

CO-PO ATTAINMENT BOOKLET

DEPARTMENT
OF
Electrical and Electronics Engineering



GITA AUTONOMOUS COLLEGE

Affiliated to BPUT Odisha



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 1ST		Subject Name: ENGINEERING CHEMISTRY										Subject Code: BTTBS103			
Course Outcomes															
CO1	Classify various fuels based on combustion parameters and understand the working principle of various batteries.														
CO2	To understand the microstructure of a given alloy systems and eutectic systems under a given set of conditions.														
CO3	Utilize the knowledge of electrochemistry and corrosion science in preventing engineering equipment from corrosion.														
CO4	Apply the concept of molecular spectroscopy to analyse organic compounds using spectrophotometer.														
CO5	Discuss the benefits and applications of Nano materials.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	3	3	3	2	2	-	-	-	2	2	3	3	
CO2	3	3	3	3	3	2	1	-	-	-	2	2	3	3	
CO3	2	2	2	2	1	-	-	-	-	-	1	1	2	3	
CO4	3	3	3	2	2	1	1	-	-	-	1	1	2	2	
CO5	3	2	2	1	-	-	-	-	-	-	-	-	1	1	
Average	2.80	2.60	2.60	2.20	2.25	1.67	1.33	-	-	-	1.50	1.50	2.20	2.40	
'3'High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.46					
PO Attainment	2.36	2.19	2.19	1.86	1.90	1.41	1.12	-	-	-	1.27	1.27	1.86	2.02	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 1ST		Subject Name: Functional English											Subject Code: BTTHS101	
Course Outcomes														
CO1	Enhance Verbal and Non-Verbal Communication Skills													
CO2	Improve Technical and Business Writing Skills													
CO3	Develop Listening and Comprehension Abilities													
CO4	Strengthen Public Speaking and Presentation Skills													
CO5	Enhance Workplace and Interpersonal Communication													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1	1	1	1	-	2	2	3	-	3	1	1
CO2	2	1	1	1	1	1	-	2	3	3	-	3	2	1
CO3	2	1	2	1	2	1	-	2	2	3	-	3	2	1
CO4	2	1	1	1	1	1	-	2	2	3	-	3	1	1
CO5	1	1	1	1	1	1	-	2	3	3	-	3	1	1
Average	1.8	1	1.2	1	1.2	1	-	2	2.4	3	-	3	1.4	1
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.30				
PO Attainment	1.38	0.76	0.92	0.76	0.92	0.76	-	1.53	1.84	2.3	-	2.3	1.07	0.76



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 1ST		Subject Name: Programming for problem solving using C										Subject Code: BTTES103		
Course Outcomes														
CO1	Understand, translate and formulate the algorithms to programs (in C language).													
CO2	Develop and built logic to solve problems through applying the fundamentals.													
CO3	Apply modular programming approach and recursion mechanism to solve the complex problem.													
CO4	Understand the memory program using pointer for problem solving.													
CO5	Implement user defined data types and file concepts to develop various programs.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	-	-	-	-	-	-	-	3	3	2
CO2	3	3	2	2	3	-	-	-	-	-	-	3	3	3
CO3	3	3	3	2	3	-	-	-	-	-	-	3	3	2
CO4	3	3	3	2	3	-	-	-	-	-	-	3	2	2
CO5	2	3	3	2	2	-	-	-	-	-	-	3	2	3
Average	2.8	3	2.6	2	2.75	-	-	-	-	-	-	3	2.6	2.4
'3'High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.54				
PO Attainment	2.37	2.54	2.20	1.69	2.32							2.54	2.20	2.03



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 1ST		Subject Name: Engineering Chemistry Laboratory											Subject Code: BTPBS102	
Course Outcomes														
CO1	Learn and apply basic techniques used in chemistry laboratory for small/large scale water analyses/purification													
CO2	Be able to estimate the ions/metal ions present in domestic/industry waste water.													
CO3	Utilize the fundamental laboratory techniques for analyses such as titrations, separation /purification and spectroscopy.													
CO4	Test the quality of an oil/fat by measuring its iodine or acid value by means of amount of unsaturation for various industrial use.													
CO5	Verify quality of a lubricant by means of its viscosity or flash point which gives their nature & flammability for various industrial applications													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1	-	-	2	2	-	2	2	2	1	2	3
CO2	2	2	2	-	-	1	3	-	2	1	2	1	1	3
CO3	1	1	1	-	-	1	2	-	2	1	1	1	2	1
CO4	2	2	2	-	-	2	2	-	2	2	2	2	2	1
CO5	1	1	1	-	-	1	3	-	2	2	1	2	2	1
Average	1.6	1.4	1.4	-	-	1.4	2.4	-	2	1.6	1.6	1.4	1.8	1.8
‘3’High		‘2’ Moderate					‘1’ Low			‘-’ No Correlation				
Overall CO Attainment										2.42				
PO Attainment	1.29	1.13	1.13	-	-	1.13	1.94	-	1.61	1.29	1.29	1.13	1.45	1.45



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 1ST		Subject Name: BASIC ELECTRONICS ENGINEERING LAB										Subject Code: BTPES102			
Course Outcomes															
CO1	Familiarize with various electronic components, measuring instruments														
CO2	Acquire knowledge of characteristics of diodes and design, testing														
CO3	Acquire knowledge of characteristics of transistors and design, testing & implementation of transistors in various applications														
CO4	Develop understanding of digital logic gates and design & test digital circuits for various applications using logic gates.														
CO5	Gain understanding of operational amplifiers (Op-Amp) and design & testing of electronic circuits for various applications using Op-Amp.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	2	1	2	2	0	0	0	0	1	0	2	3	2	
CO2	3	3	3	2	2	0	0	0	0	1	0	2	3	3	
CO3	3	2	2	2	3	0	0	0	0	1	0	2	2	3	
CO4	3	2	3	3	3	0	0	0	2	2	0	2	2	2	
CO5	2	1	1	1	2	0	0	1	3	3	1	2	1	2	
Average	2.8	2	2	2	2.4	0	0	0.2	1	1.6	0.2	2	2.2	2.4	
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.54					
PO Attainment	2.37	1.69	1.69	1.69	2.03	-	-	0.16	0.84	1.35	0.16	1.69	1.86	2.03	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 1ST		Subject Name: ENGINEERING GRAPHICS & DESIGN LAB										Subject Code: BTPES105			
Course Outcomes															
CO1	Prepare and understand drawings.														
CO2	Use the principles of orthographic projections.														
CO3	By studying about projections of solids students will be able to visualize three dimensional objects and that will enable them to design new products.														
CO4	Design and fabricate surfaces of different shapes.														
CO5	Represent the objects in three dimensional appearances.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	1	2	1	2	3	-	-	1	-	-	2	2	-	
CO2	3	1	2	1	2	3	-	-	1	1	-	1	2	-	
CO3	3	1	2	1	1	3	-	-	1	-	-	2	3	-	
CO4	3	2	2	1	1	3	-	-	1	1	-	2	2	-	
CO5	3	1	3	1	1	3	-	-	1	-	-	2	2	-	
Average	3	1.2	2.2	1	1.4	3	-	-	1	0.4	-	1.8	2.2	-	
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.2					
PO Attainment	2.22	0.89	1.63	0.74	1.04	2.22	-	-	0.74	0.3	-	1.33	1.63	-	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 1ST			Subject Name: Functional English Lab										Subject Code: BTPHS101		
Course Outcomes															
CO1	Understanding the sounds of English and using them in the right context. Write paragraphs, stories etc. using short and crisp sentences.														
CO2	Listen, speak, read & write the sounds of English using correct stress, tone and rhythm														
CO3	Introducing Self & Others- Learning the nuances of Introduction, Asking questions and Overcoming stage fright. Making Presentations- Power point Presentations														
CO4	Learning and building soft skills for improving professionalism among students.														
CO5	Imbibe the skills of critical appreciation of written content and draw conclusions on the given text.														
CO-PO Mapping												CO-PSO Mapping			
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	0	0	0	0	0	2	2	2	3	3	3	2	0	0	
CO2	0	0	0	0	0	2	2	2	3	3	3	2	0	0	
CO3	0	0	0	0	0	2	2	2	3	3	3	3	0	0	
CO4	0	0	0	0	0	2	2	2	3	3	3	2	0	0	
CO5	0	0	0	0	0	2	2	2	3	3	3	2	0	0	
Average	0	0	0	0	0	2	2	2	3	3	3	2.2	0	0	
'3' High			'2' Moderate					'1' Low				'-' No Correlation			
Overall CO Attainment										2.20					
PO Attainment	0.00	0.00	0.00	0.00	0.00	1.47	1.47	1.47	2.20	2.20	2.20	1.61	0.00	0.00	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester:1ST		Subject Name: PROGRAMMING FOR PROBLEM SOLVING USING C LAB										Subject Code: BTPES103			
Course Outcomes															
CO1	Develop the ability to write, compile, execute, and debug C programs using operators, conditions, and loops.														
CO2	Perform operations on arrays, strings, and matrices, including searching, sorting, and manipulation using functions														
CO3	Apply the concepts of user-defined functions and recursion to solve complex programming problems														
CO4	Implement advanced programming constructs such as structures, dynamic memory management, and linked lists														
CO5	Demonstrate file handling, command-line arguments, and pre-processor directives for efficient program execution.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	-	2	3	-	-	-	3	3	-	2	3	3	3
CO2	2	2	-	2	3	-	-	-	3	3	-	2	3	3	3
CO3	2	1	-	2	3	-	-	-	3	3	-	2	3	2	3
CO4	1	1	-	1	3	-	-	-	2	3	-	2	3	2	3
CO5	1	1	-	1	2	-	-	-	2	2	-	2	3	2	2
Average	1.6	1.4	-	1.6	2.8	-	-	-	2.6	2.8	-	2	3	2.4	2.8
‘3’ High ‘2’ Moderate ‘1’ Low ‘-’ No Correlation															
Overall CO Attainment									2.50						
PO Attainment	1.33	1.16	-	1.33	2.33				2.16	2.33		1.66	2.5	2	2.33



