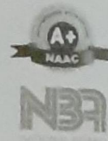




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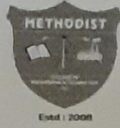
III Semester - BE COURSE OUTCOMES for ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
1	BS205MT	Mathematics III	CO1	Find the general solutions of the given differential equations.	Remember
			CO2	Solve the wave equation, heat equations and laplace equations of given problems	Apply
			CO3	Solve the discrete and continuous random variables and distributions.	Apply
			CO4	Examine the correlation coefficient and rank correlation for the given data.	Analyze
			CO5	Determine straight line equation, parabola equation and exponential equation.	Evaluate
			CO6	Evaluate t-distribution F-distribution and chi-square distributions.	Evaluate
2	ES211ME	Engineering Mechanics - I	CO1	Apply the fundamental concepts of forces, equilibrium conditions for static loads.	Apply
			CO2	Determine the Centroid and moment of inertia for cross various sections.	Evaluate
			CO3	Analyse the forces in the members of a truss using method of joints and method of sections	Analyze
			CO4	Explain the concept of friction for single and connected bodies.	Understand
			CO5	Apply the basic concepts of dynamics, their behaviour, analysis and motion bodies	Apply
			CO6	Solve problems involving work energy principles and impulse momentum theory.	Apply
3	ES304EC	Basic Electronics	CO1	Explain the basic knowledge on the working of various semi-conductor devices and their importance in the present electronics	Understand
			CO2	Apply and develop analysis capability in BJT and FET Amplifier Circuits	Apply
			CO3	Make use of knowledge on design trade-offs in various digital electronic families with a view towards reduced power consumption	Apply
			CO4	Examine Operational Amplifier circuits as Summer, differentiator, integrator, inverting and non inverting amplifiers as ideal and practical	Analyze
			CO5	Evaluate Boolean laws and theorems. State and explain the different logic gates using truth table. Analyze and design different adder circuits.	Create
			CO6	Design the circuit to produce pure DC using regulators, and produce sinusoidal oscillations with different frequencies using oscillator circuits	Create
	English		CO1	Develop an understanding of fundamentals of Technical Communication and handle technical communication effectively	Understand



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 III Semester - BE COURSE OUTCOMES for ACADEMIC YEAR 2021-22

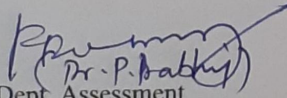
S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
4	HS102EG	Effective Technical Communication in English	CO2	Demonstrate the ability to choose the right mode of Written Communication in Professional Correspondence	Apply
			CO3	Analyze and differentiate various types of Reports and use various techniques of Report writing appropriately based on the requisite.	Analyze
			CO4	Determine the importance of using and Writing different kinds of Manuals, their Classification, and acquire adequate skills of manual writing	Analyze
			CO5	Estimate the deliberate value of a Visual Aid along with its usage, through the understanding of Information Transfer from Verbal to Non-Verbal and Non-Verbal to Verbal.	Evaluate
			CO6	Combine the Skill of both Oral and Visual Presentation Skills and be able to adapt to the changing scenario of the present day.	Create
			5	HS103CM	Finance and Accounting
CO2	Analyze & interpret financial statements.	Analyze			
CO3	Interpret knowledge about the functioning & working of various financial institutions.	Understand			
CO4	Apply traditional & modern techniques of capital budgeting in long term investments, to test whether to invest in a particular project or not.	Apply			
CO5	Analyze the liquidity, solvency & profitability of financial statements.	Analyze			
CO6	Evaluate the financial performance of the business unit.	Evaluate			
6	PC401ME	Metallurgy and Material Science	CO1	Explain the structure of materials at various levels and testing their mechanical properties.	Understand
			CO2	Describe fatigue, creep failure and experimentally determine fatigue, creep strength, also list different types of fracture.	Understand
			CO3	Explain phase diagrams and identify various phases, composition by analyzing the phase diagrams.	Analyze
			CO4	Classify different types of plain carbon steels, cast irons and explain their applications.	Analyze
			CO5	Explain various heat treatment techniques, effects of the alloying elements on the properties of steel and select various alloying elements for a particular engineering application.	Apply
			CO6	Explain the properties, of non-ferrous metals, ceramics, polymers, composites and choose a particular material for an application.	Apply
		ics	CO1	Define Thermodynamics concept of Zeroth law of thermodynamics, Temperature Scales and Thermodynamics Equilibrium, partial pressures and partial volumes	Remember

