

R16- Course Outcomes (COs) [2016-2020 & 2017-2021]

1 – Semester [2017-2018]

Course : COMPUTER PROGRAMMING - [CS104ES]

Course Outcome	Course Outcome statements
CS104ES.1	Write algorithm & flow chart for the given problem.
CS104ES.2	Ability to write structured programs using control structures and functions.
CS104ES.3	Apply searching and sorting algorithms for the given list of elements
CS104ES.4	To be able to perform input/output, status and positioning functions of files.
CS104ES.5	Develop an application using c program
CS104ES.6	To develop advanced application using enumerated data types and structure.
CS104ES.7	To learn the basic of file handling mechanism.

Course : COMPUTER PROGRAMMING LAB - [CS108ES]

Course Outcome	Course Outcome statements
CS108ES.1	To write programs in c to solve the problems.
CS108ES.2	To implement linear data structures such as lists, stacks, queues.
CS108ES.3	To implement simple searching and sorting methods.

Course : ENGINEERING GRAPHICS - [ME106ES]

Course Outcome	Course Outcome statements
ME106ES.1	Use of different types of instruments Construct engineering curves, demonstrate classification of scales.
ME106ES.2	Draw the projections of points, lines, planes, solids.
ME106ES.3	Identify sectional planes, sectional views, and true shape of the sections.
ME106ES.4	Understand the conversion of orthographic projections, isometric projections.

Course : MATHEMATICS - I - [MA101BS]

Course Outcome	Course Outcome statements
MA101BS.1	Identify whether the given first order de is exact or not
MA101BS.2	Solve higher order de's and apply them for solving some real world problems
MA101BS.3	Write the matrix representation of a set of linear equations and to analyze the solution of the system of equations
MA101BS.4	Find the Eigen vales and Eigen vectors which come across under linear transformations
MA101BS.5	Solve first order partial differential equations
MA101BS.6	Find the maxima and minima values of functions of two variables with/without constraints.

Course : MATHEMATICS-II - [MA102BS]

Course Outcome	Course Outcome statements
MA102BS.1	Solve Ordinary Differential Equations by Laplace Transforms
MA102BS.2	Evaluate integrals by Beta and Gamma functions.
MA102BS.3	Compute area and volume of a body by Multiple integrals.
MA102BS.4	Explain vector differential operators and geometrical interpretation of Gradient, Divergence and Curl
MA102BS.5	Apply line integrals in Engineering Physics.
MA102BS.6	Evaluate triple integrals by change of variables and changing order of integration.

Course : ENGINEERING MECHANICS - [ME105ES]

Course Outcome	Course Outcome statements
ME105ES.1	Understand and analyze force systems in a plane and in space.
ME105ES.2	Apply knowledge of frictional forces and their effect in design of machine elements.
ME105ES.3	Analyze concepts of centroid, centre of gravity, area moment of inertia and mass moment of inertia and their role in design of structures and machines.
ME105ES.4	Evaluate the concept of kinetics in motion of bodies.

Course : ENGINEERING PHYSICS - [PH103BS]

Course Outcome	Course Outcome statements
PH103BS.1	Realize the importance of light phenomena in thin film and resolution.
PH103BS.2	Explains the characteristics ,applications, construction and working process of lasers
PH103BS.3	Learn principle, construction and light propagation through the optical fibers.
PH103BS.4	Calculating the atomic packing factors of simple, bcc, fcc, hcp and diamond.
PH103BS.5	Explain the different types of defects in crystals

Course : ENGINEERING PHYSICS LAB - [PH107BS]

Course Outcome	Course Outcome statements
PH107BS.1	Analyze the parameters of quality factor and time constant of a given lcr and rc circuits respectively.
PH107BS.2	Design the equivalent circuit of semiconductor optoelectronics devices to study their v-i characteristics.
PH107BS.3	Apply the electromagnetism laws to determine the relationship between the current and magnetic field
PH107BS.4	Apply the concepts of optics for study the characteristics of laser&fiber optical devices
PH107BS.5	Apply the properties of light for characterization
PH107BS.6	Apply the concept of moment of inertia to study the properties mechanical of solids
PH107BS.7	Apply the knowledge of waves in 1-d in determination of frequency of tuning fork