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 2ND		Subject Name: ENGINEERING PHYSICS										Subject Code: BTTBS202		
Course Outcomes														
CO1	Learn vibrations and oscillatory systems. It helps in understanding multiple oscillatory systems and complex oscillations. It adds in developing ideas of wave propagation and superposition principle													
CO2	Know the benefits the understanding of light and its wave nature in different experimental demonstration of interference. Diffraction in solids will help in dealing with XRD and structure of materials.													
CO3	Makea clarity of making out crystal structures and crystallography to learn about different materials and characteristics of solids.													
CO4	Different LASER'S like Ruby, He-Ne and S.C. Lasers will help to develop multiple ideas of its application. Principle of optical fibres will help to know new generation optical fibres in communication systems													
CO5	Gain some fundamental knowledge about electromagnetism. It will familiarize with some basic used in vector calculus prior to development of Maxwell's electromagnetic wave equations & quantum mechanics.													
CO-PO Mapping												CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	3	3	1	2					3		
CO2	3	2	1	3	2	2	1					2		
CO3	2	2	2	2	3	1	1					1		
CO4	3	2	1	2	1	2	1					2		
CO5	2	1	2	2	2	1	1					3		
Average	2.6	2	1.6	2.4	2.2	1.4	1.2					2.2	-	-
'3'High			'2' Moderate				'1' Low			'-' No Correlation				
Overall CO Attainment										2.52				
PO Attainment	2.18	1.68	1.34	2.01	2.2	1.17	1.008					1.84		



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 2ND		Subject Name: Basic Electrical Engineering										Subject Code: BTTES201		
Course Outcomes														
CO1	Implement principles of DC network, theorems and fundamental concepts of electric circuit.													
CO2	Analyze the concept of single phase AC circuit, Phasor relationship and correlate AC power.													
CO3	Analyze and implement the concept of three phase power generation, three phase inter connections, three phase power and its measurement.													
CO4	Express significance of magnetic circuits, applications, importance of magnetic losses in electrical machines, principles and applications of power transformers and auto transformers.													
CO5	Apply basic principles of DC machines and their applications, concept of Induction machines.													
CO-PO Mapping												CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	3	2	3			-	-	-		1	3	2
CO2	3	2	1	3	2			-	-	-		2	3	3
CO3	2	1	3	2	3			-	-	-		1	3	2
CO4	3	2	1	2	3			-	-	-		2	3	3
CO5	2	1	2	2	3			-	-	-		1	2	2
Average	2.40	1.40	2.00	2.20	2.80			-	-	-		1.40	2.80	2.40
'3' High			'2' Moderate					'1' Low			'-' No Correlation			
Overall CO Attainment										2.52				
PO Attainment	2.01	1.17	1.68	1.84	2.35							1.17	2.35	2.01



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 2ND		Subject Name: Environmental Science										Subject Code: BTTMC201				
Course Outcomes																
CO1	Apply concepts of ecology, eco systems, food chain and biogeochemical cycles for better understanding of functions of the environment.															
CO2	Understand environmental gradients, tolerance levels and environmental laws for prevention of environmental pollution.															
CO3	Enhance knowledge of water and wastewater treatment for prevention of water pollution.															
CO4	Understand the chemistry of pollutants in the atmosphere, soil and groundwater and understand principles of noise abatement.															
CO5	Enhance knowledge of waste minimization technique to minimize and manage solid, hazardous wastes generated in different areas.															
CO-PO Mapping													CO-PSO Mapping			
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	
CO1	1	-	-	-	-	2	3	1	2	-	1	-	-	2	-	
CO2	1	-	-	-	-	3	3	3	2	-	1	-	-	2	-	
CO3	1	-	-	-	-	2	2	2	2	-	1	-	-	2	-	
CO4	1	-	-	-	-	1	2	1	1	-	1	-	-	2	-	
CO5	1	--	--	--	--	2	3	1	2	--	1	--	--	2	--	
Average	1	-	-	-	-	2.2	2.6	2.4	2.2	-	1	-	-	2	-	
'3' High			'2' Moderate				'1' Low				'-' No Correlation					
Overall CO Attainment										2.40						
PO Attainment	0.8	-	-	-	-	1.76	2.08	1.92	1.76	-	0.8	-	-	1.6	-	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 2ND			Subject Name: WORKSHOP PRACTICE										Subject Code: BTPES204		
Course Outcomes															
CO1	To be able to use various fitting tools and able to perform fitting operation.														
CO2	To be able to understand principle of gas welding and able to perform gas welding operation.														
CO3	To be able to understand principle of arc welding and able to perform arc welding operation.														
CO4	To be able to understand different parts of a lathe and able to perform turning, facing, threading, tapering using lathe.														
CO5	To be able to understand different parts of a shaping and milling machine and able to perform shaping and milling operation.														
CO-PO Mapping												CO-PSO Mapping			
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	2	2	3	2	3	2	2	-	3	3	-	3	3	2	
CO2	2	2	3	2	2	2	2	-	3	3	-	3	3	2	
CO3	2	2	2	1	2	2	1	-	3	3	-	3	2	2	
CO4	2	2	3	2	2	1	2	-	3	2	-	2	2	1	
CO5	2	1	2	1	3	1	1	-	2	2	-	2	2	1	
Average	2	1.8	2.6	1.6	2.4	1.6	1.6	-	2.8	2.6	-	2.6	2.4	1.6	
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.42					
PO Attainment	1.61	1.45	2.09	1.29	1.93	1.29	1.29	-	2.25	2.09	-	2.09	1.93	1.29	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 3RD			Subject Name: Data structure Using C										Subject Code: BTTES306		
Course Outcomes															
CO1	Analyse performance of algorithms and implement various operations on array and sparse matrix.														
CO2	Apply the basic operations of stacks and queues to solve real world problems.														
CO3	Implement different types of linked list operations and their applications.														
CO4	Represent data using trees & graphs to use them in various real life applications.														
CO5	Analyse various sorting algorithms and explore different hashing techniques.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	3	2	2	1	1	1	1	1	1	3	2	2	
CO2	3	2	3	2	3	1	1	1	1	1	1	3	3	3	
CO3	3	2	3	3	3	1	1	1	1	1	1	3	3	3	
CO4	3	3	3	3	3	1	1	1	1	1	1	3	3	3	
CO5	3	2	3	3	2	1	1	1	1	1	1	3	3	3	
Average	3	2.4	3	2.6	2.6	1	1	1	1	1	1	3	2.8	2.8	
'3' High			'2' Moderate					'1' Low				'-' No Correlation			
Overall CO Attainment										2.50					
PO Attainment	2.5	2	2.5	2.16	2.16	0.833	0.833	0.833	0.833	0.833	0.833	2.5	2.33	2.33	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 3RD		Subject Name: Organisational Behaviour										Subject Code: BTTHS303			
Course Outcomes															
CO1	Demonstrate the applicability of the concept of organizational behavior to understand the behavior of people in the organization.														
CO2	Demonstrate the applicability of analyzing the complexities associated with management of individual behavior in the organization.														
CO3	Analyze the complexities associated with management of the group behavior in the organization.														
CO4	Demonstrate how the organizational behavior can integrate in understanding the motivation behind behavior of people in the organization.														
CO5	Analyze the various stressors and identifying the various ways to manage it.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	-	-	-	-	-	-	2	1	2	2	2	1	-	-	
CO2	-	-	-	-	-	-	2	2	2	1	1	1	-	-	
CO3	-	-	-	-	-	-	1	2	1	2	1	2	-	-	
CO4	-	-	-	-	-	-	1	2	1	1	1	2	-	-	
CO5	-	-	-	-	-	-	2	1	1	1	1	2	-	-	
Average	-	-	-	-	-	-	2	1	2	2	2	1	-	-	
‘3’ High				‘2’ Moderate				‘1’ Low				‘-’ No Correlation			
Overall CO Attainment										2.34					
PO Attainment	-	-	-	-	-	-	1.56	0.78	1.56	1.56	1.56	0.78	-	-	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 3RD		Subject Name: Network Theory											Subject Code: BTEEETPC301	
Course Outcomes														
CO1	Apply concepts of network theorems and coupled circuits in solving complex networks problems and frequency response and analysis of different resonant circuits													
CO2	Understand the switching phenomena of electrical circuits and evaluate transient and Steady State performance using Laplace Transformation													
CO3	Determine two-port network parameters and their practical application to electrical and electronic circuits.													
CO4	Analyse sinusoidal & non-sinusoidal signals using Fourier series and transform, identify & design various filters and examine their frequency response.													
CO5	Identify Network Functions and synthesize one port network using Foster and Cauer forms.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	1	1	1	2			2	1		2	2	
CO2	3	3	2	1	1	2			2	1		2	2	
CO3	3	3	2	2	1	2			3	1		2	2	
CO4	3	3	2	1	1	1			2	2		1	3	
CO5	3	3	3	2	2	3			3	1		2	3	
Average	3.00	3.00	2.00	1.40	1.20	2.00			2.4	1.2		1.80	2.40	-
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.87				
PO Attainment	2.87	2.87	1.91	1.34	1.15	1.91			2.296	1.148		1.72	2.30	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 3RD			Subject Name: Constitution of India										Subject Code: BTTMC302		
Course Outcomes															
CO1	Understand the significance of the Constitution and its role in shaping the governance of India.														
CO2	Gain knowledge of fundamental rights, duties, and directive principles of state policy.														
CO3	Analyze the structure of the Indian government and judiciary system.														
CO4	Apply constitutional principles to professional and ethical responsibilities.														
CO5	Recognize the legal and regulatory framework relevant to engineering and industrial laws.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	1	1	0	3	2	3	2	2	1	2	2	2	1
CO2	1	1	1	1	0	3	2	3	2	2	1	2	2	2	1
CO3	1	1	1	1	0	3	2	3	2	2	1	2	2	2	1
CO4	1	1	1	1	0	3	2	3	2	2	1	2	3	2	1
CO5	2	2	2	1	1	3	2	3	2	2	2	2	3	3	2
Average	1.2	1.2	1.2	1	0.2	3	2	3	2	2	1.2	2	2.4	2.2	1.2
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.42					
PO Attainment	0.96	0.96	0.96	0.80	0.16	2.42	1.61	2.42	1.61	1.61	0.96	1.61	1.93	1.77	0.96



