DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

P. V. P. Institute of Technology, Budhgaon

Electronics and Computer Science Department

2023 – 2024 (SEMESTER - I) S.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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2023 – 2024 (SEMESTER - I) S.Y.

Name of Course BTES301 Engineering Mathematics-III

Name of Faculty S. P. Mandale

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Understand the concept of LT & ILT.
CO2	Solve problems related to Fourier transform to Deep Learning, Signal & Image processing.
CO3	Understand the concepts of linear algebra and apply Linear Programming, Computer Graphics and Cryptography.
CO4	Understand the concepts of PDE and apply it in data analysis.
CO5	Analyze function of complex variables.

CO-PO Mapping Chart

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

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CO-PO emphasis Chart

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

Name of Course BTECPC302 Electronics Devices and Circuits

Name of Faculty Dr. J. A. Shaikh

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	**Discuss operation, biasing and applications of JFET & MOSFET.**
CO2	**Comply and verify parameters after exciting devices by any stated method.**
CO3	**To use Transistor as a Oscillator and Negative Feedback Amplifier.**
CO4	**Select appropriate transducer for the developing electronic Circuit.**
CO5	**Choose appropriate actuator for the developing electronic Circuit**

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		✓	✓							✓				

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

Name of Course BTECPC303 Programming, Data Structures and Algorithm Using C

Name of Faculty Mr. V.J Tamboli

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Implement linked list & perform various operations on Linked List
CO2	Implement stack & perform operations on stack.
CO3	Implement various types of queues & perform operations on stack.
CO4	Implement trees & graph and traverse to solve a problem.
CO5	Implement an algorithm & apply different searching and sorting techniques.

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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												
3	3	3												
4		3	3											
5		3	2											

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Name of Course BTESC304 Computer Architecture and Operating Systems

Name of Faculty Dr. K.P. Pardeshi / A. S. Bhandare

Course Outcomes (COs)

CO1	Get acquaint with computer architecture and CPU building blocks
CO2	Understand classify and draw schematic diagrams of various computer memories
CO3	Explain operations of control unit and input output of a typical computer
CO4	Define Operating system, thread, process, inter-process communication and Solve numerical related to various CPU Scheduling Algorithm
CO5	Understand concepts of Process Synchronization and Deadlocks and Solve associated Numerical

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	2											3	1
2	3	2	1										2	
3	3												1	2
4														
5														

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Name of Course BTESC305 Digital Electronics & Microprocessor

Name of Faculty Dr. K. K. Pandyaji

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Became familiar with the digital signal, positive and negative logic, Boolean algebra, logic gates, logical variables, the truth table, number systems, co
CO2	Learn the working mechanism and design guidelines of different combinational circuits and their role in digital system design.
CO3	Understand the working mechanism and design guidelines of different sequential circuits and their role in the digital system design
CO4	Assess and solve basic binary math operations using the microprocessor and explain the microprocessor's internal architecture and its operation within performance
CO5	Describe, list and use different types of instruction and interrupts and develop assembly language programs using various programming tools

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	2	3	2								2			
2		2	3	2								2	3	
3			3		2						2		2	
4			3	2	3						2	2	3	

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2023 – 2024 (SEMESTER – II) S.Y.

Name of Course BTHM403 Basic Human Rights

Name of Faculty A.B.Patil

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	CO1 Students will be able to understand the history of human rights.
CO2	CO2 Students will learn to respect others caste, religion, region and culture.
CO3	CO3 Students will be aware of their rights as Indian citizen.
CO4	CO4 Students will be able to understand the importance of groups and communities in the society.
CO5	CO5 Students will be able to realize the philosophical and cultural basis and historical perspectives of human rights.

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			1			2	3	2	3	2	3		
2	3	2				1	2	3	1	2	2	3		
3	3			2		2	1	3	3	3	2	3		
4	3			2		3	3	3	2	3	1	2		
5	3	2				3	2	3	1	2	2	1		

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Name of Course DATABASE MANAGEMENT SYSTEM
Name of Faculty A. S. Bhandare
Course Outcomes (COs)

After Completion of course the student should be able to

CO1	**Understand basics of database management system**
CO2	**Formulate different queries using SQL to perform different operations on database**
CO3	**Evaluate database design with normalization techniques and use of keys with simple examples**
CO4	**Provide overview of transaction processing and NOSQL type database.**

CO-PO Mapping Chart

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

CO-PO emphasis Chart

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

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Name of Course BTECPC401 Python Programming

Name of Faculty Dr. K.P.Pardeshi

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Develop small programs to demonstrate use of python tokens in IDE.
CO2	Develop python program to demonstrate use of operators, control flow and sequences.
CO3	Develop python function for a given problem.
CO4	Develop python program to demonstrate use of classes and objects.
CO5	Develop python program to demonstrate file handling and make database connectivity.

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	2													
2	3	2			3					2				
3	3	2			3								2	
4	2	2										3	3	

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Name of Course BTBS404 Probability Theory and Random Processes

Name of Faculty A. V. Patil

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Understand the fundamental knowledge of the concepts of probability and have knowledge of standard distributions which can describe real life phenomenon
CO2	Understand the basic concepts of one and two dimensional random variables and apply in engineering applications
CO3	Apply the concept random processes in engineering disciplines
CO4	Understand and apply the concept of correlation and spectral densities
CO5	The students will have an exposure of various distribution functions and help in acquiring skills in handling situations involving more than one variable. Able to analyze the response of random inputs to linear time invariant systems

CO-PO Mapping Chart

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

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CO-PO emphasis Chart

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

Name of Course BTECPE405D LINUX Operating System

Name of Faculty Mr. R. D. Patil

Course Outcomes (COs)

After Completion of course the student should be able to

CO1	Ability to use various Linux commands that are used to manipulate system operations at admin level and a prerequisite to pursue job as a Network administrator.
CO2	Ability to write Shell Programming using Linux commands.
CO3	Ability to design and write application to manipulate internal kernel level Linux File System.
CO4	Ability to develop IPC-API's that can be used to control various processes for synchronization
CO5	Ability to develop Network Programming that allows applications to make efficient use

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