Mahavir Education Trust's
SHAH & ANCHOR KUTCHHI ENGINEERING COLLEGE
Affiliated to University of Mumbai, Approved by D.T.E. & A.I.C.T.E.| Awarded 'A' Grade by D.T.E., M.S. | Electronics Enginering Program Accreditated by N.B.A., New Delhi for 2 years w.e.f. 6th Aug.,2014 | Computer Engineering Program Re-Accreditated by N.B.A.,New Delhi for 3 yeas w.e.f. 1st July 2019 | Information Technology Program Accreditated by N.B.A.,New Delhi for 3 years w.e.f. 1st July 2019

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DEPARTMENT OF COMPUTER ENGINEERING

Semester – I

Unique Course Number: **FEC101**   **Course Name: Applied Mathematics-I**

Unique CO Number	Course Outcome (CO) Statement
FEC1011	*Apply* De Moivre's Theorem to *obtain* the powers and roots of a complex number.
FEC1012	*Use* the relation between circular and hyperbolic functions to *separate* into real and imaginary parts of hyperbolic and logarithmic functions.
FEC1013	*Develop* skills of successive Differentiation, expansion of functions in ascending power of variable and value of the function in the neighbourhood of some points.
FEC1014	Apply the concept of partial differentiation to *find* total derivative and maxima & minima of a function of two independent variables.
FEC1015	*Apply* Numerical Techniques to *solve* Transcendental equations using Newton-Raphson and Regula-falsi methods.
FEC1016	*Calculate* the rank of a matrix by reducing it to Echelon form, Normal form and *use* this concept to *solve* the system of linear equations.

Unique Course Number: **FEC102**   **Course Name: Applied Physics-I**

Unique CO Number	Course Outcome (CO) Statement
FEC1021	Recall the basic principles, methodologies and crystal structures.
FEC1022	Understand and describe the concepts pertaining to quantum mechanics, crystallography and semiconductor physics.
FEC1023	Discuss the principles of interference in thin films, superconductivity and engineering materials.
FEC1024	Apply the theory of quantum mechanics, crystallography and semiconductor physics for explaining the structure and functionality of atoms, crystals and devices.
FEC1025	Develop and utilize the concepts of interference in thin films, superconductivity and engineering materials for interpretation under varying conditions.
FEC1026	Demonstrate the use of concepts learnt in practical applications.

Unique Course Number: **FEC103**   **Course Name: Applied Chemistry -I**

Unique CO Number	Course Outcome (CO) Statement
FEC1031	Recall the basic concepts of engineering chemistry such as atomic and molecular structure, phases, industrial polymer
FEC1032	Explain the concept of microscopic chemistry in terms of atomic and molecular orbital theory and relate it to molecular structure
FEC1033	Illustrate the knowledge of various types of intermolecular forces and relate it to properties of materials
FEC1034	Describe the concept of phase transformation of a given material
FEC1035	Illustrate the knowledge of polymers, fabrication method, and conducting polymers in various industrial fields
FEC1036	Analyze the quality of water and suggest method for treatment

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Unique Course Number: FEC104   **Course Name: Engineering Mechanics**

Unique CO Number	Course Outcome (CO) Statement
FEC1041	Illustrate the concept of force, moment and apply the same in determining resultant of coplanar and non-coplanar system
FEC1042	Determine centroid of plane lamina.
FEC1043	Apply the conditions of equilibrium in two-dimensional system with the help of FBD
FEC1044	Apply laws of friction on bodies lying on horizontal and inclined plane.
FEC1045	Establish relation between velocity and acceleration of a particle and analyze the motion by plotting relation
FEC1046	Illustrate different types of motion and establish kinematic relation for a rigid body and analyze particles in motion using force, acceleration, work-energy and impulse momentum principles

Unique Course Number: FEC105   **Course Name: Basic Electrical Engineering**

Unique CO Number	Course Outcome (CO) Statement
FEC1051	Recall methodologies, procedures and principles of basic electrical engineering
FEC1052	Understand the various electrical circuit theorems and principles.
FEC1053	Understand the principle and working of static electrical machines.
FEC1054	Understand the principle and working of rotating electrical machines.
FEC1055	Apply network theorems to circuits to determine the circuit response
FEC1056	Analyze behavior of basic electrical circuits.

Unique Course Number: FEL101   **Course Name: Engineering Physics-I**

Unique CO Number	Course Outcome (CO) Statement
FEL1011	To Plot Miller Indices
FEL1012	To analyse the working of pn junction diode based on its IV characteristics.
FEL1013	To study the use of zener diode as voltage regulator.
FEL1014	To calculate the thickness of paper using wedge shaped thin film based on the concept of interference in thin films.
FEL1015	To study charging and discharging of supercapacitor
FEL1016	To relate theoretical analysis with the experimental data obtained.

Unique Course Number: FEL102   **Course Name: Engineering Chemistry-I**

Unique CO Number	Course Outcome (CO) Statement
FEL1021	Understand the significance of viscosity and viscosity index of material
FEL1032	Understand importance of estimation of the Chloride in water
FEL1033	Determine hardness of water to decide treatment of water before use
FEL1034	Understand the importance of pH value in water quality measurement
FEL1035	Understand the structure and properties of polymer for its engineering applications
FEL1036	Document their observations and interpretation after performing the experiment satisfactorily

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Unique Course Number:	FEL103	Course Name: Engineering Mechanics

Unique CO Number	Course Outcome (CO) Statement
FEL1031	Experiments are designed to illustrate the law of moment, with the help of physical models
FEL1032	Experiments are designed to illustrate the law of equilibrium with the help of physical models
FEL1033	Experiments are designed to law of polygon of forces with the help of physical models
FEL1034	Experiment is designed to estimate the friction force between two surfaces
FEL1035	Experiment is designed to calculate acceleration due to gravity
FEL1036	Experiment is designed to find coefficient of restitution between steel ball & glass ball.

Unique Course Number:	FEL104	Course Name: Basic Electrical Engineering

Unique CO Number	Course Outcome (CO) Statement
FEL1041	Recall and implement circuits
FEL1042	Understand the theoretical concept and relate it with practical behavior.
FEL1043	Understand the construction and working of electrical machines.
FEL1044	Demonstrate correct usage of a method or procedure.
FEL1045	Identify the assumptions and differentiate between theoretical and practical results, within permissible limits of errors.
FEL1046	Analyze the losses and efficiency of static electrical machine.

Unique Course Number:	FEL105	Course Name: Basic Workshop practice I

Unique CO Number	Course Outcome (CO) Statement
FEL1051	Study and use of hand tools and power tools
FEL1052	Performing marking, punching, cutting, filling, drilling, tapping etc. operations on fitting job
FEL1053	Welding of two metal parts by using butt and lap joint
FEL1054	Identify different components of computer hardware & troubleshooting
FEL1055	Installation of OS, device drivers and application software
FEL1056	Identify network devices, network cables & crimping