

Course/Subject with		Course Outcomes (COs)				Pro	ogran	o Out	come	s (PO:	s)					PSOs	J.
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand the concept of Laplace transform and inverse Laplace transform of elementary functions and apply it to solve the linear differential equations with constant coefficients having their applications in mechanical, electrical, chemical, communication etc. systems.	3	3		1									2		
Engineering Mathematics -III	2	Apply the concept of Fourier transform to solve the boundary value problems, problems in signal processing and communication system.	3	3		1									2		
(BTBSC301)	3	Apply partial differential equations to solve heat equation, wave equation and Laplace equation etc.	3	3											1		
	4	Analyze conformal mapping, transformation and perform contour integration of complex function in the study of electromagnetics and signal processing.	3	2											1		

Course/Subject		Course Outcomes (COs)				Pre	ogran	1 Out	come	s (PO:	s)					PSO :	3
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Review Basic Components Of Electric Network And Understand Network Theorems To Simplify Complex Networks.	2	2	2	2									2		1
Notice the Amelian is and	2	Apply Graph Theory For Electric Network Analyses	1	1											2		1
Network Analysis and Synthesis BTEEC302	3	Understand Transient Analysis In Electrical Circuits	2	2	2	2									2		1
Synthesis DIEECOU2	4	Apply Laplace Transform For Electric Network Analyses	3	3		2									2		1
	5	Evaluate The Parameters Of Two Port Networks	2	2		2									2		
	6	Analyze A. C. Circuit And Design Various Types Of Filters.	2	2		2									2		

Course/Subject with		Course Outcomes (COs)				Pre	ogran	o Out	come	s (PO	s)					PSO	s
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject with		Course Outcomes (COs)				Pre	ogran	Out	come	s (PO	s)					PSO	5
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Macauram ant and	1	To Understand Philosophy Of Measurement.	3											1	1		
Instrumentation	2	To Understand Different Methods Analog And Digital Measurement.	2	2			1							1	2		
BTEEC304	3	To Study Principle Of Construction And Operation Of Different Transducer And Display Methods.	2	2			1							1	2		
Course/Subject with		Course Outcomes (COs)				Pre	ogran	Out	come	s (PO	s)				L	PSO	3
course code			L	2	3	4	5	6	1	8	9	10	11	12		2	3
	1	Classify Various Properties Of Electrical Engineering Materials,	2	3		3								\vdash			
	2	Categories Dielectric Materials And Relate The Dielectric Polarization With	-	0		0										1	
	_	Frequency And Temperature	3	2		3											
Electrical Engineering	3	Illustrate Semiconductor Properties With Respect To Pn Junction Diode	3	3		3									2	\vdash	
Materials BTEEE305A	4	Discover And Illustrate The Applications Of Magnetic Materials In Electrical Engineering	3	2		2									3		
	5	Discover And Illustrate The Applications Of X-Ray Diffraction, Ultrasonics And Other Non-Destructive Testing Methods	3	2		1									3		
Course/Subject with		Course Outcomes (COs)				Pre	ogran	Out	come	s (PO	s)					PSO	5
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Applied Physics	1	Understand Concept Of Electromagnetic Theory And Magnetism	3	2			1								2		
BTEEE305B	2	Understand Concept Of Dielectric And Super Conductivity	1		2	3									1		
	3	Understand Concept Of Nanomaterial	1	3		2										2	
Course/Subject with		Course Outcomes (COs)				Pre	ogran	Out	come	s (PO	s)					PSO	3
course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Signals and Systems	1	TO STUDY CLASSIFICATION OF SIGNALS AND SYSTEM	2	2	1	1								\square		\square	
BTEEE305C	2	TO ANALYZE DIFF. TYPES OF TIME SIGNAL	3	3	1	1								\vdash		\vdash	1
														\vdash	\square	\vdash	
	1													1			1



Course/Subject with		Course Outcomes (COs)	Program Outcomes (POs) 1 2 3 4 5 6 7 8 9 10 1 Program Outcomes (POs) 1 2 3 4 5 6 7 8 9 10 1 1 2 3 4 5 6 7 8 9 10 1 1 2 3 4 5 6 7 8 9 10 1 1 2 3 4 5 6 7 8 9 10 1 1 1 2 3 4 5 6 7 8 9 10 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3														j.
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject with		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO	s)					PSOs	•
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To study concept of time value of money								3	2	2		3		2	
Engineering Economics	2	To study about demand in detail,								2	2	2	2	3		1	
BTHM306	3	To understand Meaning of Production and factors of production					3		2			2	3	3		2	
	4	To understand dif. Concept about market										2	3	3			3
Course/Subject with		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO	s)					PSOs	•
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Electrical workshop /Mini Project	1	Build And Verifies Basic Scientific Principles.	3	2	2	1	2			1	2	2	1	2	2		1
Course/Subject with		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO	s)					PSOs	5
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Explore Career Alternatives Prior To Graduation	2		2			2			3		1	3		2	1
Field	2	Integrate Theory And Practical Approach	2		2			2			3		1	3		2	1
Training/Internsnip/In dustrial Training	3	To Develop The Ability As A Problem Solver Using Practical Approach	2		2			2			3		1	3		2	1
Evaluation (BTEEF310)	4	Develop Communication, Interpersonal And Other Critical Skills Required For Interview Process	2		2			2			3		1	3		2	1
	5	Acquire Employment Skills Leading To Industry-Ready Engineers	2		2			2			3		1	3		1	1



Course/Subject with		Course Outcomes (COs)				Pro	ogran	o Outo	come	s (PO:	s)					PSOs	1
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject with		Course Outcomes (COs)				Pro	ogram	o Outo	come	s (PO:	s)					PSOs	5
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand different types, construction and principle of single phase transformer and its application	2		2									1	2		
	2	Classify different types of connections of 3 phase transformer, and understand the parallel operations, Phase Conversion concept. Design of equivalent circuit and various test of Transformer.		2										1	1		L
	3	Apply Electromechanical energy conversion principle and calculate the magnetic force and torque of various system	2												1		
Electrical Machine-I BTEEC401	4	Understand operating principle, Constructional features types, performance characteristics, armature reaction, commutation of dc generator and their applications	2	2	3	2								1	2		2
	5	Develop Torque equation and calculate Current, Power, Losses and efficiency of various types of DC motors and understand different characteristics, various methods of speed control	2	2	2	2								1	2		2
	6	differentiate the construction of various types of special machines like Reluctance machine, VRM, stepper motor, BLDC and analyse its application in the field.	2	2	2												



Course/Subject with		Course Outcomes (COs)				Pro	ogram	u Out	come	s (PO:	s)					PSO:	5
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSO	\$
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand basic operation of power system, power system components and their characteristics.	1	2	3						1	1			2		
	2	Understand different types of power plants, construction, working and components. Factors describing economics of the power plants.	1	2	3						1	1			2		
	3	Major electric components, alternator, transformer, control and metering of the power system	2	2	3						2	2			2		
	4	Parameters calculation of transmission network like inductance, capacitance, conductance and resistance.	2	2	3						2	2			2		
Power System-I	5	Develop the ability to implement the appropriate safety equipment for design of electrical power system with enhancing the efficiency of the transmission and distribution system.	2	1	3						2	2			2	2	
DIEBC+02-0	6	Judge the suitability of installing overhead and underground power transmission strategies considering electrical, mechanical, performance, safety and economic constraints.	2	1	2						2	2			3	2	
	7	Choose the appropriate type of power generating station following norms and guidelines related to cost, environment, societal and ethical issues. Also review the different tariff systems available and determine the one most appropriate for a given scenario to optimize the revenue earned.	2	1	3						2	2			1		
	8	Recognize the need to continuously follow the advancements in technology and incorporating them in the present system to improve efficiency	2	1	1		2				3	3			1		
Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)	1.10		10		PSOs	3
course code		()	1	2	3	4	5	6	1	8	9	10	11	12		2	3
Electrical Installation and Estimation	1	To Prepare Estimates And Costing Of Electrical Installation Of Power System				3	2				2				3		1
BTEEC403 -O	2	To Understand Procedures Of Contracting And Purchase	2								2			3		2	3



Course/Subject with						Pre	ogram	Out	come	s (PO	s)					PSOs	5
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject with		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO	s)		-			PSO	5
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Numerical Method and	1	To Study And Understand Matlab Programming.	1				3								3		1
Programming	2	To Review Mathematical Concepts .	2	3	1										2		
BTEEC404	3	To Develop Computer Program For Linear And Nonlinear Equations.	1		2	3									2		
Course/Subject with course code		Course Outcomes (COs)	1	2	3	Pro 4	ogran 5	Outo 6	come 7	s (PO) 8	s) 9	10	11	12	1	PSOs 2	; 3
	1	Create Simple Mechanical Or Other Designs	1	1	2		2								2	2	
Product Design	2	Create Design Documents For Knowledge Sharing	1	1	1		2				2	2			2	1	
Engineering (BTID405)	3	Manage Own Work To Meet Design Requirements							1		2		3		1	1	
	4	Work Effectively In A Team	1				1			1	3		2		1		
							1							1			
Course/Subject with						Pre	ogram	Out	come	s (PO	s)					PSO	5
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To Study Construction And Characteristics Of Solid State Devices.	2			2	2							1			
	2	To Apply Operational Amplifier Models In Circuits Employing Negative Feedback		3	1	1			1			1					
Solid State Devices	3	To Design Electronics Circuit Using Timer Ic And Voltage Regulators.		2	3	2	2		1								
BTEEE406A	4	To Perform Analysis Of Amplifiers Using Small Signal Models For The Circuit Elements.			2		1	2				2					
	5	To Calculate The Frequency Response Of Circuits Containing Bjt, Op-Amp Etc		2	2	2	2						2				
Course/Subject with		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO	s)					PSOs	3
course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Analog and Digital	1	To Review Basic Number System	3	2	1										1		
Electronics BTEEE-	2	To Understand Deign And Characteristics Of Digital Logic Gates.	3	2	1										1		L
406B	3	To Study Different Techniques In Use Of Digital Circuits.	3	2	1												
	4	To Design Digital Systems	3	2	1										1		I
																	I
	1																1



Course/Subject with			$\begin{array}{ c c c c c c c c c } \hline Program Outcomes (POs) \\ \hline 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 & 1 \\ \hline Program Outcomes (POs) \\ \hline 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 & 1 \\ \hline 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 & 1 \\ \hline ms & 2 & 2 & 2 & & & & & & & & & & & & & $														j
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO	s)					PSOs	•
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To Understand Vector Relations In Diff. Forms	2												1		
Electromognetic Theory	2	To Analyze Diff. Laws And Their Solution	2		2										1		
BTEEE-406C	3	To Study About Magneto Static	2	1											1		
	4	To Understand Time Varying Field And Effect Of Magnetism In Transmission Line	2	1											1		
Course/Subject with		Course Outcomes (COs)	Program Outcomes (POs) 1 2 3 4 5 6 7 8 9 10 11 1 1 2 3 4 5 6 7 8 9 10 11 1														
course code			1	2	3	4	5	6	7	8	9	10	11	12		2	3
Industrial safety BTEEE-	1	To understand importance of safety in industrial environment.	1	2										2			
407A	2	To understand different safety procedures in an industrial environment.	1	2										2			
											I						
Course/Subject with		Course Outcomes (COs)	1 2 1 <th></th>														
course code			1	2	3	4	5	6	7	8	9	10	11	12		2	3
Introduction to non	1	Review Energy Scenario.	2					1	3					2	L'	3	2
Conventional Energy Sources BTEEOE407-B	2	Understand Basic Concepts, Construction And Operational Features Of Different Non-Conventional Energy Sources.	2	1				1	3					2		3	2
Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO	s)					PSOs	•
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Explore Career Alternatives Prior To Graduation	2		2			2			3		1	3		2	1
Field	2	Integrate Theory And Practical Approach	2		2			2			3		1	3		2	1
Training/Internshin	3	To Develop The Ability As A Problem Solver Using Practical Approach	2		2			2			3		1	3		2	1
/Industrial Training	4	Develop Communication, Interpersonal And Other Critical Skills Required For Interview Process	2		2			2			3		1	3		2	1
	5	Acquire Employment Skills Leading To Industry-Ready Engineers	2		2			2			3		1	3		1	1

Course/Subject	Course Outcomes (COs)				Pro	ogran	ı Out	come	s (PO:	5)					PSOs	1
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3



Course/Subject with		Course Outcomes (COs)				Pre	ogran	o Out	come	s (PO	s)					PSOs	
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand the concept of Laplace transform and inverse Laplace transform of elementary functions and apply it to solve the linear differential equations with constant coefficients having their applications in mechanical, electrical, chemical, communication etc. systems.	3	3		1									2		
Engineering Mathematics	2	Apply the concept of Fourier transform to solve the boundary value problems, problems in signal processing and communication system.	3	3		1									2		
III (BIBSC301)	3	Apply partial differential equations to solve heat equation, wave equation and Laplace equation etc.	3	3											1		
	4	Analyze conformal mapping, transformation and perform contour integration of complex function in the study of electromagnetics and signal processing.	3	2											1		
Course/Subject		Course Outcomes (COs)				Pr	ogran	o Out	come	s (PO	s)					PSOs	3
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Review basic components of electric network and understand network theorems to simplify complex networks.	2	2	2	2									2		1
Notwork Analysis and	2	Apply graph theory for electric network analyses	1	1											2		1
Synthesis RTFFC202	3	Understand transient analysis in electrical circuits	2	2	2	2									2		1
Synthesis D I EEC302	4	Apply laplace transform for electric network analyses	3	3		2									2		1
	5	Evaluate the parameters of two port networks	2	2		2									2		
	6	Analyze a. C. Circuit and design various types of filters.	2	2		2									2		