2 – Semester [2017-2018]

Course : APPLIED PHYSICS - [AP201BS]

Course Outcome	Course Outcome statements
AP201BS.1	Explain the elastic behavior of a material, factors affecting elasticity.
AP201BS.2	Explain the factors affecting the architectural acoustics and their remedy.
AP201BS.3	Explain the applications of ultrasonic.
AP201BS.4	Distinguish the properties of dielectric, magnetic and superconductor materials.

Course : ENGINEERING CHEMISTRY - [CH202BS]

Course Outcome	Course Outcome statements
CH202BS.1	Examine water quality and select appropriate purification technique for intended problem
CH202BS.2	Discuss potential applications of various electrodes, batteries and fuels
CH202BS.3	Illustrate engineering applications of polymeric materials
CH202BS.4	Explain the significance of engineering material like cement, refractories and composites

Course : ENGINEERING CHEMISTRY LAB - [CH206BS]

Course Outcome	Course Outcome statements
CH206BS.1	Analyze a given network by applying various electrical laws and network theorems
CH206BS.2	Know the response of electrical circuits for different excitations
CH206BS.3	Calculate, measure and know the relation between basic electrical parameters
CH206BS.4	Analyze the performance characteristics of dc and ac electrical machines

Course : BASIC ELECTRONICS AND ELECTRICAL ENGINEERING - [EE205ES]

Course Outcome	Course Outcome statements
EE205ES.1	Analyze and solve problems of electrical circuits using network laws
EE205ES.2	Analyze and solve problems of electrical circuits using network theorems
EE205ES.3	Understand the construction and working of different types of diodes
EE205ES.4	Identify and characterize various types of transistors

Course : PROFESSIONAL COMMUNICATION IN ENGLISH - [EN204HS]

Course Outcome	Course Outcome statements
EN204HS.1	Understand the importance of qualities and skills required for the development of a nation as well as an individual.
EN204HS.2	Implement the prescriptive rules of grammar.
EN204HS.3	Comprehend the meaning from the context
EN204HS.4	Explain the topic assigned/chosen.

Course : ENGLISH LANGUAGE COMMUNICATION SKILLS LAB - [EN207HS]

Course Outcome	Course Outcome statements
EN207HS.1	Interpret the nuances of English through audio visual experience
EN207HS.2	Apply the neutralized accent for intelligibility
EN207HS.3	Demonstrate speaking skills with confidence
EN207HS.4	Apply the language in public speaking

Course : MATHEMATICS - III - [MA203BS]

Course Outcome	Course Outcome statements
MA203BS.1	Explain random variables, its types and distribution, density function for one random variable
MA203BS.2	Calculate mean, variances and proportions of sampling distributions
MA203BS.3	Apply Large and Small sample tests to make decisions for few samples which are taken from a large data.
MA203BS.4	Analyze ANOVA for one-way classified data.
MA203BS.5	Calculate the root of a given equation and solution of a system of equations
MA203BS.6	Calculate the numerical solutions for a given first order initial value problem

Course : ENGINEERING WORKSHOP - [ME108ES]

Course Outcome	Course Outcome statements
ME208ES.1	Understand the machine tool operations.
ME208ES.2	Understand the manufacturing of components using workshop trades including plumbing, fitting, carpentry, foundry, house wiring and welding.
ME208ES.3	Identify suitable tools for different trades of engineering practices such as material removing.
ME208ES.4	Apply basic electrical engineering knowledge for house wiring practice

3 – Semester [2018-2019]

Course : MECHANICS OF SOLIDS LAB - [ME307ES]

