Shri Siddheshwar Devasthan, Solapur.
Shree Siddheshwar Women's College of Engineering, Solapur.
Approved by AICTE, New Delhi, Recognised by Govt. of Maharashtra & Affiliated to DBATU, Lonere
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T.P.S. II, Final Plot No. 74, Bhawani Peth, RupaBhawani Road, Solapur – 413002

Department of General Science & Engineering

Course outcomes of all courses

First Year _Group-A

(SEM-I)

Course Code: BTBS101	**Course Name: Engineering Mathematics-I**
CO'S	**After completion of the course students will be able to**
CO1	Apply the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problem
CO2	Demonstrate the concept partial derivatives and their applications to Maxima/ Minima , series expansion of multi valued functions.
CO3	Compute Jacobian of functions of several variables and their applications to engineering problems
CO4	Identify and sketch of curves in various coordinate system.
CO5	Evaluate multiple integrals and their applications to area and volume.
Course Code: BTBS102	**Course Name: Engineering Physics**
CO'S	**After completion of the course students will be able to**
CO1	Explain various types of oscillations and solve numericals based on ultrasonics.
CO2	Explain the principles of optics and solve numericals based on interference, polarization and optical fibre and explain the working, principle and applications of laser.
CO3	Explain the motion of electron in electric,magnetic and combined fields and quantum mechanics whereas demonstrate the counting pf gamma radiations using G.M. counter
CO4	To identify types of crystals & crystal planes using Miller indices and explian the types of X-ray spectrum and Maxwells equations.
CO5	Differenciate types of magnetic materials with respect to magnetic, superconductors and semiconductors and describe Meissner and Hall effect.
Course Code: BTES103	**Course Name: Engineering Graphics**
CO'S	**After completion of the course students will be able to**
CO1	Draw conventions, types of lines, dimensioning as per drawing standards and basic geometric constructions.
CO2	Draw orthographic projections when isometric view is given and also draw the projections of points in various quadrants.
CO3	Draw projections of straight lines and planes inclined to both reference planes along with their traces.
CO4	Draw the projections of various types of solids inclined to both reference planes.

CO5	Draw the projections of sections of solids cut by auxiliary inclined plane and auxiliary vertical plane and also draw isometric view or projections when orthographic views are given.
Course Code: BTHM104	**Course Name:Communication Skills**
CO'S	**After completion of the course students will be able to**
CO1	Explain forms and functions of communication, barriers of communication and overcoming them along with types of reading, barriers to reading and types of listening, barriers to listening.
CO2	Participate actively in Gd, interviews, Presentation, Extempore and Elocution by taking care of verbal and non- verbal communication.
CO3	Demonstrate various Phonetics and different sounds.
CO4	Write grammatically correct English Sentences considering forms of sentences articles, prepositions, auxiliary words and synonyms and antonyms.
CO5	Write formal emails, letters, reports and also resume and job application letters.
Course Code: BTES105	**Course Name: Energy and Environment Engineering**
CO'S	**After completion of the course students will be able to**
CO1	Explain various power plant, hydro power plant, nuclear power plant and gas turbine power plant which their schematic diagram along with advantages and disadvantages including factors for selection of sites.
CO2	Explain the renewable sources of energy like solar,wind,tidal, which schematic arrangement stating their advantages and disadvantages.
CO3	Explain principles of energy conservation and cost effectiveness. describe and demonstrate methods and techniques of energy conservation in various equipments like air conditioners , pumps, compressors, fans, furnaces, ovens and boilers and lighting techniques.
CO4	Enlist the sources of air pollution ,water pollution.Comment on their effects and control measures.
CO5	To identify the sources, effects and control measures of noise pollution, soil pollution, and thermal pollution. Explain different solid, biomedical and hazardous waste.
Course Code: BTES106	**Course Name:Basic Civil and Mechanical Engineering (Audit)**
CO'S	**After completion of the course students will be able to**
CO1	Identify various civil engineering materials and choose suitable material among various options.
CO2	Identify various civil engineering structural components and select appropriate structural system among various options.
CO3	Apply principles of surveying to solve engineering problems.
CO4	Explain the laws of thermodynamics, working of ic engines, various power plants and objectives of automobiles.
CO5	Explain mechanical design procedure, basic manufacturing processes- casting machining.