Course/Subject with		Course Outcomes (COs)				Pre	ogran	ı Out	come	s (PO	s)					PSO	S
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogran	1 Out	come	s (PO	s)		-			PSO	s
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Maggingenent and	1	To understand philosophy of measurement.	3											1	1		
Instrumentation	2	To understand different methods analog and digital measurement.	2	2			1							1	2		
BTEEC304	3	To study principle of construction and operation of different transducer and display methods.	2	2			1							1	2		
Course/Subject		Course Outcomes (COs)				Pr	ogran	ı Out	come	s (PO	s)					PSO	s
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Classify various properties of electrical engineering materials,	2	3		3										1	
	2	Categories dielectric materials and relate the dielectric polarization with frequency and temperature	3	2		3										1	
Electrical Engineering	3	Illustrate semiconductor properties with respect to PN junction diode	3	3		3									2		
Materials BTEEE305A	4	Discover and illustrate the applications of magnetic materials in Electrical Engineering	3	2		2									3		
	5	Discover and illustrate the applications of X-ray diffraction, ultrasonics and other non-destructive testing methods	3	2		1									3		
Course/Subject		Course Outcomes (COs)				Pr	ogran	ı Out	come	s (PO	s)					PSO	s
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Applied Develop		1.Understand concept of Electromagnetic theory and Magnetism	3	2			1								2		
Appled Thysics BTEFE305B		2. Understand concept of Dielectric and Super conductivity	1		2	3									1		
DIEEES05D		3. Understand concept of nanomaterial	1	3		2										2	
Course/Subject		Course Outcomes (COs)				Pre	ogran	ı Out	come	s (PO	s)					PSO	5
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Signals and Systems	1	To study classification of signals and system	2	2	1	1									1		
BTEEE305C	2	To analyze diff. Types of time signal	3	3	1	1									1		1
Course/Subject						Pre	ogran	1 Out	come	s (PO	s)			-		PSO	s
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To study concept of time value of money								3	2	2		3		2	
Engineering Economics	2	To study about demand in detail,								2	2	2	2	3		1	
BTHM306	3	To understand Meaning of Production and factors of production					3		2			2	3	3		2	1
	4	To understand dif. Concept about market										2	3	3		1	3



Course/Subject with		Course Outcomes (COs)				Pre	ogran	u Outo	come	s (PO	s)					PSO	5
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogran	o Outo	come	s (PO	s)					PSO	3
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Electrical workshop /Mini	1	Build and verifies basic scientific principles.	3	2	2	1	2			1	2	2	1	2	2		1
Course/Subject						Pre	ogram	Outo	come	s (PO	s)	<u>I</u>				PSO	5
with course code	1	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Explore career alternatives prior to graduation	2		2			2			3		1	3		2	1
Field	2	Integrate theory and practical approach	2		2			2			3		1	3		2	1
Training/Internship/Indust	3	To develop the ability as a problem solver using practical approach	2		2			2			3		1	3		2	1
rial Training Evaluation (BTEEF310)	4	Develop communication, interpersonal and other critical skills required for interview process	2		2			2			3		1	3		2	1
	5	Acquire employment skills leading to industry-ready engineers	2		2			2			3		1	3		1	1



Course/Subject with		Course Outcomes (COs)				Pre	ogram	Out	come	s (POs	s)					PSOs	
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogram	Out	come	s (POs	s)					PSOs	1
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand different types, construction and principle of single phase transformer and its application	2		2									1	2		
	2	Classify different types of connections of 3 phase transformer, and understand the parallel operations, Phase Conversion concept. Design of equivalent circuit and various test of Transformer.		2										1	1		
	3	Apply Electromechanical energy conversion principle and calculate the magnetic force and torque of various system	2												1		
Electrical Machine-I BTEEC401	4	Understand operating principle, Constructional features types, performance characteristics, armature reaction, commutation of dc generator and their applications	2	2	3	2								1	2		2
	5	Develop Torque equation and calculate Current, Power, Losses and efficiency of various types of DC motors and understand different characteristics, various methods of speed control	2	2	2	2								1	2		2
	6	differentiate the construction of various types of special machines like Reluctance machine, VRM, stepper motor, BLDC and analyse its application in the field.	2	2	2												



Course/Subject with						Pro	ogram	ı Out	come	s (PO:	s)					PSOs	
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	ogram	ı Out	come	s (PO:	s)					PSOs)
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand basic operation of power system, power system components and their characteristics.	1	2	3						1	1			2		
	2	Understand different types of power plants, construction, working and components. Factors describing economics of the power plants.	1	2	3						1	1			2		
	3	Major electric components, alternator, transformer, control and metering of the power system	2	2	3						2	2			2		
	4	Parameters calculation of transmission network like inductance, capacitance, conductance and resistance.	2	2	3						2	2			2		
Power System-I	5	Develop the ability to implement the appropriate safety equipment for design of electrical power system with enhancing the efficiency of the transmission and distribution system.	2	1	3						2	2			2	2	
DIEEC402-U	6	Judge the suitability of installing overhead and underground power transmission strategies considering electrical, mechanical, performance, safety and economic															
		constraints.	2	1	2						2	2			3	2	
	7	Choose the appropriate type of power generating station following norms and guidelines related to cost, environment, societal and ethical issues. Also review the different tariff systems available and determine the one most appropriate for a given scenario to optimize the revenue earned.	2	1	3						2	2			1		
	8	Recognize the need to continuously follow the advancements in technology and incorporating them in the present system to improve efficiency	2	1	1		2				3	3			1		
Course/Subject	1					Pre	ogram	o Out	come	s (PO:	s)					PSOs	
with course code	1	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Electrical Installation and	1	To prepare estimates and costing of electrical installation of power system				3	2				2				3		1
Estimation BTEEC403 -O	2	To understand procedures of contracting and purchase	2								2			3		2	3



Course/Subject with		Course Outcomes (COs)				Pre	ogran	o Out	come	s (PO	s)					PSO	5
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogran	o Out	come	s (PO	s)					PSO	3
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Numerical Method and	1	To study and understand matlab programming.	1				3								3		1
Programming BTFFC404	2	To review mathematical concepts .	2	3	1										2		
Trogramming DIEEC404	3	To develop computer program for linear and nonlinear equations.	1		2	3									2		
Course/Subject		Course Outcomes (COs)				Pre	ogran	o Out	come	s (PO	s)					PSO	3
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Create simple mechanical or other designs	1	1	2		2								2	2	
Product Design	2	Create design documents for knowledge sharing	1	1	1		2				2	2			2	1	
Engineering (BTID405)	3	Manage own work to meet design requirements							1		2		3		1	1	
	4	Work effectively in a team	1				1			1	3		2		1		
Course/Subject						Pre	ogran	o Out	come	s (PO	s)					PSO:	3
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To study construction and characteristics of solid state devices.	2			2	2							1			
	2	To apply operational amplifier models in circuits employing negative feedback		3	1	1			1			1					
Solid State Devices	3	To design electronics circuit using Timer IC and voltage regulators.		2	3	2	2		1								
BIEEE400A	4	To perform analysis of amplifiers using small signal models for the circuit elements.			2		1	2				2					
	5	To calculate the frequency response of circuits containing BJT, Op-Amp etc		2	2	2	2						2				
Course/Subject	Ì					Pre	ogran	Out	come	s (PO	s)					PSO	5
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To review basic number system	3	2	1										1		
Analog and Digital	2	To understand deign and characteristics of digital logic gates.	3	2	1										1		
Electronics BTEEE-406B	3	To study different techniques in use of digital circuits.	3	2	1										1		
	4	To design digital systems	3	2	1										1		



Course/Subject with		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO	s)					PSO	\$
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO	s)					PSO s	3
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To understand vector relations in diff. forms	2												1		
Flectromagnetic Theory	2	To analyze diff. laws and their solution	2		2										1		
BTEFF-406C	3	To study about magneto static	2	1											1		
DILLE-400C	4	To understand time varying field and effect of magnetism in transmission line	2	1											1		
																ľ	1
Course/Subject						Pre	ogram	Out	come	s (PO	s)					PSO:	;
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Inductrial cofety DTEFE	1	To understand importance of safety in industrial environment.	1	2										2	1		
	2	To understand different safety procedures in an industrial environment.	1	2										2	1		
40/A																	
Course/Subject		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO	s)					PSO	\$
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Introduction to non	1	REVIEW ENERGY SCENARIO.	2					1	3					2		3	2
Conventional Energy	2	Understand basic concepts, construction and operational features of	2	1				1	2					2		2	0
Sources BTEEOE407-B	_	different non-conventional energy sources.	4	-				1	3					4		3	- 2
Course/Subject		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO	s)					PSO	\$
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO	s)					PSO	\$
with course code			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Explore career alternatives prior to graduation	2		2			2			3		1	3		2	1
	2	Integrate theory and practical approach	2		2			2			3		1	3		2	1
Field Training/Internship	3	To develop the ability as a problem solver using practical approach	2		2			2			3		1	3		2	1
/Industrial Training	4	Develop communication, interpersonal and other critical skills required for interview process	2		2			2			3		1	3		2	1
	5	Acquire employment skills leading to industry-ready engineers	2		2			2			3		1	3		1	1



Course/Subject with						Pre	ogran	ı Out	come	s (PO:	s)					PSO	5
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogran	1 Out	come	s (PO	s)					PSO	5
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand principle of operation of ac machines	3	3	2	3											
	2	Analyze the concept of steady state analysis in ac machines	3	3	3	3											
Floatrical Machina II	3	Study different methods of speed control of ac and dc motor	3	3	3	3	2							2			
BTEEC501	4	Study importance and procedure of different performance test on ac and dc motor	3	3	3	2	2							2			
	5	Determine different operating characteristics of ac and dc machines	3	3	3	2	2										
	6	Understand operation & application of special machines	1	2	1	2											
Course/Subject		Course Outcomes (COs)				Pre	ogran	1 Out	come	s (PO	s)					PSO	\$
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand different parameters of power system operation and control	3	3	2	3	1	2			2			3	1		
Power System -II	2	Understand load flow and different methods of reactive power control	3	3	2	3	3	2			3			2	2		
BTEEC502-O	3	To understand sequence network of power system elements	3	3	2	3	3	2			2			1	2		
DIEEC302-0	4	To understand different methods of fault analysis and stability study	3	3	2	3	3	2			2			3	2	2	
	5	Study transient stability analysis & equal area criteria	3	3	2	3	3	2			3			3	2		
Course/Subject		Course Outcomes (COs)				Pre	ogran	ı Out	come	s (PO	s)					PSO	\$
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
BTEEL503 Microprocessor and	1	To know the architecture of 8085 and 8051	2	1											2		
micro Controller	2	To understand interfacing and interrupt features of 8085 and 8051.	2	1	1	1									1		
	3	To develop program for basic applications	2	2	3	2	1								2		
Course/Subject		Course Outcomes (COs)		·		Pr	ogran	1 Out	come	s (PO	s)		•			PSO:	3
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
BTHM504 Value																	
Education, Human	1	To understand value of education and self-development															1
Rights and Legislative											1			1			1
Procedures	2	To develop good values and character To know Human right and legislative procedure								2	2						2
[MOOC/Swayam/NPTEL]	3	To know Human right and legislative procedure									1			1			



Course/Subject with						Pre	ogram	Out	come	s (PO	s)					PSOs	5
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogram	u Out	come	s (PO	s)					PSOs	\$
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To get the detailed information about modern lamps and their accessories.	2	1	-										2		
Illumination Engineering BTEEE505	2	To get detailed insight of indoor and outdoor illumination system components, its controls and design aspects. To introduce the modern trends in the lighting	2	2	2	1									2	1	
	3	To know the requirements of energy efficient lighting.	2	2	2				2						2	1	1
	4	To introduce the modern trends in the lighting	1	-					2						2		
Course/Subject		Course Outcomes (COs)				Pre	ogram	o Out	come	s (PO	s)					PSOs	\$
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Advances in Renewable	1	To know the Principle of Energy Conversion Techniques from biomass,geothermal and hybrid energy systems	2					2	3					2		3	
Energy	2	To understand effect of air pollution and ecosystems	2					2	3					2		3	
Sources.BTEEE505	3																
	4																
Course/Subject						Pre	ogram	Out	come	s (PO	s)					PSO	\$
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand the need for electrical mobility, environmental benefits and classification of electrical vehicles	-	2	-	-	-	3	3	-	-	-	-	-	-	-	-
1 Flootnicol	2	Know different energy storage technologies used for electrical mobility	-	3	-	-	-	2	2	-	-	-	-	-	-	-	-
Mobility.BTEEOE506	3	Identify different electrical machines and associated power converters for a particular application	-	3	-	2	1	-	-	-	-	-	-	-	-	-	-
	4	Prepare a simulation model of basic electrical vehicle and analyze its performance	-	-	3	-	-	-	-	-	-	-	2	-	-	-	-



Course/Subject with		Course Outcomes (COs)				Pre	ogran	n Out	come	es (PC)s)					PSOs	j.
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject						Pr	ogran	n Out	come	es (PC)s)					PSOs	
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To Review basic components of Power system, energy sources			2									3			
	2	To understand principle of construction and operation of different conventional power plants		2													
Power Plant	3	Analyse the working of Conventional Power Plant	2	3		3											
Engineering.BTEEOE506	4	Design the layout of Thermal and Hydro Power plant with ancillary services	3	2	3	2								2			
	5	Analyze the limitations and advantages of Nuclear Power Plant		2	2	3											
	6	Understand the significance and working of Renewable Energy Sources						1	2	1							
	7	Understand the working of Co-generation/Combined power Plant	3	3		3			2								
Course/Subject						Pre	ogran	n Out	come	es (PC)s)					PSOs	
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To know fundamental characteristic of an algorithm.	2	2	1			1	İ –					1	1		
Design and Analysis of	2	To understand strategy of algorithm formation,	2	1	1										2		
Algorithmi DI LEOE500	3	To develop different algorithm.	2	2	2	1	1								2		
Course/Subject				1	L	Pr	ogran	n Out	come	es (PC)s)		1			PSOs	
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To know different basic concepts and components of a control system	3											3	3		
	2	To derive transfer functions of basic control system components	3	3		2								3	3		
BTEEC601 Control System	3	To perform stability analysis using time domain and frequency domain response on a given system	3	3		2								3	3		
	4	To design and analyze pid controller.	3		3									3	3		
	5	To understand and analyze state variable technique.	3	3										3	3		