Course Outcome	Course Outcome statements
ME307ES.1	Analyze the behavior of the solid bodies subjected to various types of loading. Composite bars.
ME307ES.2	Apply knowledge of materials and structural elements to the analysis of simple structures. couple.)
ME307ES.3	Undertake problem identification, formulation and solution using a range of analytical methods
ME307ES.4	Analyze and interpret laboratory data relating to behavior of structures and the materials they are made of, and undertake associated laboratory work individually and in teams.
ME307ES.5	To find principle stresses and strains and to apply theories of failure in the design of various mechanical parts
ME307ES.6	Calculate the stresses and strains associated with thin-wall spherical and cylindrical pressure vessels.
ME307ES.7	To determine stresses developed in a shaft and design of a shaft

Course : METALLURGY AND MATERIAL SCIENCE LAB - [ME308ES]

Course Outcome	Course Outcome statements
ME308ES.1	Ability to understand the properties of microstructure.
ME308ES.2	Ability to choose metals and alloys for industrial applications
ME308ES.3	Improving material properties by different heat treatment processes
ME308ES.4	Understand mechanical properties of materials for real-time applications

Course : MATHEMATICS IV - [MA301BS]

Course Outcome	Course Outcome statements
MA301BS.1	Analyze the complex functions with reference to their analyticity, integration using Cauchy's integral theorem.
MA301BS.2	Find the Taylor's and Laurent's series expansion of complex functions.
MA301BS.3	Find the bilinear transformation.
MA301BS.4	Express any periodic function in term of sine's and cosines.
MA301BS.5	Express a non-periodic function as integral representation.
MA301BS.6	Analyze one dimensional wave and heat equation.

Course : KINEMATICS OF MACHINERY - [ME302ES]

Course Outcome	Course Outcome statements
ME302ES.1	Understanding and analyzing of mechanism
ME302ES.2	Draw velocity and acceleration diagrams by relative velocity method and instantaneous center method
ME302ES.3	Knowledge of straight line and approximate line mechanism, steering mechanism and hook's joint
ME302ES.4	Understanding concepts of design of different kinds of cams and followers

ME302ES.5	Understanding and design of toothed gear and gear trains
-----------	--

Course : THERMODYNAMICS - [ME304ES]

Course Outcome	Course Outcome statements
ME304ES.1	Explain basic knowledge of types of system and energy transfer, work done and heat equation in different processes, power cycles and thermodynamic laws
ME304ES.2	Explain and to identify & apply fundamentals to solve problems like system properties, amount of work transfer and heat during various processes, steam properties at different temperatures and pressures using steam tables
ME304ES.3	Explain perfect gas laws, non-flow process, throttling process, compressibility charts
ME304ES.4	An ability to understand apply psychometric properties, mixture of perfect gas and read psychometric chart
ME304ES.5	Explain and comparison of different thermodynamic cycles for power and refrigeration cycle

Course : METALLURGY AND MATERIAL SCIENCE - [ME305ES]

Course Outcome	Course Outcome statements
ME305ES.1	Understand the physical, mechanical, structures, metallurgical, engineering concepts for metals and preparation of alloys.
ME305ES.2	Analyze the micro structures of metals, alloys and relationship to heat treatment
ME305ES.3	Explain the properties and applications of ferrous and nonferrous alloys
ME305ES.4	Compare the properties of ceramics, glasses, compositions and polymers for industrial applications

Course : FUELS AND LUBRICANTS Lab - [ME306ES]

Course Outcome	Course Outcome statements
ME306ES.1	To understand the properties of fuels
ME306ES.2	To understand the properties of lubricants
ME306ES.3	To find the calorific value of the fuel
ME306ES.4	To find the carbon residue in the burnt fuel

Course : MECHANICS OF SOLID - [ME303ES]

