DON BOSCO INSTITUTE OF TECHNOLOGY, KURLA, MUMBAI				
FE (BASIC SCIENCES AND HUMANITIES) DEPARTMENT, (EVEN SEMESTER, 2023-24)				
Course Name:	**Engineering Mathematics II**			
Course Code	**FEC201**			
Faculty Name:	**Ms. Sonali J., Mr. Satyanarayana N. and Ms. Manisha S.**			
Year	**1**	**Sem**	**II**	
CO Number	**Course Outcome**			
FEC201.1	Students will be able to, understand integrating factors, complementary functions and particular integrals. Solve the integrals of Beta and Gamma functions. Plot the standard curves in the Cartesian and Polar coordinate system, locate the region, change order of integration and transform the coordinate system.			
FEC201.2	Students will be able to, understand integrating factors, complementary functions and particular integrals. Solve the integrals of Beta and Gamma functions. Plot the standard curves in the Cartesian and Polar coordinate system, locate the region, change order of integration and transform the coordinate system.			
FEC201.3	Student will be able to apply the concept of Method of variation of parameters and integrating factor to solve ordinary differential equations. use numerical techniques to solve definite integrals. 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			
FEC201.4	Students will be able to Deduce relations of DUIS in solving integrals Analyze errors involved using numerical techniques for evaluating integrals. Evaluate double and triple integration by identifying the region.			
FEC201.5	Students will be able to solve the differential equation by reducing it to appropriate form.			
FEC201.6	Student will be able to construct a code for numerical techniques on open source software SCILAB for solving integration, to trace standard curves, to solve initial value problems and to solve the first order differential equations.			
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, fourndation for laser and fibre optics in the developmen tof modern communication technology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern developments, and basics of sensing techniques for physical instruments in mordern instrumentations.
FEC202.2	Students will be able to understand and describe the basic concepts of Physics topics like diffraction, fourndation for laser and fibre optics in the developmen tof modern communication technology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern developments, and basics of sensing techniques for physical instruments in mordern 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, fourndation for laser and fibre optics in the developmen tof modern communication technology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern developments, and basics of sensing techniques for physical instruments in mordern 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, fourndation for laser and fibre optics in the developmen tof modern communication technology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern developments, and basics of sensing techniques for physical instruments in mordern instrumentations.
FEC202.5	Students will be able to demostrate and conclude on the experiment performed in topics like diffraction through slits and applications, fourndation for laser and fibre optics in the developmen tof modern communication technology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern developments, and basics of sensing techniques for physical instruments in mordern 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	Student will be able to define and recall the different engineering chemistry concepts, principles and fundamentals especially in the field of corrosion studies, fuel chemistry, green chemistry, atomic and molecular spectroscopy.
FEC 203.2	Student will be able to describe and explain different engineering concepts and properties involved in the study of fuel chemistry, green chemistry, corrosion, atomic and molecular spectroscopy.
FEC 203.3	Student will be able to reason out and justify the various phenomenon and processes involved in the field of corrosion studies, fuel chemistry, green chemistry, atomic and molecular spectroscopy. Student will be able to solve numerical/problems based on concepts of fuel chemistry, green chemistry, corrosion, atomic and molecular spectroscopy.
FEC 203.4	Student will be able to analyze experimental data and perform experiment, solve problems and draw inference on basis of their knowledge of fuel chemistry, green chemistry, corrosion, atomic and molecular spectroscopy.

FEC 203.5	Student will be able to choose an fuel appropriate,corrosion protection method. Student will be able to comment on and justify the correct green pathway of synthesis.			
FEC 203.6	Seminar/Group Activity : Student will be able to complete a mini project in Engineering Chemistry			
Course Name:	**Engineering Graphics**			
Course Code	**FEC204**			
Faculty Name:	**Mr. Hemant H., Mr. Sachin S. and Mr. Pawan K.**			
Year	**1**	**Sem**	**II**	
CO Number	**Course Outcome**			
FEC 204.1	Students will be able to Know various basics of conventions in engineering drawing as per I.S. (Knowing)			
FEC 204.2	Students will be able to demonstrate the understanding of the fundamentals of projection methods in engineering drawing. (Understanding)			
FEC 204.3	Students will be able to apply the basics of projection methods in engineering drawing to prepare orthographic views, sectional orthographic views and isometric view of machine parts. (Applying)			
FEC 204.4	Students will be able to draw the intricate for projection and section section of solid for the given cutting plane. (Analysing)			
FEC 204.5	Create, Annotate, Edit and Plot drawings using basic AutoCAD commands and features for given 3D model. (Evaluating)			
FEC 204.6	Apply basic AutoCAD skills to draw the isometric view from the given two views. (Designing/ Creating)			
Course Name:	**C Programming**			
Course Code	**FEC205**			
Faculty Name:	**Ms. Shainila S. and Ms. Mrudul A.**			
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 Sugave 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 andsummarization 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 businessletters, 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, emfof 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 synthesisof 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 / acidvalue of oil, quantitative analysis using potentiometry and corrosion study.
FEL 202.5	Students will be able to perform experiments, obtain data, solve numericalproblems, analyze data and draw inference on basis of their

Course Name:	**Engineering Graphics**			
Course Code	**FEL203**			
Faculty Name:	**Mr. Hemant H., Mr. Sachin S. and Mr. Pawan K.**			
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. Shainila Shaikh , Ms. Mrudul A, Mr. Swapnil Gujrathi, Mr. Juned Ahamad**			

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.			
Course Name:	**Professional Communication and Ethics-I**			
Course Code	**FEL205**			
Faculty Name:	**Mr. Sachin Sugave, Mr. Dipak J and Mr. Ajay J.**			
Year	**1**	**Sem**	**II**	
CO Number	**Course Outcome**			
FEL 205.1	Students will be able to recall and define concepts in grammar which include subject-verb agreement, articles, misplaced modifiers andsummarization and comprehension skills			
FEL 205.2	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			
FEL 205.3	Students will be able to make use of appropriate grammatical concepts and principles of effective communication while writing businessletters, instructions and describing objects and processes			
FEL 205.4	Students will be able to identify the importance of self development and make use of social etiquettes in professional arena.			
FEL 205.5	Students will be able to apply the given rubric to evaluate the principles of public speaking and communication in a speech			
FEL 205.6	Students will be able to a) plan and develop a speech b) compose business letters			