Course/Subject with		Course Outcomes (COs)				Pro	ogran	1 Out	come	s (PO	s)					PSO	5
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	ogran	ı Out	come	s (PO	s)					PSO	5
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
BTEEC602 -OPrinciples of Electrical	1	To understand principles of electric machine design.	2			1								3	2		
Machine Design	2	To design different components of electric machine.	2	2	2	1								3	2		1
	3	To design Transformer	3	2	2	2								2	1		
	4	To understand CAD and use it for transformer design	2	1		2								2			1
Course/Subject		Course Outcomes (COs)				Pro	ogran	ı Out	come	s (PO	s)					PSO	5
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To review principle of construction, operation and characteristics of basic semiconductor devices	2	2											2		
BTEEC603 -OPower	2	To understand and analyze the performance of controlled and uncontrolled converters.	2	2											2		
Electromes	3	To understand and analyze the performance of dc to dc converters. Dc to ac converters	3	3											2		
	4	To understand and analyze performance of ac voltage controllers.	3	3											2		
Course/Subject		Course Outcomes (COs)				Pro	ogran	ı Out	come	s (PO	s)					PSO	5
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To understand construction and working principle of different industrial measurement systems.	2	1	1						1	2			2		
	2	To understand new trends in industrial process control.	2	1	1						1	2					
Industrial automation and	3	To Understand Industrial Control Systems	1	1	1						1	2			2		
ControlBTEEE604	4	Understand different layers of the industrial automation	1	1	1						1	2				1	
	5	Understand the fieldbus and communication in industrial automation	2	2	1						1	2			2		
	6	Different drives and online control in industrial automation	2	1	1						1	2					
	7	Different Controllers used in industrial automation	2	1	1						1	2					
Course/Subject		Course Outcomes (COs)				Pro	ogran	1 Out	come	s (PO	s)					PSO	3
with course code			1	2	3	4	5	6	7	8	9	10	11	12		2	3
Design of Experiments	1	To understand experimental design principles.	2	2											2	\square	L
BTEEE604	2	To understand different experimental design used in industry.	2	2	1		2								2	\square	L
	3	To deign computer experiments to use with engineering problems.	2	1	2	2	2								2		



Course/Subject with						Pre	ogran	o Out	come	s (PO:	s)					PSO	5
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogran	o Out	come	s (PO	s)	•				PSO:	3
with course code	1	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To review basic principles of neuron structure.	2	1											1		
Antificial normal	2	To understand building blocks artificial neural network.	2	1											1		
Artificial fieural NotworkBTEFE604	3	To understand different networks of ANN.	2	1											1		
Networkb TELE004	4	To develop different algorithm for learning.	2	2	2	2									2		
	5	To study and understand Fuzzy neural networks	2	1											1		
Course/Subject		Course Outcomes (COs)				Pre	ogran	o Out	come	s (PO:	s)					PSO	5
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
COMPUTER AIDED	1	To study different computer aided tools in engineering application	2	1	2	2	3	NA	NA	NA	2	1	1	2	2	1	NA
ANALYSIS AND	2	To understand the functionality of different engineering software	2	1	1	1	3	NA	NA	NA	2	NA	1	1	2	1	NA
DESIGN	3	To apply different software in engineering design.	2	2	2	1	3	NA	NA	NA	1	NA	NA	NA	1	1	NA
Course/Subject		Course Outcomes (COs)				Pre	ogran	o Out	come	s (PO:	s)					PSO	5
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To understand principles of protective relaying.	-	-	-	1	-	-	-	-	-	-	-	3	-	-	-
	2	To understand principle of construction, operation and selection of different type of circuit breaker used in power system.	-	-	-	1	-	-	-	-	-	-	-	3	-	-	-
Switch Gear and	3	To understand different protection schemes used in power system operation	1	1	-	2	-	-	-	-	-	-	-	3	-	-	-
Protection B I EECous	4	Apply principles of power system protection using digital and numerical protection techniques	1	1	-	2	-	-	-	-	-	-	-	2	-	-	-
	5	Understand the need for insulation coordination and select appropriate insulation ratings for substation equipment	•	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Course/Subject						Pre	ogran	o Out	come	s (PO:	s)					PSO :	s
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To understand concept of mechatronics.	2		1		2					1		2	2		
	2	To understand sensor and transducer construction and operation.	3		2									2	3	2	3
Mechatronics BTEEC605	3	To understand microprocessor architecture and operation.	3	3	3									3	2		
	4	To understand principle of construction and operation of PLC				2	3								3	2	
	5	To design a robo for engineering application.	2		3									2			3



Course/Subject with						Pro	ogram	Out	come	s (PO:	s)					PSOs	;
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	ogram	o Out	come	s (PO:	s)					PSOs	5
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Rural Technology and	1	To analysis data, information and knowledge. To understand concepts of marketing. To identify projects and work for community development To understand and analyze business model.							3		2		3		1	2	
Community Development	2	To understand concepts of marketing.									3		2	3			
BTEEOE606	3	To identify projects and work for community development							3	2		2	3			3	
	4	To understand and analyze business model.										3	2		2		2
	5																
Course/Subject		Course Outcomes (COs)				Pro	ogram	o Out	come	s (PO:	s)					PSOs	\$
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To understand concepts of project management	-	-	1	-	1	1	-	-	-	-	3	2	3	-	-
Project Management	2	To develop project plan	-	-	1	-	1	1	-	-	-	3	-	2	-	2	-
BTEEOE606	3	To understand the project implementation strategy	-	-	1	-	1	1	-	-	2	-	-	3	-	-	3
	4	To analyze post project affects	-	-	1	-	1	1	-	-	3	-	-	-	-	3	-
Course/Subject		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSOs	\$
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Knowledge	1	To understand different components knowledge management.					3							2	2		
Knowicuge		To conduct knowledge audit and knowledge management practices in															1

Course/Subject		Course Outcomes (COs)				Pre	ogran	ı Outo	come	s (POs	s)					PSO:	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand the concept of Laplace transform and inverse Laplace transform of elementary functions and apply it to solve the linear differential equations with constant coefficients having their applications in mechanical, electrical, chemical, communication etc. systems.	3	3		1									2		
Engineering Mathematics - III (BTBSC301)	2	Apply the concept of Fourier transform to solve the boundary value problems, problems in signal processing and communication system.	3	3		1									2		
	3	Apply partial differential equations to solve heat equation, wave equation and Laplace equation etc.	3	3											1		
	4	Analyze conformal mapping, transformation and perform contour integration of complex function in the study of electromagnetics and signal processing.	3	2											1		



course code 1 2 3 4 5 6 7 8 9 10 1	Course/Subject with	Course Outcomes (COs)				Pr	ogran	1 Out	come	s (POs	5)					PSO	3
	course code	Course Outcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3



Course/Subject with		Course Outcomes (COs)				Pro	ogram	o Outo	comes	s (POs	s)					PSOs	
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	ogram	o Outo	comes	s (POs	s)					PSOs	
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Review Basic Components Of Electric Network And Understand Network Theorems To Simplify Complex Networks.	2	2	2	2									2		1
	2	Apply Graph Theory For Electric Network Analyses	1	1											2		1
Network Analysis and	3	Understand Transient Analysis In Electrical Circuits	2	2	2	2									2		1
Synthesis BTEEC302	4	Apply Laplace Transform For Electric Network Analyses	3	3		2									2		1
	5	Evaluate The Parameters Of Two Port Networks	2	2		2									2		
	6	Analyze A. C. Circuit And Design Various Types Of Filters.	2	2		2									2		

Course/Subject	Course Outcomes (COs)				Pro	gram	o Outo	come	s (POs	s)					PSO	\$
with course code	Course outcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Measurement and	1 To Understand Philosophy Of Measurement.	3											1	1		
Instrumentation	2 To Understand Different Methods Analog And Digital Measurement.	2	2			1							1	2		
BTEEC304	3 To Study Principle Of Construction And Operation Of Different Transducer And Display Methods.	2	2			1							1	2		



Course/Subject with	Course Outcomes (COs)				Pre	ogran	ı Out	come	s (PO	s)					PSOs	3
course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject					Pre	ogran	ı Out	come	s (PO	s)					PSOs	5
with course code	Course outcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	¹ Classify Various Properties Of Electrical Engineering Materials,	2	3		3										1	
Electrical Engineering	2 Categories Dielectric Materials And Relate The Dielectric Polarization With Frequency And Temperature	3	2		3										1	
Materials RTFFF305A	3 Illustrate Semiconductor Properties With Respect To Pn Junction Diode	3	3		3									2		
Water als DTEEE505A	4 Discover And Illustrate The Applications Of Magnetic Materials In Electrical Engineering	3	2		2									3		
	 Discover And Illustrate The Applications Of X-Ray Diffraction, Ultrasonics And Other Non- Destructive Testing Methods 	3	2		1									3		
Course/Subject					Pre	ogran	ı Out	come	s (PO	s)					PSOs	5
with course code	Course outcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Annia Dimates	1 1.Understand concept of Electromagnetic theory and Magnetism	3	2			1								2		
Applied Physics DTEEE205D	2 2. Understand concept of Dielectric and Super conductivity	1		2	3									1		
DIEEEJUSD	3 3. Understand concept of nanomaterial	1	3		2										2	
Course/Subject	Course Outcomes (COs)				Pre	ogran	ı Out	come	s (PO	s)					PSOs	3
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Signals and Systems	1 To Study Classification Of Signals And System	2	2	1	1									1		
BTEEE305C	2 To Analyze Diff. Types Of Time Signal	3	3	1	1									1		1
Course/Subject	Course Outcomes (COs)				Pro	ogran	ı Out	come	s (PO	s)					PSOs	3
with course code	course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Understand the history of human rights						2									
	2 Learn to respect others caste, religion, region and culture															
Dasia Human Diakta	3 Be aware of their rights as Indian citizen															
Dasic Human Kignts DTHM2401	4 Understand the importance of groups and communities in the society															
D 1 11113401	 Realize the philosophical and cultural basis and historical perspectives of human rights 									3						
	6 Make them aware of their responsibilities towards the nation								2		2		1			2



Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSOs	\$
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSOs	5
with course code	1	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To study concept of time value of money								3	2	2		3		2	
	2	To study about demand in detail,								2	2	2	2	3		1	
	3	To understand Meaning of Production and factors of production					3		2			2	3	3		2	
Engineering Economics	4	To understand dif. Concept about market										2	3	3			3
B I HIVI 300	5																
	6																
	7																
Course/Subject		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSOs	;
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Electrical workshop (Mini	1	Build And Verifies Basic Scientific Principles.	3	2	2	1	2			1	2	2	1	2	2		1
Decirical workshop / Willin																	
rroject																	

Course/Subject	Course Outcomes (COs)				Pre	ogram	Out	come	s (PO:	s)					PSO :	5
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Explore Career Alternatives Prior To Graduation	2		2			2			3		1	3		2	1
	2 Integrate Theory And Practical Approach	2		2			2			3		1	3		2	1
Field	3 To Develop The Ability As A Problem Solver Using Practical Approach	2		2			2			3		1	3		2	1
rial Training Evaluation	 4 Develop Communication, Interpersonal And Other Critical Skills Required For Interview Process 	2		2			2			3		1	3		2	1
(BILLISIO)	5 Acquire Employment Skills Leading To Industry-Ready Engineers	2		2			2			3		1	3		1	1



Course/Subject with	Course Outcomes (COs)				Pre	ogram	o Out	come	s (PO:	s)					PSOs	5
course code	course outcomes (cos)	1	2	3	4	5	6	7	80	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pre	ogram	o Out	come	s (PO	s)					PSOs	5
with course code	course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Understand different types, construction and principle of single phase transformer and its application	2		2									1	2		
	 Classify different types of connections of 3 phase transformer, and understand the parallel operations, Phase Conversion concept. Design of equivalent circuit and various test of Transformer. 		2										1	1		
Flectrical Machine, I	3 Apply Electromechanical energy conversion principle and calculate the magnetic force and torque of various system	2												1		
BTEEC401	4 Understand operating principle, Constructional features types, performance characteristics, armature reaction, commutation of dc generator and their applications	2	2	3	2								1	2		2
	 Develop Torque equation and calculate Current, Power, Losses and efficiency of various types of DC motors and understand different characteristics, various methods of speed control 	2	2	2	2								1	2		2
	6 differentiate the construction of various types of special machines like Reluctance machine, VRM, stepper motor, BLDC and analyse its application in the field.	2	2	2												



Course/Subject with						Pro	gram	Out	come	s (PO:	s)					PSOs	
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogran	1 Out	comes	(POs)					PSOs	
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand basic operation of power system, power system components and their characteristics.	1	2	3						1	1			2		
	2	Understand different types of power plants, construction, working and components. Factors describing economics of the power plants.	1	2	3						1	1			2		
	3	Major electric components, alternator, transformer, control and metering of the power system	2	2	3						2	2			2		
	4	Parameters calculation of transmission network like inductance, capacitance, conductance and resistance.	2	2	3						2	2			2		
Power System-I BTEEC402-O	5	Develop the ability to implement the appropriate safety equipment for design of electrical power system with enhancing the efficiency of the transmission and distribution system.	2	1	3						2	2			2	2	
	6	Judge the suitability of installing overhead and underground power transmission strategies considering electrical, mechanical, performance, safety and economic constraints.	2	1	2						2	2			3	2	
	7	Choose the appropriate type of power generating station following norms and guidelines related to cost, environment, societal and ethical issues. Also review the different tariff systems available and determine the one most appropriate for a given scenario to optimize the revenue earned.	2	1	3						2	2			1		
	8	Recognize the need to continuously follow the advancements in technology and incorporating them in the present system to improve efficiency	2	1	1		2				3	3			1		



Course/Subject with		Course Outcomes (COs)				Pr	ogran	1 Out	come	s (PO:	s)					PSOs	
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pr	ogran	1 Out	come	s (PO:	s)					PSOs	
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Electrical Installation and	1	To Prepare Estimates And Costing Of Electrical Installation Of Power System				3	2				2				3		1
Estimation BTEEC405-O	2	To Understand Procedures Of Contracting And Purchase	2								2			3		2	3
Course/Subject		Course Outcomes (COs)				Pr	ogran	1 Out	come	s (PO:	s)					PSOs	
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Normania Mathed and	1	To Study And Understand Matlab Programming.	1				3								3		1
Numerical Method and	2	To Review Mathematical Concepts .	2	3	1										2		
rrogramming DIEEC404	3	To Develop Computer Program For Linear And Nonlinear Equations.	1		2	3									2		

