P. V. P. Institute of Technology, Budhgaon

Electronics and Computer Science Department

2023 - 2024 (SEMESTER - I) B.Tech

PO		
1		Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution
	Engineering Knowledge	of complex engineering problems.
2		Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated
	Problem analysis	conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3		Design solutions for complex engineering problems and design system components or processes that meet the specified
	Design/ Development of	needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental
	solutions	considerations.
4	Conduct Investigation of	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data,
	Complex Problems	and synthesis of the information to provide valid conclusions
5		Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and
	Modern Tool usage	modelling to complex engineering activities with an understanding of the limitations.
6		Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the
	Engineer and society	consequent responsibilities relevant to the professional engineering practice.
7	Environment and	Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate
	sustainability	the knowledge of, and need for sustainable development.
8	Ethics	Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9	Individual and teamwork	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10		Communicate effectively on complex engineering activities with the engineering community and with society at large, such
		as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give
	Communication	and receive clear instructions.
11	Project management and	Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own
	finance	work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12		Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest
	Life – Long Learning	context of technological change.
PSO1		Analyze, design and develop electronics and computer software systems for communication, image processing, machine
	PSO1	learning Embedded and power electronics applications.
PSO ₂	PSO2	Simulate, interpret and automate electronics systems and software algorithms by using domain specific tools.

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2023 - 2024 (SEMESTER - I) B.Tech Name of Course **BTEXC702** Embedded System Design Class: B Tech Name of Faculty Mr. R. D. Patil **Course Outcomes (COs)** After Completion of course the student should be able to **CO1** The student will study ARM Processor based Embedded System design **CO2** The student will be able to do programming in Embedded programming in C, C++ **CO3** The student will understand Linux operating system and device driver **CO4** The student will demonstrate the knowledge of Real Time Operating System **CO-PO Mapping Chart** 7 POs 1 2 3 4 5 6 8 9 10 11 12 PSO 2 PSO 1 COs 1 \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark 2 \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark ✓ \checkmark 3 4 \checkmark \checkmark \checkmark \checkmark \checkmark **CO-PO emphasis Chart** POs 2 6 7 12 1 3 4 5 8 9 10 11 PSO 1 PSO 2 COs 3 1 2 2 3 2 3 2 2 2 3 2 2 3 2 2 3 3 2 2 2 2 2 4 2

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Name	of Course	BTEXPE702C Satellite Communication	Class	:	B Tech
Name of	Faculty	K.K. Pandyaji / V.J.Tamboli			
Course O	utcomes (CO	s)			
After Con	npletion of co	ourse the student should be able to			
CO1	Knowledge	e of theory and practice related to radar and Satellite	communication.		
CO2	Ability to i	dentify, formulate and solve engineering problems	elated to radar and Satell	ite c	ommunication.
CO3	The studen	t would be able to analyze the various aspects of est	ablishing a geo-stationary	y sat	ellite communication link.
CO4	Acquired k	nowledge about Satellite Navigation System.			
CO5	Acquired k	nowledge about Radar and Radar Equations.			

CO-PO Mapping Chart

CO/POs	1	2	3	4	5	6	7	8	9	10	11	12	PSO 1	PSO 2
1		✓	✓	✓						✓				
2		✓	✓	\checkmark						✓				
3				✓						✓				
4										✓				
5		✓	✓	✓						✓				

CO/POs	1	2	3	4	5	6	7	8	9	10	11	12	PSO 1	PSO 2
1		3	3	1						1				
2		3	3	2						3				
3				3						3				
4										2				
5		3	3	2						2				

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Name o	of Course	BTEXOE703A Wireless Sensor Networks	Class:	B Tech
Name of	f Faculty	A. B. Patil / Dr. J. A. Shaikh		
Course C	Outcomes (COs)		
After Co	mpletion of	f course the student should be able to		
CO1	Design w	vireless sensor networks for a given application		
CO2	Understa	nd emerging research areas in the field of sensor networks		
CO3	Understa	nd MAC protocols used for different communication standards used	l in WSN	
CO4	Explore r	new protocols for WSN.		

