

Mahavir Education Trust's SHAH AND ANCHOR KUTCHHI ENGINEERING COLLEGE

Chembur, Mumbai 400 088

Electronics Engineering UG Programme accredited by N.B.A New Delhi for 2 years w.e.f. 6th august 2014] Computer Engineering UG Programme Re-Accredited by N.B.A New Delhi for 3 years w.e.f. from 1st july 2019] Information Technology UG Programme Accredited by N.B.A New Delhi for 3 years w.e.f. 1st july 2019.

Department Of Cyber Security

Sem				Department Of Cyber Security
	Course Code	Course Name	CO Number	Course Outcome Statements
			FEC2011	Choose and utilize Gamma & Beta function to evaluate improper integrals
			FEC2012	Demonstrate the ability to evaluate definite integrals numerically using Trapezoidal, Simpson 1/3rd& Simpson 3/8th rule.
			FEC2013	Identify the different types of differential equations and choose the analytical or numerical method to solve first order first degree differential equations.
			FEC2014	Solve and analyze the higher order linear differential equations with constant coefficients
		Applied	FEC2015	Evaluate multiple integrals using a transformation of coordinates, change of order of integration.
[FEC201	Mathematics-II	FEC2016	Compute area, mass of lamina and volume by using double and triple integrals.
	FEC201	Mathematics-II		
			FEC2021	Recall the basic laws and principles of Optics, Electricity, Magnetism and Nano- science.
			FEC2022	Discuss the principles of diffraction of light, LASERs, Optical fibers & Nanotechnology.
			FEC2023 FEC2024	Understand and describe the concepts pertaining to Electrodynamics, Relativity & Sensors. Develop and utilize the concepts of diffraction of light, LASERs, Optical fibers and Nanotechnology for
				interpretation in various applications.
			FEC2025	Apply the theory of Electrodynamics, Relativity and Sensors for explaining respective applications.
II	FEC202	Applied Physics-II		Demonstrate the use of concepts learnt in practical applications.
			FEC1031	Explain the concept of Engineering Chemistry such as calorific value, knocking, and types of spectroscopy
			FEC1032	Distinguish the range of electromagnetic spectrum and illustrate the concept of emission spectroscopy
			FEC1033	Illustrate the effect of corrosive environment on engineering material and summarizing 12 principles of green chemistry
			FEC1034	Identify the types of corrosion and suggest control measures in industries
			FEC1035	Select the greener path following the principles of green chemistry.
		Applied Chemistry		Explain the process to determine the quality of fuel and calculate the amount of oxygen required for complete
	FEC203	II		combustion
			FEC2041	Apply the basic principles of projections of lines and planes
			FEC2042	Apply the basic principles of projections in projection of solids.
			FEC2043	Apply the basic principles of sectional views in section of solids
			FEC2044	Apply the basic principles of projections in converting 3 D view to 2D drawing
		Engineering	FEC2045	Read a given drawing
	FEC204	Graphics	FEC2046	Visualize an object from the given two views.
			FEC2051	Explain and exemplify the elementary C concepts through programs, algorithms and flowcharts.
			FEC2052	Discuss and demonstrate decision making and branching statements in C
			FEC2053	Discuss and demonstrate decision making and looping statements in C
			FEC2054	Apply the concept of function on the given problem statement.
			FEC2055	Demonstrate the use of homogeneous and heterogeneous data types in C.
	FEC205	C programming	FEC2056	Illustrate the use of pointers
	1	- Fr-S	FEC2061	Eliminate barriers and use verbal and nonverbal cues at social and workplace situations.
			FEC2062	Employ Listening strategies to comprehend wide ranging vocabulary, grammatical structures ,tone and
			EEC20(2	pronunciation.
		D C : 1	FEC2063	Prepare effectively for speaking at social, academic and business situations.
		Professional	FEC2064	Use reading strategies for faster comprehension, summarization and evaluation of texts.
		Communication	FEC2065	Acquire effective writing skills for drafting academic, business and technical documents.
	FEC206	and Ethics- I	FEC2066	Successfully interact in all kinds of settings, displaying refined grooming and social skills.
			FEL2011	To perform the experiment based on diffraction grating to find the wavelength of laser light. T
			FEL2012	To perform the experiment to Measure divergence of laser beam.
			FEL2013	To perform the experiment to find numerical aperture of an optical fiber
			FEL2014	To perform the experiment based on photodiode to study I/V characteristics and plot the reverse biased characteristics of the same.
		Engineering Pysics	FEL 2015	
	FEL 201	Engineering Pysics-		o perform the experiment using Ultrasonic distance meter for measurement of distance
	FEL201	Engineering Pysics- II	FEL2016	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics
	FEL201		FEL2016 FEL2021	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value
	FEL201		FEL2016 FEL2021 FEL2022	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil.
	FEL201		FEL2016 FEL2021 FEL2022 FEL2023	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion
	FEL201	П	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal
		II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes.
	FEL201	П	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily
		II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar.
		II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem.
		II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection.
		II Engineering Chemistry-II	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projections. Draw orthographic projections using AutoCAD.
	FEL202	Engineering Chemistry-II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034 FEL2034	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection. Draw orthographic projections using AutoCAD. Draw Sectional orthographic projections using AutoCAD.