Course/Subject	Course Outcomes (COs)				Pro	gram	1 Out	come	s (PO:	s)					PSO	3
with course code	Course Outcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Create Simple Mechanical Or Other Designs	1	1	2		2								2	2	
Product Design	2 Create Design Documents For Knowledge Sharing	1	1	1		2				2	2			2	1	
Engineering (BTID405)	3 Manage Own Work To Meet Design Requirements							1		2		3		1	1	
	4 Work Effectively In A Team	1				1			1	3		2		1		

Course/Subject						Pro	ogran	o Out	come	s (PO:	s)					PSO	\$
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To study construction and characteristics of solid state devices.	2			2	2							1			
	2	To apply operational amplifier models in circuits employing negative feedback		3	1	1			1			1					
Solid State Devices	3	To design electronics circuit using Timer IC and voltage regulators.		2	3	2	2		1								
BTEEE406A	4	To perform analysis of amplifiers using small signal models for the circuit elements.			2		1	2				2					
	5	To calculate the frequency response of circuits containing BJT, Op-Amp etc		2	2	2	2						2				



Course/Subject with	Course Outcomes (COc)				Pro	ogram	o Outo	comes	s (PO:	s)					PSOs	5
course code	Course Ourcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject					Pro	ogram	o Outo	come	s (PO:	s)					PSOs	5
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To Review Basic Number System	3	2	1										1		
Analog and Digital	2 To Understand Deign And Characteristics Of Digital Logic Gates.	3	2	1										1		
Electronics BTEEE-406B	3 To Study Different Techniques In Use Of Digital Circuits.	3	2	1										1		
	4 To Design Digital Systems	3	2	1										1		
Course/Subject			-		Pro	ogram	Out	comes	s (PO:	s)					PSOs	ł
Course/Subject with course code	Course Outcomes (COs)	1	2	3	Pro 4	ogram 5	Outo 6	comes 7	s (PO: 8	s) 9	10	11	12	1	PSOs 2	3
Course/Subject with course code	Course Outcomes (COs) 1 To understand vector relations in diff. forms	1 2	2	3	Pro 4	ogram 5	outo 6	come: 7	s (PO: 8	s) 9	10	11	12	1	PSOs 2	3
Course/Subject with course code	Course Outcomes (COs) 1 To understand vector relations in diff. forms 2 To analyze diff. laws and their solution	1 2 2	2	3 2	Pro 4	ogram 5	6 G	7 7	s (PO: 8	s) 9	10	11	12	1 1	PSOs 2	3
Course/Subject with course code Electromagnetic Theory	Course Outcomes (COs) 1 To understand vector relations in diff. forms 2 To analyze diff. laws and their solution 3 To study about magneto static	1 2 2 2	2	3 2	Pro 4	5	6	7 7	s (PO: 8	s) 9	10	11	12	1 1 1	PSO:	3
Course/Subject with course code Electromagnetic Theory BTEEE-406C	Course Outcomes (COs) 1 To understand vector relations in diff. forms 2 To analyze diff. laws and their solution 3 To study about magneto static 4 To understand time varying field and effect of magnetism in transmission line	1 2 2 2 2 2	2 1 1	3 2	Pro 4	5	6	7 7	s (PO: 8	s) 9	10	11	12	1 1 1 1	PSO:	3
Course/Subject with course code Electromagnetic Theory BTEEE-406C	Course Outcomes (COs) 1 To understand vector relations in diff. forms 2 To analyze diff. laws and their solution 3 To study about magneto static 4 To understand time varying field and effect of magnetism in transmission line 5	1 2 2 2 2	2 1 1	3	Pro 4	5	6	7 7	s (PO: 8	s) 9	10	11	12	1 1 1 1	2 2	3

Course/Subject	Course Outcomes (COs)				Pro	ogran	Out	come	s (PO	s)					PSOs	5
with course code	course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Indentation of the DODDE	1 To understand importance of safety in industrial environment.	1	2										2	1		
	2 To understand different safety procedures in an industrial environment.	1	2										2	1		
407A																
Course/Subject	Course Outcomes (COs)				Pro	ogram	u Out	come	s (PO	s)					PSOs	s
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Introduction to non	1 Review Energy Scenario.	2					1	3					2		3	2
Conventional Energy	Understand Basic Concepts, Construction And Operational Features Of Different															
Sources BTEEOE407-B	² Non-Conventional Energy Sources.	2	1				1	3					2		3	2



Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	come	s (POs	5)					PSOs	\$
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	ogram	Out	come	s (POs	s)					PSOs	3
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Explore Career Alternatives Prior To Graduation	2		2			2			3		1	3		2	1
	2	Integrate Theory And Practical Approach	2		2			2			3		1	3		2	1
Field Tusining/Internation	3	To Develop The Ability As A Problem Solver Using Practical Approach	2		2			2			3		1	3		2	1
/Industrial Training	4	Develop Communication, Interpersonal And Other Critical Skills Required For Interview Process	2		2			2			3		1	3		2	1
	5	Acquire Employment Skills Leading To Industry-Ready Engineers	2		2			2			3		1	3		1	1

Course/Subject						Pr	ogran	o Out	come	s (PO	s)					PSO:	3
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand Principle Of Operation Of Ac Machines	3	3	2	3											
	2	Analyze The Concept Of Steady State Analysis In Ac Machines	3	3	3	3											
Electrical Machine -II	3	Study Different Methods Of Speed Control Of Ac And Dc Motor	3	3	3	3	2							2			
BTEEC501	4	Study Importance And Procedure Of Different Performance Test On Ac And Dc Motor	3	3	3	2	2							2			
	5	Determine Different Operating Characteristics Of Ac And Dc Machines	3	3	3	2	2										
	6	Understand Operation & Application Of Special Machines	1	2	1	2											



Course/Subject with	Course Outcomes (COs)				Pre	ogram	o Out	come	s (PO:	s)					PSO	5
course code	Course Outcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pre	ogram	u Out	come	s (PO:	s)					PSO	5
with course code	Course Outcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Understand Different Parameters Of Power System Operation And Control	3	3	2	3	1	2			2			3	1		
	2 Understand Load Flow And Different Methods Of Reactive Power Control	3	3	2	3	3	2			3			2	2		
Power System -II	3 To Understand Sequence Network Of Power System Elements	3	3	2	3	3	2			2			1	2		
BTEEC502-O	4 To Understand Different Methods Of Fault Analysis And Stability Study	3	3	2	3	3	2			2			3	2	2	
	5 Study Transient Stability Analysis & Equal Area Criteria	3	3	2	3	3	2			3			3	2		
Course/Subject	Course Outcomes (COs)				Pre	ogram	Out	come	s (PO:	s)					PSO s	3
with course code	Course Outcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
BTEEL503	1 To Know The Architecture Of 8085 And 8051	2	1											2		
Microprocessor and	2 To Understand Interfacing And Interrupt Features Of 8085 And 8051.	2	1	1	1									1		
micro Controller	3 To Develop Program For Basic Applications	2	2	3	2	1								2		

Course/Subject	Course Outcomes (COs)				Pro	ogram	Outo	come	s (POs	5)					PSO :	3
with course code	course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Education Human	1 To understand value of education and self-development									1			1			1
Rights and Legislative	2 To develop good values and character To know Human right and legislative procedure								2	2						2
Procedures	3 To know Human right and legislative procedure									1			1			

Course/Subject	Course Outcomes (COs)				Pre	ogram	Out	come	s (POs	5)					PSO	5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To get the detailed information about modern lamps and their accessories.	2	1	-										2		
Illumination Engineering	To get detailed insight of indoor and outdoor illumination system components, its															
DTEEE505	2 controls and design aspects. To introduce the modern trends in the lighting	2	2	2	1									2	1	
DIEEESUS	3 To know the requirements of energy efficient lighting.	2	2	2				2						2	1	
	4 To introduce the modern trends in the lighting	1	-					2						2		



Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSOs	
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSOs	,
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Advances in Renewable	1	To know the Principle of Energy Conversion Techniques from biomass, geothermal															
Energy	1	and hybrid energy systems	2					2	3					2		3	
Sources.BTEEE505	2	To understand effect of air pollution and ecosystems	2					2	3					2		3	
Course/Subject		Course Outcomes (COs)	Program Outcomes (POs) 1 2 3 4 5 6 7 8 9 10 11													PSOs	j.
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand The Need For Electrical Mobility, Environmental Benefits And Classification Of Electrical Vehicles	-	2	-	-	-	3	3	-	-	-	-	-	-	-	-
1.Electrical	2	Know Different Energy Storage Technologies Used For Electrical Mobility	-	3	-	-	-	2	2	-	-	-	-	-	-	-	-
Mobility.BTEEOE506	3	Identify Different Electrical Machines And Associated Power Converters For A Particular Application	-	3	-	2	1	-	-	-	-	-	-	-	-	-	-
	4	Prepare A Simulation Model Of Basic Electrical Vehicle And Analyze Its Performance	-	-	3	-	-	1	-	1	-	-	2	-	-	-	-
Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)													PSOs	
with course and		Course Succomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3

Course/Subject	Course Outcomes (COs)				Pro	ogram	Out	come	s (PU:	sj					P508	غ
with course code	course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To Review Basic Components Of Power System, Energy Sources			2									3			
	To Understand Principle Of Construction And Operation Of Different Conventional															
	² Power Plants		2													
Power Plant	3 Analyse The Working Of Conventional Power Plant	2	3		3											
Engineering.BTEEOE506	4 Design The Layout Of Thermal And Hydro Power Plant With Ancillary Services	3	2	3	2								2			
	5 Analyze The Limitations And Advantages Of Nuclear Power Plant		2	2	3											
	6 Understand The Significance And Working Of Renewable Energy Sources						1	2	1							
	7 Understand The Working Of Co-Generation/Combined Power Plant	3	3		3			2								



Course/Subject with	Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSOs	5
course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSOs	5
with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To know fundamental characteristic of an algorithm.	2	2											1	j l	
Design and Analysis of	2 To understand strategy of algorithm formation,	2	1	1										2	j l	
Algorithm BTEEOE506	3 To develop different algorithm.	2	2	2	1	1								2	j l	
Course/Subject	Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSO s	5
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To Know Different Basic Concepts And Components Of A Control System	3											3	3		
	2 To Derive Transfer Functions Of Basic Control System Components	3	3		2								3	3	j l	
BTEEC601 Control	To Perform Stability Analysis Using Time Domain And Frequency Domain Response On A	2	2		2								2	2	j l	
System	Given System	3	3	2	Z								3	3	J]	
	4 To Design And Analyze Pid Controller.	3	2	3									3	3	j]	
	5 To Understand And Analyze State Variable Technique.	3	3										3	- 5		
Course/Subject	Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)	1 10		10		PSOs	3
with course code		1	2	3	4	5	6	1	8	9	10	11	12	1	2	3
BTEEC602 -OPrinciples	1 To understand principles of electric machine design.	2			1								3	2		
of Electrical	2 To design different components of electric machine.	2	2	2	1								3	2		1
Machine Design	3 To design Transformer	3	2	2	2								2	1		
Mueline Design	4 To understand CAD and use it for transformer design	2	1		2								2			1
Course/Subject	Course Outcomes (COs)				Pro	ogram	Out	come	s (PO:	s)					PSOs	\$
with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To Review Principle Of Construction, Operation And Characteristics Of Basic Semiconducto Devices	2	2											2		
BTEEC603 -OPower	2 To Understand And Analyze The Performance Of Controlled And Uncontrolled Converters.	2	2											2		
Electronics	3 To Understand And Analyze The Performance Of Dc To Dc Converters. Dc To Ac Converter	3	3											2		
	4 To Understand And Analyze Performance Of Ac Voltage Controllers.	3	3											2		



Course/Subject with	Course Outcomes (COs)				Pre	ogram	o Out	come	s (PO	s)					PSO	S
course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject					Pre	ogram	Out	come	s (PO	s)					PSO	5
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	To understand construction and working principle of different industrial measurement															
	systems.	2	1	1						1	2			2		
	2 To understand new trends in industrial process control.	2	1	1						1	2					
Industrial automation and	3 To Understand Industrial Control Systems	1	1	1						1	2			2		
ControlBTEEE604	4 Understand different layers of the industrial automation	1	1	1						1	2				1	
	5 Understand the fieldbus and communication in industrial automation	2	2	1						1	2			2		
	6 Different drives and online control in industrial automation	2	1	1	1					1	2					
	7 Different Controllers used in industrial automation	2	1	1						1	2					
Course/Subject					Pre	ogram	Out	come	s (PO	s)					PSO:	5
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To understand experimental design principles.	2	2	1	1									2		
Design of Experiments	2 To understand different experimental design used in industry.	2	2	1		2								2		
BTEEE604	3 To deign computer experiments to use with engineering problems.	2	1	2	2	2								2		
Course/Subject					Pre	ogram	Out	come	s (PO	s)					PSO :	5
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To review basic principles of neuron structure.	2	1											1		
	2 To understand building blocks artificial neural network.	2	1											1		
Artificial neural	3 To understand different networks of ANN.	2	1											1		
NetworkBTEEE604	4 To develop different algorithm for learning.	2	2	2	2									2		
	5 To study and understand Fuzzy neural networks	2	1											1		
	6		1													
Course/Subject					Pre	ogram	Out	come	s (PO	s)					PSO:	s
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
COMPUTER AIDED	1 To Study Different Computer Aided Tools In Engineering Application	2	1	2	2	3	NA	NA	NA	2	1	1	2	2	1	NA
ANALYSIS AND	2 To Understand The Functionality Of Different Engineering Software	2	1	1	1	3	NA	NA	NA	2	NA	1	1	2	1	NA
DESIGN	3 To Apply Different Software In Engineering Design.	2	2	2	1	3	NA	NA	NA	1	NA	NA	NA	1	1	NA