Course Outcome	Course Outcome statements
ME303ES.1	To analyze the various stresses developed in bodies subjected to different kind of loading. Composite bars
ME303ES.2	Identify the problem, create formulation and provide solution by using graphical or analytical methods
ME303ES.3	Able to create new design of component by using formulas & theories
ME303ES.4	Apply knowledge of materials and cross section to the analysis of component

4 – Semester [2018-2019]

Course : FLUID MECHANICS AND HYDRAULIC MACHINES - [ME401ES]

Course Outcome	Course Outcome statements
ME401ES.1	Identify measurement techniques of fluid properties in rest and motion.
ME401ES.2	Measure boundary layer and flow in closed conduit flow
ME401ES.3	Understand basics, performance parameter of turbo and hydraulic machinery.
ME401ES.4	Illustrate working of centrifugal and reciprocating pumps.

Course : DYNAMICS OF MACHINERY - [ME403ES]

Course Outcome	Course Outcome statements
ME403ES.1	Develop understanding of dynamic balancing, flywheel analysis, gyroscopic forces and moments.
ME403ES.2	To equip the student with fundamental knowledge of dynamics of machines so that student can appreciate problems of dynamic force balance, transmissibility of forces, isolation of systems, flywheels, friction(bearings and dynamometers)
ME403ES.3	Develop knowledge of analytical and graphical methods for calculating balancing of rotary and reciprocating masses. governors, clutches and brakes
ME403ES.4	Develop understanding of vibrations and its significance on engineering design.

Course : MACHINE DRAWING - [ME404ES]

Course Outcome	Course Outcome statements
ME404ES.1	Able to understand conventional representation of materials, machine elements & general rules of dimensions.
ME404ES.2	Develop the assembly drawings and using part drawings of machine components
ME404ES.3	Selection of section planes and drawing of sections and auxiliary sectional views
ME404ES.4	Preparation of engineering and working drawings with dimensions and bill of material during design and development.

Course : MANUFACTURING PROCESS - [ME405ES]

Course Outcome	Course Outcome statements
ME405ES.1	Apply the concepts of manufacturing science in the design and development of mechanical systems.
ME405ES.2	Describe the various welding process.
ME405ES.3	Identify, formulate and solve manufacturing problems using technology and understand its impact in a global and societal context.
ME405ES.4	Explain the concept of forging, rolling process and drawing.
ME405ES.5	Select suitable manufacturing process for typical components.

Course : KINEMATICS & DYNAMICS LAB - [ME406ES]

Course Outcome	Course Outcome statements
ME406ES.1	Understand types of motion
ME406ES.2	Analyze forces and torques of components in linkages
ME406ES.3	Understand static and dynamic balance.
ME406ES.4	Understand forward and inverse kinematics of the open-loop mechanism

Course : FLUID MECHANICS AND HYDRAULIC MACHINES LAB - [ME407ES]

Course Outcome	Course Outcome statements
ME407ES.1	Observe direct application of theory to practice and experiment on different types of turbine models, to analyze their performance characteristics at rated and off-design conditions.
ME407ES.2	Investigate through experimentation different types of pump models and estimate their performance during rated and off-design operational conditions
ME407ES.3	Apply principles of operation of different flow measuring instruments such as orifice meters, venture meters etc. and their adoptability in industry
ME407ES.4	Experiment and evaluate the performance of both rotary and reciprocating positive displacement pumps.

Course : MANUFACTURING PROCESS LAB - [ME408ES]

Course Outcome	Course Outcome statements
ME408ES.1	Understand the idea for selecting materials for patterns. types and allowances of patterns used in casting and analyze the components of moulds.
ME408ES.2	design core, core print and gating system in metal casting processes
ME408ES.3	Understand arc, gas, solid state and resistance welding processes.
ME408ES.4	Develop process-maps for metal forming processes using plasticity principles. identify the effect of process variables to manufacture defect free products.

