ABESIT
COLLEGE OF ENGINEERING

Department of Applied Science

Course Outcomes

Year	1st	Semester	1st/2nd
Subject Name	Engineering Physics	Subject Code/ NBA Code	C101

S. No.	Course Outcomes (CO)
CO 1	To explain the distribution of energy in black body radiation and to understand the difference in particle and wave nature with explanation of Compton effect and Schrodinger wave equation.
CO 2	To understand the concept of displacement current and consistency of Ampere's law and also the properties of electromagnetic waves in different medium with the use of Maxwell's equations.
CO 3	To understand the behavior of waves through various examples/applications of interference and diffraction phenomenon and the concept of grating and resolving power.
CO 4	To know the functioning of optical fiber and its properties and applications. To understand the concept, properties and applications of Laser.
CO 5	To know the properties and applications of superconducting materials and nano-materials.

Year	1st	Semester	1st/2nd
Subject Name	Engineering Chemistry	Subject Code/ NBA Code	C102

S. No.	Course Outcomes (CO)
CO 1	To enable the students to understand about the Chemistry of Atomic and Molecular structure, Chemistry of advanced Materials like Liquid crystals, Nanomaterials, Graphite & fullerenes and Green Chemistry.
CO 2	To enable the students to understand and apply the detailed concepts of spectroscopic techniques and stereochemistry to identify the compounds, element etc.
CO 3	To enable the students to understand and apply the concepts related to Electrochemistry, Batteries, Corrosion and Chemistry of Engineering Materials like
CO 4	To enable the students to understand and apply detailed concepts of water source, water impurities, hardness of water and boiler troubles used in industry as well as analysis of coal & determination of calorific values.
CO 5	To enable the students to understand detailed concepts related to polymers, Polymerization, Polymer Blends and Polymer Composites.

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Year	1st	Semester	1st
Subject Name	Engineering Mathematics-I	Subject Code/ NBA Code	C103

S. No.	Course Outcomes (CO)
CO 1	Understand the concept of complex matrices, Eigen values, Eigen vectors and apply the concept of rank to evaluate linear simultaneous equations
CO 2	Remember the concept of differentiation to find successive differentiation, Leibnitz Theorem, and create curve tracing, and find partial and total derivatives
CO 3	Applying the concept of partial differentiation to evaluate extrema, series expansion, error approximation of functions and Jacobians
CO 4	Remember the concept of Beta and Gamma function; analyze area and volume and Dirichlet's theorem in multiple integral
CO 5	Apply the concept of Vector Calculus to analyze and evaluate directional derivative, line, surface and volume integrals

Year	1st	Semester	2nd
Subject Name	Engineering Mathematics-II	Subject Code/ NBA Code	C104

S. No.	Course Outcomes (CO)
CO 1	Remember the concept differentiation to evaluate LDE of nth order with constant coefficient and LDE with variable coefficient of 2nd order.
CO 2	Understand and apply the concept of Laplace Transform to evaluate differential equations.
CO 3	Understand the concept of convergence to analyze the convergence of series and expansion of the function for Fourier series.
CO 4	Apply the concept of analyticity, Harmonic function and create the image of function applying conformal transformation.
CO 5	Apply the concept of Cauchy Integral theorem, Cauchy Integral formula, singularity and calculus of residue to evaluate integrals.

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Year	1st	Semester	1st/2nd
Subject Name	Fundamentals of Electrical Engineering	**Subject Code/ NBA Code**	C105

S. No.	Course Outcomes (CO)
CO 1	Apply the concepts of KVL/KCL in solving DC circuits using network theorems.
CO 2	Analyze the steady state behavior of single-phase AC circuits with different combinations of load and in resonance conditions. Produce the voltage and current relation in three phase AC circuits.
CO 3	Apply the fundamentals of AC circuits to analyze the behavior of a two winding transformer subjected to various types of load and Identify the application areas of a single phase two winding transformer.
CO 4	Illustrate the working principle of induction motor, synchronous machine, DC machine and Choose the suitable areas of applications.
CO 5	Describe the components of low voltage electrical installations and perform elementary calculations for energy consumption.