Course/Subject with	Course Outcomes (COs)				Pro	ogran	o Out	come	s (PO	s)					PSO	3
course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	ogran	o Out	come	s (PO	s)					PSO	3
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To Understand Principles Of Protective Relaying.	-	-	-	1	-	-	-	-	-	-	•	3	-	-	-
	To Understand Principle Of Construction, Operation And Selection Of Different															
	² Type Of Circuit Breaker Used In Power System.	-	-	-	1	-	-	-	-	-	-	-	3	-	-	-
Switch Gear and	3 To Understand Different Protection Schemes Used In Power System Operation	1	1	-	2	-	-	-	-	-	-	-	3	-	-	-
Protection BTEEC605	Apply Principles Of Power System Protection Using Digital And Numerical															
	Protection Techniques	1	1	-	2	-	-	-	-	-	-	-	2	-	-	-
	5 Understand The Need For Insulation Coordination And Select Appropriate Insulation															
	Ratings For Substation Equipment	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Course/Subject	Course Outcomes (COs)				Pro	ogran	1 Out	come	s (PO	s)					PSOs	3
with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	To understand concept of mechatronics.															
	1	2				2							2	2		
Machatronics BTEEC605	2 To understand sensor and transducer construction and operation.	3		2									2	3	2	3
WICCHALI OILES D I LEC005	3 To understand microprocessor architecture and operation.	3	3	3									3	2		
	4 To understand principle of construction and operation of PLC				2	3								3	2	
	5 To design a robo for engineering application.	2		3									2			3
Course/Subject	Course Outcomes (COs)				Pro	ogran	ı Out	come	s (PO	s)					PSO	5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	To analysis data, information and knowledge. To understand concepts of marketing.															
	To identify projects and work for community development To understand and analyze															
Rural Technology and	1 business model.							3		2		3		1	2	
DEFECTEANA	2 To understand concepts of marketing.									3		2	3			
DIEEOE000	3 To identify projects and work for community development							3	2		2	3			3	
	4 To understand and analyze business model.										3	2		2		2
Course/Subject					Pro	ogran	o Out	come	s (PO	s)					PSO	3
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To Understand Concepts Of Project Management	-	-	-	-	-	-	-	-	-	-	3	2	3	-	-
Project Management	2 To Develop Project Plan	-	-	-	-	-	-	-	-	-	3	-	2	-	2	-
BTEEOE606	3 To Understand The Project Implementation Strategy	-	-	-	-	-	-	-	-	2	-	-	3	-	-	3
	4 To Analyze Post Project Affects	-	-	-	-	-	-	-	-	3	-	-	-	-	3	-



Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO	s)				1	PSOs	
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO	s)					PSOs	j.
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Knowledge	1	To understand different components knowledge management.					3							2	2		
ManagementBTEEOE606	2	To conduct knowledge audit and knowledge management practices in organization.						2		2	3	3	2	3		3	3
Course/Subject		Course Outcomes (COs)				Pro	ogram	o Out	come	s (PO	s)					PSOs	
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand fundamental concepts power system	3	3	2	3	1	2						3	2		
	2	Obtain the mathematical model of synchronous machine, excitation & speed															
Power System	4	governing systems	3	3	2	3	3	3						2	1		
Operation & Control	3	Analyze the transient stability of power system using numerical solutions of swing						-									
BTEEC701	3	equation	2	3	2	2	2	2						1	2		
	4	Understand the economic operation of power system	3	2	2	3	2	1						3		3	
	5	Explain the methods of Voltage control	2	3	2	2	3	2						3	1		
Course/Subject		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO	s)					PSOs	
with course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
		Illustrate the concept of electric field stresses, applications of insulating materials															
	1	and methods for Non-destructive testing of equipment like transformers, insulators,															
		isolators, bushings, lightning arrestors, cables, circuit breakers and surge diverters.	3											1	2		
High Voltage	2	Explain the breakdown process in solid, liquid, and gaseous materials	3											1	2		
Engineering RTEEC702	2	Analyze methods for generation and measurement of High Voltages and Currents		_													
Engineering DTELC702	3	(both ac and dc)	2	3										1	2		
	4	Describe the phenomenon of over-voltage and choose appropriate insulation															
	-	coordination levels based on IS & IEC Standards.	2	2		3								1	2		
	5	Understand perspectives of layout of high voltage laboratory & testing facilities.	3											1	2		



Course/Subject with	Course Outcomes (COs)				Pro	ogram	o Out	come	s (PO	s)					PSO	5
course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	ogram	o Out	come	s (PO	s)					PSO	5
with course code	course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Analyze The Dynamics Of The Electrical Drives System.	3	3	2	2	-	-	-	-	2	-	-	3	-	-	-
	2 Use Various Control Techniques For Controlling The Speed Of Ac And Dc Motors.	3	3	-	2	-	-	-	-	2	-	-	3	1	-	-
Electrical Drives	3 Analyze The Ac And Dc Drives.	3	3	2	2	-	-	-	-	3	-	-	3	1	-	-
BTEEC703	To Select/Recommend The Appropriate Drive According To The Particular															
	⁴ Applications.	3	3	-	2	-	-	-	-	2	-	-	3	1	-	-
	5 State The Recent Technology Of Ac And Dc Drive	3	3	-	-	-	-	-	-	2	-	-	3	1	-	-
Course/Subject	Course Outcomes (COs)				Pro	ogram	o Out	come	s (PO	s)					PSO	5
with course code	course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	Demonstrate construction, working principle, and application of various types of															
Special Purpose Electrical	special purpose electrical machines	3	2	2	1								1	1		
Machines BTEEE704	2 Select a special Machine for a particular application	3	2	2	1								1	2		
	3 Demonstrate behavior of induction generator and induction machine	2	1	1									1		2	
Course/Subject	Course Outcomes (COs)				Pro	ogram	ı Out	come	s (PO	s)					PSO	5
with course code	Course ourcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1. To understand the basic process involved in the energy audit and the terminologies															
	associated in the process.															
Enougy Audit and	1	1	2				1	2						1	2	1
Conservation BTEEF705	2. To be able to develop audit reports of any firm including large and small scale															
Conservation DTEEE/05	2 industries, residential and commercial establishments.	2					1	1								
	3. To select and comment on the appropriate method for the planning and monitoring															
	3 of any energy conservation project.	1										2	1	1	1	
Course/Subject					Pro	ogram	o Out	come	s (PO	s)					PSO	5
with course code	Course ourcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To Understand Importance, Configuration And Types Of Hvdc Transmission	-	3	-	-	-	2	1	-	-	-	-	3	1	1	2
HVDC Transmission and	2 To Analyse The Operation Of Hvdc Converter, System Control And Protection	-	-	3	2	-	-	-	-	-	-	-	2	3	1	1
FACTS BTEEE705D	3 To Understand The Concept Of Facts, Their Role, Type And Functionality	-	-	2	3	-	-	-	-	-	-	-	3	2	3	2
	4 To Analyze The Operation Of Static Series And Shunt Compensator	-	-	-	-	2	-	-	-	-	-	-	2	2	2	1


Course/Subject with					Pro	ogram	o Outo	come	s (PO	s)					PSO	5
course code	Course Ourcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	ogram	o Out	come	s (PO	s)					PSO	5
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	he in-depth understanding of power quality issues &															
Electrical Power Quality	1 standards.	2	1				2						1	1	1	
DIEEE/05	2 Equipment's.	2				2	1						1	2		

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Shiksha Mandal's Bajaj Institute of Technology, Wardha

Course/Subject with		Course Outcomes (COs)	Program Outcomes (POs) 1 2 3 4 5 6 7 8 9 10 11 Program Outcomes (POs) 1 2 3 4 5 6 7 8 9 10 11 2														5
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogran	ı Out	come	s (PO	s)					PSOs	\$
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1.Power Management	1	Understand Why Power Management Circuits Are Needed In A Vlsi System	2	2	2										2		
Integrated	2	Understand The Concept Behind Power Management Circuits	2	2	2										2		
CircuitsBTEEO801A	3	Design A Linear (Ldo) And Switching Regulator (Dc-Dc Converter)	3	2	2										2		
Course/Subject		Course Outcomes (COs)				Pre	ogran	ı Out	come	s (PO	s)					PSOs	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To understand concepts of DC-DC converter	2												3		
2.DC Power Transmission	2	To design HVDC systems		3												3	
Systems	3	To do analysis of Long Transmission Lines			3												1
	4	To understand the materials and its impact on Environment	2											3			2

Course/Subject	Course Outcomes (COs)				Pro	ogram	1 Out	come	s (PO	s)					PSO	3
with course code	Course outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
The Development	1 Analyse And Design Different Types Of Converter	1	1	1										1		
High Power Multilevel	2 Understand Neutral Point Clamped Converter	2	1	2										1		
Converters	3 Understand The Design Of Multi Pulse Transformer And Gate Driver Circuit	2	1	2										1		

Course/Subject	Course Outcomes (COs)				Pro	ogram	o Outo	come	s (PO:	s)					PSOs	5
with course code	Course Outcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	To Develop The Fundamental Concepts Such As Fuzzy Sets, Operations And Fuzzy															
	1 Relations	3	2	3		2							3	3		1
Fuzzy Sets, Logic and	To Lean About The Fuzzification Of Scalar Variables And The Defuzzification Of Membership Functions	3	2	3		2							3	3		1
Systems &	3 To Learn Three Different Inference Methods To Design Fuzzy Rule Based System.	3	2	3		2							3	3		1
Applications	To Develop Fuzzy Decision Making By Introducing Some Concepts And Also Bayesian Decision Methods	3	2	3		2							3	3		1
	5 To Learn Different Fuzzy Classification Methods	3	2	3		2							3	3		1



Project - II (BTEEP803)

Board)

Electronics Devices

Shiksha Mandal's Bajaj Institute of Technology, Wardha

Mapping of COs with POs and PSOs (Department of Electrical Engineering)

Course/Subject with		Course Outcomes (COs)				Pre	ogran	o Out	come	es (PC	ls)					PSO	5
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Courses Outcomes (COs)				Pre	ogran	o Out	come	es (PC	s)					PSO :	3
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Practice And Culture The Art Of Programming With Python	2	1	NA	1	NA	NA	NA	NA	NA	NA	NA	1	1	NA	NA
5.1 ne Joy of Computing	2	Know The Concept Of Functions In Python.	2	1	NA	1	NA	NA	NA	NA	NA	NA	NA	2	1	NA	NA
using Fython	3	Learn How To Design And Program Python Applications	2	1	NA	1	NA	NA	NA	NA	NA	NA	NA	2	1	NA	NA
Course/Subject		Course Outcomes (COs)				Pre	ogran	o Out	come	es (PC	s)					PSO :	3
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand Theory And Practice Related To Industrial Iot Systems	2	2	1	-	-	-	-	-	-	-	-	-	1	-	-
	2	Identify, Formulate And Solve Engineering Problems By Using Industrial Iot.	2	2	1	-	-	-	-	-	-	-	-	-	2	-	-
4.0 and	3	Implement Real Field Problem By Gained Knowledge Of Industrial Applications With Iot Capability.	2	2	2	-	-	-	-	-	-	-	-	-	2	-	-
Things	4	Understand, Apply The Knowledge Of Various Technologies Such As Cyber Physical Systems (Cps), Internet Of Things (Iot), Cloud Computing, Machine Learning, And Data Analytics In The Field Of Industrial Internet Of Things.	2	2	2	-	-	-	-	-	-	-	-	-	1	-	-
Course/Subject		Course Outcomes (COs)				Pre	ogran	ı Out	come	es (PC	s)					PSO:	5
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Address Multi Disciplinary Audiences	1			3				2				2	2	3	3
Entrepreneurship	2	Understand Key Issues Faced By Entrepreneurs And Managers At Different Stages Of Life Cycle For Aspiring Entrepreneurs				3								3		1	
Essentials	3	Analyze And Understand Financial Aspects	2	1	1	1	3							3	2		2
	4	Understand Legal Aspects And Fund Raising Issues For New Ventures		2			3		3	3					3		3
Course/Subject						Pr	ogran	o Out	come	es (PC	s)					PSO :	5
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Students Shall Be Able To Acquire Knowledge About Electrical Components And Techniques.	3	3	3	2	2							3	3	1	
		Students Shall Be Able To Enhance Their Knowledge Of The Assembling Of															

2 2

Electrical Circuits Along With Power Electronic Devices On Pcb (Printed Circuit

Design And Develop Small Electrical Application-Based Projects Along With Power



Course/Subject with		Courses Outcomes (COs)				Pre	ogran	ı Out	come	s (PO:	s)					PSOs	J.
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pre	ogran	ı Out	come	s (PO:	s)					PSOs	J.
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand basic operation of power system, power system components and their characteristics.	1	2	3						1	1			2		
	2	Understand different types of power plants, construction, working and components. Factors describing economics of the power plants.	1	2	3						1	1			2		
	3	Major electric components, alternator, transformer, control and metering of the power system	2	2	3						2	2			2		
	4	Parameters calculation of transmission network like inductance, capacitance, conductance and resistance.	2	2	3						2	2			2		
Power System-I Lab BTEEL409-O	5	Develop the ability to implement the appropriate safety equipment for design of electrical power system with enhancing the efficiency of the transmission and distribution system.	2	1	3						2	2			2	2	
	6	Judge the suitability of installing overhead and underground power transmission strategies considering electrical, mechanical, performance, safety and economic constraints.	2	1	2						2	2			3	2	
	7	Choose the appropriate type of power generating station following norms and guidelines related to cost, environment, societal and ethical issues. Also review the different tariff systems available and determine the one most appropriate for a given scenario	2	1	3						2	2			1		
	8	Recognize the need to continuously follow the advancements in technology and incorporating them in the present system to improve efficiency	2	1	1		2				3	3			1		

Course/Subject					Pro	ogram	Out	come	s (POs	5)					PSOs	3
with course code	Course ourcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Understand Different Parameters Of Power System Operation And Control	3	3	2	3	1	2			2			3	1		
Demon Contour III al	2 Understand Load Flow And Different Methods Of Reactive Power Control	3	3	2	3	3	2			3			2	2		
Power System - II Lab	3 To Understand Sequence Network Of Power System Elements	3	3	2	3	3	2			2			1	2		
DIEELSU8-U	4 To Understand Different Methods Of Fault Analysis And Stability Study	3	3	2	3	3	2			2			3	2	2	
	5 Study Transient Stability Analysis & Equal Area Criteria	3	3	2	3	3	2			3			3	2		



