



VidyaVikas Education Trust's
Universal College of Engineering, Kaman Road, Vasai-401212

APPLIED SCIENCE AND HUMANITIES

Academic year: 2017-18

Year/Sem: F.E./ I

Branch: ALL FIRST YEAR

Subject Code	Subject Name	CO's
FEC101	Applied Mathematics-I	Students will able to: CO1: Apply the concept of complex number to the engineering problem. CO2: Apply the knowledge of n^{th} order derivative of std functions to the Engineering problems. CO3: Understands the principle of basic operation of matrices to Engineering problems. CO4: Apply SCILAB programming techniques to solve simultaneous linear algebraic equation engineering activities. CO5: Apply the basics principles of partial differentiation to the engineering problems. CO6: Apply concepts of partial differentiation (jacobian, maxima, minima, expansion) to the engineering problems.
FEC102	Applied Physics-I	Students will able to: CO1: Understand concept of crystal structure and able to apply its concepts on various structure. CO2: Understand matter wave, uncertainty principle and motion of free particle. CO3: Understand and apply basic concept of semiconductor, Fermi energy levels and application of semiconductors. CO4: Understand concepts of superconductor and magnetic levitation and its application. CO5: Apply reason for acoustics, and able to know the production of Ultra sound and its application.
FEC103	Applied Chemistry –I	Students will able to: CO1: Understand different types of Hardness of water. They will also learn to estimate hardness of water using soap and EDTA method. CO2: Get the idea about whole water treatment process system which is suitable for domestic and industry purpose. CO3: Get the idea about function of lubricant and their mechanism depend on machines. Student will be able to co-relate to different states with respect to different parameters using Phase rule. CO4: Get the idea about different types polymer with manufacturing process, uses of polymer and carbon nanotubes in day today life.



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FEC104	Engineering Mechanics	<p>Students will able to:</p> <p>CO1: Identify all the forces associated with a static frame work.</p> <p>CO1.1: Illustrate the concept of force, moment and apply the same along with the concept of equilibrium in two and three dimensional systems with the help of FBD.</p> <p>CO2: Calculate the center of gravity and its significance and locate the same.</p> <p>CO3: Correlate real life application to specific type of friction and estimate required force to overcome friction.</p> <p>CO4: Establish relation between velocity and acceleration of a particle and analysis the motion by plotting the relation.</p> <p>CO5: Find out instantaneous centre of rotation for rigid body.</p> <p>CO6: Analysis body in motion using force and acceleration, work-energy, impulse-momentum principles.</p>
FEC105	Basic Electrical Engineering	<p>Students will able to:</p> <p>CO1: Get fundamentals of DC Circuits and will be able to apply the knowledge of network theorems in DC circuits.</p> <p>CO2: Understand the fundamentals of Single AC circuits and able to analyze single phase AC circuits.</p> <p>CO3: Get basic idea of transformer and will be to analyze the performance of transformers.</p> <p>CO4: Understand the fundamentals of 3 phase AC circuits and construction and basic operation of DC machines.</p>
FEC106	Environmental studies	<p>Students will able to:</p> <p>CO1: Understand the concept of environmental degradation and ecosystem.</p> <p>CO2: Apply sustainable development concept in real life situations.</p> <p>CO3: Acquainted with the types of pollution, solutions to stop it and idea about pollution control legislation.</p> <p>CO4: Apply technological advancements to use renewable sources of energy and to overcome environmental problems.</p>