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 3RD			Subject Name: Employability Skill I										Subject Code: BTEEETPC311		
Course Outcomes															
CO1	Students will be able to develop effective communication skills.														
CO2	Students will develop time management skill in the work place to complete the task.														
CO3	They will exhibit the ability to work in a team understanding the roles and responsibilities.														
CO4	They will enhance their ability to identify problems and analyse potential solutions in various work environment.														
CO5	They will develop punctuality and strong work ethic in the work place.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	1	0	2	2	3	1	2	2	3	1
CO2	2	3	2	2	2	1	0	1	1	2	2	3	3	3	2
CO3	3	3	2	2	3	1	0	1	1	2	2	3	3	3	3
CO4	2	2	2	2	2	2	0	2	3	3	2	3	2	3	2
CO5	1	2	1	1	2	1	0	2	3	3	2	3	2	3	2
Average	1.8	2.2	1.6	1.6	2	1.2	0	1.6	2	2.6	1.8	2.8	2.4	3	2
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment									2.28						
PO Attainment	1.36	1.67	1.21	1.21	1.52	0.91	-	1.21	1.52	1.97	1.36	2.12	1.82	2.28	1.52



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 3RD			Subject Name: Network Theory Lab										Subject Code: BTEEEPPC301	
Course Outcomes														
CO1	Analyze and verify fundamental network theorems such as Thevenin's theorem, Norton's theorem, Superposition theorem, and Maximum Power Transfer theorem to understand circuit behaviour.													
CO2	Evaluate the frequency response of resonant circuits by verifying the characteristics of series and parallel resonance and determining their applications in signal processing.													
CO3	Design and test passive filter circuits including low-pass, high-pass, band-pass, and band-reject filters by analyzing their gain vs. frequency characteristics for signal conditioning applications.													
CO4	Investigate and determine network parameters such as Z, Y, ABCD, hybrid, and conductance parameters for two-port networks to understand their role in communication and control systems.													
CO5	Measure the coefficient of coupling in a single-phase transformer to analyze its impact on transformer performance and efficiency in electrical power transmission and distribution systems.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	3	2	-	-	-	-	-	-	2	3	2
CO2	3	3	3	3	2	-	-	-	-	-	-	2	3	3
CO3	3	3	3	3	3	-	-	-	-	-	-	2	3	3
CO4	3	3	2	3	3	-	-	-	-	-	-	3	3	3
CO5	3	3	2	3	2	-	-	-	-	-	-	3	3	3
Average	3	3	2.4	3	2.4	-	-	-	-	-	-	2.4	3	2.8
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.16				
PO Attainment	2.16	2.16	1.72	2.16	1.728	-	-	-	-	-	-	1.728	2.16	2.016



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 3RD			Subject Name: Analog Electronic Circuits Lab										Subject Code: BTEEEPPC302	
Course Outcomes														
CO1	Design, assemble and test BJT biasing circuits.													
CO2	Analyze the Dc and Ac performance of BJT and FET.													
CO3	Understand the frequency response of single & multi-stage BJT and compare the results.													
CO4	Study operational amplifier and its various applications.													
CO5	Analyze and design various wave shaping circuits													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	2	2	3	-	2	2	3	2	3	2	3	2
CO2	3	2	2	2	2	-	2	2	2	2	2	3	3	2
CO3	3	3	3	2	2	-	2	2	2	2	2	3	2	1
CO4	3	3	3	3	3	-	2	-	2	3	3	3	3	2
CO5	3	3	3	3	3	-	2	-	2	3	3	2	3	2
Average	2.8	2.8	2.6	2.4	2.6	0	2	2	2.2	2.4	2.6	2.6	2.8	1.8
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.52				
PO Attainment	2.35	2.35	2.18	2.01	2.18		1.68	1.68	1.84	2.01	2.18	2.18	2.35	1.51



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 3RD			Subject Name: Data Structures Using C Lab										Subject Code: BTPES307		
Course Outcomes															
CO1	Understand and implement basic data structures like arrays, linked lists, stacks, and queues.														
CO2	Develop and analyze algorithms for sorting and searching operations.														
CO3	Apply dynamic memory management techniques for optimized data handling														
CO4	Implement tree and graph data structures for real-world applications.														
CO5	Develop efficient algorithms for engineering applications using C programming.														
CO-PO Mapping												CO-PSO Mapping			
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	2	2	3	1	1	1	2	2	1	3	3	2	
CO2	3	3	3	2	3	1	1	1	2	2	1	3	3	3	
CO3	3	3	3	3	3	1	1	1	2	2	1	3	3	3	
CO4	3	3	3	3	3	1	1	1	2	2	1	3	3	3	
CO5	3	3	3	3	3	1	1	1	2	2	2	3	3	3	
Average	3	3	2.8	2.6	3	1	1	1	2	2	1.2	3	3	2.8	
'3' High			'2' Moderate				'1' Low			'-' No Correlation					
Overall CO Attainment										2.45					
PO Attainment	2.45	2.45	2.28	2.12	2.45	0.81	0.81	0.81	1.63	1.63	0.98	2.45	2.45	2.28	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester:3RD			Subject Name: SEMINAR-I										Subject Code: BTEEEPPSI301		
Course Outcomes															
CO1	Develop Research and Analytical Skills														
CO2	Enhance Technical Communication Skills														
CO3	Improve Presentation and Public Speaking Abilities														
CO4	Strengthen Critical Thinking and Discussion Skills														
CO5	Enhance Report Writing and Documentation Skills														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	2	1	1	2	2	1	3	3	3	2
CO2	3	3	2	3	2	2	1	1	2	2	1	3	3	3	2
CO3	2	2	2	2	2	2	1	1	2	3	2	2	2	2	2
CO4	1	1	1	1	2	1	1	1	3	3	2	2	2	2	1
CO5	1	1	1	1	1	1	1	1	3	3	2	2	2	2	1
Average	2	2	1.6	1.8	1.8	1.6	1	1	2.4	2.6	1.6	2.4	2.4	2.4	1.6
'3'High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.45					
PO Attainment	1.63	1.63	1.30	1.47	1.47	1.30	0.816	0.816	1.96	2.12	1.30	1.96	1.96	1.96	1.30



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 4TH			Subject Name: Digital Electronics Circuits										Subject Code: BTEETPC403		
Course Outcomes															
CO1	To understand working of logic families and logic gates														
CO2	To design and implement combinational and sequential logic gates														
CO3	To understand the process of analogue to digital conversion and digital to analogue conversion														
CO4	To become able to use programmable logic devices to implement the given logic problem														
CO5	To become able to reduce POS to SOP and vice versa using K-Map														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	3	3	3	2	2	-	-	-	2	2	3	3	
CO2	3	3	3	3	3	2	1	-	-	-	2	2	3	3	
CO3	2	2	2	2	1	-	-	-	-	-	1	1	2	3	
CO4	3	3	3	2	2	1	1	-	-	-	1	1	2	2	
CO5	3	2	2	1	-	-	-	-	-	-	-	-	1	1	
Average	1.5	2.6	2.6	2.2	2.25	1.66	1.33				1.5	1.5	2.2	2.4	
'3' High			'2' Moderate					'1' Low			'-' No Correlation				
Overall CO Attainment										2.32					
PO Attainment	1.16	2.01	2.01	1.70	1.74	1.28	1.03				1.16	1.16	1.70	1.86	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 4TH		Subject Name: ENGINEERING ECONOMICS AND COSTING											Subject Code: BTTHS404	
Course Outcomes														
CO1	Evaluate the economic theories, cost concepts and pricing policies													
CO2	Understand the measures of national income, the functions of banks and concepts of globalization													
CO3	Apply the concepts of financial management for project appraisal													
CO4	Understand accounting systems and analyze financial statements using ratio analysis													
CO5	Understand the impact of inflation, taxation, depreciation. Financial planning, economic basis for replacement, project scheduling, and legal and regulatory issues are introduced and applied to economic investment and project-management problems													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1							2	1	2	2	2	1		
CO2							2	2	2	1	1	1		
CO3							1	2	1	2	1	2		
CO4							1	2	1	1	1	2		
CO5							2	1	1	1	1	2		
Average							1.6	1.6	1.4	1.4	1.2	1.6	-	-
'3' High			'2' Moderate				'1' Low			'-' No Correlation				
Overall CO Attainment										2.42				
PO Attainment	-	-	-	-	-	-	1.29	1.29	1.4	1.4	0.96	1.29	-	-