Course/Subject with		Course Outcomes (COs)]	Prog	gram (Outo	come	s (PO	s)					PSOs	,
course code		Course Outcomes (COS)	1	2		3 4		5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)]	Prog	gram (Outo	comes	s (PO	s)					PSOs	\$
with course code		Course Outcomes (COS)	1	2		4		5	6	7	8	9	10	11	12	1	2	3
	1	Understand fundamental concepts power system	3	3		2	3	1	2						3	2		
	2	Obtain the mathematical model of synchronous machine, excitation & speed	2	2	,		,	2	2						2	1		
Power System	_	governing systems	3	5	4	1)	3	3						2	1		
Operation & Control LAB	3	Analyze the transient stability of power system using numerical solutions of swing																
BTEEL706	2	equation	2	3	, í	2	2	2	2						1	2		
	4	Understand the economic operation of power system	3	2	1	2	3	2	1						3		3	
	5	Explain the methods of Voltage control	2	3	1	2 2	2	3	2						3	1		

Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
E	1	Understand the concept of Laplace transform and inverse Laplace transform of elementary functions and apply it to solve the linear differential equations with constant coefficients having their applications in mechanical, electrical, chemical, communication etc. systems.	3	3		1									2		
Mathematics III	2	Apply the concept of Fourier transform to solve the boundary value problems, problems in signal processing and communication system.	3	3		1									2		
(115301)	3	Apply partial differential equations to solve heat equation, wave equation and Laplace equation etc.	3	3											1		
	4	Analyze conformal mapping, transformation and perform contour integration of complex function in the study of electromagnetics and signal processing.	3	2											1		



Course/Subject with		Course Outcomes (COs)				Pro	ogran	o Out	come	s (PO:	s)					PSO s	j.
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Autoomes (CAs)				Pro	gram	o Out	come	s (PO	s)					PSOs	\$
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To understand principle, different types, and construction of single phase transformer with its application	2	2	2												
	2	Classify different types of connections of 3 phase transformer, and understand the parallel operations, Phase Conversion concept. Design of equivalent circuit and various test of Transformer.	2	2	2										2		
	3	Apply Electromechanical energy conversion principle and calculate the magnetic force and torque of various system	1	1													
Electrical Machine -I (BTEEC302)	4	Understand operating principle, Constructional features types, performance characteristics, armature reaction, commutation of dc generator and their applications	3	3	3	2								2	2	1	
	5	Develop Torque equation and calculate Current, Power, Losses and efficiency of various types of DC motors and understand different characteristics, various methods of speed control	3	3	3	2								2	2		
	6	Differentiate the construction of various types of special machines like Reluctance machine, VRM, stepper motor, BLDC and analyse its application in the field.	1	1													

Course/Subject	Course Outcomes (COs)				Pro	gram	o Out	come	s (PC	s)					PSO	S
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 TO UNDERSTAND PHILOSOPHY OF MEASUREMENT	3	2		2							1		3		1
Electrical and Electronics	2 TO UNDERSTAND DIFFERENT METHODS ANALOG AND DIGITAL MEASUREMENT	3	2	2								1		3		1
(BTEEC303)	3TO STUDY THE PRINCIPLE OF CONSTRUCTION AND OPERATION OF DIFFERENT TRANSDUCER AND DISPLAY METHODS	3		2	2							1		3		1



Course/Subject with	Course Outcomes (COs)				Pro	ogram	Outo	comes	; (PO:	s)					PSOs	\$
course code	Course Outcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Out	comes	5 (PO	s)					PSOs	5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Understand the history of human rights						2									
	2 Learn to respect others caste, religion, region and culture															
Desis Hower Diskts	3 Be aware of their rights as Indian citizen															
Basic Human Kignis (RTHN304)	4 Understand the importance of groups and communities in the society															
(BIII(304)	 Realize the philosophical and cultural basis and historical perspectives of human rights 									3						2
	6 Make them aware of their responsibilities towards the nation								2		2		1		2	

Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PC	s)					PSO	5
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Classify various properties of electrical engineering materials,	2	3		3										1	
	2 Categories dielectric materials and relate the dielectric polarization with frequency and temperature	3	2		3										1	
Engineering Motorial	3 Illustrate semiconductor properties with respect to PN junction diode	3	3		3									2		
Science (BTES305)	4 Discover and illustrate the applications of magnetic materials in Electrical Engineering	3	2		2									3		
	 Discover and illustrate the applications of X-ray diffraction, ultrasonics and other non-destructive testing methods 	3	2		1									3		
	9															



Course/Subject with	Course Outcomes (COs)				Pro	ogram	Out	comes	s (PO:	s)					PSOs	
course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PC	s)					PSOs	\$
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 REVIEW BASIC COMPONENTS OF ELECTRIC NETWORK	2	2	2												
	2 UNDERSTAND NETWORK THEOREMS TO SIMPLIFY COMPLEX NETWORKS.	1	1											2		
Network Thoery (BTEEC401)	3 UNDERSTAND TRANSIENT ANALYSIS IN ELECTRICAL CIRCUITS AND ANALYZE THE POWER SYSTEM STABILITY.	3	3		3	2								2		
(BIEEC401)	 APPLY LAPLACE TRANSFORM FOR ELECTRIC NETWORK ANALYSES AND EVALUATE THE PARAMETERS OF TWO PORT NETWORKS 	2	2		2									2		
	5 DESIGN OF VARIOUS TYPES OF FILTERS.	2	2		2									1		

Course/Subject	Course Outcomes (COs)				Pro	gram	o Out	come	s (PC	s)					PSO	s
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Working of Conventional Power Plant	3	3													2
Dowor System	2 Design Overhead Transmission Lines				2											
(BTFFC/02)	3 Investigate different types of materials for Transmission lines	3				2									2	
(DIEEC40 2)	4 Analyze the performance of different transmission lines		3		2									3		
	5 Classify different types of distribution system							1						3		2



Course/Subject with		Course Outcomes (COs)				Pr	ogran	1 Out	come	s (PO	s)					PSO	5
course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	gram	ı Out	come	s (PC)s)					PSO	S
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To understand principle of operation of AC machines	1												1		
	2	To analyze the concept of steady state analysis in AC machines.	2	1													
Electrical Machines II	3	To study different methods of speed control of AC and DC motor	3	3	2	2								2	2		
(DTEEC402)	4	To study importance and procedure of different performance test on AC															
(DIEEC40 5)	4	and DC motor	3	3	2	2								2	1		
	5	To determine different operating characteristics of AC and DC machines	1														
	6	To study different types of special purpose machine	2	1												1	

Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PC)s)					PSO	S
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Recall & Recognize construction & characteristics of BJT, along with demonstration & analysis of transistor as an amplifier.	2	2	2										2	1	
	2	Demonstrate and Analyze Operational Amplifier circuits and their applications	2	2	2										2	1	
	3	To review basic number system & to understand design and characteristics of digital logic gates.	2	2	2										2	1	
Analog and Digital Electronics (BTBS404)	4	Understand digital logic gate characteristic and demonstrate & design latches, Flip-Flops counter and shift registers	2	2	2										2		
	5	Describe, Illustrate and Analyze Combinational Logic circuits, Simplification of Algebraic Equations using Karnaugh Maps and Quine McClusky Techniques.	3	3	3	1									2		
	6	Describe, Illustrate and Analyze Combinational Logic circuits also able to demonstrate and design logic circuits by multiplexer , encoder & decoder	3	3	3	1									2	1	



Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	comes	s (PO:	5)					PSOs	,
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PC	s)					PSOs	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To understand vector relations in diff. forms	2												1		
Electronic cristic Etald	2	To analyze diff. laws and their solution	2		2										1		
Electromagnetic Field	3	To study about magneto static	2	1											1		
(RTEEPE405)(A)		To understand time varying field and effect of magnetism in transmission															
(DILEIL403)(A)	4	line	2	1											1		
	5																

Course/Subject		Course Outcomes (COs)				Pro	gran	n Out	come	s (PC)s)					PSO	S
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand the basics of Signals and Systems required for all Electrical Engineering related courses.	2	1	2										1	1	
	2	Understand classification of systems and their properties	2	1	2										2		
Signal and System (BTEEPE405)(B)	3	Analyze time domain representation LTI System based on convolution and differential equation	3	2	3	2									2	1	
	4	Apply concepts of Signals and Systems and its analysis using Laplace transform and Z Transform	3	2	3	2									2	1	
	5	Understand and analyze Fourier Series and Fourier Transform	3	2	3	2									2		



Course/Subject with	Course Outcomes (COs)				Pro	gram	Outo	comes	s (PO:	s)				1	PSOs	4
course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Outo	come	s (PO)s)					PSOs	5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 UNDERSTAND THE BASIC OF RENEWABLE ENERGY SOURCES AND FUEL CELLS Image: Comparison of the second	1						3					2		3	
	2 UNDERSTAND THE CONCEPT OF WIND POWER PLANT	1	1					3					1		3	
Advanced Renewable Energy Sources	UNDERSTAND THE CONCEPT OF PHOTOVOLTAIC POWER PLANT WHICH INCLUDE THE BASIC CONCEPT OF SOLAR POWER ENERGY GENERATION AND APPLICATIONS	1	1					3					1		3	
(BTEEPE405)	4 UNDERSTAND THE CONCEPT OF BIO-ENERGY (BIOMASS & BIOGAS) AND INDUCTION GENERATOR	1		1				3					1		3	
	 UNDERSTAND THE BASICS OF ENERGY STORAGE SYSTEM AND INTER CONNECTION OF VARIOUS ENERGY SOURCES WITH GRID 	1						3					1		3	

Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	3
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Design and Analysis BJT Circuit	2	1	2										2		
Fl. (2 Design and Analysis JFET and MOSFET Circuit	2	1	1										2		
Electronics Devices and Circuit (PTEEDE405)	3 To understant Different types of Power Amplifier	2	1	2										2		
Circuit(DIEEFE405)	4 To review principle of operation of feedback amplifier	2	1											1		
	5 to understant and Design sinusoidal and non Sinosidal Oscillator	2												1		



Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	come	s (PO	s)					PSOs	\$
course code		course outcomes (cos)	1	2	3	4	5	6	7	80	9	10	11	12	1	2	3
Course/Subject		Course Autoomes (CAs)				Pro	gram	Out	come	s (PC)s)					PSO	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	UNDERSTAND PRINCIPLE OF OPERATION OF AC MACHINES	2	2	2	3									2		
	2	ANALYZE THE CONCEPT OF STEADY STATE ANALYSIS IN AC MACHINES	3	3	3	3									1		
DTEEC501 Electrical	3	STUDY DIFFERENT METHODS OF SPEED CONTROL OF AC AND DC MOTOR	3	3	3	3	2							2	2		
Machine-II	4	STUDY IMPORTANCE AND PROCEDURE OF DIFFERENT PERFORMANCE TEST ON AC AND DC MOTOR	3	3	3	3	2							2	2		
	5	DETERMINE DIFFERENT OPERATING CHARACTERISTICS OF AC AND DC MACHINES	3	3	3	2	2								1		
	6	UNDERSTAND OPERATION & APPLICATION OF SPECIAL MACHINES	1	2	1	2											

Course/Subject	Course Outcomes (COs)				Pro	gram	n Out	come	es (PC)s)					PSO	s
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Understand different parameters of power system operation and control	3	3	2	3	1	2			2			3	1		
DTEEC502 Dower	2 Understand load flow and different methods of reactive power control	3	3	2	3	3	2			3			2	2		
DIEEC502 Power System II	3 To understand Sequence network of power system elements	3	3	2	3	3	2			2			1	2		
System-11	4 To understand different methods of fault analysis and stability study	3	3	2	3	3	2			2			3	2	2	
	5 Study transient stability analysis & Equal area criteria	3	3	2	3	3	2			3			3	2		

Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	3
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
BTEEL503	1 To know the architecture of 8085 and 8051.	3												1		
Microprocessor and	2 To understand interfacing and interrupt features of 8085 and 8051.	3	2			1								2		
micro Controller	3 To develop program for basic applications.	3	3	2										3		



Course/Subject with	Course Outcomes (COs)				Pro	ogram	Outo	come	s (POs	s)					PSO	5
course code	course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Outo	come	s (PO	s)					PSO	S
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
BIHNI504 value	1 To understand value of education and self-development									1			1			1
Rights and Legislative	2 To develop good values and character To know Human right and legislative procedure								2	2						2
Procedures [MOOC/Swayam/NPT]	3 To know Human right and legislative procedure									1			1			
FLI	4															

Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PC) s)					PSO	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To get the detailed information about modern lamps and their accessories.	2	1	-										2		
Illumination Engineering	2	To get detailed insight of indoor and outdoor illumination system components, its controls and design aspects. To introduce the modern trends in the lighting	2	2	2	1									2	1	
BIEEE505	3	To know the requirements of energy efficient lighting.	2	2	2				2						2	1	
	4	To introduce the modern trends in the lighting	1	-					2						2		
	5																
Course/Subject		Course Outcomes (COs)			_	Pro	gram	Out	come	s (PC)s)	-		-		PSO	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Advances in Renewable Energy	1	Know the principle of energy conversion technique from biomass, geothermal and hybrid energy systems.	2					2	3					2		3	
Sources.BTEEE505	3	Understand effects of air pollution and ecosystems.	2					2	3					2		3	



Course/Subject with		Course Outcomes (COs)				Pre	ogram	Out	come	s (PO:	5)					PSOs	\$
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	UNDERSTAND THE NEED FOR ELECTRICAL MOBILITY, ENVIRONMENTAL BENEFITS AND CLASSIFICATION OF															
		ELECTRICAL VEHICLES	-	2	-	-	-	3	3	-	-	-	-	-	-	-	-
1.Electrical	2	KNOW DIFFERENT ENERGY STORAGE TECHNOLOGIES USED FOR ELECTRICAL MOBILITY	-	3	-	-	-	2	2	-	-	-	-	-	-	-	-
Mobility.BTEEOE506	3	IDENTIFY DIFFERENT ELECTRICAL MACHINES AND ASSOCIATED POWER CONVERTERS FOR A PARTICULAR APPLICATION	-	3	-	2	1	-	-	-	-	-	-	-	-	_	-
	4	PREPARE A SIMULATION MODEL OF BASIC ELECTRICAL VEHICLE AND ANALYZE ITS PERFORMANCE	-	-	3	-	-	-	-	-	-	-	2	-	-	-	-

