

F. Y. B. Tech

SEMESTER-I		
Course Name & Code	Course Outcomes	Bloom's Level (No. and Name)
C011 ENGINEERING PHYSICS	Describe the concepts of semiconducting material and crystal structure.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Apply basic concepts of acoustics and ultrasonic in engineering field.	BL-1 Remembering, BL-2 Understanding
	Relate space, time, mass and energy equations.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Express the concepts of diffraction, polarization and can relate them to day to day observable phenomena.	BL-1 Remembering, BL-2 Understanding
	Explain the fundamental concepts, advantages and applications of laser and optical fiber in the field of science, engineering and medical.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Express the basic concepts of quantum mechanics and nanotechnology.	BL-1 Remembering, BL-2 Understanding
C012 ENGINEERING CHEMISTRY	Describe importance of quality of water and appropriate water treatment process.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Recognize various types of corrosion & propose a suitable prevention technique.	BL-1 Remembering, BL-2 Understanding
	Describe various instrumental techniques.	BL-1 Remembering, BL-2 Understanding
	Identify and explain different engineering materials like metals, ceramics, fuels, Lubricants, polymers for various engineering and day to day applications.	BL-1 Remembering, BL-2 Understanding
	Calculate hardness of water, concentration of unknown solution, calorific value of fuels, saponification & acid value of oils, molecular weight of polymers etc.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Describe various types of energy storage systems with their applications.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying

C112 ENGINEERING MATHEMATICS - I	Compute higher order derivative of standard functions and verify Mean Value Theorems.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Describe the power series expansion of a given function and evaluate limits	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Apply matrices techniques for solving system simultaneous linear equations, Eigen values and Eigen vectors of the matrix	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Evaluate Multivariable derivatives and can implement to estimate maxima and minima of multivariable function	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Compute velocity vector, gradient, divergence, curl and applications.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
C113 BASICS OF CIVIL AND MECHANICAL ENGINEERING		
C113 BASICS OF CIVIL AND MECHANICAL ENGINEERING	Describe the role of civil engineer in the development of the society and Relationship of civil engineering with other branches of engineering and technology.	BL-1 Remembering, BL-2 Understanding
	Explain various elements of Environment & Water Resources Management, transportation engineering, buildings, concepts of Green Buildings, Remote sensing Techniques, GIS &GPS.	BL-1 Remembering, BL-2 Understanding
	Identify power producing/absorbing systems and related transmission systems.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Explain various machining/joining processes implemented in everyday life.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	To determine heat and work quantum during different thermodynamic processes.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
C114 ENGINEERING MECHANICS		
C114 ENGINEERING MECHANICS	Apply fundamentals of Engineering Mechanics for analyzing effects of a system forces acting on a rigid body.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying, BL-4 Analyze
	Analyze various types of statically determinate beams, pin jointed trusses by analytical and graphical methods.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying, BL-4 Analyze
	Locate centroid and centre of Gravity and calculate moment of Inertia of plane lamina.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying, BL-4 Analyze

	Apply knowledge of Kinematics and Kinetics of rigid body motion to solve problems of bodies in motion.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying, BL-4 Analyze
	Use Work Energy methods for analyzing linear and rotational motion.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying, BL-4 Analyze
C115 UNIVERSAL HUMAN VALUES	Appreciate the essential complementarity between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity, which are the core aspirations of all human beings.	BL-1 Remembering, BL-2 Understanding
	Develop holistic perspective towards life and profession as well as towards happiness and prosperity based on a correct understanding of the Human reality and the rest of Existence.	BL-1 Remembering, BL-2 Understanding
	Appreciate the Universal Human Values and movement towards value-based living in a natural way.	BL-1 Remembering, BL-2 Understanding
	Highlight ethical human conduct, trustful and mutually fulfilling human behavior and mutually enriching interaction with Nature.	BL-1 Remembering, BL-2 Understanding
C116 COMMUNICATION SKILLS	Frame grammatically correct sentences for day to day Communication.	BL-2 Understanding and BL-3 Applying, Creating
	Use numerous appropriate words and sentences in written communication.	BL-2 Understanding and BL-3 Applying, Creating
	Demonstrate effective oral communication skills in various situations.	BL-2 Understanding and BL-3 Applying, Creating
	Read, comprehend and answer the questions based on a passage.	BL-2 Understanding and BL-3 Applying, Creating
	Draft letters, emails, write paragraphs and essays with appropriate content and context.	BL-2 Understanding and BL-3 Applying, Creating
	Solve verbal ability questions in competitive exams	BL-2 Understanding and BL-3 Applying, Creating
C117 CREATIVITY AND DESIGN THINKING	Relate with and Compare the various learning styles and memory techniques and Apply them in their engineering education.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying,

