	DON BOSCO INSTITUTE OF TECHNOLOGY, KURLA, MUMBAI					
	FI	E (BASIC S	CIENCES ANI	D HUMANITIES) DEPARTMENT, (EVEN SEMESTER, 2019-20)		
Course Name:	Engineering Ma	athematics	п			
Course Code	FEC201					
Faculty Name:	Dr. Revathy S. , Ms. Pallavi Mal		narayan and			
Year	1 Se	em	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	integral (ii) Sol	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 a engineering prob		problems in ord	inary differential equations using appropriate method and apply it in solving electrical and mechanical		
FEC201.4	involving the cal	culation of	length of a curve	es of Integral Calculus (single, double and triple integrals) to solve a variety of practical problems e, the area and volume bounded by the curves etc. (ii) Apply the principle of DUIS in solving integrals al techniques for evaluating integrals		
FEC201.5	Student will be a differential equat			ftware SCILAB to trace standard curves, to solve initial value problems and to solve the first order ques		
FEC201.6	Perform mini pro	ojects based	on Application	of Mathematics		
Course Name:	Engineering Ph	voice II				
Course Code	FEC202	ysics II				
Faculty Name:	Dr. Vinod Goka	rna and M	r.Sameer Hadk	ar		
Year CO Number	1 Se	em	II	Course Outcome		
FEC 202.1			p and recall the	basic concepts of core Physics topics like diffraction, fourndation for laser and fibre optics in the		
				nology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern ues for physical instruments in mordern instrumentations.		
FEC 202.2	developments, au Students will be developmen tof u	nd basics of able to unde modern corr	sensing techniq erstand and desc munication tech			
FEC 202.2 FEC 202.3	developments, au Students will be developmen tof i developments, au Students will be slits and applicat	able to unde modern com nd basics of able to relat tions, fourno elativity, sco	erstand and desc immunication tech sensing techniq te, integrate know dation for laser a	ues for physical instruments in mordern instrumentations. ribe the basic concepts of Physics topics like diffraction, fourndation for laser and fibre optics in the mology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern		
	developments, au Students will be development of in developments, au Students will be slits and applicat fundamental of r instrumentations Students will be to diffraction thr	able to und modern com able to relations, fourne relativity, sco able to revia ough slits au ics, fundame	sensing techniq erstand and desc sensing techniq te, integrate know lation for laser a ope of nanotechn ew, elucidate wit nd applications, ental of relativity	ues for physical instruments in mordern instrumentations. ribe the basic concepts of Physics topics like diffraction, fourndation for laser and fibre optics in the unology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern ues for physical instruments in mordern instrumentations. wledge and explain the principles involved with their engineering disciplines like diffraction through and fibre optics in the developmen tof modern communication technology, basics of electrodynamics,		
FEC 202.3	developments, au Students will be development of in developments, au Students will be slits and applicat fundamental of r instrumentations Students will be to diffraction thr of electrodynami instruments in m Students will be for laser and fib	nd basics of able to under modern com nd basics of able to relations, fourno elativity, sco- able to revio ough slits an ics, fundamo ordern instr able to dem re optics in	sensing techniq erstand and desc sensing techniq te, integrate knov dation for laser a ope of nanotechn ew, elucidate wir nd applications, ental of relativity umentations.	ues for physical instruments in mordern instrumentations. ribe the basic concepts of Physics topics like diffraction, fourndation for laser and fibre optics in the mology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern ues for physical instruments in mordern instrumentations. wledge and explain the principles involved with their engineering disciplines like diffraction through and fibre optics in the developmen tof modern communication technology, basics of electrodynamics, nology in modern developments, and basics of sensing techniques for physical instruments in mordern th examples and apply the fundamental principles of Physics to solve numericals and problems relating fourndation for laser and fibre optics in the developmen tof modern communication technology, basics		
FEC 202.3 FEC 202.4	developments, au Students will be development of in developments, au Students will be slits and applicat fundamental of r instrumentations Students will be to diffraction thr of electrodynami instruments in m Students will be for laser and fib nanotechnology	nd basics of able to under modern com nd basics of able to relations, fourno elativity, sco- able to revio ough slits an ics, fundam. ordern instr able to dem re optics in in modern c	sensing techniq erstand and desc sensing techniq te, integrate knov dation for laser a ope of nanotechn ew, elucidate win nd applications, ental of relativity umentations.	ues for physical instruments in mordern instrumentations. ribe the basic concepts of Physics topics like diffraction, fourndation for laser and fibre optics in the mology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern ues for physical instruments in mordern instrumentations. wledge and explain the principles involved with their engineering disciplines like diffraction through and fibre optics in the development of modern communication technology, basics of electrodynamics, nology in modern developments, and basics of sensing techniques for physical instruments in mordern th examples and apply the fundamental principles of Physics to solve numericals and problems relating fourndation for laser and fibre optics in the development of modern communication technology, basics <i>y</i> , scope of nanotechnology in modern developments, and basics of sensing techniques for physical lude on the experiment performed in topics like diffraction through slits and applications, fourndation tof modern communication technology, basics of electrodynamics, fundamental of relativity, scope of		
FEC 202.3 FEC 202.4 FEC 202.5	developments, au Students will be development of in developments, au Students will be slits and applicat fundamental of r instrumentations Students will be to diffraction thr of electrodynami instruments in m Students will be for laser and fib nanotechnology	nd basics of able to under modern com nd basics of able to relati- tions, fournor elativity, sci- able to revi- ough slits an ics, fundam- iordern instr able to dem re optics in in modern c able to <i>perf</i>	sensing techniq erstand and desc sensing techniq te, integrate knov dation for laser a ope of nanotechn ew, elucidate win nd applications, ental of relativity umentations.	ues for physical instruments in mordern instrumentations.		
