COURSE OUTCOMES - 2018 SCHEME

1st Semester-A section

Subject:	Calculus and Differential equations		
Subject Code:	18MAT11	**NBA Code:**	BSA101
CO1	Apply the knowledge of calculus to solve problems related to polar curves and its applications in determining the bentness of a curve		
CO2	Learn the notion of partial differentiation to calculate rate of change of multivariate functions and solve problems related to composite functions and Jacobian.		
CO3	Solve first-order linear/nonlinear ordinary differential equations analytically using standard methods.		
CO4	Demonstrate various models through higher order differential equations and solve such linear ordinary differential equations.		
CO5	Test the consistency of a system of linear equations and to solve them by direct and iterative methods.		

Subject:	Engineering Physics		
Subject Code:	18PHY12	**NBA Code:**	BSA102
CO1	Understand various types of oscillations and their implications ,the role of Shock waves in various fields.		
CO2	Compute Eigen Values ,Eigen Functions and the momentum of atomic and sub atomic particles using 1-D Schrodinger's Wave Equation.		
CO3	Apprehend the basics of Laser & Optical fibers with different types and their applications in Various fields.		
CO4	Understand electrical conductivity in solid materials		
CO5	Understand the various measurement techniques.		

Subject:	Basic Electrical Engineering		
Subject Code:	18ELE13	**NBA Code:**	BSA103
CO1	Analyse basic DC and AC electric circuits		
CO2	Explain the working principles of transformers and electrical machines.		
CO3	Explain the concepts of electric power transmission and distribution of power		
CO4	Understand the wiring methods, electricity billing, and working principles of circuit protective devices and personal safety measures.		

Subject:	Elements Of Civil Engineering and Mechanics		
Subject Code:	18CIV14	**NBA Code:**	BSA104
CO1	To make students learn the scope of various fields of civil engineering		
CO2	To develop students' ability to analyze the problems involving forces, moments with their applications.		
CO3	To develop the student's ability to find out the center of gravity and moment of inertia and their applications.		
CO4	To make the students learn about kinematics and kinetics and their applications.		

Subject:	Engineering Visualisation		
Subject Code:	18EGDL15	**NBA Code:**	BSA105
CO1	Understand and visualize the objects with definite shape and dimensions		
CO2	Analyze the shape and size of objects through different views		
CO3	Develop the lateral surfaces of the object		
CO4	Create a 3D view using CAD software		
CO5	Identify the interdisciplinary engineering components or systems through its graphical representation		

Subject:	Engineering Physics Laboratory		
Subject Code:	18PHYL16	**NBA Code:**	BSA106
CO1	Determine the elastic moduli and moment of inertia of given materials with the help of suggested procedures.		
CO2	Recognise the resonance concept and its practical applications.		
CO3	Understand the principles of operation as of optical fibers and semiconductor devices such as photo diode and NPN transistor using simple circuits,		
CO4	Apprehend the concepts of Interference of light, diffraction of light Fermi Energy and magnetic effect of current.		
CO5	Understand the importance of measurement procedure, honest recording and representing the data ,reproduction of final results		

Subject:	Basic Electrical Engineering Lab		
Subject Code:	18ELEL17	**NBA Code:**	BSA107
CO1	Verify KCL and KVL and maximum power transfer theorem for DC circuits.		
CO2	Compare power factors of different types of lamps and measurement of R and L of choke coil		
CO3	Analyze the two way and three way control of lamps		
CO4	Measure power consumed by three phase balanced star and delta connected load and finding out of phase and line quantities		
CO5	Explain the effects of open and short circuits in simple circuits and Finding out the earth resistance of the domestic wiring		

Subject:	Technical English I		
Subject Code:	18EGH18	**NBA Code:**	BSA108
CO1	Understand and apply the Fundamentals of Communication Skills in their communication skills.		
CO2	Identify the nuances of phonetics, intonation and enhance pronunciation skills.		
CO3	To impart basic English grammar and essentials of language skills as per present requirement		
CO4	Understand and use all types of English vocabulary and language proficiency.		
CO5	Adopt the Techniques of Information Transfer through presentation.		

