DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

P. V. P. Institute of Technology, Budhgaon

Electronics and Computer Science Department

2023 – 2024 (SEMESTER - I) T.Y.

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

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P. V. P. Institute of Technology, Budhgaon

2023 – 2024 (SEMESTER - I) T.Y.

Name of Course BTECPC501 Computer Network and Cloud Computing

Name of Faculty Dr. K. P. Pardeshi

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Analyze the requirements for a given organizational structure and select the most appropriate networking architecture and technologies
CO2	Specify and identify deficiencies in existing protocols, and then go onto select new and better protocols
CO3	Have a basic knowledge of installing and configuring networking applications
CO4	Understand the different cloud computing environments
CO5	Apply concepts of virtualization and various cloud services to design, develop and deploying cloud applications

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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

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P. V. P. Institute of Technology, Budhgaon

Name of Course BTECOE504C Programming in Java

Name of Faculty T.S. Upadhye

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Understand the basic principles of Java programming language
CO2	Apply the concepts of classes and objects to write programs in Java
CO3	Demonstrate the concepts of Interfaces & Inheritance
CO4	Understand multithreading and Exception handling in Java to develop robust programs
CO5	Apply the concepts of Graphics and JDBC for project development

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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

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P. V. P. Institute of Technology, Budhgaon

Name of Course BTECPC502 Digital Signal and Image Processing **Class:** T.Y. B Tech

Name of Faculty R.D.Patil / A. B. Shinde

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Understand mathematical description and representation of various signals and systems and Solve the numerical on it.
CO2	Understand use of different transforms and analyze the discrete time signals and systems
CO3	Implement fundamental image processing techniques required for computer vision using MATLAB tool
CO4	Understand Image formation process and do the image processing in spatial domain
CO5	Perform morphological operations as well as demonstrate the image segmentation concepts

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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		3			3								2	
4	2	2		3	3									3
5		3	3	3	2					2				3

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P. V. P. Institute of Technology, Budhgaon

Name of Course BTECPE503D Software Engineering

Name of Faculty A. S. Bhandare

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	decompose the given project in various phases of a lifecycle and choose appropriate process model depending on user requirement
CO2	understand Agile software development model and identification of different requirements for software development
CO3	apply the knowledge of different system model and architectural aspects for modeling software system
CO4	Perform various life cycle activities like analysis, design, implementation, testing to complete software project successfully.

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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

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P. V. P. Institute of Technology, Budhgaon

Name of Course BTECHM505A Economics and Management

Name of Faculty S.S. Mane

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Study of Market Equilibrium
CO2	Understand Relevant Information and Decision Making
CO3	Aware Financial Statements
CO4	Study of Depreciation Accounting
CO5	Understand Product Development

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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

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P. V. P. Institute of Technology, Budhgaon

Name of Course Mini Project

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Undertake the small project by Identifying, analyzing problems by applying their knowledge of mathematics, sciences and engineering.
CO2	Provide a cost effective solutions for the real time problems identified by designing system components or processes for betterment of public health and safety or environmental considerations.
CO3	Prepare prototypes model by using modern tools & techniques by working individually or as a team member
CO4	Test & Validate the results of the developed prototype.
CO5	Demonstrate the project and prepare the detailed project documentation by using MS word.

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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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P. V. P. Institute of Technology, Budhgaon

2023 – 2024 (SEMESTER – II) T.Y.

Name of Course BTECPC601 Internet of Things

Name of Faculty Dr. K.K.Pandyaji

Course Outcomes (COs)

CO1	The use of concepts of IoT and its areas.
CO2	Understand the basics of C and NodeMCU
CO3	Understand the basics of Python & Raspberry Pi
CO4	Interacting with Web Services and IoT protocol
CO5	Apply the IoT in various applications.

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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

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Name of Course BTECPC602 Artificial Intelligence and Machine Learning

Name of Faculty Dr. J.A. Shaikh

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Discuss Meaning, Scope and Stages of Artificial Intelligence
CO2	Develop a good understanding of fundamental principles of machine learning
CO3	Formulation of a Machine Learning problem
CO4	Develop a model using supervised/unsupervised machine learning algorithms for classification/prediction/clustering
CO5	Evaluate performance of various machine learning algorithms on various data sets of a domain.

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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

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P. V. P. Institute of Technology, Budhgaon

Name of Course BTECOE604C Andriod Programming

Name of Faculty Mr. V. J. Tamboli

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Understand Android architecture, activities and their life cycle
CO2	Apply the knowledge to design user interface using Android UI and Component
CO3	Describe Memory and File operations in Android
CO4	Manage system database, remote database operations using web services and Firebase
CO5	Apply knowledge of map, location services, Graphics, android system and background services

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

P. V. P. Institute of Technology, Budhgaon

Name of Course BTECPE603D - Software Testing

Name of Faculty Dr. A.B. Shinde

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Apply software testing knowledge and its processes to software applications.
CO2	Identify various software testing problems
CO3	Solve software testing problems by designing and selecting software test models, criteria, strategies and methods
CO4	Apply the techniques learned to improve the quality of software development.
CO5	Prepare a software quality plan for a software project

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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

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Name of Course BTECHM605A Development Engineering **Class:** T.Y. B Tech

Name of Faculty Mr.S. M. Gheji

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Improve the skills of development engineering
CO2	Get the knowledge of world poverty and development
CO3	Aware about social justice
CO4	Apply development strategies
CO5	Understand engineering for sustainable community development

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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						
3									2					
4						2	2	2						
5						2	2							

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

P. V. P. Institute of Technology, Budhgaon

Name of Course Mini Project - II

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Undertake the small project by Identifying, analyzing problems by applying their knowledge of mathematics, sciences and engineering.
CO2	Provide a cost effective solutions for the real time problems identified by designing system components or processes for betterment of public health and safety or environmental considerations.
CO3	Prepare prototypes model by using modern tools & techniques by working individually or as a team member
CO4	Test & Validate the results of the developed prototype.
CO5	Demonstrate the project and prepare the detailed project documentation by using MS word.

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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	