

DON BOSCO INSTITUTE OF TECHNOLOGY, KURLA, MUMBAI				
FE (BASIC SCIENCES AND HUMANITIES) DEPARTMENT, (EVEN SEMESTER, 2019-20)				
Course Name:	Engineering Mathematics II			
Course Code	FEC201			
Faculty Name:	Dr. Revathy S. , Mr. Satyanarayan and Ms. Pallavi Mahadik			
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			
FEC 202.1	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.			
FEC 202.2	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.			
FEC 202.3	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.			
FEC 202.4	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.			
FEC 202.5	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.			
FEC 202.6	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:	Ms. Georgena K. And Mr. Juned A.		
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 fundamentals 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 section of solid and development of surfaces for the given cutting plane.		
FEC 204.5	Students will be able to visualize the object from the given views.		
FEC 204.6	Students will be able to prepare drawing for any given component		
Course Name:	C Programming		
Course Code	FEC205		
Faculty Name:	Mr. Prasad Padalkar and Ms. Deepali Kayande		
Year	1	Sem	II
CO Number	Course Outcome		
FEC 205.1	Recall appropriate Keywords / Syntax / Structure of Program		
FEC 205.2	Interpret the given algorithm snippet / code snippet to decide the output.		
FEC 205.3	Choose appropriate keywords to construct a code from a given algorithm		
FEC 205.4	Inspect the given algorithm / code to discover bugs in the given code		
FEC 205.5	Evaluate different methods / solution at algorithm / code level		
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 Sugave and Ms. Devyani Balasara		
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			
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 the fundamental concepts in the field of corrosion science, fuels chemistry, green chemistry, spectroscopy and electrochemistry.			
FEL 202.2	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.			
FEL 202.3	Students will be able to explain the corrosion mechanisms, fuel quality, green synthesis routes, various types of spectroscopy.			
FEL 202.4	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.			
FEL 202.5	Students will be able to analyze data, solve numerical problems based on fuel quality and combustion, Nernst equations and atom economy.			
FEL 202.6	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	FEL203			
Faculty Name:	Ms. Georgena K. And Mr. Juned A.			
Year	1	Sem	II	
CO Number	Course Outcome			
FEL203.1	Students will be able to reproduce the drawing as per the IS standards			
FEL203.2	Students will be able to select appropriate commands in CAD software for various representations of drawing.			
FEL203.3	Students will be able to demonstrate their understanding of different procedures of using command in CAD software.			
FEL203.4	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 using CAD software			
FEL203.5	Students will be able to draw the intricate section of solid and development of surfaces for the given cutting plane using CAD software			
FEL203.6	Students will be able to customize the drawing sheet using different commands as per the IS using CAD software			
Course Name:	C Programming			
Course Code	FEL204			
Faculty Name:	Mr. Prasad Padalkar and Ms. Deepali Kayande			
Year	1	Sem	II	
CO Number	Course Outcome			
FEL204.1	Recall the gcc commands / IDE configuration / Environment setup for creating / editing / executing C – Programs			

FEL204.2	Interpret the given code snippet and convert it to algorithm.		
FEL204.3	Choose appropriate keywords / structure to construct a code from a given algorithm		
FEL204.4	Inspect the given algorithm / code through debugger / debug techniques in the given code (Ability to Debug)		
FEL204.5	Evaluate different algorithm / codes / approaches (Sequential v/s Recursive) through experimentation		
FEL204.6	Propose a solution to unknown problem at FE level (Ability to develop algorithm and convert to code)		
Course Name:	Professional Communication and Ethics I		
Course Code	FEL205		
Faculty Name:	Mr. Sachin Sugave and Ms. Devyani Balasara		
Year	1	Sem	II
CO Number	Course Outcome		
FEL205.1	Students will be able to recall and define concepts in grammar which include subject-verb agreement, articles, misplaced modifiers and summarization and comprehension skills		
FEL205.2	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		
FEL205.3	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		
FEL205.4	Students will be able to identify the importance of self development and make use of social etiquettes in professional arena.		
FEL205.5	Students will be able to apply the given rubric to evaluate the principles of public speaking and communication in a speech		
FEC 205.6	Students will be able to a) plan and develop a speech b) compose business letters		