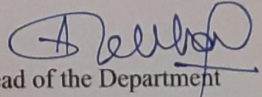


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III Semester - BE COURSE OUTCOMES for ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
7	PC222ME	Thermodynamics	CO2	Evaluate Heat and work interactions and calculate work done during flow processes	Evaluate
			CO3	Determine of entropy change during various thermodynamic processes	Evaluate
			CO4	Make use of steam Tables and Mollier diagram for properties of steam	Apply
			CO5	Determine efficiency of power cycles	Evaluate
			CO6	Solve the problems on heat engine, heat pump and refrigerator	Apply
			8	PC451ME	Metallurgy & Material Testing Lab
CO2	Identify different materials by examining the phases in their microstructure.	Apply			
CO3	Analyze the effects of various heat treatment by studying the grain structure	Analyze			
CO4	Determine the tensile, compressive and impact strength for various materials	Evaluate			
CO5	Measure hardness, shear strength and check their suitability for a given design requirement.	Evaluate			
CO6	Determine the shear force, bending moment and Youngs modulus of different beams under various loading conditions.	Evaluate			
9	PC452ME	M.D.M Lab - Machine Drawing and Modeling Lab	CO1	Develop the skills in drafting various machine components using AutoCad software.	Understand
			CO2	Interpret the conventions & symbols used in technical drawings into their physical meanings & vice versa	Understand
			CO3	Construct orthographic views of simple machine components.	Apply
			CO4	Demonstrate the working knowledge in solidworks to model, assemble and generate orthographic views.	Understand
			CO5	Develop 3D models, assemble and generate drawings of components using Solidworks.	Evaluate
			CO6	Observe 3D interactive CAD models and determine the steps used in modelling them.	Evaluate


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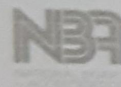
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BE COURSE OUTCOMES | V SEMESTER | ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
1	PC 501 ME	FMHM - Fluid Mechanics and Hydraulic Machinery	C301.1	Understand the properties of the fluid and measurement of pressure	Understand
			C301.2	Analyze the different types of fluid flows and Applications of Bernoulli's equation	Analyze
			C301.3	Analyze the flow between parallel plates and in pipes	Analyze
			C301.4	Design and working of various types of turbines and able to draw the performance characteristic curves of turbines.	Create
			C301.5	Explain the working principles of pumps and estimate the performance of the pump	Evaluate
			C301.6	Analyze the amount of work save by fitting an air vessel to reciprocating pumps.	Analyze
2	PC 502 ME	DME - Design of Machine Elements	C302.1	Evaluate and Determine the stresses using concepts of Theories of failure, and to select proper material for machine components.	Evaluate
			C302.2	Evaluate the Failure stress of machine components using fatigue theories of failure	Evaluate
			C302.3	Evaluate size of the machine components for torque transmission, bending and axial loads	Evaluate
			C302.4	Analyze the fasteners required for a given application and predicting its efficiency	Analyze
			C302.5	Analyze type of joints, power screws.	Analyze
			C302.6	Differential and compound screws and predicting its efficiency	Analyze
3	PC 503 ME	DOM - Dynamics of Machines	C303.1	Understand the gyroscopic effects in ships, aero planes and road vehicles	Understand
			C303.2	Analyze and design centrifugal governors & Flywheels	Analyze
			C303.3	Analyze balancing problems in rotating machinery	Analyze
			C303.4	Analyze balancing problems in reciprocating machinery	Analyze
			C303.5	Understand free and forced vibrations of single degree freedom systems	Understand
			C303.6	Understand Torsional vibrations of single degree freedom systems	Understand