CO-PO Mapping Chart

POs	1	2	3	4	5	6	7	8	9	10	11	12	PSO 1	PSO 2
COs														
1	\checkmark	\checkmark	✓	✓						✓				
2	✓			\checkmark		\checkmark	\checkmark			✓	✓			
3	✓	\checkmark	\checkmark						✓	✓	✓			
4	✓		\checkmark	✓						✓				

POs	1	2	3	4	5	6	7	8	9	10	11	12	PSO 1	PSO 2
COs														
1	2	1	1	2						3				
2	2			2		2	2		3	2	2			
3	2	1	2							2	2			
4	2		2	2						2				

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Name o	of Course	BTEXOE704A	Soft Computi	ng					Class:	B Tech					
Name of	Faculty		Dr. A. B. Shin	de											
Course C	Outcomes (O	COs)													
After Cor	mpletion of	course the stu	ident should b	e able to											
CO1	Use a nev	w tool /tools to	o solve a wid	e variety of r	eal-world pr	oble	ms.								
CO2	Find an a	lternate soluti	ion, which ma	ay offer more	adaptability	y, res	silier	nce and op	timization	•					
CO3	Identify the	he suitable an	itenna for a gi	ven commun	nication system	em.									
CO4	Gain know	wledge of sof	t computing of	domain whicl	h opens up a	u who	ole r	new career	option.						
CO5	Tackle re	al world resea	arch problems	8.											
CO-PO N	lapping Cha	art													
POs	1 2 3 4 5 6 7 8 9 10 11 12 PSO 1 PSO 2														
COs															
1	\checkmark	✓											✓	\checkmark	
2			✓	✓	✓								✓		
3		✓								\checkmark			✓		
4	\checkmark	✓		✓										\checkmark	
5				\checkmark	\checkmark					✓				\checkmark	
CO-PO e	mphasis Ch	art													
POs	1	2	3	4	5	6	7	8	9	10	11	12	PSO 1	PSO 2	
COs															
1	2	3											2	2	
2			2	2	3								2		
3		2								3			2		
4	2	3		3										3	
5				2	3					3				3	

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Name of Course Mini Project - III

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Undertake	the small p	roject by Ider	ntifying, ana	lyzing probl	lems by app	plying	their kno	owledge of	f mathemati	ics, science	es and engin	neering.			
CO2	Provide a	cost effectiv	e solutions fo	or the real time	me problems	s identified	by de	signing s	ystem con	nponents or	processes	for bettern	nent of public health			
	and safet	y or environi	nental consid	derations.												
CO3	Prepare pr	ototypes mo	del by using	modern too	ls & techniq	ues by wor	king i	ndividual	lly or as a	team memb	ber					
CO4	Test & Va	lidate the re-	sults of the d	eveloped pro	ototype.											
CO5	Demonstr	Demonstrate the project and prepare the detailed project documentation by using MS word.														
CO-PO N	lapping Chart															
POs	1	2	3	4	5	6	7	8	9	10	11	12				
COs																
1	✓															
2	✓	✓		\checkmark	\checkmark					✓						
3		✓	✓		✓	✓					✓	✓				
4		\checkmark	✓	\checkmark	\checkmark	✓				✓	✓					
5			\checkmark			\checkmark					\checkmark					

POs	1	2	3	4	5	6	7	8	9	10	11	12
COs												
1	3											
2	1	2		1	1					2		
3		2	2		2	2					2	2
4		2	3	3	2	2				2	3	
5			3			3					2	

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					2023 - 2	2024 (SEI	MESTER	– II) B.T	'ech					
Name	of Course	Project w	ork / Inters	ship					Class:	B Tech				
Name of	Faculty													
Course C	Outcomes (COs)												
After Co	mpletion o	f course the	e student sh	nould be ab	ole to									
CO1	Provide and safe	a cost effect	ctive soluti	ons for th	e real time	problems	identified	l by desigr	ning system	m compone	ents or pro	cesses for	r betterment o	f public heal
CO2	Prepare	prototypes	model by	using mod	lern tools	& techniq	ues by wor	rking indiv	vidually or	r as a team	member			
CO3	Test & V	alidate the	e results of	the devel	oped proto	otype.								
CO4	Demonst	trate the pr	oject and p	prepare the	e detailed	project do	cumentatio	on by usin	g MS wor	d.				
CO-PO N	Apping Ch	art												
POs	1	2	3	4	5	6	7	8	9	10	11	12		
COs														
1	✓													
2	✓	✓		✓	✓		✓		✓	✓				
3	✓	✓	✓		✓	✓					✓	✓		
4		✓	✓	\checkmark	\checkmark	\checkmark		\checkmark		\checkmark	\checkmark		7	

POs	1	2	3	4	5	6	7	8	9	10	11	12
COs												
1	3											
2	1	2		1	1		2		2	2		
3		2	2		2	2					2	2
4		2	3	3	2	2		2		2	3	