C404.5	Identify the mechanical properties and deformation using various mechanical testing methods.
C405/ME8395-STRENGTH OF MATERIALS FOR MECHANICAL ENGINEERS	
C405.1	Understand the concept of deformation due to different loading conditions and various stresses and strains in the structural member
C405.2	Construct the shear force and bending moment diagram for load transferring mechanism in different beams.
C405.3	Apply the basic equations to design the shaft and helical springs
C405.4	Determine the slope and deflection in beams using different methods.
C405.5	Design thin and thick cylinders subjected to internal and external pressures
C406/ME8493-THERMAL ENGINEERING-I	
C406.1	Calculate the efficiency of various gas and steam power cycles.
C406.2	Performance calculation on reciprocating air compressors
C406.3	Explain the fundamentals of IC engines
C406.4	Compute the performance test on IC engines
C406.5	Estimate the concert of single and multi stage steam turbines
C407/ME8462-MANUFACTURING TECHNOLOGY LABORATORY–II	
C407.1	Calculate the various cutting forces using tool dynamometers and generate gears using gear hobbling machines.
C407.2	Perform surface finish operations using surface grinding and cylindrical grinding machines.
C407.3	Develop CNC part programming for turning and milling operations
C407.4	Perform contour milling operation in various milling machine

C407.5	Perform gear cutting operation using milling machine.
C408/CE8381-STRENGTH OF MATERIALS & FLUID MECHANICS AND MACHINERY LABORATORY	
C408.1	Determine the elastic constants by using tensile and torsion test machine for mild steel (MS) specimen
C408.2	Conduct hardness test for different metals and carry out impact test for MS specimen
C408.3	Determine deflection in beams
C408.4	Analyze the flow measurement by using flow measuring equipment
C408.5	Evaluate the performance of hydraulic turbines & pumps under different working conditions
C409/HS8461-ADVANCED READING AND WRITING	
C409.1	Make effective Presentations.
C409.2	Participate in Group Discussion.
C409.3	Successfully answer questions in Interviews.
C409.4	Take international examination such as IELTS and TOEFL
C409.5	Participate confidently and appropriately in conversations both formal and informal
YEAR/SEMESTER : III/V	
C501/ME8595-THERMAL ENGINEERING-II	
C501.1	Apply the basic concepts of steam nozzles
C501.2	Apply the basic concepts of boilers
C501.3	Analyze the performance of steam turbines
C501.4	Analyze the principles of heat pipe, heat pump and heat exchangers
C501.5	Calculate the properties of psychometrics and explain the performance of refrigeration systems.

C502/ME8593-DESIGN OF MACHINE ELEMENTS	
C502.1	Understand the basic design parameters of various machine elements
C502.2	Understand the various stresses induce due to different loading conditions.
C502.3	Apply the basic design procedure to design the shafts, bearing and couplings.
C502.4	Apply the basic design steps to design the temporary and permanent joints.
C502.5	Design the various energy storing elements and engine components.
C503/ME8501-METROLOGY AND MEASUREMENTS	
C503.1	Discuss the concepts of measurements in metrological instruments.
C503.2	Explain the principles of linear and angular measuring instruments for industrial applications.
C503.3	Understand the concepts of various computer aided inspection tools.
C503.4	Explain the different form measurements in industry.
C503.5	Understand the working principle of measuring equipments to measure intensive and extensive properties.
C504/ME8594-DYNAMICS OF MACHINES	
C504.1	Understand the various force-motion relationships in different mechanisms
C504.2	Analyze the balancing masses in the rotating and reciprocating machines
C504.3	Solve the free vibration problems in longitudinal, transverse and torsional systems
C504.4	Apply the basic principles to reduce the undesirable effects of forced vibrations
C504.5	Apply the principles in mechanisms used for speed control and stability control

C505/OIM552-LEAN MANUFACTURING (Open Elective-1)	
C505.1	Understand the concept of conventional manufacturing and Lean manufacturing
C505.2	Understand the cellular manufacturing theory, and uses of Lean production tools such as JIT, Kuban & TPM
C505.3	Apply the 'set up time' reduction principles and implementation of TQM & 5S principles
C505.4	Analyze the statistical consideration, variability reduction and design of experiment using SIC-ZIGMA implementation
C505.5	Understand the waste in any process, minimize waste through proper kaizens and other methods and to improve the organization's efficiency through the use of LM tools
C506/ME8511-KINEMATICS AND DYNAMICS LABORATORY	
C506.1	Understand the concept of differential gear trains and kinematic links
C506.2	Evaluate the frequency of the vibrating system
C506.3	Analyze the controlling mechanisms
C506.4	Analyze the balancing masses in the rotating and reciprocating machines
C506.5	Determination of mass moment of inertia for different component
C507/ME8512-THERMAL ENGINEERING LABORATORY	
C507.1	Conduct a test to find thermal conductivity of various engineering materials
C507.2	Measure the heat transfer rate in natural and forced convection environment
C507.3	Evaluate radiation heat transfer between black body surfaces and grey body surfaces
C507.4	Analyze the effectiveness of parallel and counter flow heat exchanger and the performance of air compressors.
C507.5	Compare the performance of theoretical and experimental refrigeration and air conditioning systems.