COURSE OUTCOMES - 2018 SCHEME

2nd Semester-A section

Subject:	Advanced calculus and Numerical Methods		
Subject Code:	18MAT21	**NBA Code:**	BSA109
CO1	Apply the concept of change of order of integration and change of variables to evaluate multiple integrals and their usage in computing the area and volume.		
CO2	Illustrate the applications of multivariate calculus to understand the solenoidal and irrotational vectors and also exhibit the inter dependence of line, surface and volume integrals.		
CO3	Formulate physical problems to partial differential equations and to obtain solution for standard practical PDE's.		
CO4	Apply the knowledge of numerical methods in modelling of various physical and engineering phenomena.		
CO5	Solve first order ordinary differential equations arising in engineering problems.		

Subject:	Engineering Chemistry		
Subject Code:	18CHE22	**NBA Code:**	BSA110
CO1	Discuss the electrochemical energy systems such as electrodes, batteries and fuel cells.		
CO2	Explain the fundamental concepts of corrosion, its control and surface modification methods namely electroplating and electroless plating		
CO3	Enumerate the importance, synthesis and applications of Polymer, Lubricant and Refractories.		
CO4	Describe the principles of green chemistry, understand properties and application of nanomaterials.		
CO5	Illustrate the fundamental principles and applications of volumetric and analytical instrumentation.		

Subject:	Problem Solving Through Programming		
Subject Code:	18PSP23	**NBA Code:**	BSA111
CO1	Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.		
CO2	Apply programming constructs of C language to solve the real world problem		
CO3	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting		
CO4	Explore user-defined data structures like structures, unions and pointers in implementing solutions		
CO5	Design and Develop Solutions to problems using modular programming constructs using functions		

Subject:	Basic Electronics		
Subject Code:	18ELN24	**NBA Code:**	BSA112
CO1	Describe the concepts of electronic circuits encompassing power supplies, amplifiers and oscillators		
CO2	Present the basics of digital logic engineering including data representation, circuits and the microcontroller system with associated sensors and actuators		
CO3	Discuss the characteristics and technological advances of embedded systems		
CO4	Relate to the fundamentals of communication engineering spanning from the frequency spectrum to the various circuits involved including antennas		
CO5	Explain the different modes of communications from wired to wireless and the computing involved		

Subject:	Elements of Mechanical Engineering		
Subject Code:	18EME25	**NBA Code:**	BSA113
CO1	Understand Mechanical Engineering in the industry and society, a basic understanding of the formation of steam and its industrial application renewable energy resources and basic concepts of Hydraulic turbines		
CO2	Understand various engineering materials and metal joining techniques essential experience with heat transfer devices		
CO3	Analyse the knowledge on automobile technology in transport application and basics of Refrigeration and Air-Conditioning		
CO4	Understand the essential experience on basic Power transmission systems, including mechanical linkages.		
CO5	Understand the basic concepts on manufacturing principles and machine tools and their advancement		

Subject:	Engineering Chemistry Laboratory		
Subject Code:	18CHEL26	**NBA Code:**	BSA114
CO1	Determine the pKa and coefficient of Viscosity of a given organic liquid.		
CO2	Estimate the amount of substance present in the given solution using Potentiometer Conductotometer, colorimeter		
CO3	Determine the total hardness and chemical oxygen demand in the given solution by volumetric analysis method		
CO4	Estimate the percentage of Nickel, copper and Iron in the given analyte solution by titration method.		
CO5	Demonstrate flame photometric estimation of sodium & potassium and the synthesis of nanomaterials by Precipitation method.		

Subject:	C Programming Laboratory		
Subject Code:	18CPL27	**NBA Code:**	BSA115
CO1	Define the Problem Statement and Identify the need for Computer Programming		
CO2	Make use of Compiler IDE for programming , Identify and correct the syntax and syntactic error in programming		
CO3	Develop algorithm, flowchart and write programs to solve the given problem		
CO4	Demonstrate use of functions, recursive function, arrays, strings, structures and pointer in problem solving		
CO5	Document the inference and observations made from the implementation		

Subject:	Technical English II		
Subject Code:	18EGH28	**NBA Code:**	BSA116
CO1	To understand and identify the Common Errors in Writing and Speaking.		
CO2	To Achieve better Technical writing and Presentation skills		
CO3	To read Technical proposals properly and make them to Write good technical reports.		
CO4	Acquire Employment and Workplace communication skills.		
CO5	To learn about Techniques of Information Transfer through presentation in different level		