Course/Subject with	Course Outcomes (COc)				Pro	ogram	Out	come	s (PO	s)					PSOs	\$
course code	Course ourcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PC)s)					PSO	5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Analyze the working of Conventional Power Plant	2	3		3									3		
Power Plant	2 Design the layout of thermal and Hydro Power plant along with ancillary services	3	2	3	2											2
Engineering.BTEEOE5	3 Analyse the limitations and advantages of Nuclear Power Plant		2	2	3									2		
06	4 Understand the significance and working of Renewable Energy Sources						1	2	1					3	3	
	5 Understand the working of Co-generation/Combined Power Plants	3	3		3			2						2		2

Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	3
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Design and Analysis of	1 To know fundamental characteristic of an algorithm.	2	2											1		
Algorithms	2 To understand strategy of algorithm formation,	2	1	1										2		
BTEEOE506	3 To develop different algorithm.	2	2	2	1	1								2		

Course/Subject	Ι	Course Outcomes (COs)				Pro	gran	o Out	come	s (PC)s)					PSO :	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To know different basic concepts and components of a control system.	3											3	3		
	2	To derive transfer functions of basic control system components.	3	3		2								3	3		
BTEEC601 Control	2	To perform stability analysis using time domain and frequency domain															
System	3	response on a given system.	3	3		2								3			
	4	To design and analyze PID controller.	3		3									3	3		
	5	To understand and analyze state variable technique	3	3										3	3		



Course/Subject with					Pro	ogram	Out	comes	s (POs	s)					PSOs	5
course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	S
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To understand principles of electric machine design.	2			1								3	2		
of Electrical	2 To design different components of electric machine.	2	2	2	1								3	2		1
Machine Design	3 To design Transformer	3	2	2	2								2	1		
Machine Design	4 To understand CAD and use it for transformer design	2	1		2								2			1

Course/Subject	Course Outcomes (COs)				Pro	ogram	o Out	come	s (PC)s)					PSO	S
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 TO REVIEW PRINCIPLE OF CONSTRUCTION, OPERATION AND CHARACTERISTICS OF BASIC SEMICONDUCTOR DEVICES				1								3	2		
	2 TO UNDERSTAND AND ANALYZE THE PERFORMANCE OF CONTROLLED AND UNCONTROLLED CONVERTERS.				1								3	2		
BTEEC603 Power Electronics	3 TO UNDERSTAND AND ANALYZE THE PERFORMANCE OF DC TO DC CONVERTERS. DC TO AC CONVERTERS	1	1		2								3	2		
	4 TO UNDERSTAND AND ANALYZE THE PERFORMANCE OF DC TO DC CONVERTERS. DC TO AC CONVERTERS	1	1		2	2							2	2		
	5 TO UNDERSTAND AND ANALYZE PERFORMANCE OF AC VOLTAGE CONTROLLERS.	1	1		3	2							2	2		



Course/Subject with	Course Outcomes (COs)				Pro	ogram	o Outo	come	s (POs	s)					PSOs	
course code	course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Outo	come	s (PO	s)					PSO	5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	TO UNDERSTAND CONSTRUCTION AND WORKING PRINCIPLE															
	¹ OF DIFFERENT INDUSTRIAL MEASUREMENT SYSTEMS.	2	1	1						1	2			2		
	TO UNDERSTAND NEW TRENDS IN INDUSTRIAL PROCESS															
	² CONTROL.	2	1	1						1	2					
	3 TO UNDERSTAND INDUSTRIAL CONTROL SYSTEMS	1	1	1						1	2			2		
Industrial automation	UNDERSTAND DIFFERENT LAYERS OF THE INDUSTRIAL															
and Control DEFERENCE (0.4(A))	4 AUTOMATION	1	1	1						1	2				1	
ControlB I EEE604(A)	UNDERSTAND THE FIELDBUS AND COMMUNICATION IN															
	⁵ INDUSTRIAL AUTOMATION	2	2	1						1	2			2		
	DIFFERENT DRIVES AND ONLINE CONTROL IN INDUSTRIAL															
	⁶ AUTOMATION	2	1	1						1	2					
	7 DIFFERENT CONTROLLERS USED IN INDUSTRIAL AUTOMATION	2	1	1						1	2					
					<u>.</u>	•••••										

Course/Subject		Course Outcomes (COs)				Pro	gram	o Out	come	s (PO	s)					PSO :	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To understand experimental design principles.	2	2	1										2		
Design of Experiment	2	To understand different experimental design used in industry.	2	2	1		2								2		
BTEEE604(B)	3	To deign computer experiments to use with engineering problems.	2	1	2	2	2								2		
	9																



Course/Subject with	Course Outcomes (COs)				Pro	ogram	Outo	come	s (PO:	s)					PSO	s
course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	S
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To review basic principles of neuron structure.	2	1											1		
	2 To understand building blocks artificial neural network.	2	1											1		
	3 To understand different networks of ANN.	2	1											1		
Artificial neural	4 To develop different algorithm for learning.	2	2	2	2									2		
network.	5 To study and understand Fuzzy neural networks	2	1											1		
BTEEE604(C)	6															
	7															
	8															
	9															

Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	S
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	TO UNDERSTAND PRINCIPLES OF PROTECTIVE RELAYING.	-	-	-	1	-	•	-	-	-	-	•	3	-	-	-
	2	TO UNDERSTAND PRINCIPLE OF CONSTRUCTION, OPERATION AND SELECTION OF DIFFERENT TYPE OF CIRCUIT BREAKER USED IN POWER SYSTEM.	-	-	-	1	-	-	-	-	-	-	-	3	-	-	-
Switch Gear and	3	TO UNDERSTAND DIFFERENT PROTECTION SCHEMES USED IN POWER SYSTEM OPERATION	1	1	•	2	-	•	-	-	-	-	1	3	-	I	-
Trotection DTEEC003	4	APPLY PRINCIPLES OF POWER SYSTEM PROTECTION USING DIGITAL AND NUMERICAL PROTECTION TECHNIQUES	1	1	1	2	-	1	-	-	-	-	1	2	-	-	1
	5	UNDERSTAND THE NEED FOR INSULATION COORDINATION AND SELECT APPROPRIATE INSULATION RATINGS FOR SUBSTATION EQUIPMENT	-	-	-	-	-	-	1	-	-	-	-	-	-	_	-



Rural Technology and

community

Development

BTEEOE606

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4

Shiksha Mandal's Bajaj Institute of Technology, Wardha

Mapping of COs with POs and PSOs (Department of Electrical Engineering)

Course/Subject with	Course Outcomes (COs)				Pre	ogran	1 Out	come	s (PO	s)					PSO:	\$
course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gran	ı Out	come	s (PC)s)					PSO	S
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Computer aided	1 To Study different computer aided tools in engineering application	2	2		2	3				1				2		
analysis and design	2 To understand the functionality of different engineering software.	2	2		2	3								2		
BTEEE605	3 To apply different software in engineering design.			1		1								1		
				-	-	-	=		-		-		•			
Course/Subject	Course Outcomes (COs)				Pro	gran	ı Out	come	s (PC)s)					PSO	S
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	To understand concept of mechatronics.															
		2				2							2	2		
Mechatronics	2 To understand sensor and transducer construction and operation.	3		2									2	3	2	3
BTEEC605	3 To understand microprocessor architecture and operation.	3	3	3									3	2		
	4 To understand principle of construction and operation of PLC				2	3								3	2	
	5 To design a robo for engineering application.	2		3									2			3
			-	-			-	-	-		-	-				
Course/Subject	Course Outcomes (COs)				Pro	gran	ı Out	come	s (PC)s)					PSO	S
with course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	To analysis data, information and knowledge. To understand concepts of															

2

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3 2

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3

1 marketing. To identify projects and work for community development To

To identify projects and work for community development

understand and analyze business model.

To understand concepts of marketing.

To understand and analyze business model.

Course/Subject with	Course Outcomes (COc)				Pro	ogram	Out	come	s (PO:	s)					PSO	5
course code	Course ourcomes (Cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COc)				Pro	gram	Out	come	s (PC	s)					PSO	S
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To understand the concepts of Project Management											3	2	3		
Project Management	2 To develop a project plan										3		2		2	
BTEEOE606(B)	3 To understand the project implementation strategy									2			3			3
	4 To analyse post project affects									3					3	

Course/Subject	Course Outcomes (COs)				Pro	gram	n Out	come	s (PO)s)					PSO	S
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Knowledge	1 To understand different components knowledge management.					3							2	2		
Management BTEEOE606(C)	2 To conduct knowledge audit and knowledge management practices in organization.						2		2	3	3	2	3		3	3

Course/Subject	Course Outcomes (COc)				Pro	gran	n Out	come	s (PC))					PSO	s
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Explain the fundamental concept of Power system	3	3	2	3	1	2						3	1		
	2 Design the mathematical model of Synchronous machine	3	3	2	3	3	3						2	2		
Power System	Design the mathematical model Excitation system and speed 3 governing system	3	3	2	3	3	3						2	2		
BTEEC701	Analyse the transient stability of Power system using swing equation 4 and equal area creteria	2	3	2	2	2	2						1	2		
	5 Analyze the economic operation of Power System	3	2	2	3	2	1						3	2	2	
	6 Explain the method of Voltage Control	2	3	1	2	3	2						3	2		



Course/Subject with	Course Outcomes (COs)				Pr	ogran	ı Out	come	s (PO	s)					PSO:	3
course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gran	o Out	come	s (PC)s)					PSO	S
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1Illustrate the concept of electric field stresses, applications of insulating materials and methods for Non-destructive testing of equipment like transformers, insulators, isolators, bushings, lightning arrestors, cables, circuit breakers and surge diverters.	3											1	2		
High Voltage	2 Explain the breakdown process in solid, liquid, and gaseous materials	3											1	2		
BTEEC702	3 Analyze methods for generation and measurement of High Voltages and Currents (both ac and dc)	2	3										1	2		
	4 Describe the phenomenon of over-voltage and choose appropriate insulation coordination levels based on IS & IEC Standards.	2	2		3								1	2		
	5 Understand perspectives of layout of high voltage laboratory & testin facilities.	3											1	2		

Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	s
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Understand dynamics of Drive System	3	3	2	2					2			3			
	2	Use Various Methods of Speed Control of AC and DC Drive	3	3		2					2			3	1		
Electrical Drives	3	Ability to analyse the drive sysem	3	3	2	2					3			3	1		
BTEEC703	4	Select the Proficiency and Proper Drive system for particular application	3	3		2					2			3	1		
	5	Basic Knowledge of recent advancements in Electric Drives	3	3							2			3	1		



Course/Subject with		Course Outcomes (COs)				Pro	ogram	Outo	comes	s (POs	5)					PSOs	5
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	gram	Out	comes	s (PO	s)					PSO	S
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	Demonstrate construction, working principle, and application of various															
Special Purpose	1	types of special purpose electrical machines	3	2	2	1								1	1		
Electrical Machines	2	Select a special Machine for a particular application	3	2	2	1								1	2		
DIEEE/04	3	Demonstrate behavior of induction generator and induction machine	2	1	1											2	

Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	s
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 Identify types of Traction System.	1	1	1										1		
	2 Interprete Various Power supply in Electric Traction.	2	1													
Electrical Traction and	3 Analyze Various Traction Motors.	1	1		1									1		
Utilization BTEEE704	4 Define methods of Traction motor Control.	2	2													
	5 Elobrate Train movement & Breaking in Traction system.	1	1													
	6 Classify the indoor and outdoor Illumination system	1	1		1											

Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	;
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Engineering System	1 To understand different level optimization problem formulation.	2	1											2		
Design and Optimization	2 To study novel methods in optimization.	2			2	2								1		
BTEFE704	3 To understand and develop genetic algorithm for engineering problems.	2	1											1		



Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	comes	s (POs	s)					PSOs	
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	gram	Out	comes	s (PO	s)					PSOs	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	The students would be able to understand and define basic terminology used in finance and accounts	1	2											1		
	2	The students would be able to prepare& appraise Financial Statements and evaluate a company in the light of different measurement systems.	1	1	1									2	1		
Financial Management	3	The students would be able to analyze the risk and return of alternative sources of financing.	2	1	1									2	1		
BTEEE704	4	Estimate cash flows from a project, including operating, net working capital, and capital spending.	1	1										2		1	
	5	To estimate the required return on projects of differing risk ,to estimate the cash flows from an investment project, calculate the appropriate discount rate, determine the value added from the project, and make a recommendation to accept or reject the project	1		1											1	
	6	To describe and illustrate the important elements in project finance Using financial calculatorand Excel in a variety of problems.	1	1													



Course/Subject with	Course Outcomes (COs)				Pro	ogram	o Outo	comes	s (PO:	5)					PSOs	\$
course code	course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	S
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	 Represent signals, systems and digital processing of analog signals. 	2		1										1	1	
Disitel Signal	2. Represent discrete time signals, systems and analysis of Discrete-Time2 Linear Time- Invariant Systems.	3	2											1		
Processing BTEEE705(A)	Apply digital signal processing techniques to analyze discrete time signals 3 in time domain.	2		1												
DIEEE/03(A)	Apply digital signal processing techniques to analyze discrete time signalsin frequency domain.	2	1													
	5 Design different filter structure	1		2										2		
	6 Validate system functionality and evaluate results.	1	2												1	

Course/Subject	Course Outcomes (COc)				Pro	gram	o Out	come	s (PC)s)					PSO	s
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	TO RECOGNIZE GLOBAL ENVIRONMENTAL ISSUES AND ROLE1OF RENEWABLE AND NON-CONVENTIONAL ENERGY SOURCES							3		2				1		
Energy Audit and Conservation	TO ESTIMATE ENERGY EFFICIENCY OPPORTUNITIES IN2THERMAL-MECHANICAL SYSTEMS AND ELECTRICAL SYSTEMS				3								2		3	2
BTEEE705(B)	TO ANALYZE ENERGY CONSERVATION PROPOSALS 3 ECONOMICALLY AND PREPARE AUDIT REPORTS			2	3								3		2	3
	4															



