

DON BOSCO INSTITUTE OF TECHNOLOGY, KURLA, MUMBAI**FE (BASIC SCIENCES AND HUMANITIES) DEPARTMENT, (EVEN SEMESTER, 2021-22)**

Course Name:	Engineering Mathematics II		
Course Code	FEC201		
Faculty Name:	Mr. Satyanarayana N. and Ms. Manisha S.		
Year	1	Sem	II
CO Number	Course Outcome		
FEC201.1	Students will be able to (i) Identify the equations representing standard curves in Cartesian and polar coordinate systems (ii) Identify the standard form of Beta and Gamma integrals (iii) Identify standard form of exact and linear differential equations		
FEC201.2	Students will be able to (i) Reduce the differential equation in appropriate form, obtain integrating factor, complementary function and particular integral (ii) Solve the integrals with the equations of Beta and Gamma functions (iii) Solve definite integrals using numerical techniques (iv) Plot the standard curves in Cartesian and Polar coordinate system, locate the region, change order of integration, transformation of coordinate system		
FEC201.3	Student will be able to solve problems in ordinary differential equations using appropriate method and apply it in solving electrical and mechanical engineering problems		
FEC201.4	Student will be able to (i) Apply the principles of Integral Calculus (single, double and triple integrals) to solve a variety of practical problems involving the calculation of length of a curve, the area and volume bounded by the curves etc. (ii) Apply the principle of DUIS in solving integrals (iii) Analyzing error involved using numerical techniques for evaluating integrals		
FEC201.5	Student will be able to apply open source software SCILAB to trace standard curves, to solve initial value problems and to solve the first order differential equations using numerical techniques		
FEC201.6	Perform mini projects based on Application of Mathematics		
Course Name:	Engineering Physics II		
Course Code	FEC202		
Faculty Name:	Dr. Vinod Gokarna and Mr.Sameer Hadkar		
Year	1	Sem	II
CO Number	Course Outcome		
FEC202.1	Students will be able to grasp and recall the basic concepts of core Physics topics like diffraction, foundation for laser and fibre optics in the development of modern communication technology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern developments, and basics of sensing techniques for physical instruments in modern instrumentations.		
FEC202.2	Students will be able to understand and describe the basic concepts of Physics topics like diffraction, foundation for laser and fibre optics in the development of modern communication technology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern developments, and basics of sensing techniques for physical instruments in modern instrumentations.		

FEC202.3	Students will be able to relate, integrate knowledge and explain the principles involved with their engineering disciplines like diffraction through slits and applications, foundation for laser and fibre optics in the development of modern communication technology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern developments, and basics of sensing techniques for physical instruments in modern instrumentations.
FEC202.4	Students will be able to review, elucidate with examples and apply the fundamental principles of Physics to solve numericals and problems relating to diffraction through slits and applications, foundation for laser and fibre optics in the development of modern communication technology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern developments, and basics of sensing techniques for physical instruments in modern instrumentations.
FEC202.5	Students will be able to demonstrate and conclude on the experiment performed in topics like diffraction through slits and applications, foundation for laser and fibre optics in the development of modern communication technology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern developments, and basics of sensing techniques for physical instruments in modern instrumentations.
FEC202.6	Students will be able to perform mini projects which will encourage engineering students to venture into the research field.

Course Name:	Engineering Chemistry II		
Course Code	FEC203		
Faculty Name:	Ms.Kartiki B. and Ms. Anice M		
Year	1	Sem	II
CO Number	Course Outcome		
FEC 203.1	Students will be able to define and recall the fundamental concepts in the field of corrosion science, fuels chemistry, green chemistry, spectroscopy and electrochemistry		
FEC 203.2	Students will be able to state principles of corrosion, spectroscopy, green chemistry and will be able to state the properties, advantages, uses of different fuels, corrosion control techniques, greener route of synthesis and spectroscopic methods		
FEC 203.3	Students will be able to explain the corrosion mechanisms, fuel quality, green synthesis routes, various types of spectroscopy.		
FEC 203.4	Students will be able to suggest appropriate control methods for corrosion. Students will be able to justify the need for use of biodiesel/biofuel and reason out the characteristic properties required.		
FEC 203.5	Students will be able to analyze data, solve numerical problems based on fuel quality and combustion, Nernst equations and atom economy.		
FEC 203.6	Seminar/Group Activity : Students will be able to review research literature, analyse complex problems, present new concepts, ideas, propose hypothesis, design experiments.		
Course Name:	Engineering Graphics		
Course Code	FEC204		
Faculty Name:	Mr. Hemant H. and Mr. Junaid M		
Year	1	Sem	II