C508/ME8513-METROLOGY AND MEASUREMENTS LABORATORY	
C508.1	Ability to handle different measurement tools and perform measurements in quality impulsion
C508.2	Demonstrate linear and angular measurement using precision instruments.
C508.3	Apply the load cell to measure the force and torque
C508.4	Use thermocouple and comparator for taking measurement.
C508.5	Measure bore diameter using Bore gauge, telescope gauge and surface roughness using Surface Finish Measuring Equipment
YEAR/SEMESTER : III/VI	
C601/ME8651-DESIGN OF TRANSMISSION SYSTEMS	
C601.1	Apply the design knowledge to design the various flexible drives.
C601.2	Apply the design concepts to design the parallel axis mating gear.
C601.3	Apply the basic design steps to design the perpendicular and oblique axis mating gear.
C601.4	Apply the design procedure to design the gear box.
C601.5	Apply the design principles to design the various friction drives.
C602/ME8691-COMPUTER AIDED DESIGN AND MANUFACTURING	
C602.1	Understand the concept of 2D and 3D transformations and clipping algorithm.
C602.2	Understand the fundamentals of parametric curves, surfaces and Solids
C602.3	Apply the visual realism by using different algorithm
C602.4	Apply the mass property calculations on different parts
C602.5	Apply the various CAD algorithms in the area of product design and development.
C603/ME8693-HEAT AND MASS TRANSFER	

C603.1	Compute the temperature distribution in steady and unsteady state heat conduction.
C603.2	Evaluate the heat transfer coefficient for convection
C603.3	Calculate the phase change properties and the heat exchanger performance by varying the methods
C603.4	Calculate radiation heat transfer between black and gray body surfaces.
C603.5	Analyze the diffusion and convective mass transfer occurring in different applications
C604/ME8692-FINITE ELEMENT ANALYSIS	
C604.1	Solve Boundary value problems in structural and non-structural application.
C604 .2	Apply finite element methods in one dimensional Problem.
C604 .3	Apply finite element technique in two dimensional scalar Problems.
C604 .4	Apply finite element method in two dimensional Vector problems.
C604 .5	Apply finite element procedure to solve problems on iso-parametric element
C605/ME8694-HYDRAULICS AND PNEUMATICS	
C605.1	Explain the Fluid power and operation of different types of pumps.
C605.2	Summarize the features and functions of Hydraulic motors, actuators and Flow control valves
C605.3	Explain the different types of Hydraulic circuits and systems
C605.4	Explain the working of different pneumatic circuits and systems
C605.5	Summarize the various trouble shooting methods and applications of hydraulic and pneumatic systems.
C606/PR8592 WELDING TECHNOLOGY (Professional Elective-1)	
C606.1	To understand the construction and working principles of gas and arc welding process

C606.2	To understand the construction and working principles of resisting welding process
C606.3	To understand the construction and working principles of solid state welding process
C606.4	To understand the construction and working principles of other welding process
C606.5	Analyses of weld joints and weldments
C607/ME8681-C.A.D. / C.A.M. LABORATORY	
C607.1	Construct the machine drawing as per standards, Fits and Tolerances
C607.2	Identify proper computer graphics techniques for 2D drawing and 3D model.
C607.3	Develop the part model for any machine components by using modeling software.
C607.4	Develop the assembly model for machine components by using modeling software.
C607.5	Develop the program code for CNC machines for simulation
C608/ME8682-DESIGN AND FABRICATION PROJECT	
C608.1	Identify problems with their technical skills
C608.2	Design a product as per requirement
C608.3	Develop the detailed drawing for fabrication product with latest tool
C608.4	Create prototype of a working model
C608.5	Contribute effectively as an individual and as a member in a team
C609/HS8581-PROFESSIONAL COMMUNICATION	
C609.1	Take international examination such as IELTS and TOEFL