FEC 202.3 FEC 202.4 FEC 202.5 FEC 202.6	developments, an Students will be development of in developments, an Students will be slits and applicat fundamental of r instrumentations Students will be to diffraction thr of electrodynami instruments in m Students will be for laser and fib nanotechnology Students will be	nd basics of able to under modern com nd basics of able to relati- tions, fournor elativity, sci- able to revi- ough slits an ics, fundam- iordern instr able to dem re optics in in modern c able to <i>perf</i>	sensing techniq erstand and desc sensing techniq te, integrate knov dation for laser a ope of nanotechn ew, elucidate win nd applications, ental of relativity umentations.	ues for physical instruments in mordern instrumentations.		
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FEC 202.3 FEC 202.4 FEC 202.5 FEC 202.5 FEC 202.6 Course Name: Course Code Faculty Name: Year CO Number	developments, ai Students will be development of 1 developments, ai Students will be slits and applicat fundamental of r instrumentations Students will be to diffraction thr of electrodynami instruments in m Students will be for laser and fib nanotechnology Students will be FEC203 Ms. Kartiki B. a 1 Se Students will be and electroc-tem Students will be	adbe to unde modern com modern com nd basics of able to relations, fournor elativity, sco- able to revio ough slits an ics, fundamu able to dem re optics in in modern co able to <i>perf</i> eemistry II and Ms. An em able to defin istry.	sensing techniq erstand and desc restand and desc sensing techniq te, integrate know lation for laser ope of nanotechn ew, elucidate win dapplications, ental of relativity umentations. the developments, ar form mini project ice M. II ne and recall the e principles of co	ues for physical instruments in mordern instrumentations. ribe the basic concepts of Physics topics like diffraction, fourndation for laser and fibre optics in the mology, basics of electrodynamics, fundamental of relativity, scope of nanotechnology in modern ues for physical instruments in mordern instrumentations. wledge and explain the principles involved with their engineering disciplines like diffraction through and fibre optics in the developmen tof modern communication technology, basics of electrodynamics, nology in modern developments, and basics of sensing techniques for physical instruments in mordern the examples and apply the fundamental principles of Physics to solve numericals and problems relating fourndation for laser and fibre optics in the development of modern communication technology, basics r, scope of nanotechnology in modern developments, and basics of sensing techniques for physical hude on the experiment performed in topics like diffraction through slits and applications, fourndation tof modern communication technology, basics of electrodynamics, fundamental of relativity, scope of ad basics of sensing techniques for physical instruments in mordern instrumentations. Its which will encourage engineering students to venture into the research field. Course Outcome		

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/Gr hypothesis,			ble to review research literature, analyse complex problems, present new concepts, ideas, propose		
Course Name:	Engineerin	g Graphi	CS			
Course Code	FEC204					
Faculty Name:	Ms. Georgena K. And Mr. Juned A.					
Year	1	Sem	п			
CO Number				Course Outcome		
FEC 204.1	Students w	ill be able	to reproduce and inte	rpret the basics of engineering conventions in engineering drawing as per I.S		
FEC 204.2	Students w	ill be able	to demonstrate the ur	nderstanding of the fundamentals of projection drawing.		
FEC 204.3	Students wi machine pa			projection drawing to prepare orthographic views, sectional orthographic views and isometric view of		
FEC 204.4	Students w	ill be able	to draw the intricate s	ection of solid and development of surfaces for the given cutting plane.		
FEC 204.5	Students w	ill be able	to visualize the object	from the given views.		
