PadmabhooshanVasantraodadaPatil Institute of Technology,Budhgaon-416304

Department of Electrical and Computer Engineering

TY **SEM. EVEN/ODD/V/VI**

Sr.No	Course Code	Course Name
1	BTECC501	Power System -II

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTECC501
Course Name :	**Power System -II**
Name of Faculty	**Prof.S.k.Shaikh**

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	Modeling of Power system
CO2	Analysis various Load Flow Methods and applying them for finding the unknown parameters such as voltage ,phase angle, active and reactive so that's why power system become good performance.
CO3	Analysis The balancing and unbalancing conditions in Transmission lines, Synchronous Motors.

CO - PO Mapping Table

CO	Programme Outcome (PO)													
		PO2	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	2	3								2			3	
CO2	3	3		3	2					2			3	
CO3	3	3								2			3	

Sr.No	Course Code	Course Name
2	BTECPE502	Conventional and Renewable Energy

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTECPE502
Course Name :	**Conventional and Renewable Energy**
Name of Faculty	**Prof.M.C.Bhutale**

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	To understand performance of Power generating Plants and its Economics
CO2	To analyse the working of Thermal & Hydro power plants with its Layouts.
CO3	To Know the performance of integration of Renewable power plants to Grid.

CO - PO Mapping Table

CO	Programme Outcome (PO)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	1	2	1											
2	1	2	2											
3	1	1	1											

3 BTECCE503 Power Electronics

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTEEC503
Course Name :	**Power Electronics**
Name of Faculty	**Prof.Dr.S.Y.Gadgune**

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	1) Recall1 and explain2 the structure, characteristics, turn-on methods, ratings, and protection techniques of power electronic switches.
CO2	2) Apply3 the principles of operation of various power electronic converters and explain2 their performance parameters for different configurations.
CO3	3) Analyze4 and apply3 the principles of advanced power converters, such as multilevel inverters, to evaluate their operation under different conduction modes and topologies.

CO - PO Mapping Table

CO	Programme Outcome (PO)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	3						1					2		
2	3	3	2				1					2		
3	2	3	2				1					1		

4 BTECCE504 Microcontroller and Application

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTECC504
Course Name :	**Microcontroller and Application**
Name of Faculty	**Prof.S.N.Patil**

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	To understand the fundamental architecture of 8051
CO2	To study the concept of interfacing of 8051 to peripheral I/O and memo
CO3	To write a program to interface to I/O devices

CO - PO Mapping Table

CO	Programme Outcome (PO)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3													
CO2	2	2	3											
CO3	3	2												

5 BTECC505 Computer Graphics and Image processing

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTECC505
Course Name :	**Computer Graphics and Image processing**
Name of Faculty	

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	To impart the basic concepts of computer graphics systems and algorithms.
CO2	To understand concepts about filled area primitives and transformation Techniques.
CO3	To understand fundamentals of digital image processing
CO4	To understand various image enhancement techniques
CO5	To understand various image segmentation techniques and solve problems depends on segmentation

CO - PO Mapping Table

CO	Programme Outcome (PO)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	3	2	2		3					2		2	3	3
2	3	2	3		3				1	2		2	3	3
3	3	2	2		3					2		2	3	3
4	2	3	2	2	3					2		2	2	2
5	2	3	2	3	3					2		2	2	2

7 BTECC601 Switchgear and Protection

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTEEC601
Course Name :	**Switchgear and Protection**
Name of Faculty	**Prof.S.K.Shaikh**

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	To understand basic protection for power system and discuss construction and working of static and numerical relays
CO2	To discuss various types of circuit breakers, its construction and working and understand basics of fuses
CO3	To explain protection of transmission line, feeders and induction motor

CO - PO Mapping Table

CO	Programme Outcome (PO)													
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
1	3	3				2	2	1				2		2
2	3	2	2	2		2	2	2				1		1
3			2	2		2								

8 BTECC602 Electrical and Hybrid Vehicles

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTECC602
Course Name :	**Electrical and Hybrid Vehicles**
Name of Faculty	**Prof.Dr.S.Y.Gadgune**

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	1) Explain2 the architecture and performance parameters of Electric and Hybrid Vehicles.
CO2	2) Illustrate2 electric propulsion and motor control strategies used in EV and HEV systems.
CO3	3) Apply3 the knowledge of energy storage systems to identify suitable technologies for electric vehicles.
CO4	4) Identify3 the key components and basic configuration of electric or hybrid vehicle systems using solar and fuel cell technologies.

CO - PO Mapping Table

CO	Programme Outcome (PO)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	3	2				2						2		
2	3	3										2		
3	3	3				2						2		
4	2	2										2		

9 BTECC603 Control System Enggiineering

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTECC603
Course Name :	**Control System Engineering**
Name of Faculty	**Prof.S.N.Patil**

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	Apply the knowledge to develop the mathematical model of the basic electrical and mechanical systems
CO2	Perform the sabilitability analysis of system in time domain , frequency domain and in statState space
CO3	Describe the orncprinciples of different control modes and design analog controllers

CO - PO Mapping Table

CO	Programme Outcome (PO)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	3	2	2							1				
2		3	2							1				
3	2		3	2						1				

10 BTECC604 Electronics Communication System

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTECC604
Course Name :	**Electronics Communication System**
Name of Faculty	**Prof.M.C.Bhutale**

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	To understand Modulation process and performance of AM & FM radio broadcasting.
CO2	To learn about Pulse Modulation concept and understand working of PCM transmitter & Receiver
CO3	Understand the concept of Sattelite communication and its applications.

CO - PO Mapping Table

CO	Programme Outcome (PO)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	3	2	2							1				
2		3	2							1				
3	2		3	2						1				

11 BTECC605 Database Management System

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTECC605
Course Name :	**Database Management System**
Name of Faculty	**Ruksar Mulla**

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	Understand the fundamental concepts and architecture of database systems, including data models, ER diagrams, and relational schema design.
CO2	Apply SQL and relational algebra/calculus to create, query, and manipulate relational databases effectively.
CO3	Analyze and implement database design principles, normalization techniques, transaction processing, and indexing for efficient and reliable data management.

CO - PO Mapping Table

CO	Programme Outcome (PO)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	3	2	1		2								1	1
2	3	3	2	2	3								2	2
3	3	3	3	2	3								3	3

12 BTECC606 Cryptography and network security

Department :	**Electrical and Computer Engg**
Academic Year:	2023-24
Class :	TY
Course Code :	BTECC606
Course Name :	**Cryptography and network security**
Name of Faculty	**Dr.Sameer.Joshi**

Course Outcome	
Upon successful cpmletion of the course students will be able to:	
CO1	Understand cryptography basics, algorithms and mathematical background for cryptography
CO2	Analyze the important cryptographic algorithms.
CO3	Understand cyber security and need of cyber Laws.

CO - PO Mapping Table

CO	Programme Outcome (PO)													
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
1	3	2	--	1	2	2						1		
2	3	2	--	1	2	2						1		
3	3	2	--	--	--	--						1		