C609.2	Participate in Group Discussion.
C609.3	Successfully answer questions in Interviews.
C609.4	Make effective Presentations.
C609.5	Participate confidently and appropriately in conversations both formal and informal.
YEAR/SEMESTER : IV/VII	
C701/ME8792-POWER PLANT ENGINEERING	
C701.1	Understand the layout and components of various power plants
C701.2	Understand different types of cycles and it's efficiencies in various power plants.
C701.3	ate the factors associated with power plant economics.
C701.4	Understand the sources and concepts of renewable energy Calcul
C701.5	Select the suitability of site for a power plant.
C702/ME8793-PROCESS PLANNING AND COST ESTIMATION	
C702.1	Introduce the process planning concepts to make cost estimation for various products after process planning.
C702.2	Identify the documents required for the process planning.
C702.3	Calculate the material cost of a product.
C702.4	Explain the various associated in manufacturing shops.
C702.5	Calculate the machining time for various machining operations.
C703/ME8791-MECHATRONICS	
C703.1	Explain mechatronics design process
C703.2	Discuss the architecture of microprocessors and microcontroller.
C703.3	Choose sensors based on their working principle.
C703.4	Explain the architecture of PLC and contrast it from PC and relay systems.

C703.5	Discuss the working of various actuators.
C704/OMF751 LEAN SIX SIGMA (Open Elective-2)	
C704.1	Understand the concept of lean six sigma
C704.2	Understand the cellular manufacturing theory, and uses of Lean tools and techniques
C704.3	Apply the concept of six sigma methodology.
C704.4	Apply the concept of six sigma implementation and challenges.
C704.5	Understand the continuous improvements, minimize waste through proper kaizens,5S and other methods.
C705/ME 8073 UNCONVENTIONAL MACHINING PROCESS (Professional Elective-2)	
C705.1	Understand the concept of mechanical energy based problems
C705.2	Understand the concept of thermal and electrical based problems
C705.3	Understand the concept of chemical and electro chemicals based problems
C705.4	Apply the concept of Nano finishing process
C705.5	Analyze the various types of recent trends in NDT
C706/ME8097 NON DESTRUCTIVE TESTING AND EVALUATION (Professional Elective-3)	
C706.1	The student shall be able to set various process parameters and control the NDT process for the desired output parameters
C706.2	The student shall be able to find the internal flaws in the material by NDT and take measures to eliminate them
C706.3	The student shall be able to solve various problems encountered like thermography and eddy current testing
C706.4	The student shall be able to solve various problems encountered like ultrasonic and acoustic emission testing

C706.5	The student shall be able to solve various problems like radiography testing.
C707/ME8711-SIMULATION AND ANALYSIS LABORATORY	
C707.1	Simulate the dynamic system by using MAT lab software.
C707.2	Simulate the mechanism by using multi-body dynamic software
C707.3	Analyze the stresses for trusses and beams using analysis software
C707.4	Analyze the stresses for axis-symmetric components by using analysis software
C707.5	Analyze the Thermal stress and heat transfer analysis of plates and cylindrical shells analysis software and vibrating system analysis software
C708/ME8781-MECHATRONICS LABORATORY	
C708.1	Simulate Hydraulic, Pneumatic circuit using software tool and Electro pneumatic circuits using trainer kits.
C708.2	Design and test various fluid power circuits using software tool
C708.3	Interface stepper motor with 8051micro controller
C708.4	Conduct experiments using servo controller and stepper motor.
C708.5	Conduct experiments PID Controller interfacing
C709/ME8712-TECHNICAL SEMINAR	
C709.1	Enrich the communication skills of the student technical topics of interest
C709.2	Familiarize the preparation of content of technical writing
C709.3	Enrich the presentations skills of the student technical topics of interest
C709.4	Participate confidently and appropriately in conversations both formal and informal
C709.5	Participate in technical group discussion.

YEAR/SEMESTER : IV/VIII	
C801/MG8591-PRINCIPLES OF MANAGEMENT	
C801.1	Identifies the global context for taking managerial organization.
C801.2	Prepare the management principles into management practices.
C801.3	Analyze the managerial problem with ethical practice standards.
C801.4	Breakdown the managerial task executed in the variety of circumstances.
C801.5	Identify the most effective Action to take in the specific situation of addressing issues.
C802/ME8094 –COMPUTER INTEGRATED MANUFACTURING SYSTEMS (Professional Elective– IV)	
C802.1	Understand the basic concepts of CAD/CAM and CIM
C802.2	Summarize the production planning and control and computerized process planning
C802.3	Differentiate the different coding systems used in group technology
C802.4	Explain the concepts of flexible manufacturing system (FMS) and automated guided vehicle (AGV) system
C802.5	Classify of robots used in industrial applications
C803/ME8811-PROJECT WORK	
C803.1	Identify real world problems of core engineering and related systems
C803.2	Formulate new set of problems
C803.3	Take on with industrial changes
C803.4	Evaluate to obtain solution for problems in mechanical engineering systems
C803.5	Adapt to work as a team for the successful completion of the project and Document preparation and communication very clearly