FEC 204.6	Students w	ill able to	prepare drawing for ar	ny given component		
Course Name:	C Program	ming				
	_	8				
Course Code	FEC205					
Faculty Name:	Mr. Prasad Padalkar and Ms. Deepali Kayande					
Year	1	Sem	п			
CO Number	Course Outcome					
FEC 205.1	Recall app	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	Evalute dif	Evalute different methods / solution at algorithm / code level				
FEC 205.6	Propose a	solution	o unknown problem	at FE level		
Course Name:	Professiona	al Commı	nication and Ethics			
Course Code	I FEC206					
Faculty Name:		Sugave a	nd Ms. Devyani			
Year	1	Sem	II			
CO Number				Course Outcome		
FEC 206.1			to recall and define co omprehension skills	ncepts in grammar which include subject-verb agreement, articles, misplaced modifiers and		
FEC 206.2		ept and me	aning of communicati	on, communication cycle, barriers to communication ,and methods of communication s 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:	Engineerin	Engineering Physics II					
Course Code	FEL201	7EL201					
Faculty Name:	Dr. Vinod (Gokarna a	nd Mr.Sameer Hadk	ar			
Year	1	Sem	II				
CO Number				Course Outcome			
FEL 201.1	Students wi	ill be able	to perform the experir	nents based on diffraction through slits using Laser source and analyze the results.			
FEL 201.2	Students will be able to perform the experin			nents using optical fibre to measure numerical aperture of a given fibre.			
FEL 201.3	Students wi	ill be able	to perform the experir	nents using ultrasonic distance meter.			
FEL 201.4	Students wi	ill be able	to perform the experir	ments using Laser source and analyze the results			
6 N							
Course Name:	Engineerin	g Chemis	try II				
Course Code	FEL202	D and N	An Amino M				
Faculty Name: Year	1 1		Is. Anice M. II				
CO Number	1	Sem		Course Outcome			
	Students wi	ll be able i	to define and recall the				
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. Students will be able to state principles of corrosion, spectroscopy, green chemistry and will be able to state the properties, advantages, uses of						
FEL 202.2	different fue	els, corros	ion control techniques,	greener route of synthesis and spectroscopic methods.			
FEL 202.3	Students wi	ll be able i	to explain the corrosion	n mechanisms, fuel quality, green sythesis routes, various types of spectroscopy.			
FEL 202.4			to suggest appropriate eristic properties requi	control methods for corrosion. Students will be able to justify the need for use of biodiesel/biofuel and red.			
FEL 202.5	Students wi	ll be able i	to analyze data, solve r	numerical problems based on fuel quality and combustion, Nernst equations and atom economy.			
FEL 202.6	Seminar/Gr hypothesis,			ble to review research literature, analyse complex problems, present new concepts, ideas, propose			
Course Name:	Engineerin	g Granhi	rs.				
Course Code	FEL203	5 Grupin					
Faculty Name:	Ms. George	ena K. An	d Mr. Juned A.				
Year	1	Sem	П				
CO Number				Course Outcome			
FEL203.1	Students wi	ill be able	to reproduce the draw	ing 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 Program	ming					
Course Code	FEL204						
Faculty Name:	Mr. Prasad Kayande	Padalka	r and Ms. Deepali				
Year	1	Sem	п				
CO Number				Course Outcome			
FEL204.1	Recall the gcc commands / IDE configuration / Environment setup for creating / editing / executing C – Programs						

Interpret the	e given c	ode snippet and cor	ivert it to algorithm.		
Choose appropriate keywords / structure to construct a code from a given algorithm					
Inspect the given algorithm / code through debbuger / bebug techniques in the given code (Ability to Debug)					
Evaluate different algorithm / codes / approaches (Sequential v/s Recursive) through experimentation					
Propose a s	solution t	o unknown problem	at FE level (Ability to develope algorithm and convert to code)		
Professional Communication and Ethics I					
FEL205					
Mr. Sachin Sugave and Ms. Devyani Balasara					
1	Sem	П			
	Course Outcome				
Students will be able to recall and define concepts in grammar which include subject-verb agreement, articles, misplaced modifiers and summarization and comprehension skills					
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					
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					
Students will be able to identify the importance of self development and make use of social etiquettes in professional arena.					
Students will be able to apply the given rubric to evaluate the principles of public speaking and communication in a speech					
a) plan and d	levelop a	speech			
	Choose ap Inspect the Evaluate di Propose a Professiona I FEL205 Mr. Sachin Balasara 1 Students wil summarizati Students wil a) the conce b) principles Students wil instructions Students wil Students wil Students wil Students wil	Choose appropriate Inspect the given alg Evaluate different al Propose a solution t Professional Commu FEL205 Mr. Sachin Sugave a Balasara 1 Sem Students will be able t a) the concept and me b) principles of busine Students will be able t Students will be able t	Inspect the given algorithm / code throug Evaluate different algorithm / codes / ap Propose a solution to unknown problem Professional Communication and Ethics I FEL205 Mr. Sachin Sugave and Ms. Devyani Balasara 1 Sem II Students will be able to recall and define consummarization and comprehension skills Students will be able to explain a) the concept and meaning of communication b) principles of business letters and the parts Students will be able to make use of appropri- instructions and describing objects and process Students will be able to identify the important		