Program Name	Course Code	Course Name	Course Outcome
First Year Engineering	107001	Engineering Mathematics I	CO1: Solve system of linear equations, finding linear and orthogonal transformations, Eigen values and Eigen vectors applicable to engineering problems.
			CO2: Investigate different form of complex numbers, find of root of equations.
			CO3: Identify infinite series is convergent or divergent by selecting the appropriate test, find nth order derivative of function and develops skill of higher derivative.
			CO4: Apply the knowledge of Taylors and Maclaurin's series useful in the analysis of engineering problems, indeterminate forms of limit.
			CO5: Deal with derivative of functions of several variables that is essential in various branches of Engineering.
			CO6: Apply the concept of partial derivative of implicit function and functional dependence. Use of partial derivatives in estimating error and approximation and finding extreme values of the function.
First Year Engineering	107002	Engineering Physics	CO1: Apply interference, diffraction phenomena in obtaining solutions of various technical problems.
			CO2: Interpret principles of sound in Acoustics and Ultrasonic in medical and technical problems.
			CO3: Organize the knowledge of polarization phenomena and LASER concepts for developing optical devices.
			CO4: Analyze the materials on the basis of energy gap and conductivity and its applications in research and industry.
			CO5: Understand basic quantum mechanics principles, construction of Schrodinger's wave equations and its applications in tunnel diode and STM.
			CO6: Describe the origin and properties of superconducting materials and nonmaterial, and identification of it in various research and industrial applications.
First Year Engineering	107009	Engineering Chemistry	CO1: -Explain different methods of analysis of water and techniques for softening of water for industrial use.
			CO2: - Select appropriate electro analytical techniques and do the measurements using this techniques.
			CO3: Select appropriate polymer material for the specific engineering application.
			CO 4 -Analyze fuel and suggest use of alternative fuels.
			CO5: - Explain importance of chemistry of carbon and hydrogen.

Program Name	Course Code	Course Name	Course Outcome
			CO6: Understand the causes of corrosion and methods for minimizing corrosion.
First Year Engineering	102006	Engineering Graphics I	CO1: Ability to create, sketch, visualize, analyze the 2D and 3D of mechanical components and assemblies.
			CO2: Improvement in problem solving skills by constructing drawings.
			CO3: Develops logical, imaginations, manual drawing skill, drawing interpretation skill.
			CO4: Developing comprehensive drawings of Components.
			CO5: Develops physical realization of the dimensions of the object before manufacturing.
			CO6: Ability to visualize component from different angles.
First Year Engineering	103004	Basic Electrical Engineering	CO1: Explain relationship between voltage, current and resistance with effect of temperature and differentiate work, power and energy in different domain.
			CO2: Formulate different laws of electromagnetism and calculate inductance, statically and dynamically induced e m f in magnetic circuits.
			CO3: Evaluate the concept of single phase transformer and apply different formulas of electrostatics in charging and discharging of capacitor and its energy storage.
			CO4: Categories instantaneous, r m s and average values of different electrical quantities and response to pure R, L, C with sinusoidal supply and draw associated phasor diagram.
			CO5: Calculate response in series and parallel RLC in single and three phase circuit with sinusoidal supply and draw associated phasor diagram.
			CO6: Become Familiar with different electrical theorems in DC network.
First Year Engineering	104012	Basic Electronics Engineering	CO 1 - To give knowledge of some basic electronic components and circuits
			CO 2 -To introduce basics of diodes and transistor circuits.
			CO 3-To understand working of some IC based circuits
			CO 4- To study logic gates and their usage in digital circuits.
			CO5: -To expose the students to working of some power electronic devices, transducers and application of transducers.
			CO 6 - To introduce basic aspect of electronic communication systems.
First Year Engineering	101005	Basic Civil And Environmental Engineering	CO1: Learner will able to know the different areas or fields of Civil Engineering in brief & to understand the role of Civil Engineer.
			CO2: Learner will able to understand the different materials used for construction projects and introduction of sub-structure and superstructure.
			CO3: Learner will able to know the uses and applications of different instruments used for Land surveying.
			CO4: Learner will able to know the basic concepts of Ecology and Ecosystem.
			CO5: Learner will able to know the basic concepts of integrated built-environment.
			CO6: Learner will able to know the types of energy and effects of pollution on environment.
First Year	111003	Fundamentals Of	CO1: learn the fundamentals of programming.
			CO2: develop efficient programs with their own logic & capabilities.
			CO3: Understand the syntax and semantics of the 'c' language.