Course : BUSINESS ECONOMICS AND FINANCIAL ANALYSIS - [SM405MS]

Course Outcome	Course Outcome statements
SM405MS.1	Understand economics and business economic concepts
SM405MS.2	Differentiate different business organizations and nurture the idea of start-ups
SM405MS.3	Build up decision making skill under uncertain business climate
SM405MS.4	To interpret the basics of financial accounting and relevance of accounting principles

5 – Semester [2019-2020]

Course : DESIGN OF MACHINE MEMBERS - I - [ME501PC]

Course Outcome	Course Outcome statements
ME501PC.1	In design and analysis of load transmitting elements and selection of suitable materials and manufacturing of these components
ME501PC.2	Analyzing the forces acting of various components and their design
ME501PC.3	Applying design procedures select optimum design size for various machine elements
ME501PC.4	Understanding need of joints and their application for different purposes in transmission of loads

Course : THERMAL ENGINEERING - 1 - [ME502PC]

Course Outcome	Course Outcome statements
ME502PC.1	Understand the functionality of the major components in i c engine, compressors and refrigeration.
ME502PC.2	Understand the concepts of combustion chambers, its effects and its requirements
ME502PC.3	Understand the chemical reactions, combustion process and also how to influence the performance of the IC engines & pollution control
ME502PC.4	Formulate and perform the procedures required for the maintenance and operation of IC engines, compressors and refrigeration systems. Dynamic systems as well as actual systems.

Course : METROLOGY AND MACHINE TOOLS - [ME503PC]

Course Outcome	Course Outcome statements
ME503PC.1	Understand working of lathe, shaper, planer, drilling, milling and grinding machines
ME503PC.2	Comprehend speed and feed mechanisms of machine tools
ME503PC.3	Estimate machining times for machining operations on machine tools
ME503PC.4	Identify techniques to minimize the errors in measurement.
ME503PC.5	Identify methods and devices for measurement of length, angle, gear & thread parameters, surface roughness and geometric features of parts.

Course : THERMAL ENGINEERING LAB - [ME505PC]

Course Outcome	Course Outcome statements
ME505PC.1	To evaluate performance of IC engines and compressors under the given operating conditions.
ME505PC.2	Apply laws of thermodynamics to evaluate the performance of refrigeration and air-conditioning cycles.
ME505PC.3	Understand the functionality of the major components of the IC engines and effects of operating conditions on their performance

Course : MACHINE TOOLS LAB - [ME506PC]

Course Outcome	Course Outcome statements
ME506PC.1	Apply the procedures to measure length, width, depth, bore diameters, internal and external tapers, tool angles, and surface roughness by using different instruments
ME506PC.2	Measure effective diameter of thread profile using different methods
ME506PC.3	Demonstrate knowledge of different machine tools used in machine shop
ME506PC.4	Produce stepped surface using shaper and keyway using milling machine

Course : ENGINEERING METROLOGY LAB - [ME507PC]

Course Outcome	Course Outcome statements
ME507PC.1	Apply the procedures to measure length, width, depth, bore diameters, internal and external tapers, tool angles, and surface roughness by using different instruments
ME507PC.2	Measure effective diameter of thread profile using different methods
ME507PC.3	To impart practical exposure to the metrology equipment
ME507PC.4	To conduct experiments and understand the working of the same.

Course : FUNDAMENTALS OF MANAGEMENT - [SM504MS]

Course Outcome	Course Outcome statements
SM504MS.1	To discuss the evolution of management concepts & theories
SM504MS.2	To interpret the planning & decision making process for organizational success
SM504MS.3	To analyse organizational structures and human resource functions
SM504MS.4	To apply leadership skills for crisis management and customer handling
SM504MS.5	To explain the controlling process and strategies in organizations

Course : RENEWABLE ENERGY SOURCES - [ME853PE]

Course Outcome	Course Outcome statements
ME853PE.1	Demonstrate various non-conventional sources of energy like wind, geothermal energy etc.
ME853PE.2	Acquire knowledge of modern energy conversion technologies.
ME853PE.3	Understand the working of various direct energy conversion systems and their applications
ME853PE.4	Describe solar radiation and energy collection.

