# K.D.K.COLLEGE OF ENGINEERING, NAGPUR

## Department of Basic Science and Humanities (First Year)

## COURSE OUTCOMES

## B.TECH. FIRST SEMESTER (CBCS)

## BRANCH – CSE/AIDS/IT ENGINEERING

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| **1BCS01T/IBAD01T/1BIT01T Applied Mathematics – I** | |
| CO1 | Apply the concept of different matrix operations, inversion. |
| CO2 | Demonstrate Partial derivative of various functions and apply their concepts for 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. |
| **1BCS02T/1BAD02T/1BIT02T Applied Chemistry** | |
| CO1 | Illustrate qualitative and quantitative aspects of water for industrial and domestic applications |
| CO2 | Explain basic principles of spectroscopy and its applications. |
| CO3 | Identify the types of fuels and Apply concepts of electrochemistry for energy storage devices. |
| CO4 | Develop an insight into concepts of Green Chemistry, e-waste management and advanced materials. |
| **1BCS02P/1BAD02P/1BIT02P Applied Chemistry Lab** | |

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| 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. |
| **1BIK01T-A** | **Indian Knowledge System** |
| CO1 | Understand the diverse dimensions of Indian knowledge traditions. |
| CO2 | Analyze the contributions of ancient Indian scholars to different fields of knowledge. |
| CO3 | Explore the interconnectedness of various branches of Indian knowledge. |
| CO4 | Critically evaluate the relevance of Indian knowledge systems in modern society. |
| **1BCC01P-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. |

## BRANCH – CIVIL/ETC/MECHANICAL/ELECTRICAL ENGINEERING

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| **1BCV01T/1BET01T/1BME01T/1BEE01T Applied Mathematics – I** | |
| 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. |
| **1BCV02T/1BET02T/1BME02T/1BEE02T Applied Physics** | |
| 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. |
| **1BCV02P/1BET02P/1BME02P/1BEE02P Applied 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 |

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| | 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. |
| **1BAEO1T-A** | **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. |
| **1BCC01P-A** | **Yoga** |
| CO1 | Illustrate the fundamental techniques, underlying principles, and standard practices of both sports and yoga. |
| CO2 | Collect practical experience in applying the principles of general and targeted physical conditioning exercises and yoga. |
| CO3 | Enhance health-related fitness levels and achieve harmony between body and mind through participation in a variety of fitness activities, sports, |

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| | recreational games, and yoga. |
| CO4 | Practice Healthy &active living with reducing Sedentary Lifestyle. |