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S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
4	PC 504 ME	MCMT- Metal Cutting and Machine Tools	C304.1	Explain the Tool geometry, tool materials, desired tool properties, tool life, methods of machining, Chip formation, heat generation, Machining operations, cutting fluids, tool and work holding devices etc.	Understand
			C304.2	Develop relations for chip reduction coefficient, shear angle, shear strain, forces, power, specific energy and temperatures associated orthogonal cutting.	Analyze
			C304.3	Illustrate the working principle, constructional features and specifications associated with common machine tools and U C M P.	Understand
			C304.4	Identify a suitable machine tool for a particular machining operation while calculating tool life and can compare one machining process with other or one equipment with other	Apply
			C304.5	Analyse Tool life, Economics of machining MRR, power consumption and other process parameters for various conventional and U C M P.	Analyze
			C304.6	Design Jigs and Fixtures for various modern machining processes.	Create
5	PC 505 ME	HT - Heat Transfer	C305.1	Describe heat conduction problems in rectangular, cylindrical and spherical coordinates	Understand
			C305.2	Analyze heat transfer through the fins and familiarize with the time dependent heat transfer	Analyze
			C305.3	Estimate the convective heat transfer coefficient in Free and Forced convection	Evaluate
			C305.4	Determine the radiation heat transfer by calculating the emissivities and shape factors.	Evaluate
			C305.5	Determine the LMTD and NTU in heat exchangers	Evaluate
			C305.6	Explain the mechanisms involved in boiling and condensation.	Understand
6	PC 591 ME	Thermal Engg Lab II	C306.1	Analyze the effective thermal resistance in composite slabs and thermal conductivity of metal bar	Analyze
			C306.2	Evaluate heat transfer coefficient in Free & Forced convection.	Evaluate
			C306.3	Evaluate the effectiveness and efficiency of parallel flow and counter flow heat exchanger	Evaluate
			C306.4	Analyze the COP of the Refrigeration test Rig and pressure distribution of specimen in wind tunnel	Analyze



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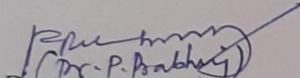
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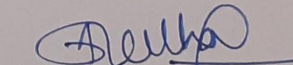


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BE COURSE OUTCOMES | V SEMESTER | ACADEMIC YEAR 2021-22

S No	Code	Course Name	CO No.	Course Outcomes	Taxonomy Level
		TE Lab - 2	C306.5	Analyze the overall efficiency of axial flow fan & Centrifugal blower	Analyze
			C306.6	Evaluate the surface emissivity of a test plate & Stefan Boltzmann constant	Evaluate
			C307.1	Analyze the performance and draw the characteristic curves for different types of governors.	Analyze
7	PC 592 ME	Dynamics of Machines Lab	C307.2	Evaluate the effect of gyroscopic couple at different speeds.	Evaluate
			C307.3	Evaluate kinematic and dynamic behavior of different types of	Evaluate
			C307.4	Evaluate static and dynamic balancing of rotating masses.	Evaluate
			C307.5	Analyze natural frequencies of various beams with different	Analyze
			C307.6	Determine the critical speed for shafts of various diameter.	Evaluate
			C308.1	Determine the impact of jet on different types of vanes	Evaluate
8	PC 593 ME	FMHM Lab- Fluid Mechanics and Hydraulic Machinery Lab	C308.2	Determine the efficiencies of various pumps and draw the characteristic curves.	Evaluate
			C308.3	Determine the efficiencies of various turbines and draw the characteristic curves.	Evaluate
			C308.4	Evaluate the coefficient of discharge of various flow meters and draw the characteristic curves.	Evaluate
			C308.5	Explain the principle of Hydraulic Circuit	Understand
			C308.6	Explain Pneumatic Circuits by studying the models.	Understand