6 – Semester [2019-2020]

Course : ADVANCED ENGLISH LANGUAGE COMMUNICATION SKILLS LAB - [EN606HS]

Course Outcome	Course Outcome statements
EN606HS.1	Interpret the nuances of English through audio visual experience
EN606HS.2	Apply the neutralized accent for intelligibility
EN606HS.3	Demonstrate speaking skills with confidence
EN606HS.4	Apply the language in public speaking

Course : THERMAL ENGINEERING - II - [ME601PC]

Course Outcome	Course Outcome statements
ME601PC.1	Develop state – space diagrams based on the schematic diagrams of process flow of steam and gas turbine plants
ME601PC.2	Apply the laws of thermodynamics to analyze thermodynamic cycles
ME601PC.3	Differentiate between vapor power cycles and gas power cycles
ME601PC.4	Infer from property charts and tables and to apply the data for the evaluation of performance parameters of the steam and gas turbine plants.
ME601PC.5	Understand the functionality of major components of steam and gas turbine plants and to do the analysis of these components

Course : DESIGN OF MACHINE MEMBERS - II - [ME602PC]

Course Outcome	Course Outcome statements
ME602PC.1	Knowledge about journal bearing design using different empirical relations.
ME602PC.2	Optimize the life of rolling element bearings and their selection for given service conditions.
ME602PC.3	Design the connecting rod and piston
ME602PC.4	Solve the design problems on spring, belt and rope.
ME602PC.5	Understand the design procedure of gears.

Course : REFRIGERATION AND AIR CONDITIONING - [ME612PE]

Course Outcome	Course Outcome statements
ME612PE.1	Understand various refrigeration cycles and working of its system components.
ME612PE.2	Acquire knowledge on design aspects of refrigeration and air conditioning equipment's
ME612PE.3	Analyse psychometric, refrigeration, air-conditioning based human comfort and industrial requirement.
ME612PE.4	Create various heat pump circuits and justify the a/c process based on humidity.

Course : HEAT TRANSFER - [ME603PC]

Course Outcome	Course Outcome statements
ME603PC.1	Ability to analysis the modes of heat transfer.
ME603PC.2	Ability to derive relation for different modes of heat transfer.
ME603PC.3	Ability to perform thermal circuit analysis for practical engineering problems by using heat transfer concepts
ME603PC.4	4. ability to analysis and design heat exchangers

Course : Heat Transfer Lab - [ME604PC]

Course Outcome	Course Outcome statements
ME604PC.1	Perform steady-state conduction experiments to estimate thermal conductivity of different materials
ME604PC.2	Estimate heat transfer coefficients in forced convection, free convection , condensation and correlate with theoretical values
ME604PC.3	Perform radiation experiments: determine surface emissivity of a test plate and Stefan- Boltzmann's constant and compare with theoretical value

Course : CADD/MATT LAB - [ME605PC]

Course Outcome	Course Outcome statements
ME605PC.1	Students should be able to apply computer methods for solving a wide range of engineering problems.
ME605PC.2	Students should be able to use computer engineering software to solve and present problem solutions in a technical format.
ME605PC.3	Students should be able to utilize computer skills to enhance learning and performance in other engineering and science courses.
ME605PC.4	And finally, students should be able to demonstrate professionalism in interactions with colleagues, faculty, and staff.

Course : IC ENGINES & GAS TURBINES - [ME614PE]

Course Outcome	Course Outcome statements
ME614PE.1	Understand the basic concepts of IC engine and working of various components.
ME614PE.2	Characterize the combustion of phenomenon in s i and c i engines and importance of alternate fuels.
ME614PE.3	Evaluate the performance of IC engines and methods to improve performance
ME614PE.4	Grow aware of modern automotive technology.
ME614PE.5	Explain the working principle of different types of jet propulsion engines, rockets and performance characteristics.