Year	1st	Semester	1st/2nd
Subject Name	Fundamentals of Electronics	**Subject Code/ NBA Code**	C106

S. No.	Course Outcomes (CO)
CO 1	Understand the concept of KVL, KCL, and PN Junction to solve various circuits.
CO 2	Explain the characteristics of Bipolar Junction Transistors and Field Effect transistors.
CO 3	Illustrate op-amp as Adder, differentiator, integrator and Subtractor by applying the Virtual Ground Concept.
CO 4	Apply the concept of K-Map to minimize the expressions up to 6 variables.
CO 5	Understand the concept of modulation and determine the expression for an amplitude-modulated signal.

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Year	1st	Semester	1st/2nd
Subject Name	Programming for Problem Solving	Subject Code/ NBA Code	C107

S. No.	Course Outcomes (CO)
CO 1	Define hardware and software system with example and apply algorithms for basic programming logic.
CO 2	Describe different operators in programming logic and use conditional branching programming logic.
CO 3	Apply the working of iteration and recursion with their programming logic.
CO 4	Demonstrate the application area of different data structures like Array and Linked list with their programming concepts and examine the time space tradeoff.
CO 5	Analyze the programming problems in dynamically allocate memory and in different file handling strategies.

Year	1st	Semester	1st/2nd
Subject Name	Fundamentals of Mechanical	Subject Code/ NBA Code	C108

S. No.	Course Outcomes (CO)
CO 1	Apply the concept of force resolution and stress and strain to solve basic problems.
CO 2	Understand the construction details and working of internal combustion engines, electric vehicle and hybrid vehicles.
CO 3	Explain the construction detail and working of refrigerator, heat pump and air conditioner.
CO 4	Understand fluid properties, conservation laws and hydraulic machinery used in real life.
CO 5	Understand the working principle of different measuring instrument and mechatronics with their advantages, scope and Industrial application.

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Year	1st	Semester	1st/2nd
Subject Name	Engineering Graphics & Design Lab	Subject Code/ NBA Code	C109

S. No.	Course Outcomes (CO)
CO 1	Use the drawing instruments effectively and understand Engineering Graphics standards.
CO 2	Understand the concept of projection; acquire visualization skills related to two-dimensional orthographic drawings and three-dimensional isometric views.
CO 3	To improve technical communication skill in the form of communicative drawings.
CO 4	Create and modify two-dimensional orthographic drawings and three-dimensional isometric views using AutoCAD software.

Year	1st	Semester	1st/2nd
Subject Name	Mechanical Workshop Lab	Subject Code/ NBA Code	C110

S. No.	Course Outcomes (CO)
CO 1	Use various engineering materials, tools, machines & measuring instruments
CO 2	Perform manufacturing operations on components in fitting shop
CO 3	Perform manufacturing operations on components in carpentry shop
CO 4	Perform machine operations in lathe machine
CO 5	Perform joining operations in welding shop

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Year	1st	Semester	1st/2nd
Subject Name	Engineering Physics Lab	Subject Code/ NBA Code	C111

S. No.	Course Outcomes (CO)
CO 1	Apply the principle of interference and diffraction to find the wavelength of monochromatic and polychromatic light.
CO 2	Compute and analyze various electrical and electronic properties of a given material by using various experiments.
CO 3	Verify different established laws with the help of optical and electrical experiments
CO 4	Determine and calculate various physical properties of a given material by using various experiments.
CO 5	Study and estimate the performance and parameter of given equipment by using graphical and computational analysis.

Year	1st	Semester	1st/2nd
Subject Name	Engineering Chemistry Lab	Subject Code/ NBA Code	C112

S. No.	Course Outcomes (CO)
CO 1	Get an understanding of the use of different analytical instruments.
CO 2	Measure the molecular / system properties such as surface tension, viscosity, conductance of solution, chloride and iron content in the water.
CO 3	Measure the hardness and alkalinity of the water.
CO 4	Know the fundamental concepts of the preparation of phenol
CO 5	formaldehyde & urea formaldehyde resin, adipic acid and Paracetamol.