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 BE COURSE OUTCOMES | VII SEMESTER | ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
1	PC701ME	Operations Research	CO1	Apply mathematical model (linear programming problem) for a physical situations like production, distribution of goods and economics	Apply
			CO2	Apply the concept of simplex method and its extensions to dual simplex algorithms.	Apply
			CO3	Analyze the various methods under transportation model and apply the model for testing	Analyze
			CO4	Apply the various replacement policy and gaming strategies for arriving at optimal decision	Analyze
			CO5	Analyze and Applying the knowledge of sequencing model and to develop optimum model for job scheduling	Analyze
			CO6	Analyze the Queuing theory models and Optimization techniques.	Analyze
2	PC702ME	Refrigeration and Air Conditioning	CO1	Relate methods of refrigeration and importance of refrigerant selection	Understand
			CO2	Design Air refrigeration and VCR system with methods o improve performace	Create
			CO3	Compare VAS with VCR system, steam jet refrigeration and Thermolectric refrigeration	Understand
			CO4	Identify various air conditioning processes on Psychrometric Chart	Apply
			CO5	Design Air Conditioning System with use of psychrometric chart	Create
			CO6	Explain the types of air conditioning systems, components and applications	Understand
3	PC711ME	Industrial Engineering	CO1	Apply the knowledge of scientific management in industrial environment	Apply
			CO2	Demonstrate the importance of production planning & control in manufacturing industry	Understand
			CO3	Estimate the appropriate inventory control models and financial management practice are applied in industries	Evaluate
			CO4	Analyses the quality control charts and sampling plan in production unit.	Analyse
			CO5	Apply the concept of decision making theory and uncertainty risk in work place.	Apply
			CO6	Develop industrial engineering concepts in industrial environment	Create
		brid	CO1	Choose a suitable drive scheme for developing an electric hybrid vehicle depending on resources	Apply



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BE COURSE OUTCOMES | VII SEMESTER | ACADEMIC YEAR 2021-22

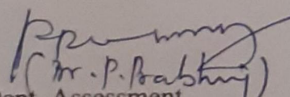
S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
4	PC713ME	Basics of Electrical and Hybrid Vehicle	CO2	Design and develop basic schemes of electric vehicles and hybrid electric vehicles.	Evaluate
			CO3	Choose proper energy storage systems for vehicle applications	Understand
			CO4	Identify various communication protocols and technologies used in vehicle networks	Analyze
			CO5	Choose a suitable drive scheme for developing an electric hybrid vehicle depending on resources	Create
			CO6	Sizing The Drive System, propulsion motor, sizing the power, electronics	Understand
5	PE721ME	Additive Manufacturing Engineering	CO1	Describe the fundamentals of additive manufacturing, classify and explain advantages and disadvantages of AM process	II. Understand
			CO2	Describe the operating principles, capabilities and limitations of liquid and solid based additive manufacturing systems.	II. Understand
			CO3	Explain the operating principles, specifications, advantages and disadvantages of powder based additive manufacturing systems.	II. Understand
			CO4	Selection of correct CAD data formats and softwares and AM software skills in additive manufacturing technology.	IV. Analyze
			CO5	Applying the capabilities of additive manufacturing in different industrial sectors.	III. Apply
			CO6	Exploring the different applications of AMT and applying it in various fields through AM softwares.	III. Apply
6	PE722ME	Robotics Engineering	CO1	Recognize the parts of a robot, identify its category, specifications, parts & their functions.	Understand
			CO2	Choose suitable robots for different Industrial applications based on degrees of freedom, type of end effector and other specifications.	Apply
			CO3	Perform forward kinematic analysis using homogeneous transformation matrices & Find Jacobean in the velocity domain.	Analyze
			CO4	Perform Inverse Kinematics analysis, convert a world space problem to joint space problem & develop dynamical equations for control of robots.	Analyze
			CO5	Perform trajectory planning, implement independent joint control & Justify suitability of different control methods.	Apply
			CO6	Interface various hardware and software components to develop robotic systems for industry & evaluate their performance	Apply