Course : INTELLECTUAL PROPERTY RIGHTS - [PE601OE]

Course Outcome	Course Outcome statements
PE601OE.1	Be able to identify, apply and assess principles of law relating to each of these areas of intellectual property
PE601OE.2	Understand the legal and practical steps needed to ensure that intellectual property rights remain valid and enforceable
PE601OE.3	Be able to anticipate and subject to critical analysis arguments relating to the development and reform of intellectual property right institutions and their likely impact on creativity and innovation

7 – Semester [2020-2021]

Course : CAD/CAM - [ME701PC]

Course Outcome	Course Outcome statements
ME701PC.1	Learn the fundamental knowledge of CAD/CAM
ME701PC.2	Design the parts/ products using cad systems
ME701PC.3	Acquire knowledge on NC part programming and prepare the part/product codes using group technology
ME701PC.4	Understand the layout of flexible manufacturing systems and apply the automated inspection methods.

Course : INSTRUMENTATION AND CONTROL SYSTEMS - [ME702PC]

Course Outcome	Course Outcome statements
ME702PC.1	explain various elements and their purpose in typical instruments
ME702PC.2	evaluate various errors and correction factor that would occur in instruments
ME702PC.3	classify static and dynamic characteristics of an instruments
ME702PC.4	identify the specific transducer as per loading response time for given range of displacement.

Course : COMPUTER AIDED DESIGN AND MANUFACTURING LAB - [ME703PC]

Course Outcome	Course Outcome statements
ME703PC.1	Modeling of simple machine parts and assemblies from the part drawings using standard cad packages.
ME703PC.2	able to understand and handle design mechanical components in a systematic manner.
ME703PC.3	Able to understand and apply the principles of different types of analysis.
ME703PC.4	Generate CNC turning and milling codes for different operations using standard cam packages. write manual part programming using iso codes for turning and milling operations

Course : INSTRUMENTATION AND CONTROL SYSTEMS LAB - [ME704PC]

Course Outcome	Course Outcome statements
ME704PC.1	Understand basic principles of instrumentation and control systems
ME704PC.2	Apply calibration of measuring instruments for linear and angular displacement.
ME704PC.3	Understand calibration of measuring instruments for temperature
ME704PC.4	Apply calibration of measuring instruments of flow and speed measurement

Course : INDUSTRY ORIENTED MINI PROJECT - [ME705PC]

Course Outcome	Course Outcome statements
ME705PC.1	Understand engineering principles and develop an ability to apply them to software or core design of real time problems in an industry/ commercial environment.
ME705PC.2	Design and implementation core or software project using technical information from multiple sources
ME705PC.3	Demonstrate the ability to communicate effectively in speech and writing by following the professional ethics.
ME705PC.4	Learn to work as a team and to focus on getting a working project done on time with each student being held accountable for their part of the project.
ME705PC.5	Understand the requirements, design, and implementation phases.
ME705PC.6	Prepare documentation with all the information about the project along with results.

Course : TECHNICAL SEMINAR - [ME706PC]

Course Outcome	Course Outcome statements
ME706PC.1	Communicate and present effectively
ME706PC.2	Search the content available through different resources and could judge which is the correct information
ME706PC.3	Effectively listen and question the others appropriately to clarify the confusions if any.

Course : POWER PLANT ENGINEERING - [ME723PE]

Course Outcome	Course Outcome statements
ME723PE.1	Understand the sources of energy including steam, diesel, solar, wind, hydroelectric and nuclear power plant along their layouts and working principles
ME723PE.2	Acquire knowledge on combustion process in all power generation stations
ME723PE.3	Illustrate the working of components and its accessories of power plants.
ME723PE.4	Analyze the concepts of future power generation based on economics resources.