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 4TH			Subject Name: Electrical Machines-I										Subject Code: BTEEETPC404		
Course Outcomes															
CO1	Apply the knowledge on the basic concepts electromechanical energy conversion.														
CO2	Understand the constructional features and winding and operating principle of dc motor.														
CO3	Analyze the performance like speed control, starting braking characteristics and uses of dc machine														
CO4	Analyze the performance construction of single phase of transformer. both single phase & three phase														
CO5	Understand the different vector group of 3 phase transformer.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	2	3	2	1	-	-	-	-	-	1	2	2	
CO2	3	3	3	3	2	2	-	-	-	-	-	1	3	3	
CO3	3	3	2	3	2	1	-	-	-	-	-	2	3	1	
CO4	2	2	2	2	2	2	-	-	-	-	-	1	2	2	
CO5	2	2	2	2	2	1	-	-	-	-	-	2	2	2	
Average	2.60	2.60	2.20	2.60	2.00	1.40	-	-	-	-	-	1.40	2.40	2.00	
'3'High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.38					
PO Attainment	2.06	2.06	1.74	2.06	1.58	1.11	-	-	-	-	-	1.11	1.90	1.58	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 4TH		Subject Name: ELECTRICAL MEASUREMENT AND MEASURING INSTRUMENTS										Subject Code: BTEEETPC405		
Course Outcomes														
CO1	Identify the instrument suitable for accurate and precise measurement of current, voltage, power and energy with their construction, theory and operating principle.													
CO2	Estimate accurately the values of R, L and C employing suitable bridges.													
CO3	Understand the construction, theory and working of Potentiometers and Instrument Transformers and their applications.													
CO4	Understand the working of electronics instruments.													
CO5	Learn the working principle of Oscilloscope.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1	3	-	-	-	1	2	1	2	3	2
CO2	3	3	2	2	2	-	-	-	2	2	1	2	3	2
CO3	3	2	2	2	2	-	-	-	1	2	1	2	3	2
CO4	3	2	1	1	3	-	-	-	1	2	1	2	3	2
CO5	2	1	1	1	3	-	-	-	1	2	1	2	2	1
Average	2.80	2.00	1.40	1.40	2.60	-	-	-	1.2	2.00	1.00	2.00	2.80	1.80
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.55				
PO Attainment	2.38	1.7	1.19	1.19	2.21				1.02	1.7	0.85	1.7	2.38	1.53



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 4TH	Subject Name: ELECTRO MAGNETIC THEORY										Subject Code: BTEETPC406			
Course Outcomes														
CO1	Explain various co-ordinate systems and solve problems involving vector calculus.													
CO2	Describe electrostatic fields, their characteristics and associated parameters													
CO3	Visualize magneto-static fields, their characteristics and associated parameters.													
CO4	Analyze and apply Maxwell's equations to various electromagnetic fields													
CO5	Interpret the propagation of EM waves through different mediums													
CO-PO Mapping												CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	2	2		-	-	-		2	3	3
CO2	3	3	3	3	2	1		-	-	-		2	2	2
CO3	2	2	2	2	2	1		-	-	-		2	3	2
CO4	2	3	3	2	2	1		-	-	-		1	2	2
CO5	3	2	1	2	2	2		-	-	-		2	2	2
Average	2.60	2.60	2.40	2.40	2.00	1.40		-	-	-		1.80	2.40	2.20
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment												2.35		
PO Attainment	2.03	2.03	1.88	1.88	1.56	1.09	-	-	-	-	-	1.41	1.88	1.72



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 4TH			Subject Name: Signals & Systems										Subject Code: BTEEETPC407		
Course Outcomes															
CO1	Describe different types of signals and systems.														
CO2	Analyze various types of LSI systems responses.														
CO3	Represent continuous and discrete systems in time & frequency domains using different transforms.														
CO4	Investigate the system stability and causality using Laplace Transform and Z-Transform														
CO5	Analyze discrete time signals and systems using Z-transform														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	3	3	3	2	-	-	-	-	-	2	3	3	
CO2	2	3	2	3	2	1	-	-	-	-	-	1	3	3	
CO3	2	3	2	2	2	1	-	-	-	-	-	1	2	3	
CO4	3	3	3	2	1	1	-	-	-	-	-	1	2	2	
CO5	3	3	2	3	3	2	-	-	-	-	-	2	1	1	
Average	2.80	2.60	2.60	2.20	2.25	1.67	-	-	-	-	-	1.50	2.20	2.40	
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.52					
PO Attainment	2.35	2.18	2.18	1.84	1.89	1.40	-					-	1.26	1.84	2.01



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 4TH	Subject Name: Employability Skill II										Subject Code: BTEEETPC415				
Course Outcomes															
CO1	Develop advanced communication and presentation skills for professional environments.														
CO2	Enhance critical thinking, problem-solving, and decision-making abilities in electrical engineering.														
CO3	Strengthen technical proficiency through real-world applications of electrical engineering concepts.														
CO4	Improve teamwork, leadership, and adaptability in professional and corporate settings.														
CO5	Prepare students for competitive exams, technical interviews, and entrepreneurship opportunities.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	1	0	2	2	3	1	2	2	3	1
CO2	2	3	2	2	2	1	0	1	1	2	2	3	3	3	2
CO3	3	3	2	2	3	1	0	1	1	2	2	3	3	3	3
CO4	2	2	2	2	2	2	0	2	3	3	2	3	2	3	2
CO5	1	2	1	1	2	1	0	2	3	3	2	3	2	3	2
Average	1.8	2.2	1.6	1.6	2	1.2	0	1.6	2	2.6	1.8	2.8	2.4	3	2
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.40					
PO Attainment	1.44	1.76	1.28	1.28	1.6	0.96	-	1.28	1.6	2.08	1.44	2.24	1.92	2.4	1.6



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 4th		Subject Name: Electrical Machines-1 Lab											Subject Code: BTEEEPPC403	
Course Outcomes														
CO1	Determine different characteristics of DC generator													
CO2	Determine efficiency of DC shunt motor.													
CO3	Determine efficiency and voltage regulation of single phase transformer and scott connection of two transformers.													
CO4	Determine various speed control techniques of DC shunt motor.													
CO5	Know the connection and parallel operation of transformers.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	3	2	3	3	2	1	-	1	-	-	2	3	2
CO2	2	2	2	2	2	1	1	-	1	-	-	1	3	2
CO3	3	2	2	2	2	1	1	-	1	-	-	1	3	2
CO4	3	3	3	2	1	1	1	-	1	-	-	1	3	2
CO5	2	2	3	3	3	2	1	-	1	-	-	2	3	2
Average	2.4	2.4	2.4	2.4	2.2	1.4	1	-	1	-	-	1.4	3	2
'3' High			'2' Moderate				'1' Low			'-' No Correlation				
Overall CO Attainment										1.55				
PO Attainment	1.24	1.24	1.24	1.24	1.14	0.72	0.52		0.52			0.72	1.55	1.03



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 4th	Subject Name: Electrical Measurement & Measuring instruments Laboratory										Subject Code: BTEEEPPC405				
Course Outcomes															
CO1	Estimate accurately the values of R, L, and C employing suitable bridges.														
CO2	Measure power and energy with suitable measuring instruments.														
CO3	Know about operation of CT, PT.														
CO4	Select appropriate electronic instruments for various measurements.														
CO5	Find out iron loss using B-H curve.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	2	2	2	-	-	-	2	2	1	2	3	2	
CO2	3	3	2	2	2	-	-	-	1	2	2	2	3	2	
CO3	3	2	2	2	2	-	-	-	1	2	2	2	3	2	
CO4	3	2	2	2	3	-	-	-	2	2	1	2	3	2	
CO5	3	2	2	2	2	-	-	-	1	2	1	2	3	1	
Average	3	2.4	2	2	2.2	-	-	-	1.4	2	1.4	2	3	1.8	
'3' High			'2' Moderate				'1' Low			'-' No Correlation					
Overall CO Attainment										2.78					
PO Attainment	2.78	2.22	1.85	1.85	2.03	-	-	-	1.29	1.85	1.29	1.85	2.78	1.66	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 4TH	Subject Name: Digital Electronics Circuits Lab	Subject Code: BTEEEPPC406												
Course Outcomes														
CO1	Verify Digital Logic Gates.													
CO2	Verify 2 level and multilevel Boolean function and design, construct and test half adder and half subtractor and full adder and full subtractor.													
CO3	Verify different type of MUX.													
CO4	Verify SR flip flop, clocked SR flip flop and JK flip flop.													
CO5	Verify VHDL Program for half adder using XOR and Gate, VHDL Program for full adder using half adder and OR Gate and VHDL Program for SR flip flop, JK flip flop and D flip flop.													
CO-PO Mapping												CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	2	-	-	-	2	1	-	-	2	3	-
CO2	3	3	2	3	-	-	-	3	2	1	-	2	3	2
CO3	3	2	3	2	-	-	-	2	1	-	-	2	2	3
CO4	3	3	3	3	-	-	-	3	2	1	-	3	3	2
CO5	3	3	3	3	-	-	-	3	3	2	1	3	3	3
Average	3	2.6	2.4	2.6	-	-	-	2.6	1.8	1.33	1	2.4	2.8	2.5
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment									2					
PO Attainment	2	1.733	1.6	1.733	-	-	-	1.733	1.2	0.88	0.66	1.6	1.86	1.66