SEM-II	
Course Code: BTBS201	**Course Name: Engineering Mathematics-II**
CO'S	**After completion of the course students will be able to**
CO1	Discuss the need and use of complex variables to find roots ,to separate complex quantities and to establish relation between circular and hyperbolic functions.
CO2	Solve first and higher order differential equations and apply them as a mathematical modeling in electric and mechanical systems.
CO3	Determine Fourier series representation of periodic functions over different intervals.
CO4	Demonstrate the concept of vector differentiation and interpret the physical and geometrical meaning of gradient, divergence &curl in various engineering streams.
CO5	Apply the principles of vector integration to transform line integral to surface integral ,surface to volume integral &vice versa using Green‟s , Stoke‟s and Gauss divergence theorems.
Course Code: BTBS202	**Course Name: Engineering Chemistry**
CO'S	**After completion of the course students will be able to**
CO1	Examine water and determine its hardness of dissolved oxygen.
CO2	Calculate maximum variable factors to form alloy when component of phase known.
CO3	Calculate the rate of corrosion of metal when loss in Wt and SA are known
CO4	Determine CV & Constituents of fuel when % of Constituents are given
CO5	Determination of strength of acid by conducto metrical
Course Code: BTES203	**Course Name: Engineering Mechanics**
CO'S	**After completion of the course students will be able to**
CO1	To know and apply fundamental laws of Engg. Mechanics and C.G.
CO2	To know and apply conditions of static equilibrium to analyze given force system.
CO3	To compute motion characteristics of of body/particle for rectilinear and curvilinear motion.
CO4	To know and apply reletion between force and motion characteristics.
CO5	To know and apply work, power and energy principles.
Course Code: BTES204	**Course Name: Computer Programming in C**
CO'S	**After completion of the course students will be able to**
CO1	Gain a broad perspective about the uses of computers in engineering industry and C Programming

CO2	Develop the basic concept of algorithm, algorithmic thinking and flowchart.
CO3	Apply the use of C programming language to implement various algorithms and develops the basic concepts and terminology of programming in general
CO4	Use the more advanced features of the C language.
CO5	Identify tasks in which the numerical techniques learned are applicable and apply them to write programs and hence use computers effectively to solve the task.
Course Code: BTES205	**Course Name:Workshop Practices**
CO'S	**After completion of the course students will be able to**
CO1	Make half lap joint and cross lap joint in woodworking by applying various techniques of planning, marking, sawing, chiseling and grooving etc.
CO2	Make various welding joints using arc welding, resistance spot welding using various tools and equipment and considering safety precautions.
CO3	Prepare a fitting job involving cutting, filing to saw cut, filing, and corner rounding, drilling and tapping on m. s. plates and identify various plumbing components for particular connection.
CO4	Prepare a sheet metal job using gi sheet like tray, funnel and similar articles. involving development, marking, cutting, bending and joining processes.
CO5	Prepare job on lathe using various operations like turning, facing, taper turning, considering safety precautions.
Course Code: BTES206	**Course Name: Basic Electrical and ElectronicsEngineering (Audit)**
CO'S	**After completion of the course students will be able to**
CO1	To understand fundamentals of electrical system
CO2	To study electrical wiring system.
CO3	To study diff. resources of energy & its utlization
CO4	To study about measurment of different electrical quantity
CO5	Study of diff. electrical storage devices.
CO6	Study of diff. types of circuit breakers

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Department of General Science & Engineering

Course outcomes of all courses

First Year_Group-B

SEM-I

Course Code: BTBS101	**Course Name: Engineering Mathematics-I**
CO'S	**After completion of the course students will be able to**
CO1	Apply the matrix technique (Linear algebra) to find solutions of system of linear equations arising in many engineering problem
CO2	Demonstrate the concept partial derivatives and their applications to Maxima/ Minima , series expansion of multi valued functions.
CO3	Compute Jacobian of functions of several variables and their applications to engineering problems
CO4	Identify and sketch of curves in various coordinate system.
CO5	Evaluate multiple integrals and their applications to area and volume.
Course Code: BTBS102	**Course Name: Engineering Chemistry**
CO'S	**After completion of the course students will be able to**
CO1	Examine water and determine its hardness of dissolved oxygen.
CO2	Calculate maximum variable factors to form alloy when component of phase known.
CO3	Calculate the rate of corrosion of metal when loss in Wt and SA are known
CO4	Determine CV & Constituents of fuel when % of Constituents are given
CO5	Determination of strength of acid by conducto metrical
Course Code: BTES103	**Course Name: Engineering Mechanics**
CO'S	**After completion of the course students will be able to**
CO1	To know and apply fundamental laws of Engg. Mechanics and C.G.
CO2	To know and apply conditions of static equilibrium to analyze given force system.

CO3	To compute motion characteristics of of body/particle for rectilinear and curvilinear motion.
CO4	To know and apply reletion between force and motion characteristics.
CO5	To know and apply work, power and energy principles.
Course Code: BTES104	**Course Name: Computer Programming in C**
CO'S	**After completion of the course students will be able to**
CO1	Gain a broad perspective about the uses of computers in engineering industry and C Programming
CO2	Develop the basic concept of algorithm, algorithmic thinking and flowchart.
CO3	Apply the use of C programming language to implement various algorithms and develops the basic concepts and terminology of programming in general
CO4	Use the more advanced features of the C language.
CO5	Identify tasks in which the numerical techniques learned are applicable and apply them to write programs and hence use computers effectively to solve the task.
Course Code: BTES105	**Course Name:Workshop Practices**
CO'S	**After completion of the course students will be able to**
CO1	Make half lap joint and cross lap joint in woodworking by applying various techniques of planning, marking, sawing, chiseling and grooving etc.
CO2	Make various welding joints using arc welding, resistance spot welding using various tools and equipment and considering safety precautions.
CO3	Prepare a fitting job involving cutting, filing to saw cut, filing, and corner rounding, drilling and tapping on m. s. plates and identify various plumbing components for particular connection.
CO4	Prepare a sheet metal job using gi sheet like tray, funnel and similar articles. involving development, marking, cutting, bending and joining processes.
CO5	Prepare job on lathe using various operations like turning, facing, taper turning, considering safety precautions.
Course Code:BTES10	**Course Name: Basic Electrical and ElectronicsEngineering (Audit)**
CO'S	**After completion of the course students will be able to**
CO1	To understand fundamentals of electrical system
CO2	To study electrical wiring system.