		II Engineering Chemistry-II	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034 FEL2034 FEL2035 FEL2036	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection. Draw orthographic projections using AutoCAD. Draw Sectional orthographic projections using AutoCAD. Draw isometric projection using AutoCAD.
	FEL202	Engineering Chemistry-II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034 FEL2034 FEL2035 FEL2036 FEL2036 FEL2041	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection. Draw orthographic projections using AutoCAD. Draw Sectional orthographic projections using AutoCAD. Draw isometric projection using AutoCAD. Draw isometric projection using AutoCAD. Demonstrate the use operators in C
	FEL202	Engineering Chemistry-II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034 FEL2034 FEL2035 FEL2036	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection. Draw orthographic projections using AutoCAD. Draw Sectional orthographic projections using AutoCAD. Draw isometric projection using AutoCAD.
	FEL202	Engineering Chemistry-II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034 FEL2035 FEL2036 FEL2036 FEL2036 FEL2041 FEL2042 FEL2042	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection. Draw orthographic projections using AutoCAD. Draw Sectional orthographic projections using AutoCAD. Draw isometric projection using AutoCAD. Draw isometric projection using AutoCAD. Demonstrate the use operators in C
	FEL202	Engineering Chemistry-II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034 FEL2034 FEL2034 FEL2034 FEL2034 FEL2044	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection. Draw orthographic projections using AutoCAD. Draw Sectional orthographic projections using AutoCAD. Draw isometric projection using AutoCAD. Demonstrate the use operators in C Implement Conditional Statements in C
	FEL202	Engineering Chemistry-II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034 FEL2035 FEL2036 FEL2036 FEL2036 FEL2041 FEL2042 FEL2042	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection. Draw orthographic projections using AutoCAD. Draw Sectional orthographic projections using AutoCAD. Draw isometric projection using AutoCAD. Demonstrate the use operators in C Implement Conditional Statements in C Implement Looping constructs in C
	FEL202	II Engineering Chemistry-II Engineering Graphics	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034 FEL2035 FEL2036 FEL2041 FEL2042 FEL2044 FEL2044 FEL2044 FEL2045	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection. Draw orthographic projections using AutoCAD. Draw Sectional orthographic projections using AutoCAD. Draw isometric projection using AutoCAD. Demonstrate the use operators in C Implement Conditional Statements in C Implement Looping constructs in C Decompose a problem into functions and synthesize a complete program. Solve given problem using C data type like array and strings
	FEL202	Engineering Chemistry-II Engineering	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034 FEL2034 FEL2036 FEL2041 FEL2042 FEL2041 FEL2042 FEL2043 FEL2043 FEL2043 FEL2044 FEL2044 FEL2045 FEL2046	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection. Draw orthographic projections using AutoCAD. Draw Sectional orthographic projections using AutoCAD. Demonstrate the use operators in C Implement Conditional Statements in C Implement Looping constructs in C Decompose a problem into functions and synthesize a complete program. Solve given problem using C data type like array and strings Illustrate the concept of structures and pointers
<u> </u>	FEL202	II Engineering Chemistry-II Engineering Graphics	FEL2016 FEL2021 FEL2022 FEL2023 FEL2024 FEL2025 FEL2026 FEL2031 FEL2032 FEL2033 FEL2034 FEL2035 FEL2036 FEL2041 FEL2042 FEL2044 FEL2044 FEL2044 FEL2045	o perform the experiment using Ultrasonic distance meter for measurement of distance Design and implement miniature projects related to physics Determine the % of moisture content present in the solid fuel and to explain its effect on calorific value Estimate acid value of oils and discuss its importance in selecting lubricating oil. Estimate the electrode potential of metal and indentify its ability to resist corrosion Identify the factors controlling the rate of corrosion of metal Differentiate between greener and non greener chemical processes. Document their observations and interpretation after performing the experiment satisfactorily Use different Command from draw toolbar. Use different Command from modify toolbar and application to line problem. Read orthographic projection. Draw orthographic projections using AutoCAD. Draw Sectional orthographic projections using AutoCAD. Draw isometric projection using AutoCAD. Demonstrate the use operators in C Implement Conditional Statements in C Implement Looping constructs in C Decompose a problem into functions and synthesize a complete program. Solve given problem using C data type like array and strings

		Communication	FEL2054	Draft precise business letters. Academic essays and technical Guidelines.
II	FEL205	and Ethics- I	FEL2055	Dress finely and conduct themselves with panache in social, academic and professional situation
			FEL2061	Develop the necessary skills required to handle / use different tools for carpentry, sheet metal working and
				brazing.
			FEL2062	Design and model of a T-Lap joint.
			FEL2063	Demonstration of a wood turning job.
			FEL2064	Develop the necessary skills required to handle / use different tools to design, fabricate and assemble PCB
		Basic Workshop	FEL2065	Demonstrate and simulate different software for PCB designing and electrical connections for different load.
II	FEL206	practice-II	FEL2066	Design and modeling of a sheet metal job along with brazing operation.