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5TH		Subject Name: CONTROL SYSTEM ENGINEERING										Subject Code: BTEEETPC508		
Course Outcomes														
CO1	Understand and apply basic concepts of control system to develop mathematical model of various physical systems in engineering and also study effect of feedback on system characteristics.													
CO2	Use standard test signals to determine performance characteristics of first and second-order systems and determine the stability using time domain techniques.													
CO3	Identify the methods of frequency domain analysis and apply it to determine different types of stability in frequency domain.													
CO4	Differentiate between Transfer Function and State-Space approach of describing a system and understand the design of conventional controllers used in industry.													
CO5	Understand different types of control components and its design for reliable and efficient application in industry.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	1	2	-	-	-	-	2	-	-	3	2
CO2	2	3	2	2	2	1	-	-	-	2	-	-	3	2
CO3	2	2	3	2	1	-	-	-	-	1	-	-	2	1
CO4	1	2	2	2	3	-	-	-	-	2	-	-	2	1
CO5	1	2	1	2	3	-	-	-	-	1	-	-	2	1
Average	1.80	2.20	2.00	1.80	2.20	-	-	-	-	1.6	-	-	2.40	1.40
'3'High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.55				
PO Attainment	1.53	1.87	1.70	1.53	1.87	-	-	-	-	1.36	-	-	2.04	1.19



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5TH			Subject Name: POWER ELECTRONICS										Subject Code: BTEEETPC509	
Course Outcomes														
CO1	Describe the characteristics of Power semiconductor devices and thyristor family.													
CO2	Explain, analyze, and design AC - DC and AC - AC converters for real-world applications.													
CO3	Explain, analyze, and design DC - DC converters for real-world applications.													
CO4	Explain, analyze, and design DC - AC converters for real-world applications.													
CO5	Know about practical application of power electronics devices.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	1	1	-	-	-	-	-	-	-	2	1
CO2	2	3	3	2	2	-	-	-	-	2	-	-	3	2
CO3	2	3	3	2	2	-	-	-	-	2	-	-	3	1
CO4	2	3	3	2	2	-	-	-	-	2	-	-	3	1
CO5	1	2	2	1	1	-	-	-	-	1	-	-	2	1
Average	2.00	2.60	2.60	1.60	1.60	-	-	-	-	1.75	-	-	2.60	1.20
'3' High			'2' Moderate			'1' Low			'-' No Correlation					
Overall CO Attainment										2.55				
PO Attainment	1.70	2.21	2.21	1.36	1.36	-	-	-	-	1.49	-	-	2.21	1.02



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5TH		Subject Name: Generation Transmission and Distribution											Subject Code: BTEEETPC510	
Course Outcomes														
CO1	Describe the different methods of power generation.													
CO2	Explain analyze and solving of problems of transmission line constants													
CO3	Explain analyze the different types of transmission line system													
CO4	Explain analyze of fault calculation													
CO5	Explain analyze of distribution system.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	2	2	1	1	1	1	1	1	3	2	2
CO2	2	3	3	2	3	1	1	1	1	1	1	3	3	3
CO3	1	3	3	3	3	1	1	1	1	1	1	3	3	3
CO4	3	3	3	3	3	1	1	1	1	1	1	3	3	3
CO5	3	3	3	3	3	1	1	1	1	1	1	3	3	3
Average	2.6	3	3	2.6	2.8	1	1	1	1	1	1	3	2.8	2.8
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.571				
PO Attainment	2.22	2.57	2.57	2.22	2.39	0.85	0.85	0.85	0.85	0.85	0.85	2.57	2.39	2.39



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5TH			Subject Name: SPECIAL MACHINES AND DRIVES								Subject Code: BTEEETPE502			
Course Outcomes														
CO1	Describe the constructional details and performance of different types of synchronous generators.													
CO2	Draw and explain the principles of operation and performance of synchronous motor.													
CO3	Draw and describe the construction, operation and performance of 3-phase induction machines.													
CO4	Describe the operating principles of special machines and single phase machines.													
CO5	Know the fundamentals of electric drives and braking operation of drives.													
CO-PO Mapping												CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	3	2						2	3	
CO2	3	3	3	3	2	1						1	3	
CO3	3	3	2	2	2	1						1	3	
CO4	3	3	3	2	1	1						1	3	2
CO5	3	3	3	3	3	2						2	3	2
Average	3	3	2.8	2.6	2.2	1.4						1.4	3	2
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.54				
PO Attainment	2.54	2.54	2.37	2.20	1.86	1.18						2.54	2.54	1.69



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5TH			Subject Name: INDUSTRIAL PROCESS CONTROL AND DYNAMICS										Subject Code: BTEEEETOE501	
Course Outcomes														
CO1	Describe various data acquisition & signal processing elements used in the industry.													
CO2	Present the measured data using various presentation elements in a user-friendly manner.													
CO3	Describe the process, characteristics, types of controllers, and PID controller tuning.													
CO4	Identify the type of final control elements and explain its working principles.													
CO5	Examine & troubleshoot the various controller structures and their configurations.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	3	2	2	-	-	-	2	2	3	3
CO2	3	3	3	3	3	2	1	-	-	-	2	2	3	3
CO3	2	2	2	2	1	-	-	-	-	-	1	1	2	3
CO4	3	3	3	2	2	1	1	-	-	-	1	1	2	2
CO5	3	2	2	1	-	-	-	-	-	-	-	-	1	1
Average	2.80	2.60	2.60	2.20	2.25	1.67	1.33	-	-	-	1.50	1.50	2.20	2.40
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.54				
PO Attainment	2.37	2.20	2.20	1.86	1.90	1.41	1.12				1.27	1.27	1.86	2.03



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5TH		Subject Name: Indian Knowledge System(IKS)											Subject Code: BTTMC503	
Course Outcomes														
CO1	Understand the foundational concepts of Indian knowledge systems and their relevance to modern engineering.													
CO2	Analyze the contributions of ancient Indian science, technology, and engineering in fields such as mathematics, astronomy, and metallurgy.													
CO3	Apply ethical values and philosophical teachings from Indian traditions to engineering practices.													
CO4	Develop a sustainable and eco-friendly approach to engineering, inspired by traditional Indian environmental ethics.													
CO5	Enhance communication, teamwork, and leadership skills through discussions on Indian traditions and knowledge systems.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	1	1	1	2	2	3	1	2	1	3	2	2
CO2	2	2	2	2	1	2	2	2	1	2	1	3	2	2
CO3	1	1	1	1	1	3	2	3	2	2	2	3	1	3
CO4	1	1	1	1	1	2	3	3	2	2	1	3	1	2
CO5	1	1	1	1	1	2	2	2	3	3	2	3	2	3
Average	1.4	1.4	1.2	1.2	1	2.2	2.2	2.6	1.8	2.2	1.4	3	1.6	2.4
'3'High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.4				
PO Attainment	1.12	1.12	0.96	0.96	0.80	1.77	1.77	2.09	1.45	1.77	1.12	2.42	1.29	1.93



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5TH			Subject Name: EMPLOYABILITY SKILL III										Subject Code: BTEEETPC516	
Course Outcomes														
CO1	Develop professional communication, negotiation, and corporate etiquette skills.													
CO2	Apply critical thinking and advanced problem-solving techniques to engineering challenges.													
CO3	Utilize modern tools and technologies for electrical engineering applications.													
CO4	Strengthen leadership, team collaboration, and managerial abilities in professional settings.													
CO5	Prepare for higher studies, competitive exams, entrepreneurship, and global career opportunities.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	1	1	1	1	0	2	2	3	1	2	2	3
CO2	2	3	2	2	2	1	0	1	1	2	2	3	3	3
CO3	3	3	2	2	3	1	0	1	1	2	2	3	3	3
CO4	2	2	2	2	2	2	0	2	3	3	2	3	2	3
CO5	1	2	1	1	2	1	0	2	3	3	2	3	2	3
Average	1.8	2.2	1.6	1.6	2	1.2	0	1.6	2	2.6	1.8	2.8	2.4	3
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment									2.40					
PO Attainment	1.44	1.76	1.28	1.28	1.6	0.96	-	1.28	1.6	2.08	1.44	2.24	1.92	2.4