	Analyze emotional experience and Experiment with emotional expressivity to better understand users while designing products.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying,
	Appreciate the importance creativity and design thinking, Develop new ways of thinking and Learn the innovation cycle for creating innovative products.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying,
	Understand individual differences and its impact on everyday decisions so as to demonstrate frameworks, strategies, techniques while creating innovative products.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying,
	Develop skills for evaluating, articulating, refining, and creating an innovative engineering product that solves customer problems(s).	BL-1 Remembering, BL-2 Understanding and BL-3 Applying,
C118 WORKSHOP PRACTICE	Identify various hardware and software components of a computer and compare between them.	Perception (LI), Set L2), Guided response(L3, Mechanism (L4)
	Assemble a desktop from components supplied and Setup a working desktop system using a Raspberry Pi board.	Perception (LI), Set L2), Guided response(L3, Mechanism (L4)
	Identify and use various electronic components and instruments.	Perception (LI), Set L2), Guided response(L3, Mechanism (L4)
	Develop basic electronic circuits on breadboards.	Perception (LI), Set L2), Guided response(L3, Mechanism (L4)
	Demonstrate the use of an Arduino board using basic circuits.	Perception (LI), Set L2), Guided response(L3, Mechanism (L4)
	Prepare different shaped metal work piece joints from the given metal blanks by selecting different tools and machines.	Perception (LI), Set L2), Guided response(L3, Mechanism (L4)
	Perform different types of welding of metal components.	Perception (LI), Set L2), Guided response(L3, Mechanism (L4)
	Select different engineering tools required to perform, fitting, machining, welding and joining processes.	Perception (LI), Set L2), Guided response(L3, Mechanism (L4)

SEMESTER-II		
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C122 ENGINEERING MATHEMATICS -II	Solve first order ordinary differential equation and able to apply in different Engineering applications.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Test divergence & convergence of infinite series.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Use the tools of differentiation of functions of a complex variable that are used in various techniques dealing engineering problems.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Draw approximate shape of planer curve with justification.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Evaluate improper and multiple integrals and their usage.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
C123 BASIC ELECTRICAL AND ELECTRONICS ENGINEERING	Apply the various simplification methods to analyze dc circuits.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Use the concept of magnetic circuits to calculate parameters of magnetic circuits and single phase transformer.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Apply knowledge of ac fundamentals and poly phase to analyze ac circuits.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Explain working, characteristics and applications of diode and BJT.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Select appropriate transducers to measure various physical parameters like distance, temperature etc.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
	Perform arithmetic operations on digital number system.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying
C124 PROGRAMMING	Design the flowcharts and algorithms for the given problem .	BL-2 Understanding and BL-3 Applying,

FOR PROBLEM SOLVING	Translate the algorithms into C programs and test & execute the programs.	BL-2 Understanding and BL-3 Applying,
	Implement C programs by appropriately selecting control and loop structures.	BL-2 Understanding and BL-3 Applying,
	Implement C programs using functions and pointers.	BL-2 Understanding and BL-3 Applying,
	Implement C programs using arrays, structure and unions and files.	BL-2 Understanding and BL-3 Applying,
	Develop small applications using C Programming concepts.	BL-2 Understanding and BL-3 Applying,
C125 ENGINEERING GRAPHICS AND CAD	Draw projection of lines and planes for engineering applications.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying,
	Draw regular and sectional views of various types of solids.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying,
	Draw the 2 D view (orthogonal views) given 3D drawing.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying,
	Draw the development of the regular and truncated solids.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying,
	Draft the 2-D drawing of machine components.	BL-1 Remembering, BL-2 Understanding and BL-3 Applying,
C126 PROFESSIONAL COMMUNICATION	Prepare good quality presentation and deliver it effectively.	Remembering, understanding, applying, evaluating, creating
	Participate effectively in group discussion	Remembering, understanding, applying, evaluating, creating
	Perform effectively in personal interview	Remembering, understanding, applying, evaluating, creating
	Prepare effective resume for job interviews	Remembering, understanding, applying, evaluating, creating
	Draft and write various reports professionally.	Remembering, understanding, applying, evaluating, creating

	Demonstrate various soft skills like team skills, leadership, creativity, etc. in different situations.	Remembering, understanding, applying, evaluating, creating
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