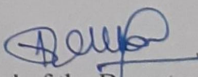


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BE COURSE OUTCOMES | VII SEMESTER | ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
7	OE 701 CE	GBT- Green Building Technology	CO1	Explain the concepts of sustainability and a green buildings, along with its features and benefits.	Understand
			CO2	Describe the criteria and methods used for site selection & planning and in achieving water efficiency in green buildings.	Understand
			CO3	Define the terms and explain the methods used for achieving energy efficiency in green buildings.	Understand
			CO4	Discuss the various types of building materials and waste management methods for a sustainable built environment.	Understand
			CO5	Describe the methods used to maintain indoor environmental quality.	Understand
			CO6	List and explain the various Green Building Rating systems applicable in India, and also the standard national and international codes related to green building practices.	Understand
8	OE701EE	Non Conventional Energy Sources	CO1	Understand the different nonconventional sources and the power generation techniques to generate electrical power.	Understand
			CO2	Understand the fuel cell developments and applications.	Understand
			CO3	Understand the solar energy power development and different applications.	Understand
			CO4	Understand different wind energy power generation techniques and applications.	Understand
			CO5	Understand different ocean energy generation, geothermal and application.	Understand
			CO6	Understand the biomass conversion techniques.	Understand
9	PW721ME	Project Work - I	CO1	Adapt the attitude of writing reviews on the literature	Create
			CO2	Develop practical & professional skills	Apply
			CO3	Apply the tools and technicals of documentations	Apply
			CO4	Make use of the Team work	Apply
			CO5	Develop to the industrial practice and Research Practices	Apply
			CO6	Develop skill to work with Innovative and entrepreneurial ideas	Apply


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DEPARTMENT OF MECHANICAL ENGINEERING
 BE COURSE OUTCOMES | IV SEMESTER | ACADEMIC YEAR 2021-22

S No	Code	Course Name	CO No.	Course Outcomes	Taxonomy Level
1	ES304ME	EM-II-Engineering Mechanics-II	CO1	Apply the laws of motion to study the kinematic parameters of rigid body motion	Apply
			CO2	Solve the problems involving translation of particle & rigid bodies by applying principles of kinetics.	Apply
			CO3	Analyze the rotation motion of rigid bodies by applying the principles of kinematics, kinetics of rotation and work energy principle.	Analyze
			CO4	Apply the laws of motion, kinematic and kinetic parameters of rigid body motion to analyse plane motion of rigid bodies.	Apply
			CO5	Formulate mathematical models of problems in vibrations	
			CO6	Solve the problems by applying D-Alembert's principle	Apply
2	PC403ME	FM- Fluid Mechanics	CO1	State the Newton's law of viscosity and Explain the mechanics of fluids at rest and in motion by observing the fluid phenomena	Understand
			CO2	Determine the fluid pressure and use various devices for measuring fluid pressure.	Apply
			CO3	Apply Bernoulli's equation to fluid flow problems and boundary layer theory to determine lift and drag forces on a submerged body	Apply
			CO4	Derive Euler's Equation of motion and Deduce Bernoulli's equation	Analyze
			CO5	Distinguish the types of flows and Determine sonic velocity in a fluid.	Understand
			CO6	To develop and apply laws of mass, energy and momentum conservation in compressible flow.	Apply
3	ES305ME	Energy Sciences and Engineering	CO1	Explain the basics of various sources of energy.	Understand
			CO2	Analyse the present status of conventional energy sources	Analyze
			CO3	Illustrate the working principles of Renewable Energy systems	Understand
			CO4	Analyse and Compare waste heat recovery systems and energy storage.	Analyze
			CO5	Relate energy economics, standards and future challenges	Understand
			CO6	Explain causes of pollution, control methods and relate to pollution standards	Understand
4			CO1	Understand the theory of elasticity including strain displacement and Hooke's law relationships. and analyzing Stress-Strain diagram.	Analyze