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5TH			Subject Name: Special Machines and Drives -Lab							Subject Code: BTEEEPPE501				
Course Outcomes														
CO1	Determine different characteristics of 3 phase induction motor													
CO2	Determine various speed control techniques of 3phase induction motor.													
CO3	Determine efficiency of 3phase induction motor.													
CO4	Know the various principles of operation for special machines.													
CO5	Know the specific applications of induction motor drive.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	3	2						2	3	2
CO2	3	3	3	3	2	1						1	3	2
CO3	3	3	2	2	2	1						1	3	2
CO4	3	3	3	2	1	1						1	3	2
CO5	3	3	3	3	3	2						2	3	2
Average	3	3	2.8	2.6	2.2	1.4						1.4	3	2
'3'High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.55				
PO Attainment	2.55	2.55	2.38	2.21	1.87	1.19						1.19	2.55	1.7



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5th		Subject Name: CONTROL SYSTEM ENGG. LABORATORY											Subject Code: BTEEEPPC507	
Course Outcomes														
CO1	Analyze the dynamic behavior of servo motors by determining the transfer functions of DC and AC servomotors and understanding their role in control systems.													
CO2	Evaluate the performance of compensator networks by studying the frequency response of lead and lag compensators for stability and phase correction in control systems.													
CO3	Implement and validate control strategies such as ON/OFF and PID controllers in temperature control systems for real-world applications.													
CO4	Demonstrate the working principles of sensors and transducers by analyzing the characteristics of thermocouples, thermistors, LVDTs, and strain gauges for measurement applications.													
CO5	Apply bridge circuits for precise measurement of electrical parameters like resistance, inductance, and capacitance, ensuring accuracy in instrumentation.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	3	3	-	-	-	2	1	1	2	3	2
CO2	3	3	2	3	3	-	2	-	1	1	-	2	3	3
CO3	3	3	3	3	3	2	2	-	2	2	1	3	3	3
CO4	3	3	2	3	3	1	2	-	2	2	1	3	3	2
CO5	3	3	2	3	3	-	2	-	1	1	-	2	3	2
Average	3	3	2.2	3	3	1.5	2	-	1.6	1.4	1	2.4	3	2.4
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment									2.34					
PO Attainment	2.34	2.34	1.72	2.34	2.34	1.17	1.56	-	1.25	1.09	0.78	1.87	2.34	1.87



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5th		Subject Name: POWER ELECTRONICS LABORATORY										Subject Code: BTEEEPPC508			
Course Outcomes															
CO1	Interpret the characteristics of SCR, TRIAC, IGBT and MOSFET.														
CO2	Study the triggering circuit of SCR & TRIAC.														
CO3	Analyse various power electronics converters.														
CO4	Evaluate the performance of DC-to-DC converters and its applications.														
CO5	Analyse the performance of VSI with PWM control.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	2	1	2	3	-	-	-	1	2	1	2	3	2	
CO2	3	2	2	2	3	-	-	-	1	2	1	2	3	2	
CO3	3	3	2	2	3	-	-	-	2	2	2	2	3	2	
CO4	3	2	2	2	3	-	-	-	1	2	2	2	3	2	
CO5	3	3	2	2	3	-	-	-	1	2	2	2	3	2	
Average	3	2.4	1.8	2	3	-	-	-	1.2	2	1.6	2	3	2	
'3'High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment									2.34						
PO Attainment	2.34	1.87	1.40	1.56	2.34	-	-	-	0.94	1.56	1.25	1.56	2.34	1.56	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5th		Subject Name: Summer Internship										Subject Code: BTEEEPPSI502			
Course Outcomes															
CO1	Apply Theoretical Knowledge to Practical Scenarios														
CO2	Develop Hands-on Technical and Industrial Skills														
CO3	Enhance Problem-Solving and Analytical Abilities														
CO4	Improve Professional Communication and Teamwork														
CO5	Understand Industry Standards, Ethics, and Safety Practices														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	2	2	2	2	2	3	2	3	2	2	1	2	2	2	
CO2	3	3	3	3	2	2	1	2	2	2	2	3	3	3	
CO3	2	2	2	2	3	2	1	1	2	2	2	2	2	2	
CO4	1	1	1	1	1	1	1	1	3	3	2	2	2	2	
CO5	1	1	1	1	1	1	1	1	3	3	2	2	2	2	
Average	1.8	1.8	1.8	1.8	1.8	1.8	1.2	1.6	2.4	2.4	1.8	2.2	2.2	2.2	
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.52					
PO Attainment	1.51	1.51	1.51	1.51	1.51	1.51	1.008	1.344	2.016	2.016	1.51	1.848	1.848	1.848	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 5TH		Subject Name: Mini Project										Subject Code: BTEEEPPSI503		
Course Outcomes														
CO1	Apply Fundamental Electrical Engineering Concepts													
CO2	Enhance Hands-on Technical Skills													
CO3	Develop Problem-Solving and Critical Thinking Abilities													
CO4	Improve Teamwork and Project Execution Skills													
CO5	Strengthen Technical Documentation and Presentation Skills													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	3	3	2	2	1	1	2	2	2	3	3	2
CO2	3	3	3	3	3	2	1	1	2	2	2	3	3	2
CO3	3	2	3	3	3	2	1	1	2	2	2	3	3	2
CO4	2	2	2	2	2	2	1	1	3	3	3	2	2	2
CO5	2	1	2	2	2	1	1	1	3	3	3	2	2	2
Average	2.6	2.2	2.6	2.6	2.4	1.8	1	1	2.4	2.4	2.4	2.6	2.6	2
‘3’ High		‘2’ Moderate					‘1’ Low				‘-’ No Correlation			
Overall CO Attainment										2.42				
PO Attainment	2.09	1.77	2.09	2.09	1.93	1.45	0.80	0.80	1.93	1.93	1.93	2.09	2.09	1.61



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 6TH		Subject Name: Microprocessors & Microcontrollers										Subject Code: BTEEETPC614			
Course Outcomes															
CO1	Explain the architecture, pins & signals, programming model, instruction execution of 8085 microprocessor and its interfacing with memory and I/O devices.														
CO2	Describe the architecture, modes of operation, memory organization, interrupts of 8086 microprocessor and its interfacing with 8255 PPI and 8257 DMA controller														
CO3	Explain the concepts of embedded ICs, RISC and CISC processors and 8051 microcontrollers to solve simple problems using assembly language programming.														
CO4	Design microcontroller-based interfacing for various applications.														
CO5	Demonstrate peripheral interfacing with advanced programming of microprocessors and microcontrollers for real-time applications.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	3	3	3	2	2	-	-	-	2	2	3	3	
CO2	3	3	3	3	3	2	1	-	-	-	2	2	3	3	
CO3	2	2	2	2	1	-	-	-	-	-	1	1	2	3	
CO4	3	3	3	2	2	1	1	-	-	-	1	1	2	2	
CO5	3	2	2	1	-	-	-	-	-	-	-	-	1	1	
Average	2.80	2.60	2.60	2.20	2.25	1.67	1.33	-	-	-	1.50	1.50	2.20	2.40	
'3' High			'2' Moderate				'1' Low			'-' No Correlation					
Overall CO Attainment										2.54					
PO Attainment	2.37	2.201	2.201	1.862	1.905	1.413	1.126				1.27	1.27	1.862	2.032	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 6TH	Subject Name: Power System Operation & Control										Subject Code: BTEETPC612			
Course Outcomes														
CO1	To formulate the admittance matrix and evaluate load, their behaviour, and transmission line characteristics.													
CO2	To solve power flow problem, determine the losses in the transmission system, and decide economic generation schedule at a snapshot.													
CO3	To determine the economic operating schedule of generators.													
CO4	To control & change of power system dynamics with change in frequency in single and multi-area interconnected system.													
CO5	To estimate the critical clearing time for stable power system operation and rotor angle stability analysis.													
CO-PO Mapping												CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	2	-	-	-	1	1	-	-	3	2
CO2	3	3	2	2	2	-	-	-	1	1	-	-	3	2
CO3	2	3	3	2	2	-	-	-	1	1	-	-	2	2
CO4	3	2	3	3	3	-	-	-	1	1	-	-	3	2
CO5	3	2	3	2	2	-	-	-	1	1	-	-	3	2
Average	2.8	2.6	2.6	2.2	2.2	-	-	-	1	1	-	-	2.8	2
‘3’ High			‘2’ Moderate				‘1’ Low				‘-’ No Correlation			
Overall CO Attainment										2.26				
PO Attainment	2.11	1.96	1.96	1.66	1.66	-	-	-	0.753 33	0.753 33	-	-	2.11	1.51



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 6TH			Subject Name: Power System Protection										Subject Code: BTEEETPE605		
Course Outcomes															
CO1	Analyze balanced and unbalanced faults and decide circuit breaker ratings.														
CO2	Analyze various type of relay and their use cases in power system protection.														
CO3	Demonstrate various protection strategies applied for power system protection.														
CO4	Select required protection measures against overcurrent, overvoltage in transmission lines and other power system equipment.														
CO5	Explore the modern trends in relaying like digital relaying for power system protection.														
CO-PO Mapping												CO-PSO Mapping			
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	3	3	2	2		-	-	-		2	3	3	
CO2	3	3	3	3	2	1		-	-	-		2	2	2	
CO3	3	2	2	2	2	1		-	-	-		1	3	2	
CO4	2	3	3	2	2	1		-	-	-		1	2	2	
CO5	3	2	1	2	2	2		-	-	-		2	2	2	
Average	2.80	2.60	2.40	2.40	2.00	1.40		-	-	-		1.60	2.40	2.20	
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.47					
PO Attainment	2.30	2.140	1.976	1.976	1.646	1.152						1.317	1.976	1.811	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 6TH	Subject Name: PLC , SCADA & Automation										Subject Code: BTEETPE603			
Course Outcomes														
CO1	Describe the fundamentals of PLC and its hardware components.													
CO2	Apply basic programming concepts and various logical instructions of PLC in industrial applications.													
CO3	Interface different types of I/O devices with PLC as per application requirements.													
CO4	Integrate SCADA with PLC with proper interfacing for creating industrial control systems													
CO5	Explore applications of SCADA for automation of power systems.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	1	2	-	-	-	-	-	-	-	-	2	1
CO2	2	3	2	2	2	-	-	-	-	-	-	-	3	2
CO3	2	1	2	1	-	-	-	-	-	-	-	-	1	-
CO4	2	2	2	3	2	-	-	-	-	-	-	-	3	1
CO5	1	2	2	2	3	-	-	-	-	-	-	-	2	1
Average	2.00	2.20	1.80	2.00	2.33			-	-	-			2.20	2.20
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.51				
PO Attainment	1.67	1.84	1.51	1.67	1.95	-	-	-	-	-	-	-	1.84	1.84