Course/Subject with		Course Outcomes (COs)				Pro	ogram	Out	come	s (POs	s)					PSOs	5
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	5
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	TO UNDERSTAND IMPORTANCE, CONFIGURATION AND TYPES OF HVDC TRANSMISSION	-	3	-	-	-	2	1	-	-	-	-	3	1	1	2
HVDC Transmission	2	TO ANALYSE THE OPERATION OF HVDC CONVERTER, SYSTEM CONTROL AND PROTECTION	-	-	3	2	-	-	-	-	-	-	-	2	3	1	1
BTEEE705(D)	3	TO UNDERSTAND THE CONCEPT OF FACTS, THEIR ROLE, TYPE AND FUNCTIONALITY	•	-	2	3	-	-	-	-	-	•	-	3	2	3	2
	4	TO ANALYZE THE OPERATION OF STATIC SERIES AND SHUNT COMPENSATOR	-	-	-	-	2	-	-	-	-	-	-	2	2	2	1

Course/Subject	Course Outcomes (COs)				Pro	gram	o Out	come	s (PC)s)					PSO	s
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	he in-depth understanding of power quality issues &standards.	2	1				2						1	1	1	
	Students will be able to understand working of power quality improvingEquipment's.	2				2	1						1	2		
Electrical Derror	3	-														
Electrical Power	4															
Quality DIEEE/05	5															
	6															
	7															
	8															
	9															



Course/Subject with		Course Outcomes (COs)				Pre	ogram	o Out	come	s (POs	s)					PSO	\$
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	S
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	To identify problem statement based on literature survey and area of interest.	3								2			2	3		
	2	To identify research area for Problem solving by applying engineering knowledge.		3		2							3		3	2	
	3	To prepare seminar reports as per the standards using latest technological tools.				2	3							2	3		3
Seminar BTEES709	4	To improve communication skills, presentation skills for their overall personality development.										3	2				3
	5																
	6																
	7																
	8																
	9																



Course/Subject with					Pro	ogram	Outo	come	s (PO:	s)					PSOs	6
course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	STUDENTS SHALL BE ABLE TO ACQUIRE KNOWLEDGE ABOUT ELECTRICAL COMPONENTS AND TECHNIQUES.	3	3	3	2	2							3	3	1	
	STUDENTS SHALL BE ABLE TO ENHANCE THEIR KNOWLEDGE OF THE ASSEMBLING OF ELECTRICAL CIRCUITS ALONG WITH POWER ELECTRONIC DEVICES ON 2 PCB (PRINTED CIRCUIT BOARD)	3	3	3	2	2							3	3	1	
Project Part -I BTEEP710	DESIGN AND DEVELOP SMALL ELECTRICAL APPLICATION- BASED PROJECTS ALONG WITH POWER ELECTRONICS 3 DEVICES	3	3	3	2	2							3	3	1	
	4															
	5															
	6															
	7															
	8															
	9															

Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	S
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	EXPLORE CAREER ALTERNATIVES PRIOR TO GRADUATION.	2		2			2			3		1	3		2	1
	2	INTEGRATE THEORY AND PRACTICAL APPROACH	2		2			2			3		1	3		2	1
Field Training /Internship/Industrial	3	TO DEVELOP THE ABILITY AS A PROBLEM SOLVER USING PRACTICAL APPROACH	2		2			2			3		1	3		2	1
Training III BTEEF711	4	DEVELOP COMMUNICATION, INTERPERSONAL AND OTHER CRITICAL SKILLS REQUIRED FOR INTERVIEW PROCESS.	2		2			2			3		1	3		2	1
	5	ACQUIRE EMPLOYMENT SKILLS LEADING TO INDUSTRY- READY ENGINEERS	2		2			2			3		1	3		1	1



Course/Subject with	Course Outcomes (COs)				Pro	ogram	Out	comes	s (PO:	5)					PSO s	5
course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSOs	5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1 Deres Manager	1UNDERSTAND WHY POWER MANAGEMENT CIRCUITS ARE NEEDED IN A VLSI SYSTEM	2	2	2										2		
I.Power Management Integrated	2 UNDERSTAND THE CONCEPT BEHIND POWER MANAGEMENT CIRCUITS	2	2	2										2		
Circuits	3 DESIGN A LINEAR (LDO) AND SWITCHING REGULATOR (DC-DC CONVERTER)	3	2	2										2		

Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 To understand concepts of DC-DC converter	2												3		
2.DC Power	2 To design HVDC systems		3												3	
Transmission Systems	3 To do analysis of Long Transmission Lines			3												
	4 To understand the materials and its impact on Environment	2											3			2



Course/Subject with		Course Outcomes (COs)				Pro	gram	Out	come	s (PO :	5)					PSOs	5
course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject		Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	s
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	ANALYSE AND DESIGN DIFFERENT TYPES OF CONVERTER	1	1	1										1		
High Dowor Multiloval	2	UNDERSTAND NEUTRAL POINT CLAMPED CONVERTER	2	1	2										1		
Converters	3	UNDERSTAND THE DESIGN OF MULTI PULSE TRANSFORMER AND GATE DRIVER CIRCUIT	2	1	2										1		

Course/Subject	Course Outcomes (COa)				Pro	gram	o Out	come	s (PO	s)					PSO	5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 TO DEVELOP THE FUNDAMENTAL CONCEPTS SUCH AS FUZZY SETS, OPERATIONS AND FUZZY RELATIONS	3	2	3		2							3	3		1
Fuzzy Sets, Logic and	2 TO LEAN ABOUT THE FUZZIFICATION OF SCALAR VARIABLES AND THE DEFUZZIFICATION OF MEMBERSHIP FUNCTIONS	3	2	3		2							3	3		1
Systems & Applications	3 TO LEARN THREE DIFFERENT INFERENCE METHODS TO DESIGN FUZZY RULE BASED SYSTEM.	3	2	3		2							3	3		1
	4TO DEVELOP FUZZY DECISION MAKING BY INTRODUCING SOME CONCEPTS AND ALSO BAYESIAN DECISION METHODS	3	2	3		2							3	3		1
	5 TO LEARN DIFFERENT FUZZY CLASSIFICATION METHODS	3	2	3		2							3	3		1

Course/Subject	Course Outcomes (COs)				Pro	gram	Out	come	s (PO	s)					PSO	S
with course code	Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	PRACTICE AND CULTURE THE ART OF PROGRAMMING WITH															
5.The Joy of	1 PYTHON	3	2	1										1		
Computing using	2 KNOW THE CONCEPT OF FUNCTIONS IN PYTHON.	3	2	1										1		
Python	LEARN HOW TO DESIGN AND PROGRAM PYTHON	2	2	1										1		
	APPLICATIONS	3	2	I										1		



Course/Subject with	Course Outcomes (COs)				Pro	gram	Outo	come	5 (PO:	5)					PSO s	\$
course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3

Course/Subject						Pro	gram	Out	come	s (PO)s)					PSO	s
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1	UNDERSTAND THEORY AND PRACTICE RELATED TO INDUSTRIAL IOT SYSTEMS	2	2	1	-	-	-	-	-	-	-	-	-	1	-	-
Tertus de sti se ta	2	IDENTIFY, FORMULATE AND SOLVE ENGINEERING PROBLEMS BY USING INDUSTRIAL IOT.	2	2	1	-	-	-	-	-	-	-	-	-	2	-	-
Industrial Internet of	3	IMPLEMENT REAL FIELD PROBLEM BY GAINED KNOWLEDGE OF INDUSTRIAL APPLICATIONS WITH IOT CAPABILITY.	2	2	2	-	-	-	-	-	-	-	-	-	2	-	-
Things	4	UNDERSTAND, APPLY THE KNOWLEDGE OF VARIOUS TECHNOLOGIES SUCH AS CYBER PHYSICAL SYSTEMS (CPS), INTERNET OF THINGS (IOT), CLOUD COMPUTING, MACHINE LEARNING, AND DATA ANALYTICS IN THE FIELD OF INDUSTRIAL INTERNET OF THINGS.	2	2	2	-	-	-	-	-	-	-	-	-	1	-	-

Course/Subject	Course Outcomes (COs)		Program Outcomes (POs)													s
with course code			2	3	4	5	6	7	8	9	10	11	12	1	2	3
	1 ADDRESS MULTI DISCIPLINARY AUDIENCES	1			3				2				2	2	3	3
	UNDERSTAND KEY ISSUES FACED BY ENTREPRENEURS AND															
	2 MANAGERS AT DIFFERENT STAGES OF LIFE CYCLE FOR															
Entrepreneursnip	ASPIRING ENTREPRENEURS				3								3		1	
Essentiais	3 ANALYZE AND UNDERSTAND FINANCIAL ASPECTS	2				3							3	2		2
	UNDERSTAND LEGAL ASPECTS AND FUND RAISING ISSUES FOR															
	4 NEW VENTURES		2			3		3	3					3		3



Course/Subject with	Course Outcomes (COs)			Program Outcomes (POs)												
course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course/Subject	Course Outcomes (COs)	Program Outcomes (POs)														5
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	STUDENTS SHALL BE ABLE TO ACQUIRE KNOWLEDGE															
	1 ABOUT ELECTRICAL COMPONENTS AND TECHNIQUES.	3	3	3	2	2							3	3	1	
	STUDENTS SHALL BE ABLE TO ENHANCE THEIR															
	KNOWLEDGE OF THE ASSEMBLING OF ELECTRICAL															
	CIRCUITS ALONG WITH POWER ELECTRONIC DEVICES ON															
	2 PCB (PRINTED CIRCUIT BOARD)	3	3	3	2	2							3	3	1	
	DESIGN AND DEVELOP SMALL ELECTRICAL APPLICATION-															
Project - II	BASED PROJECTS ALONG WITH POWER ELECTRONICS															
(BTEEP803)	3 DEVICES	3	3	3	2	2							3	3	1	

Course/Subject	Course Outcomes (COs)			Program Outcomes (POs)												
with course code	1		2	3	4	5	6	7	8	9	10	11	12	1	2	3
Power Electronics	1 DEFINE BASIC TERMINOLOGY OF POWER ELECTRONICS				1								3			
	2 CLASSIFY VARIOUS SEMICONDUCTOR DEVICES				1								3			
	3 PERFORM ANALYSIS OF VARIOUS AC- DC CONVERTERS	1	1		2								3			
(BTEEL609)	4 INTRODUCTION OF DIFFERENT TYPES OF DC-DC CONVERTERS	1	1		2								2			
	5 PERFORM ANALYSIS DC-AC CONVERTERS	1	1		3								2			
	6 PERFORM EXPERIMENTS ON VARIOUS DIAC AND TRIAC	1														
		1	1		1.8								2.6			



Course/Subject with		Course Outcomes (COs)	Program Outcomes (POs)												PSOs				
course code		course outcomes (cos)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
Course/Subject		Course Outcomes (COs)	Program Outcomes (POs)												PSOs				
with course code		Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
ELECTRICAL MACHINES LAB (BTEEL306)	1	UNDERSTAND DIFFERENT TYPES, CONSTRUCTION AND PRINCIPLE OF SINGLE PHASE TRANSFORMER AND ITS APPLICATION	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-		
	2	CLASSIFY DIFFERENT TYPES OF CONNECTIONS OF 3 PHASE TRANSFORMER, AND UNDERSTAND THE PARALLEL OPERATIONS, PHASE CONVERSION CONCEPT. DESIGN OF EQUIVALENT CIRCUIT AND VARIOUS TEST OF	2	2	2	-	-	-	-	-	-	-	-	_	_	-	-		
	3	UNDERSTAND OPERATING PRINCIPLE, CONSTRUCTIONAL FEATURES TYPES, PERFORMANCE CHARACTERISTICS, ARMATURE REACTION, COMMUTATION OF DC GENERATOR AND THEIR APPLICATIONS	3	3	3	2	-	-	-	-	-	-	-	2	-	-	_		
	4	DEVELOP TORQUE EQUATION AND CALCULATE CURRENT, POWER, LOSSES AND EFFICIENCY OF VARIOUS TYPES OF DC MOTORS AND UNDERSTAND DIFFERENT CHARACTERISTICS, VARIOUS METHODS OF SPEED CONTROL	3	3	3	2	-	-	-	-	-	-	-	2	-	-	_		
Course/Subject						Pro	gram	Out	come	s (PC	s)					PSOs	;		
with course code		Course Outcomes (COs)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
	1	REVIEW BASIC COMPONENTS OF ELECTRIC NETWORK	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-		
NETWORK THEORY LAB (BTEEL406)	2	UNDERSTAND NETWORK THEOREMS TO SIMPLIFY COMPLEX NETWORKS.	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-		
	3	UNDERSTAND TRANSIENT ANALYSIS IN ELECTRICAL CIRCUITS	3	3	-	3	2	-	-	-	-	-	-	-	-	-	-		
	4	EVALUATE THE PARAMETERS OF TWO PORT NETWORKS	2	2	-	2	-	-	-	-	-	-	-	-	-	-	-		



Course/Subject with	Course Outcomes (COs)	Program Outcomes (POs)													PSOs			
course code		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
Course/Subject					Pro	gram	Out	come	s (PC	s)				PSOs				
with course code	Course Outcomes (COS)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3		
ELECTRICAL DRIVES LAB (BTEEL708)	1 ANALYZE THE DYNAMICS OF THE ELECTRICAL DRIVES SYSTEM.	3	3	2	2	-	-	-	-	2	1	1	3	-	-	-		
	2 USE VARIOUS CONTROL TECHNIQUES FOR CONTROLLING THE SPEED OF AC AND DC MOTORS.	3	3	-	2	-	-	-	-	2	-	-	3	-	-	-		
	3 ANALYZE THE AC AND DC DRIVES.	3	3	2	2	-	-	-	-	3	-	-	3	-	-	-		
		3	3	2	2	-	-	-	-	2.3	-	-	3	-	-	-		