CO Number	Course Outcome		
FEC 204.1	Students will be able to reproduce and interpret the basics of engineering conventions in engineering drawing as per I.S		
FEC 204.2	Students will be able to demonstrate the understanding of the fundamental of projection drawing		
FEC 204.3	Students will be able to apply the basics of projection drawing to prepare orthographic views, sectional orthographic views and isometric view of machine parts as per I.S		
FEC 204.4	Students will be able to draw the intricate of section of solid and development of surfaces for the given cutting plane		
FEC 204.5	Students will be able to use CAD tool to draw different views of a 3D object		
FEC 204.6	Students will be able to use CAD tools to draw an object in 3D.		
Course Name:	C Programming		
Course Code	FEC205		
Faculty Name:	Ms. Sana S ,Ms. Anagha S.		
Year	1	Sem	II
CO Number	Course Outcome		
FEC 205.1	Formulate simple algorithms for arithmetic, logical problems and translate them to programs in C language		
FEC 205.2	Implement, test and execute programs comprising of control structures		
FEC 205.3	Decompose a problem into functions and synthesize a complete program.		
FEC 205.4	Demonstrate the use of arrays, strings and structures in C language.		
FEC 205.5	Illustrate the concepts of structures, unions, and pointers and their applications		
FEC 205.6	Propose a solution to unknown problem at FE level		
Course Name:	Professional Communication and Ethics-I		
Course Code	FEC206		
Faculty Name:	Mr. Sachin Sughave and Mr. Dipak J		
Year	1	Sem	II
CO Number	Course Outcome		
FEC 206.1	Students will be able to recall and define concepts in grammar which include subject-verb agreement, articles, misplaced modifiers and summarization and comprehension skills		
FEC 206.2	Students will be able to explain a) the concept and meaning of communication, communication cycle, barriers to communication ,and methods of communication b) Principles of business letters and the parts and formats of business letters c) summarize and paraphrase the given text / passages		
FEC 206.3	Students will be able to make use of appropriate grammatical concepts and principles of effective communication while writing business letters, instructions and describing objects and processes		
FEC 206.4	Students will be able to identify the importance of self development and make use of social etiquettes in professional arena.		

FEC 206.5	Students will be able to apply the given rubric to evaluate the principles of public speaking and communication in a speech			
FEC 206.6	Students will be able to a) plan and develop a speech b) compose business letters			
Course Name:	Engineering Physics II			
Course Code	FEL201			
Faculty Name:	Dr. Vinod Gokarna and Mr.Sameer Hadkar			
Year	1	Sem	II	
CO Number	Course Outcome			
FEL 201.1	Students will be able to perform the experiments based on diffraction through slits using Laser source and analyze the results			
FEL 201.2	Students will be able to perform the experiments using optical fibre to measure numerical aperture of a given fibre			
FEL 201.3	Students will be able to perform the experiments using ultrasonic distance meter.			
FEL 201.4	Students will be able to perform the experiments using Laser source and analyze the results			
FEL 201.5				
Course Name:	Engineering Chemistry II			
Course Code	FEL202			
Faculty Name:	Ms.Kartiki B. and Ms. Anice M			
Year	1	Sem	II	
CO Number	Course Outcome			
FEL 202.1	Students will be able to define and recall different properties and fundamental concepts related to coal analysis, green synthesis of drugs, quantitative analysis using potentiometry, flame photometry/flash point / acid value of oil and corrosion study.			
FEL 202.2	Students will be able to describe the procedure/ process involved in determining the moisture content of coal,green synthesis of aspirin, emf of Cu-Zn system, elemental determination by flame photometry, /flash point / acid value of oil/ quantitative analysis using potentiometry and corrosion study.			
FEL 202.3	Students will be able to explain the various mechanisms and processes involved in the determining the moisture content of coal, green synthesis of aspirin, emf of Cu-Zn system, elemental determination by flame photometry, /flash point / acid value of oil, quantitative analysis using potentiometry and corrosion study.			
FEL 202.4	Students will be able to reason out and justify the need for determining the moisture content of coal, green synthesis of aspirin, emf of Cu-Zn system, elemental determination by flame photometry,flash point / acid value of oil, quantitative analysis using potentiometry and corrosion study			
FEL 202.5	Students will be able to perform experiments, obtain data, solve numerical problems, analyze data and draw inference on basis of their			

Course Name:	Engineering Graphics			
Course Code	FEL203			
Faculty Name:	Mr. Hemant H. And Mr. Sachin S.			
Year	1	Sem	II	
CO Number	Course Outcome			
FEL 203.1	Students will be able to reproduce and interpret the basics of engineering conventions in engineering drawing as per I.S			
FEL 203.2	Students will be able to demonstrate the understanding of the fundamental of projection drawing			
FEL 203.3	Students will be able to apply the basics of projection drawing to prepare orthographic views, sectional orthographic views and isometric view of machine parts as per I.S			
FEL 203.4	Students will be able to draw the intricate of section of solid and development of surfaces for the given cutting plane			
FEL 203.5	Students will be able to use CAD tool to draw different views of a 3D object.			
FEL 203.6	Students will be able to use CAD tools to draw an object in 3D.			
Course Name:	C Programming			
Course Code	FEL204			
Faculty Name:	Ms. Sana S ,Ms. Anagha S.			
Year	1	Sem	II	
CO Number	Course Outcome			
FEL 204.1	Translate given algorithms to a program			
FEL 204.2	Correct syntax and logical errors.			
FEL 204.3	Write iterative as well as recursive programs.			
FEL 204.4	Represent data in arrays, strings and structures and manipulate them through a program.			
FEL 204.5	Declare pointers and demonstrate call by reference concept.			
FEL 204.6	Propose a solution to unknown problem at FE level			