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 6TH		Subject Name: MICROPROCESSOR & MICROCONTROLLER LABORATORY										Subject Code: BTEEEPCC609		
Course Outcomes														
CO1	Understand the architecture and instruction set of microprocessors and microcontrollers.													
CO2	Develop assembly language and embedded C programs for microprocessors/microcontrollers.													
CO3	Interface microcontrollers with peripheral devices such as LEDs, motors, sensors, and displays.													
CO4	Implement real-time applications using microcontrollers in electrical systems.													
CO5	Analyze and debug microcontroller-based systems for automation and control.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1	2	1	1	1	1	1	1	2	3	2
CO2	3	2	2	2	3	1	1	1	1	1	1	3	3	3
CO3	3	2	3	2	3	2	2	1	2	2	1	3	3	3
CO4	3	3	3	3	3	2	2	1	2	2	1	3	3	3
CO5	3	3	3	3	3	2	3	1	2	2	2	3	3	3
Average	3	2.4	2.4	2.2	2.8	1.6	1.8	1	1.6	1.6	1.2	2.8	3	2.8
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.52				
PO Attainment	2.52	2.01	2.01	1.84	2.35	1.34	1.51	0.84	1.34	1.34	1.008	2.35	2.52	2.35



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 6th	Subject Name: Power System Lab										Subject Code: BTEEEPPC610			
	Course Outcomes													
CO1	Determine transmission parameters of lumped area network and verify relay characteristic of electromagnetic over current relay.													
CO2	Verify earth fault relay operation for unbalanced load and determine direct axis and quadrature axis sub transient reactance of synchronous machine.													
CO3	Measure breakdown potential and dielectric strength of transformer oil and know about pole and plinth mounted substation.													
CO4	Write Matlab Program for optimal operation electric power system neglecting line loss and generator limits and for computation of symmetrical and unsymmetrical faults.													
CO5	Write Matlab Program i. For simulation of static response of ALFC loop for TH=TT=0, Find dynamic response of 1area load frequency control problem without and with PI controller using Matlab Simulink. ii. Simulink model for evaluating the transient stability by plotting swing curve by simultaneously opening the breakers at both ends of the line at 2.5 cycles and 6.25 cycles after occurrence of the fault and also plot the swing curve up to a period of 0.5sec for sustained fault. iii. To find dynamic response of 1area load frequency control problem without and with PI controller using Matlab Simulink.													
	CO-PO Mapping												CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	3	3	1	-	-	2	1	-	1	2	3
CO2	3	3	2	3	2	1	-	-	1	1	-	1	1	3
CO3	3	2	1	3	3	1	-	-	1	1	-	1	2	1
CO4	3	3	3	2	3	2	1	1	2	2	1	2	2	1
CO5	1	1	1	1	1	1	1	1	3	3	1	2	2	1
Average	2.6	2.2	1.6	2.4	2.4	1.2	1	1	1.8	1.6	1	1.4	1.8	1.8
<div style="display: flex; justify-content: space-between;"> '3' High '2' Moderate '1' Low '-' No Correlation </div>														
Overall CO Attainment										2.19				
PO Attainment	1.906	1.613	1.17	1.76	1.76	0.88	0.733	0.733	1.32	1.17	0.733	1.026	1.32	1.32



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 6TH				Subject Name: Mini Project									Subject Code: BTEEEPPSI604		
Course Outcomes															
CO1	Apply Advanced Electrical Engineering Concepts														
CO2	Develop Practical Implementation and Troubleshooting Skills														
CO3	Enhance Problem-Solving and Innovation Abilities														
CO4	Strengthen Teamwork and Project Management Skills														
CO5	Improve Technical Communication and Documentation														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	3	3	2	2	1	1	2	2	2	3	3	2	
CO2	3	3	3	3	3	2	1	1	2	2	2	3	3	2	
CO3	3	2	3	3	3	2	1	1	2	2	2	3	3	2	
CO4	2	2	2	2	2	2	1	1	3	3	3	2	2	2	
CO5	2	1	2	2	2	1	1	1	3	3	3	2	2	2	
Average	2.6	2.2	2.6	2.6	2.4	1.8	1	1	2.4	2.4	2.4	2.6	2.6	2	
‘3’ High			‘2’ Moderate				‘1’ Low				‘-’ No Correlation				
Overall CO Attainment									2.42						
PO Attainment	2.09	1.77	2.09	2.09	1.93	1.45	0.80	0.80	1.93	1.93	1.93	2.09	2.09	1.61	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 6TH		Subject Name: Employability Skill-IV											Subject Code: BTEEETPC617	
Course Outcomes														
CO1	Use grammar and vocabulary in appropriate context													
CO2	Comprehend the given texts and respond appropriately.													
CO3	Communicate confidently in various contexts and different cultures.													
CO4	Acquire basic proficiency in English including reading and listening comprehension, writing and speaking skills.													
CO5	Understand the nuances of the placement procedure and perform at placement tests effectively													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	-	-	-	-	2	2	3	3	3	2	3	-	-
CO2	-	-	-	-	-	2	1	3	3	3	2	3	-	-
CO3	-	-	-	-	-	2	2	3	3	3	2	3	-	-
CO4	-	-	-	-	-	-	2	2	3	3	2	2	-	-
CO5	-	-	-	-	-	-	2	3	3	3	2	2	-	-
Average	-	-	-	-	-	2.00	1.80	2.80	3.00	3.00	2.00	2.60	-	-
'3' High		'2' Moderate					'1' Low				'-' No Correlation			
Overall CO Attainment										2.54				
PO Attainment	-	-	-	-	-	1.69	1.52	2.37	2.54	2.54	1.69	2.20	-	-



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 7TH			Subject Name: HVDC & FACTS										Subject Code: BTEEETPC713		
Course Outcomes															
CO1	Explain HVDC Transmission Systems and converter circuits.														
CO2	Examine and analyse different converter circuits.														
CO3	Design and analyse various control techniques for HVDC converters.														
CO4	Evaluate harmonics in HVDC transmission system and their effect														
CO5	Develop harmonic suspension and protection systems for HVDC transmission.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	3	3	3	2		-	-	-		2	3	3	
CO2	3	3	3	3	2	1		-	-	-		1	2	2	
CO3	3	3	2	2	2	1		-	-	-		1	3	1	
CO4	2	3	3	2	1	1		-	-	-		1	2	2	
CO5	2	2	3	3	3	2		-	-	-		2	2	2	
Average	2.60	2.80	2.80	2.60	2.20	1.40		-	-	-		1.40	2.40	2.00	
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.51					
PO Attainment	2.175	2.342	2.342	2.175	1.84	1.17						1.17	2.008	1.673	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 7TH		Subject Name: Power Quality										Subject Code: BTEETPE708			
Course Outcomes															
CO1	Identify the power quality issues in electrical distribution network and classify power quality problems.														
CO2	Evaluate the severity of overvoltage in a power system and identify suitable method to overcome the effect.														
CO3	Estimate the effect of harmonics on power quality.														
CO4	Develop monitoring techniques for power quality issues														
CO5	Design power electronics circuits to mitigate power quality issues														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	2	2	3	2	-	-	-	-	2	3	3	2	
CO2	3	3	2	2	3	2	-	-	-	-	2	3	3	2	
CO3	3	3	3	2	3	2	-	-	-	-	2	3	3	2	
CO4	3	3	2	2	3	2	-	-	-	-	2	3	3	2	
CO5	3	2	3	2	3	2	-	-	-	-	3	3	3	3	
Average	3.00	2.80	2.40	2.00	3.00	2.00	-	-	-	-	2.20	2.20	3.00	2.20	
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.51					
PO Attainment	2.51	2.34	2.01	1.67	2.51	1.67	-	-	-	-	1.84	1.84	2.51	1.84	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 7TH		Subject Name: MOBILE COMMUNICATION										Subject Code: BTEEETOE711			
Course Outcomes															
CO1	Explain the fundamentals of mobile communication networks and various protocols.														
CO2	Analyze radio propagation, fading, attenuation, channel modeling and other path losses.														
CO3	Explain & compare various wireless application protocols & mobile IP implementations.														
CO4	Know different Multiple Access Techniques.														
CO5	Know different WLAN technology and its different standards.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	3	3	3	2	2	-	-	-	2	2	3	3	
CO2	3	3	3	3	3	2	1	-	-	-	2	2	3	3	
CO3	2	2	2	2	1	2	2	-	-	-	1	1	2	3	
CO4	3	3	3	2	2	1	1	-	-	-	1	1	2	2	
CO5	3	2	2	1	3	2	2	-	-	-	-	2	2	2	
Average	2.80	2.60	2.60	2.20	2.40	1.80	1.60	-	-	-	1.50	2.60	2.40	2.60	
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.51					
PO Attainment	2.34	2.18	2.18	1.84	2.01	1.51	1.34	-	-	-	1.26	2.18	2.01	2.18	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 7TH			Subject Name: ENTREPRENEURSHIP DEVELOPMENT										Subject Code: BTHS705	
Course Outcomes														
CO1	Know the various concepts related to entrepreneurship and intrapreneurship and know their classifications.													
CO2	Able to identify opportunities in the market according to the entrepreneurial environments.													
CO3	Get knowledge about the capital flow and its management to start up and run a business													
CO4	Identify the shortfalls and causes of business failures.													
CO5	Get knowledge about different policies made by Government and other regulatory authorities.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	-	1	-	1	-	-	-	-	-	1	1	3	3	1
CO2	1	2	2	3	3	-	-	-	-	1	2	3	3	2
CO3	-	2	-	1	3	-	-	-	-	1	3	3	1	2
CO4	1	2	2	3	3	-	-	-	-	1	3	3	3	2
CO5	-	2	-	-	-	-	-	-	-	1	3	3	3	2
Average	1	1.8	2	2	3	-	-	-	-	1	2.4	3	2.6	1.8
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.42				
PO Attainment	0.80	1.45	1.61	1.61	2.42	-	-	-	-	0.80	1.93	2.42	2.09	1.45