Course : ROBOTICS - [ME733PE]

Course Outcome	Course Outcome statements
ME733PE.1	Understand robot terminology
ME733PE.2	to configure various robots with the help of given or required motions
ME733PE.3	Design the robot on with various links, mechanisms.
ME733PE.4	Find motion of end effectors from one position to another position by means of D-H matrix.
ME733PE.5	Calculate the requirement of actuators for moving the robotic arms from position to h.
ME733PE.6	Select robot for various applications in manufacture.

Course : ADDITIVE MANUFACTURING TECHNOLOGY - [ME744PE]

Course Outcome	Course Outcome statements
ME744PE.1	Describe various cad issues for 3d printing and rapid prototyping and related operations for STL model manipulation
ME744PE.2	Solve typical problems on reverse engineering for surface reconstruction from physical prototype models through digitizing and spline-based surface fitting
ME744PE.3	Formulate typical problems on reverse engineering for surface reconstruction from digitized mesh models through topological modeling and subdivision surface fitting
ME744PE.4	Explain about the principles and key characteristics of additive manufacturing technologies and commonly used 3d printing and additive manufacturing systems
ME744PE.5	Summarize typical rapid tooling processes for quick batch production of plastic and metal parts

8 – Semester [2020-2021]

Course : PRODUCTION PLANNING AND CONTROL - [ME854PE]

Course Outcome	Course Outcome statements
ME854PE.1	Understand the objectives, functions, elements, types of production planning and
ME854PE.2	Analyze the importance of techniques, functions of forecasting and inventory management systems for proper utilization of 3-m.
ME854PE.3	Describe routing, scheduling and dispatching techniques.
ME854PE.4	Illustrate the application of computers in PPC.

Course : UNCONVENTIONAL MACHINING PROCESSES - [ME863PE]

Course Outcome	Course Outcome statements
ME863PE.1	Understand the need and importance of non-traditional machining methods
ME863PE.2	Apply basic principle, equipment, process variables and mechanics of metal removal in abrasive jet machining and water jet machining
ME863PE.3	Knowledge of fundamentals of tool design, surface finishing and metal removal rate of electro chemical grinding, electro chemical machining and electro chemical honing.
ME863PE.4	Understand principles of operations, types of electrodes and process parameters and machine tool selection in EDM and electric discharge grinding and wire cut process
ME863PE.5	Comprehend basics of electron beam machining and comparison of thermal and non-thermal processes
ME863PE.6	Understand metal removal mechanism, process parameters of plasma arc machining.

Course : AUTOMOBILE ENGINEERING - [ME861PE]

Course Outcome	Course Outcome statements
ME861PE.1	Explain the different body components and assisted systems (air, fuel, cooling, ignition, lubrication) of the automobile.
ME861PE.2	Explain the working of various components in power transmission system.
ME861PE.3	Describe how the brakes, steering and the suspension systems operate.
ME861PE.4	Discuss environmental implications of automobile emissions and future developments in the automobile industry.

Course : MAJOR PROJECT WORK - [ME801PC]

Course Outcome	Course Outcome statements
ME801PC.1	Understand engineering principles and develop an ability to apply them to software or core design of real time problems in an industry/ commercial environment.
ME801PC.2	Design and implementation core or software project using technical information from multiple sources
ME801PC.3	Demonstrate the ability to communicate effectively in speech and writing by following the professional ethics.
ME801PC.4	Learn to work as a team and to focus on getting a working project done on time with each student being held accountable for their part of the project.
ME801PC.5	Understand the requirements, design, and implementation phases.
ME801PC.6	Prepare documentation with all the information about the project along with results.

Course : Entrepreneur Resource Planning - [OE305]

Course Outcome	Course Outcome statements
OE305.1	Explain the important business functions provided by typical business software such as enterprise resource planning and customer relationship management
OE305.2	Describe basic concepts of ERP systems for manufacturing or service companies
OE305.3	Articulate the life cycle stages of any ERP implementation
OE305.4	Understand key differences between the major ERP applications (such as sap r/3, and oracle/PeopleSoft/sibel) and issues specific to these applications their configuration and management