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BE COURSE OUTCOMES | IV SEMESTER | ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
4	PC404ME	MOM - Mechanics of Material	CO2	Analyse the shear stresses and bending moment diagrams with various types of loads (Such as point load, u.d.l and u.v.l). and understand the mohrs circle concept.(comparing uni-axial loading with multi axial loading)	Analyze
			CO3	Evaluate the bending and shear stresses in beams. and Strain energy in bars due to various loads.	Evaluate
			CO4	Evaluate the slope and deflections in beams subjected to transverse loads.	Evaluate
			CO5	Analyze various situations involving structural members subjected to combined stresses and solve the torsion problems in bars.	Analyze
			CO6	Evaluate practical problems on various springs.	Evaluating
			5	PC405ME	Applied Thermodynamics
CO2	Explain the thermal design and working principles of IC Engines and their supporting systems.	Understand			
CO3	Describe the working principle of IC Engines and combustion phenomenon of SI and CI engines and thermal design of Combustion chambers.	Understand			
CO4	Explain the thermal design and working principles of Power plant devices like Boilers & Condensers.	Understand			
CO5	Analyze the behavior of power plants based on the Ran-kine cycle, including the effect of enhancements such as superheat, reheat and regeneration	Analyze			
CO6	Analyze the working principle and flow through the Nozzles.	Analyze			
6	PC406ME	Kinematics of Machinery	CO1	Recall & relate the theoretical terms, concepts used in Machine Kinematics; position, velocity & acceleration analysis; Friction & its applications; cams & gears with their practical applications.	Understand
			CO2	Determine the velocity & acceleration of any point on planar mechanisms with simple revolute & prismatic joints as well as gears & cams.	Apply
			CO3	Apply the knowledge of friction to solve problems on Belts/rope drives, Brakes & Dynamometers.	Apply
			CO4	Analyse the effect of variation in dimensions of a mechanism on motion (position, velocity & acceleration) using CAD software like OnShape or Fusion 360.	Analyze
			CO5	Evaluate the given mechanism for potential problems in the view of requirements provided & eliminate them.	Evaluate
			CO6	Fabricate working mechanisms using whatever material is easily available (including but not limited to plastic waste).	Create



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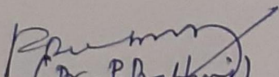
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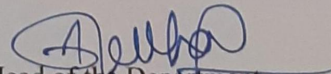


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BE COURSE OUTCOMES | IV SEMESTER | ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
7	PC407ME	Manufacturing Processes	CO1	Explain the process of pattern making, preparation of sand mould and designing the gating system in the casting industry.	Understand
			CO2	Identify the suitable special casting processes and causes of casting defects and its remedies.	Apply
			CO3	Select the appropriate joining process according to the industrial application.	Apply
			CO4	Illustrate the concept of solid state welding, and Examine the weldability and defects.	Understand
			CO5	Choose the appropriate metal forming techniques to produce the components.	Apply
			CO6	Demonstrate the plastic molding processes and concept of powder metallurgy in the manufacturing field.	Understand
8	PC453ME	Thermal Engineering Lab I	CO1	Determine volumetric efficiency and isothermal efficiency of a two stage reciprocating air compressor.	Evaluate
			CO2	Construct port timing diagram and valve timing diagram of internal combustion engine.	Apply
			CO3	Evaluate the performance of internal combustion engines	Evaluate
			CO4	Develop heat balance sheet of internal combustion engine	Create
			CO5	Determine the properties of given lubricating oil	Evaluate
			CO6	Analyze the frictional power of multi cylinder engine.	Analyze
9	PC454ME	Manufacturing Processes Lab	CO1	Explain the design of patterns, mould making procedures and testing the sand properties.	Understand
			CO2	Apply the various joining techniques to fabricate different geometries.	Apply
			CO3	Demonstrate the blanking and piercing operations for simple components.	Understand
			CO4	Explain the Applications of plastics and manufacture a simple component by using plastic injection moulding processes.	Understand
			CO5	Evaluate the mechanical properties of welded joints	Evaluate
			CO6	Select suitable manufacturing processes to manufacture the products optimally.	Apply


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DEPARTMENT OF MECHANICAL ENGINEERING

BE COURSE OUTCOMES | VI SEMESTER | ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
1	PC601ME	MD - Machine Design	CO1	Demonstrate the various types of springs, and analyze for static and fluctuating loads.	Analyze
			CO2	Evaluate the various types of gears, and analyze for static, dynamic and wear loads.	Evaluate
			CO3	Exhibit the ability in design of sliding contact bearing using different empirical relations	Apply
			CO4	Exhibit the ability in design rolling contact bearing and as well as selection of appropriate rolling contact bearings.	Evaluate
			CO5	Design of IC engine parts under mechanical shock and thermal loads.	Create
			CO6	Expertise with the component design according to standards and suggested techniques, which is important in the design and development of machines in industry.	Create