CO3	To study diff. resources of energy & its utlization
CO4	To study about measurment of different electrical quantity
CO5	Study of diff. electrical storage devices.
CO6	Study of diff. types of circuit breakers

SEM-II	
Course Code: BTBS201	**Course Name: Engineering Mathematics-II**
CO'S	**After completion of the course students will be able to**
CO1	Discuss the need and use of complex variables to find roots ,to separate complex quantities and to establish relation between circular and hyperbolic functions.
CO2	Solve first and higher order differential equations and apply them as a mathematical modeling in electric and mechanical systems.
CO3	Determine Fourier series representation of periodic functions over different intervals.
CO4	Demonstrate the concept of vector differentiation and interpret the physical and geometrical meaning of gradient, divergence &curl in various engineering streams.
CO5	Apply the principles of vector integration to transform line integral to surface integral , surface to volume integral &vice versa using Green‟s , Stoke‟s and Gauss divergence theorems.
Course Code: BTBS202	**Course Name: Engineering Physics**
CO'S	**After completion of the course students will be able to**
CO1	Explain various types of oscillations and solve numericals based on ultrasonics.
CO2	Explain the principles of optics and solve numericals based on interference, polarization and optical fibre and explain the working, principle and applications of laser.
CO3	Explain the motion of electron in electric,magnetic and combined fields and quantum mechanics whereas demonstrate the counting pf gamma radiations using G.M. counter
CO4	To identify types of crystals & crystal planes using Miller indices and explian the types of X-ray spectrum and Maxwells equations.
CO5	Differenciate types of magnetic materials with respect to magnetic, superconductors and semiconductors and describe Meissner and Hall effect.
Course Code: BTES203	**Course Name: Engineering Graphics**
CO'S	**After completion of the course students will be able to**
CO1	Draw conventions, types of lines, dimensioning as per drawing standards and basic geometric constructions.
CO2	Draw orthographic projections when isometric view is given and also draw the projections of points in various quadrants.
CO3	Draw projections of straight lines and planes inclined to both reference planes along with their traces.
CO4	Draw the projections of various types of solids inclined to both reference planes.

CO5	Draw the projections of sections of solids cut by auxiliary inclined plane and auxiliary vertical plane and also draw isometric view or projections when orthographic views are given.
Course Code: BTHM204	**Course Name:Communication Skills**
CO'S	**After completion of the course students will be able to**
CO1	Explain forms and functions of communication, barriers of communication and overcoming them along with types of reading, barriers to reading and types of listening, barriers to listening.
CO2	Participate actively in Gd, interviews, Presentation, Extempore and Elocution by taking care of v
CO3	Demonstrate various Phonetics and different sounds.
CO4	Write grammatically correct English Sentences considering forms of sentences articles,prepositi
CO5	Write formal emails, letters, reports and also resume and job application letters.
Course Code: BTES205	**Course Name: Energy and Environment Engineering**
CO'S	**After completion of the course students will be able to**
CO1	Explain various power plant, hydro power plant, nuclear power plant and gas turbine power plant which their schematic diagram along with advantages and disadvantages including factors for selection of sites.
CO2	Explain the renewable sources of energy like solar,wind,tidal, which schematic arrangement stating their advantages and disadvantages.
CO3	Explain principles of energy conservation and cost effectiveness. describe and demonstrate methods and techniques of energy conservation in various equipments like air conditioners , pumps, compressors, fans, furnaces, ovens and boilers and lighting techniques.
CO4	Enlist the sources of air pollution ,water pollution.Comment on their effects and control measures.
CO5	To identify the sources, effects and control measures of noise pollution, soil pollution, and thermal pollution. Explain different solid, biomedical and hazardous waste.
Course Code: BTES206	**Course Name:Basic Civil and Mechanical Engineering (Audit)**
CO'S	**After completion of the course students will be able to**
CO1	Identify various civil engineering materials and choose suitable material among various options.

CO2	Identify various civil engineering structural components and select appropriate structural system among various options.
CO3	Apply principles of surveying to solve engineering problems.
CO4	Explain the laws of thermodynamics, working of ic engines, various power plants and objectives of automobiles.
CO5	Explain mechanical design procedure, basic manufacturing processes- casting machining.