K.D.K.COLLEGE OF ENGINEERING, NAGPUR

Department of Basic Science and Humanities

(First Year)

FIRST SEMESTER- COURSE OUTCOMES

BESI-1T	Applied Mathematics - 1
CO101.1	Apply the knowledge of differentiation for finding limiting values of Indeterminate forms and Curvature.
CO101.2	Aquire the skill of partial differentiation of first and higher order and understand to apply its application for engineering problems.
CO101.3	Apply the knowledge of matrix Inverse for solving system of linear equations.
CO101.4	Analyze, solve first order first degree and higher degree differential equations and apply the concept to solve engineering problems.
CO101.5	Analyze, solve higher order differential equations and apply the concept in solving various engineering problems.
CO101.6	Apply the knowledge of Complex numbers and De-Moivre's theorem in various engineering problems.
BESI-2T	**Engineering Physics**
CO102.1	Explain the basic concepts of quantum mechanics and use the concept to solve the engineering problems.
CO102.2	Analyze, explain the concept of Wave packet, and solve Wave equations
CO102.3	Demonstrate the principles concerned to crystal structure and apply them for their engineering applications to solve engineering problems.
CO102.4	Explain the conecpt of semiconductor physics and idenify, list, classify semiconducter devices and their Characteristics.

BESI-2P	Engineering Physics Practical
CO102.1	Create the basic circuitries in Electronics. Demonstrate and understand the basic principles of operation of semiconductor diodes and transistors. Differentiate between the types of semiconductors through band gap experiment.
CO102.2	Analyze the magnetic field based experiment to distinguish the materials.
CO102.3	Work effectively in a small team to complete a complex set of tasks related to engineering physics
BESI-3T	Engineering Chemistry
CO103.1	Clasify water on the basis of hardness, identify effect of hard water on boilers, propose solutions for water treatment with understanding of limitations.
CO103.2	Identify the causes, consequences of corrosion, classify corrosion and propose prevention mechanisms.
CO103.3	Explain,classify,list the traditional construction materials and the new trends applied in the engineering field
CO103.4	Expalin the basic principles of Green Chemistry as well as its applications for protection of the environment and list the working of batteries and their applications in various fields of Engineering
BESI-3P	Engineering Chemistry Practical
CO103.1	Analyze different samples of water for the presence of alkalinity, hardness, dissolved oxygen, free chlorine,
CO103.2	Analyze different samples of water metals like Cu^{++} , Ni^{++}, Fe^{++}, Fe^{+++} etc. and calculate their amounts.
CO103.3	Determine the quality of water and its utility for domestic and industrial purpose.
BESI-4T	Basic Electrical Engineering
CO104T.1	Apply the basic laws of electric circuits to calculate the unknown quantities.
CO104T.2	Apply the basic fundamental of magnetic circuits to calculate the unknown quantities.
CO104T.3	Analyze and interpret the sinusoidal electrical quantities and

	parameters mathematically as well as graphically for 1- phase/3- phase AC circuits.
CO104T.4	Remember need, construction, principle, types and applications of 1 phase transformer & determine the power losses/efficiency and voltage drop/voltage regulation.
BESI-4P	**Basic Electrical Engineering practical**
CO104P.1	Use basic equipments and techniques to measure electrical quantities.
CO104P.2	Verify the concept of circuit laws and interpret the results.
CO104P.3	Write report (journal) based on the performed experiments and draw inferences.
BESI-5T	**Basic Civil Engineering**
C105.1	Explain the fundamental of civil engineering, list, clasify building in terms of types, components, materials
C105.2	Explain,classify, analyze and apply concepts of surveying and Transportation engineering
C105.3	Identify, define and analyze the terms related to water and waste water generation, treatment and its management.
C105.4	Make use of instrumentation in civil engineering structures, explain the concept of green building and define the terms related to its rating and certification.
BESI-6T	**Engineering Graphics - I**
C106.1	Draw and interpret technical drawing, layout of drawing sheet, dimensioning, conic sections.Explain, analyze and apply basic principles of orthographic projection, Projections of Points and Lines
C106.2	Analyze and draw projection of planes and solids
C106.3	Conversion of pictorial view into orthographic views.
C106.4	Draw isometric view and isometric projection.
BESI-6P	**Engineering Graphics - I practical**
C106.1	Draw and interpret technical drawing, layout of drawing sheet, dimensioning, conic sections, basic concepts of orthographic projection, projection of point and line.Draw projection of planes and solids.

C106.2	Develop imaginary skill and convert Three Dimensional view to Two Dimensional representation.
C106.3	Draw isometric view and isometric projection.
BESI-7P	**Communication Skill**
CO107.1	Students learn the correct method for formal correspondence in writing letters, reports and resumes.
CO107.2	To clear the concept of grammar usage , vocabulary and to develop self confidence through oral communication and reading.
CO107.3	To overcome the barriers in the GDPI and develop analytical perspective through mock drills.
BESI-8P	**Computational Skills Lab**
C108.1	Explore the internal structure of Computer, its assembly, use of I/O devices and ports.
C108.2	Identify C-Language with Arithmetic, Logical & Relational Operators.
C108.3	Interpret Fundamentals of Loop Control Structures and the implementation of functions.