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 7TH		Subject Name: HIGH VOLTAGE ENGINEERING										Subject Code: BTEEETPE711			
Course Outcomes															
CO1	Analyze the breakdown phenomena in solids, liquids and gaseous.														
CO2	Measure the dielectric loss and partial discharge involved in non-destructive high voltage tests.														
CO3	Conceptualize the idea of high voltage and safety measures involved.														
CO4	Analyze various measurement methods of high voltage and high currents.														
CO5	Perform testing of high voltage circuits using various high voltage electrical apparatus														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	1	2	-	-	-	-	-	-	-	-	2	1	
CO2	2	3	2	2	2	-	-	-	-	-	-	-	3	2	
CO3	2	1	2	1	-	-	-	-	-	-	-	-	1	-	
CO4	2	2	2	3	2	-	-	-	-	-	-	-	3	1	
CO5	1	2	2	2	3	-	-	-	-	-	-	-	2	1	
Average	2.00	2.20	1.80	2.00	2.33			-	-	-			2.20	2.20	
‘3’ High			‘2’ Moderate				‘1’ Low				‘-’ No Correlation				
Overall CO Attainment										2.51					
PO Attainment	1.67	1.84	1.51	1.67	1.95	-	-	-	-	-	-	-	1.84	1.84	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 7TH			Subject Name: PROJECT										Subject Code: BTEEEPPSI705		
Course Outcomes															
CO1	Apply Electrical Engineering Fundamentals to Practical Problems														
CO2	Develop Hands-on Technical and Analytical Skills														
CO3	Enhance Problem-Solving and Innovation Abilities														
CO4	Improve Teamwork and Project Management Skills														
CO5	Strengthen Technical Documentation and Presentation Skills														
CO-PO Mapping												CO-PSO Mapping			
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3	3	3	3	2	2	1	1	2	2	2	3	3	2	
CO2	3	3	3	3	3	2	1	1	2	2	2	3	3	2	
CO3	3	2	3	3	3	2	1	1	2	2	2	3	3	2	
CO4	2	2	2	2	3	2	1	1	3	3	3	2	2	2	
CO5	1	1	2	2	2	1	1	1	3	3	3	2	2	2	
Average	2.4	2.2	2.6	2.6	2.6	1.8	1	1	2.4	2.4	2.4	2.6	2.6	2	
'3' High			'2' Moderate				'1' Low				'-' No Correlation				
Overall CO Attainment										2.21					
PO Attainment	1.768	1.62	1.915	1.915	1.915	1.326	0.736	0.736	1.768	1.768	1.768	1.915	1.915	1.473	



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 7TH			Subject Name: Grand Viva										Subject Code: BTEEEPPSI707	
Course Outcomes														
CO1	Demonstrate a thorough understanding of fundamental and advanced electrical engineering concepts.													
CO2	Apply theoretical knowledge to analyze and solve practical engineering problems													
CO3	Communicate technical knowledge effectively in oral and written formats.													
CO4	Exhibit confidence in explaining engineering concepts and their applications.													
CO5	Develop problem-solving and critical-thinking abilities through structured discussions.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	2	-	-	2	2	2	1	1	3	3
CO2	3	3	3	3	2	-	-	2	2	2	1	1	3	3
CO3	2	2	2	2	2	-	-	2	2	3	1	1	2	3
CO4	2	2	2	2	2	-	-	2	3	3	1	1	2	3
CO5	3	3	3	3	2	-	-	2	2	2	1	1	3	3
Average	2.6	2.6	2.4	2.4	2	-	-	2	2.2	2.4	1	1	2.6	3
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.50				
PO Attainment	2.16	2.16	2	2	1.66	-	-	1.66	1.83	2	0.833	0.833	2.16	2.5



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 8TH		Subject Name: Grand Viva										Subject Code: BTEEPPSI808		
Course Outcomes														
CO1	Demonstrate fundamental and advanced knowledge in Electrical Engineering.													
CO2	Analyze and solve complex electrical engineering problems													
CO3	Apply modern tools, software, and methodologies in electrical engineering analysis.													
CO4	Exhibit professional ethics, teamwork, and responsibility in technical discussions.													
CO5	Communicate effectively, presenting concepts and technical solutions clearly.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	2	2	1	1	1	1	2	1	2	3	2
CO2	3	3	2	3	2	1	1	1	1	1	1	2	3	3
CO3	3	2	2	3	3	1	1	1	1	1	1	2	3	2
CO4	2	1	1	1	1	2	1	3	3	2	1	2	2	3
CO5	2	1	1	1	1	1	1	2	3	3	2	2	2	3
Average	2.6	1.8	1.6	2	1.8	1.2	1	1.6	1.8	1.8	1.2	2	2.6	2.6
'3' High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.51				
PO Attainment	2.18	1.51	1.34	1.68	1.51	1.008	0.84	1.34	1.51	1.51	1.008	1.68	2.18	2.18



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 8TH		Subject Name: Major PROJECT										Subject Code: BTEEEPPSI809		
Course Outcomes														
CO1	Demonstrate an in-depth understanding of the relevance, scope, and objectives of the selected project topic within the domain of Electrical Engineering.													
CO2	Conduct a comprehensive literature review and identify applications or knowledge gaps to establish the foundation and significance of the project.													
CO3	Apply appropriate research methodology, tools, and engineering techniques to design, develop, and implement the proposed solution.													
CO4	Analyze and interpret the quality of results using appropriate validation methods, tools, and performance indicators.													
CO5	Present findings in the form of a structured technical report and defend the work confidently through oral presentation and response to queries.													
CO-PO Mapping													CO-PSO Mapping	
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	-	1	1	1	1	2	2	-	1	3	2
CO2	3	2	2	2	-	2	1	2	-	1	-	2	3	3
CO3	3	3	3	3	3	1	2	-	2	2	2	3	3	2
CO4	3	3	3	3	2	-	-	-	1	1	1	3	3	3
CO5	2	1	2	-	-	-	-	1	3	3	2	1	2	2
Average	2.80	2.20	2.40	2.67	2.00	1.33	1.33	1.33	2.00	1.80	1.67	2.00	2.80	2.40
'3'High			'2' Moderate				'1' Low				'-' No Correlation			
Overall CO Attainment										2.44				
PO Attainment	2.27	1.79	1.73	2.17	1.62	1.08	1.08	1.08	1.62	1.46	1.35	1.62	2.27	1.95



GITA Autonomous College, Bhubaneswar
Department of Electrical and Electronics Engineering

Semester: 8TH		Subject Name: Internship										Subject Code: BTEEEPPSI810		
Course Outcomes														
CO1	Apply Theoretical Knowledge to Practical Applications													
CO2	Develop Hands-on Technical Skills													
CO3	Enhance Problem-Solving and Analytical Abilities													
CO4	Improve Professional Communication and Teamwork													
CO5	Understand Industry Standards, Ethics, and Safety Practices													
CO-PO Mapping												CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	1	1	1	2	1	2	3	2	2	1	2	1	2
CO2	3	2	2	2	3	1	1	2	2	1	2	2	1	3
CO3	3	2	2	3	3	1	1	2	2	1	2	2	1	2
CO4	2	1	1	1	1	1	1	2	3	3	2	2	1	3
CO5	2	2	2	2	2	1	1	2	2	2	3	3	1	3
Average	2.4	1.6	1.6	1.8	2.2	1	1.2	2.2	2.2	1.8	2	2.2	1	2.6
'3' High			'2' Moderate				'1' Low			'-' No Correlation				
Overall CO Attainment									2.45					
PO Attainment	1.96	1.30	1.30	1.47	1.79	0.81	0.98	1.79	1.79	1.47	1.633	1.79	0.81	2.12