2	PC602ME	M&I - Metrology & Instrumentation	CO1	Explain the concepts of limits , fits and tolerances and their applications, gauges (plug, ring & snap), end bars, linear & angular measurements by Vernier, Micrometers, Sine bar, Autocollimators.	Understand
			CO2	Explain the design of limit gauges, evaluate roughness and its measurement, the concepts of comparators along with their types, Optical projectors, and Microscopes for measuring flatness, roundness & coordinate geometrics.	Understand
			CO3	Explains the importance of surface roughness & its measurement, gear tooth concepts with measurement, & testing of machine tools like lathe, drill & milling.	Understand
			CO4	Illustrate the basic measuring system, static and dynamic characteristics of instruments and different transducers for measuring displacement, strain, load & torsion	Understand
			CO5	Describe the concepts and various principles to measure pressure, displacement, , acceleration force, torque and vibrations temperature (thermoelectricity) with various gauges, tubes, series and parallel circuits by Explaining the principles thoroughly	Remember
			CO6	Explain the basic manufacturing systems, Working Principles of various measuring instruments & Design/create an instrument to measure any physical property of the existing system	Understand

3	PC603ME	Finite Element Analysis	CO1	Understand equations of elasticity and formulate finite element modeling of one dimensional element using Potential energy approach .	Understand
			CO2	Create finite element modeling of truss and frame elements	Create
			CO3	Remember Hermitian shape function of beam element in natural coordinate system.	Remember
			CO4	Create stiffness matrix for a plane stress & plane strain conditions on a CST, Axisymmetric elements .	Create



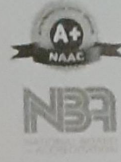
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 BE COURSE OUTCOMES | VI SEMESTER | ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
		FEA - Fin	CO5	Analyse finite element model to steady state heat transfer analysis using one & two dimensional elements	Analyze
			CO6	Remember mass and stiffness matrices of 1D & beam elements to establish Eigen values & Eigen vectors using Lagarangian and Hamilton principles.	Remember
4	PE612ME		AE - Automobile Engineering	CO1	Explain the different parts and constructional details of the automobile engines.
		CO2		Identify the working of various systems like engine lubricating system and cooling system, types of ignition system and different batteries used in automobile.	Apply
		CO3		Analyse, the working principle of steering and suspension systems and constructional details of wheels and tyres of automobile.	Analyze
		CO4		Evaluate the constructional and working principle of braking system and its importance in Automobile engines.	Evaluate
		CO5		Evaluate the power generation in engine and transmissions of power from the engine to wheels through the clutch plates and differential gear box.	Evaluate
		CO6		Develop the environmental implications of automobile emissions and strong base for Explaining future developments in the automobile industry.	Apply
5	PE622ME	POM - Production and Operations Management	CO1	Explain the production system and develop a suitable layout	Understand
			CO2	the forecasting and scheduling techniques to production system.	Remember
			CO3	Material requirement planning and analyze aggregate planning techniques.	Analyze
			CO4	Interpret the nature of inventory costs and solve the single period fixed quantity inventory model to suggest lot sizes	Understand
			CO5	explain PERT/CPM techniques for a given project and develop suitable quantitative models for the projects.	Understand
			CO6	Apply a wide variety of production and operation management problems in production and service organization	Apply
		Skills	CO1	To train the students in effective listening skills required for comprehending and performing the required tasks in Professional Communicati	Remember
			CO2	To enable the students to develop the required speaking skills as per the necessary objective in Professional Communication	Understand
			CO3	To equip the students with appropriate reading, comprehending & summarizing strategies for the prescribed professional assignment	Apply



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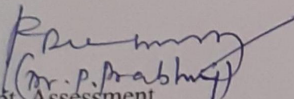
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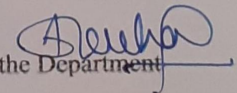


