

## Institute of Engineering Department of First year Engineering

### Course Outcomes

FE Common, Course 2015	Cos	
Course		
<b>107001</b> <b>Engineering Mathematics I</b>	107001.1	Able to understand the system of linear equations arising in all engineering fields, using matrix methods, stability of engineering systems where knowledge of Eigen values and Eigen vectors are essential.
	107001.2	Able to solve algebraic and transcendental equations.
	107001.3	Able to do the error analysis and approximations.
	107001.4	Able to solve ordinary and partial differential equations.
<b>107009</b> <b>Engineering Chemistry</b>	107009.1	Able to understand the technology involved in improving quality of water for its industrial used.
	107009.2	Able to understand the basic concepts of electro analytical techniques that facilitate rapid and reliable measurements.
	107009.3	Able to understand the chemical structure of polymer and its effect on their various properties when used as an engineering material to lay foundation for the application of polymer for specific application and as the composite material.
	107009.4	Able to do study of fossil fuel and derived fuel, its properties and applications.
	107009.5	Able to insight into nonmaterial and composite material aspect of modern chemistry.
	107009.6	Able to understand the principle of chemical and electrochemical reactions causing corrosion and method used for minimizing corrosion.

<b>107002 Engineering Physics</b>	107002.1	Able to know the different facts of light (inference, diffraction, polarization) and their application in Engineering.
	107002.2	Able to understand the architecture acoustics is useful for modern theatres, hall and modern communication engineering.
	107002.3	Able to use the knowledge of Piezoelectric and Magnetostriction effect for production of ultrasonic waves and its application in various fields.
	107002.4	Able to understand the formation of energy bands in solids and the importance of Fermi-Dirac probability function, position of Fermi level in intrinsic and extrinsic semiconductors, Semiconductor Conductivity.
	107002.5	Able to understand dual nature of wave, significance and normalization of wave function, derivation and Applications of Schrodinger wave equation.
	107002.6	Able to get basic understanding of properties of Modern engineering materials such as superconducting and Nano materials and its use in technology and day to day life.
<b>103004 Basic Electrical Engineering</b>	103004.1	Understanding and demonstrate the fundamentals of Electromagnetisms, Single phase transformer, Electrostatics and A.C and D.C.
	103004.2	Apply the concepts of Electromagnetism for the working of Single phase Transformer.
	103004.3	Able to differentiate between electrical and magnetic circuits.
	103004.4	Able to compare between D.C. and A.C. circuits.
	103004.5	Able to draw the phasor diagram for the single phase and three phase A.C. circuits.
	103004.6	Able to provide the solution for the networks using various laws and theorems.
<b>104012 Basic Electronics Engineering</b>	104012.1	Able to apply knowledge of some basic electronic components and circuits.
	104012.2	Able to apply basics of diode and transistor circuits.
	104012.3	Able to understand working of some IC based circuits.
	104012.4	Able to apply logic gates, and their usage in digital circuits.
	104012.5	Able to understand working of some power electronic devices, transducers and application of transducers.
	104012.6	Able to understand basic aspect of electron IC communication systems.

<b>101005</b> <b>Basic Civil and Environmental Engineering</b>	101005.1	Able to learn the brief introduction of all area covered under the head of Civil Engineering.
	101005.2	Able to understand the need of monitoring land, water and air pollution and take measures to control them. Fast growing industrialization has put heavy responsibilities on engineers to preserve and protect the environment.
	101005.3	Able to understand the basic concepts of ecology and ecosystem facilitate reliable ecological system.
	101005.4	Able to get aware about various civil engineering software's used in surveying like GIS, Auto Civil.
	101005.5	Able to measure and map the earth surface and learn about various topographical features of land.
	101005.6	Technology involved in improving quality of cleaner environment.
<b>102006</b> <b>Engineering Graphics</b>	102006.1	Able to perform basic sketching techniques and hand letter will improve.
	102006.2	Able to imagine the objects to convert 3D into 2D drawing.
	102006.3	Able to draw orthographic projection and section views.
	102006.4	Architectural and engineering scales will increase.
	102006.5	Able to read and produce engineering drawing.
	102006.6	Ability to create 3D drawing.
<b>107008</b> <b>Engineering Mathematics II</b>	107008.1	Able to make Modeling of various physical systems such as Newton's Law of cooling, L-C -R Circuits, rectilinear motion, mass-spring systems heat transfer etc.
	107008.2	Able to design and analysis of continuous and discrete system, where knowledge of Fourier series and Harmonic analysis is required.
	107008.3	Able to use advanced techniques to evaluate integrals.
	107008.4	Able to measure of arc lengths of various curves.
	107008.5	Able to understand the Sphere, cone and cylinder that arise in vector calculus, electro-magnetic field theory, cad-cam computer graphics etc.
	107008.6	Able to understand the multiple integrals which arc used in calculating areas, volumes, mean and RM values, mass, moment of inertia and centre of gravity.

<b>101011</b> <b>Engineering</b> <b>Mechanics</b>	101011.1	Able to understand the vector and scalar representation of force and moments.
	101011.2	Able to describe static equilibrium of particles and rigid bodied both in to and three dimensions.
	101011.3	Able to illustrate the laws of motion, kinematics of motion and their interrelationship.
	101011.4	Learn about the comprehend the effect of Friction on general plane motion.
<b>102013</b> <b>Basic</b> <b>Mechanical</b> <b>Engineering</b>	102013.1	Able to get basic knowledge of thermodynamics, and able to solve numerical problems on fundamental of thermodynamics, laws of thermodynamics, energy interaction.
	102013.2	Able to understand the working of two stroke and four stroke a IC engine, Compressor and Turbines, Refrigeration , Non conventional energy sources.
	102013.3	Able to understand working principle of power transmitting elements.
	102013.4	Able to understand the various manufacturing and machining processes and its applications.