



K.D.K.COLLEGE OF ENGINEERING, NAGPUR

Department of Basic Science and Humanities (First Year)

COURSE OUTCOMES

B.TECH. SECOND SEMESTER (CBCS)

BRANCH – CSE/AIDS/IT ENGINEERING

2BCS01T/2BAD02T/2BIT02T Applied Mathematics – II	
CO1	Analyze statistical data using curve fitting techniques.
CO2	Evaluate integrals using concepts of scalar and vector point function.
CO3	Use probability distributions and mathematical expectations to solve the problems.
CO4	Apply the various numerical methods to solve simultaneous equations.
CO5	Show the various concepts of vector spaces.
2BCS02T/2BAD02T/2BIT02T Engineering Physics	
CO1	Develop elementary concepts of quantum mechanics and their applications.
CO2	Relate the basic idea of total internal reflection to the propagation of light in an optical fiber and make use of the fiber concepts to solve numerical problems and relate to applications in Engineering.
CO3	Discriminate and explain different types of diodes, transistors, and their applications.
CO4	Analyze how to extend the basic concepts of motion of charged particles in electric magnetic fields to solve numerical problems and to relate to applications in electron optic devices and CRO.
CO5	Apply quantum transitions to the working of lasers.
2BCS02P/2BAD02P/2BIT02P Engineering Physics Lab	
CO1	Create the basic circuitries in Electronics. Demonstrate and illustrate the basic principles of operation of semiconductor diodes and transistors.

CO2	Differentiate between the types of semiconductors through band gap experiment. Analyze the magnetic field-based experiment to distinguish the materials.
CO3	Apply the concept of diffraction for the optical based devices using LASER beam. Develop the concept of fiber optic cables to determine the numerical aperture of the fiber cables and to get acquainted with its use in daily life.
CO4	Examine the various electrical and electronics-based parameters viz. A.C. Voltage, frequency, and phase shift and time period using CRO.
CO5	Practice effectively as an individual and as a member of a team.
2BIK01T	Indian Knowledge System
CO1	To introduce students to the diverse dimensions of Indian knowledge traditions.
CO2	To analyze the contributions of ancient Indian scholars to different fields of knowledge.
CO3	To explore the interconnectedness of various branches of Indian knowledge.
CO4	To critically evaluate the relevance of Indian knowledge systems in modern society.
2BIK01T-D	Yoga
CO1	To understand the concept of wellness and its importance in modern life.
CO2	To explore the principles and practices of traditional medicines from different cultures
CO3	To learn various yoga techniques and their benefits for physical and mental health and to
CO4	To develop practical skills for incorporating wellness practices into daily life.

BRANCH – CIVIL/ETC/MECHANICAL/ELECTRICAL ENGINEERING

2BCV01T Applied Mathematics – II	
CO1	Analyze statistical data using curve fitting techniques.
CO2	Evaluate integrals using concepts of scalar and vector point function.
CO3	Apply the various numerical methods to solve simultaneous equations.
CO4	Solve partial differential equations by various methods
CO5	Use probability distributions and mathematical expectations to solve the problems.
2BET01T/2BME01T/2BEE01T Applied Mathematics – II	
CO1	Apply the concepts of matrix operations and inversion.
CO2	Determine Partial derivative of various functions and apply their concepts to Engineering problems.
CO3	Apply the concepts of Beta and Gamma functions to solve the problems.
CO4	Solve ordinary differential equations using elementary techniques and apply it to formulate mathematical models.
CO5	Use higher order differential equations to solve the problems in engineering field.
2BCV02T / 2BET02T/2BME02T/2BEE02T Applied Chemistry	
CO1	Illustrate qualitative and quantitative aspects of water for industrial and domestic applications.
CO2	Identify the types of fuels and explain working of I.C. engines.
CO3	Apply concepts of electrochemistry for energy storage devices and corrosion.
CO4	Identify and describe different types of advanced engineering materials.
CO5	Apply the principles of green chemistry in designing alternative reaction methodologies and use of solid waste as energy source
2BCV02P / 2BET02P/2BME02P/2BEE02P Applied Chemistry Lab	
CO1	Estimate the soluble impurities present in the given water sample.
CO2	Analyze a broad foundation in energy and environment that stresses scientific reasoning and analytical problem solving.
CO3	Point out & operate the different instruments used in chemistry laboratory.

2BAEO1T**Professional Communication**

CO1	To develop basic communication and grammar usage
CO2	To orient students in formal written communication.
CO3	To develop effective Listening Skill.
CO4	To provide practice and improve students' oral communication skills.

2BCC01P-F**Basics of Vedic Maths**

CO1	Compute simple arithmetic calculations with speed and accuracy.
CO2	Generate tables of any number
CO3	Solve products of large numbers quickly
CO4	Solve difficult calculations like square roots and cube roots of integers speedily.