DEPARTMENT OF MECHANICAL ENGINEERING

BE COURSE OUTCOMES | VI SEMESTER | ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
9	PC692ME	CAE Lab - Computer Aided Engineering Lab	CO1	Analyse 2D, 3D truss to determine stress and strain in mechanical member.	Analyze
			CO2	Measure internal Pressure in case of Curved shell.	Evaluate
			CO3	Measure buckling & natural frequencies and mode shapes of Cantilever Beam.	Evaluate
			CO4	Analyse static stress analysis in case of plate with a hole .	Analyze
			CO5	Analyse two dimensional heat conduction in case of a plate .	Analyze
			CO6	Evaluate Heat Conduction in case of composite wall.	Analyze
10		SI - Summer Internship	CO1	Explain and identify various materials, processes, products and their applications and limitations.	Understand
			CO2	Apply the fundamental and advanced Technical / Engineering knowledge in real industrial situations.	Apply
			CO3	Explain the importance and learn through experience professional ethics, communication and adaptability skills to work in teams to solve real life problems.	Evaluate
			CO4	Explain the social, economic and administrative considerations that influence the working environment of industrial organizations.	Evaluate
			CO5	Explain and sharpen the real time technical / managerial skills required to meet the industry needs.	Understand
			CO6	Compile the information and knowledge gained from the internship and present a written document.	Create


Dept. Assessment
Coordinator


Head of the Department

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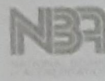
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DEPARTMENT OF MECHANICAL ENGINEERING

BE COURSE OUTCOMES | VIII SEMESTER | ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
1	PE826ME	Power Plant Engineering	CO1	Identify the various sources of energy for power generation and explain the working of various sub systems such as coal handling, ash handling in a steam power plant.	Apply
			CO2	Combustion process descriptions and the various sub systems in air and gas circuit, feed water and cooling water circuit and the working of gas turbine power plants.	Understand
			CO3	Explain the working of a hydro power plant & Nuclear power plant	Understand
			CO4	Describe the working of a nuclear power plant and hazard involved	Understand
			CO5	Estimate the cost of power generation and the environmental effects of various power plants	Evaluate
			CO6	Explain the hydrological cycle and water power for electric generation	Understand

2	PE823ME	Entrepreneurship Development	CO1	Understand Indian Industrial Environment, Entrepreneurship and Economic growth, Small and Large Scale Industries, Types and forms of enterprises.	Understanding
			CO2	Identify the characteristics of entrepreneurs, Emergence of first generation entrepreneurs, Understand and Practice the conception and evaluation of ideas and their source and choice of technology.	Applying
			CO3	Understand and Practice the principles of project formulation, analysis of market demand, Financial and profitability analysis and Technical analysis and evaluate the technical feasibility and financial viability of a project.	Evaluate
			CO4	Understand and Apply the concepts of Project Management during construction phase, project organization, project planning and control using CPM, PERT techniques.	Applying
			CO5	Understand and Practice the Behavioral aspects of entrepreneurs, Leadership concepts and models, values and attitudes and motivation aspects.	Applying
			CO6	Understand and Apply Time Management, various approaches of time management, urgency addiction and time management matrix.	Applying



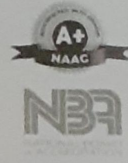
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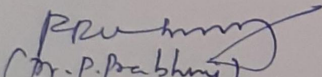
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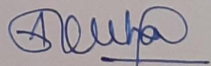


DEPARTMENT OF MECHANICAL ENGINEERING

BE COURSE OUTCOMES | VIII SEMESTER | ACADEMIC YEAR 2021-22

S No	Co de	Course Name	CO No.	Course Outcomes	Taxonomy Level
3	OE801CE	RSE- Road Safety Engineering	CO1	Demonstrate about road accidents and its study objectives. Prepare accident investigation reports and database based on data collected.	Understand
			CO2	Apply design principles for roadway geometrics improvement with various types of traffic safety appurtenances/tools	Apply
			CO3	Explain the road safety design operations, counter measures & characteristics to manage traffic including incident management	Understand
			CO4	Illustrate the concept of Road Safety Auditing its principles, procedures and code of good practice and checklists	Understand
			CO5	Explain about design and working principles of road signs and traffic signals	Understand
			CO6	Describe applications of ITS in effectively managing the traffic incidents.	Understand
4	PW961ME	Project Work- II	CO1	Adapt the attitude of writing reviews on the literature	Create
			CO2	Develop practical & professional skills	Apply
			CO3	Apply the tools and technicals of documentations	Apply
			CO4	Make use of the Team work	Apply
			CO5	Develop to the industrial practice and Research Practices	Apply
			CO6	Develop skill to work with Innovative and entrepreneurial ideas	Apply


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