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Year	1st	Semester	1st/2nd
Subject Name	Basic Electrical Engineering Lab	Subject Code/ NBA Code	C113

S. No.	Course Outcomes (CO)
CO 1	Apply KVL/KCL in any given DC electrical circuits.
CO 2	Demonstrate the behavior of AC circuits connected to single phase AC supply and measure power in single phase as well as three phase electrical circuits.
CO 3	Calculate the efficiency of a transformer and DC shunt motor under various loaded conditions and sketch their performance characteristics.
CO 4	Examine speed and reversal of direction of three phase induction motor.
CO 5	Recognize the type of DC and AC machines based on their construction.

Year	1st	Semester	1st/2nd
Subject Name	Basic Electronics Engineering Lab	Subject Code/ NBA Code	C114

S. No.	Course Outcomes (CO)
CO 1	Identify various lab components and equipment to Illustrate it's usage.
CO 2	Use PN junction diode as half wave, full wave rectifier and illustrate the use of Zener diode.
CO 3	Determine the usages of BJT in common emitter configuration and operational amplifier as adder and subtractor.
CO 4	Identify different ICs of various logic gates and make use of these ICs for various applications.
CO 5	Understand the artwork and printing of various PCB.

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Year	1st	Semester	1st/2nd
Subject Name	Programming for Problem Solving Lab	Subject Code/ NBA Code	C115

S. No.	Programming for Problem Solving Lab
CO 1	Define hardware and software system with example and apply algorithms for basic programming logic.
CO 2	Describe different operators in programming logic and use conditional branching programming logic.
CO 3	Apply the working of iteration and recursion with their programming logic.
CO 4	Demonstrate the application area of different data structures like Array and Linked list with their programming concepts and examine the time space tradeoff.
CO 5	Analyze the programming problems in dynamically allocate memory and in different file handling strategies.

Year	1st	Semester	1st/2nd
Subject Name	Environment and ecology	Subject Code/ NBA Code	C116

S. No.	Course Outcomes (CO)
CO 1	Gain in-depth knowledge on natural processes that sustain life, and govern economy.
CO 2	Estimate and predict the consequences of human actions on the web of life, global economy and quality of human life.
CO 3	Develop critical thinking for shaping strategies (scientific, social, economic and legal) for environmental protection and conservation of biodiversity, social equity and sustainable development.
CO 4	Acquire values and attitudes towards understanding complex environmental economic social challenges, and participate actively in solving current environmental problems and preventing the future ones.
CO 5	Adopt sustainability as a practice in life, society and industry.

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Year	1st	Semester	1st/2nd
Subject Name	Soft Skills	Subject Code/ NBA Code	C117

S. No.	Course Outcomes (CO)
CO 1	Write professionally in simple and correct English.
CO 2	Demonstrate active listening with comprehension, and the ability to write clear and well structured emails and proposals.
CO 3	Learn the use of correct body language and tone of voice to enhance
CO 4	Acquire the skills necessary to communicate effectively and deliver presentations with clarity and impact
CO 5	Understand and apply some important aspects of core skills, like Leadership and stress management.

Year	1st	Semester	1st/2nd
Subject Name	English Language Lab Lab	Subject Code/ NBA Code	C118

S. No.	Course Outcomes (CO)
CO 1	Students will be enabled to understand the basic objective of the course by being acquainted with specific dimensions of communication skills i.e. Reading, Writing, Listening, Thinking and Speaking.
CO 2	Students would be able to create substantial base by the formation of strong professional vocabulary for its application at different platforms and through numerous modes as Comprehension, reading, writing and speaking etc.
CO 3	Students will apply it at their work place for writing purposes such as Presentation/official drafting/administrative communication and use it for document/project/report/research paper writing.
CO 4	Students will be made to evaluate the correct and error-free writing by being well-versed in rules of English grammar and cultivate relevant technical style of communication &presentation at their work place and also for academic uses.
CO 5	Students will apply it for practical and oral presentation purposes by being honed up in presentation skills and voice-dynamics. They will apply techniques for developing interpersonal communication skills and positive attitude leading to their professional competence.

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