S.S.G.M.C.E. SHEGAON

DEPARTMENT OF APPLIED SCIENCES AND HUMANITIES

COURSE OUTCOMES OF ALL COURSES OF THE FIRST SEMESTER B.E.

(**APPLIED SCIENCES AND HUMANITIES**)

CSE, IT, ELPO

1A1 - Engineering Mathematics-I

After successfully completing the course, the students will be able to:

CO1	Understand to find n th order derivative of functions, Roll's Theorem, expand the function in a power series and evaluate indeterminate forms.
CO2	Find partial derivatives and Obtain maxima and minima of a function under constraints byusing Lagrange's method
CO3	Find powers and roots of complex numbers using De Moivre'sTheorem, separate the complex quantity in real & imaginary parts, and find logarithms of complex numbers.
CO4	Solve ordinary differential equations of first order and first degree by various methods and apply these methods to solve problems in engineering fields.
CO5	Solve ordinary differential equations of first order and higher degree by various methods and applications of Electrical circuits and orthogonal Trajectory.
CO6	Understand the concept of Convergence of Sequence and series.

1A2-Engineering Physics

After successfully completing the course, the students will be able to:

CO1	To apply the knowledge of solid state devices such as semiconductor diode, Zener diode & LED in various electronic applications.
CO2	To apply the knowledge of Quantum Mechanics in Engineering fields.
CO3	To apply the principles of electron Ballistics to demonstrate the functioning of CRO & Mass Spectrograph.

CO4	To apply the principles of geometrical optics such as interference & diffraction in various Engineering fields.
CO5	To apply the principles of fiber optics & LASER & fundamentals of acoustics, ultrasonics, & fluid dynamics in various domains of Engineering.

1A3-Engineering Mechanics

After successfully completing the course, the students will be able to:

CO1	Apply composition and resolution of forces and principles of statics to analyze system of rigid bodies and simple structures.
CO2	Calculate frictional forces for simple contact, wedges and belt friction.
CO3	Locate centroid and calculate moment of inertia.
CO4	Calculate various kinematic quantities.
CO5	Solve the problems using different kinetic equations related to direct and interconnected particles.
CO6	Apply principle of conservation of momentum and laws of impact.

1A4-Computer Programming

After successfully completing the course, the students will be able to:

CO1	Explain fundamental concepts of computer and computing.
CO2	Test and execute the programs and correct syntax and logical errors.
CO3	Demonstrate various concepts of operators, expressions to solve real life problems.
CO4	Demonstrate various concepts of control structure to solve complex problems
CO5	Use arrays, strings and structures to formulate algorithms and programs.
CO6	Demonstrate various concepts of functions, pointers and file handling mechanism.

1A5-Communication Skills

After successfully completing the course, the students will be able to:

CO1	Understand the importance of communication at the workplace and use grammatically correct sentences in oral and written communication.
CO2	Enhance vocabulary and learn the basics of business correspondence to effectively write letters, proposals, reports and newsletters
CO3	Learn the right kind of pronunciation with proper stress, intonation and pauses during the conversation.
CO4	Learn the basics of public speaking, group discussions, presentations and interviews

	to showcase the better performance in personal and professional life.
CO5	Learn the planning, management and execution of seminars, conferences and group activities and hone the leadership, managerial skills and team spirit.
CO6	Communicate effectively and ethically in multi-cultural environment and adapt to the changes time to time.

EXTC, MECH

1B1 - Engineering Mathematics-II

After successfully completing the course, the students will be able to:

CO1	Solve the inverse of matrix by various methods, solutions of simultaneous equation, and Eigen values & Eigen vectors of a matrix
CO2	Use the tool of Fourier expansion for learning advance engineering Mathematics
CO3	Solve integrals by Gamma & Beta function, Reduction Formulae
CO4	Use new techniques of DUIS to evaluate integrals
CO5	Solve the numerical on double integrals
CO6	Solve Triple integrals and their uses to find the volume of Triple integrals, mean value and RMS values

1B2-Engineering Chemistry

After successfully completing the course, the students will be able to:

CO1	Apply the knowledge of chemistry in softening processes, its quality parameters for the use of water in industry.
CO2	Identify various types of corrosion and methods to protect the metallic structure from corrosive environment and understanding of the energy storage system (battery)
CO3	Apply the knowledge of useful engineering materials such as cement and lubricant based on their properties.
CO4	Apply the knowledge about the properties of chemical fuels for the generation of power
CO5	Apply the knowledge of various polymeric material w.r.t synthesis, properties and applications
CO6	Identify various phases of material at different thermodynamic variables and analysis of materials by using advance analytical techniques.

1B3-Electrical Engineering

After successfully completing the course, the students will be able to:

CO1	Analyze the electric and magnetic circuits.

CO2	Analyze single phase & three phase AC circuits.
CO3	Understand the operating principles & Characteristics of electrical machines.
CO4	Elaborate the construction and working of various measuring instruments and earthing.

1B4-Engineering Graphics

After successfully completing the course, the students will be able to:

CO1	Prepare the engineering drawings.
CO2	Apply the concepts of the projections and sectional views of three Dimensional objects.
CO3	Analyse the orthographic and isometric views of three dimensional objects.
CO4	Explain the engineering drawings and represent engineering systems.

1B5-Workshop

After successfully completing the course, the students will be able to:

CO1	Apply various forging operations for the completion of given component
CO2	Apply various fitting operations for the completion of given component
CO3	Apply various thread manufacturing processes operations for the completion of given component
CO4	Apply various sheet metal processes operations for the completion of given component
CO5	Apply various welding techniques to fabricate the parts
CO6	Apply various carpentry operations for the completion of given component