Program Name	Course Code	Course Name	Course Outcome
			CO4: Use modular programming approach in diversified problem domains.
			CO5: Apply programming logic to solve real world problems.
			CO6: Decide effectiveness of computer based solutions.
First Year Engineering	111007	WORKSHOP PRACTICE	CO1:Hands-on experience on various manufacturing processes.
			CO2: Ability to analyze Mechanical systems and its manufacturing.
			CO3: Proficiency in selection of materials for machining.
			CO4: Understand carpentry, fitting basics and application.
			CO5: Understand different Welding and joining processes.
			CO6: Ability to analyze and understand the metal cutting process.
First Year Engineering	107008	Engineering Mathematics II	CO1: Understand the effective mathematical tools for solutions of first order differential equations.
			CO2: Apply knowledge of differential equation for Newton's law of cooling, electrical circuit, rectilinear motion, SHM, heat conduction, chemical problems etc.
			CO3: Identify Fourier series representation and harmonic analysis for design and analysis of periodic continuous and discrete systems.
			CO4: Develops the ability to trace the curve for given equation of curve and its nature, evaluation of some special function beta and gamma.
			CO5: Understand the concepts of solid geometry using equations of sphere, cone and cylinder in a comprehensive manner.
			CO6: Evaluate multiple integral and apply the concept of multiple integrals to engineering applications (area, volume, CG etc.)
First Year Engineering	102013	Basic Mechanical Engineering	CO1:Understanding the working principle of basic Mechanical components/ devices like transmission drives, shaft, axles, keys, etc.
			CO2: Understand the concept of various materials used in industry.
			CO3: Knowledge about Mechanical systems as well as industrial applications.
			CO4: Discuss several manufacturing processes and identify the suitable process.
			CO5: Explain various types of mechanism and its application.
			CO6: Explain basic laws of thermodynamics, heat transfer and their applications.
First Year Engineering	101011	Engineering Mechanics	CO1: Determine resultant of various force systems
			CO2: Calculate position, velocity and acceleration of particle using principles of kinetics & Kinematics
			CO3: Calculate position, velocity and acceleration of particle using Newton's second law
			CO4: Calculate power, work, energy and impulse by using principle of motion for particle
			CO5: Determine reactions of beams, calculate forces in cables using principles of equilibrium
			CO6: Analysis of plane trusses and solve problems related to friction.
First Year Engineering	110010	Fundamentals Of Programmin	CO1: Develop programs using object oriented concepts.
			CO2: Design and develop web pages using HTML.
			CO3: Design and develop mobile application using Android SDK.
			CO4: Use modular programming approach in diversified problem domains.

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Program Name	Course Code	Course Name	Course Outcome
			CO5: Design and develop simple application using Embedded Programming.
			CO6: Decide effectiveness of computer based solutions.
First Year Engineering	102014	Engineering Graphics II	CO1: Ability to create, sketch, visualize, analyze the 2D and 3D of mechanical components and assemblies using CAD software.
			CO2: Improvement in problem solving skills by constructing drawings.
			CO3: Develops logical, imaginations, manual drawing skill, drawing interpretation skill.
			CO4: Develops physical realization of the dimensions of the object before manufacturing.
			CO5: Developing comprehensive drawings of mechanical Components.
			CO6: Ability to visualize component from different angles.

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