

Shree Santkrupa Institute of Engineering and Technology

Department of Computer Science and Engineering

Academic Year: 2020-21

Semester: III

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTBSC301	Engineering Mathematics – III	3	1	-	4
2	BTCOC302	Discrete Mathematics	2	1	-	3
3	BTCOC303	Data Structures	2	1	-	3
4	BTCOC304	Computer Architecture & Organization	2	1	-	3
5	BTCOC305	Digital Electronics & Microprocessors	2	1	-	3
6	BTHM3401	Basic Human Rights	2	-	-	Audit
7	BTCOL306	Python Programming	1	-	2	2
8	BTCOL307	HTML and JavaScrip	1	-	2	2
9	BTCOL308	Data Structures Lab	-	-	2	1
10	BTCOL309	Digital Electronics & Microprocessor Lab	-	-	2	1
11	BTES211P	Internship	-	-	-	1

Semester: IV

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTCOC401	Design & Analysis of Algorithms	2	1	-	3
2	BTCOC402	Probability & Statistics	2	1	-	3
3	BTCOC403	Operating Systems	2	1	-	3
4	BTCOE404A	Object Oriented Programming in Java	2	1	-	3
5	BTID405	Product Design Engineering	1	-	2	2
6	BTHM3402	Soft Skills and Personality Development	2	1	-	3

7	BTCOL407	Design & Analysis of Algorithms Lab	-	-	2	1
8	BTCOL408	Introduction to Data Science with R	1	-	2	2
9	BTCOL409	Object Oriented Programming Lab	-	-	2	1
10	BTCOL410	Operating System Lab	-	-	2	1
11	BTCOF411	Internship	-	-	-	1

Semester: V

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTCOC501	Database Systems	3	1	-	4
2	BTCOC502	Theory of Computations	3	1	-	4
3	BTCOC503	Machine Learning	3	1	-	4
4	BTCOE504 -A	Introduction to Research	2	-	-	2
5	BTCOE505 - B	Business Communication	2	-	-	2
6	BTCOC506	Competitive Programming-I	1	-	2	2
7	BTCOL507	Database System Laboratory	-	-	2	1
8	BTCOL508	Machine Learning Laboratory	-	-	2	1
9	BTCOS509	Seminar	-	-	2	1
10	BTCOF411	Internship	-	-	-	1

Semester: VI

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTCOC601	Compiler Design	3	1	-	4
2	BTCOC602	Computer Networks	3	1	-	4
3	BTCOE603 - C	Object-Oriented Analysis Design	2	1	-	3
4	BTCOE604 - C	Internet of Things	2	-	-	2
5	BTCOE605 -B	National Social Service	2	-	-	2
6	BTCOC606	Competitive Programming-II	1	-	2	2
7	BTCOL607 - B	Internet of Things Laboratory	-	-	2	2

8	BTCOL608	Computer Networks Laboratory	-	-	2	1
9	BTCOF609	Internship	-	-	-	1

Semester: VII

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTCOC701	Software Engineering	3	-	-	3
2	BTCOE702 -B	Distributed System	3	-	-	3
3	BTCOE703 -A	Cloud Computing	3	-	-	3
4	BTCOE704 -A	Blockchain Technology	3	-	-	3
5	BTCOL705	Full Stack Development (LAMP)	1	-	2	2
6	BTCOL706	System Administration	1	-	2	2
7	BTCOL707	Distributed System Lab	-	-	2	1
8	BTCOL708	Cloud Computing Lab	-	-	2	1
9	BTCOP709	Project phase - I	-	-	2	1
10	BTCOF609	Internship	-	-	-	1

Semester: VIII

Sr. No.	Course Code	Course Name	Lecture	Tutorial	Practical	Credit
1	BTCOE801-B	Social Networks	3	-	-	3
2	BTCOE802-A	Introduction to Industry 4.0 and Industrial Internet of Things	3	-	-	3
3	BTCOE803	Project phase - II	-	-	24	12

Course Outcomes

Semster : III	
Course Name	Engineering Mathematics – III

Course Code		BTBSC301
Course Outcome No	Course Outcome Statement	By the end of the course, students will be able to:
CO 1	Explain the application of the Laplace Transform to find solutions of system of linear equations arising in many engineering problem	
CO 2	Demonstrate and apply the concept Laplace Transform	
CO 3	Interpret Computation of Fourier Transform and their applications to engineering problems	
CO 4	Identify Partial Differential Equations and Their Applications.	
CO 5	Evaluate Functions of Complex Variables.	
Semster : III		
Course Name		Discrete Mathematics
Course Code		BTCOC302
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Develop knowledge of Fundamental Structures and Basic Logic .	
CO 2	Classify basic concepts of Functions and Relations .	
CO 3	Apply and demonstrate knowledge of Graph in data structures.	
CO 4	Identify and explain knowledge of Trees in data structures.	
CO 5	Interpret basic concepts of Algebraic Structures and Morphism.	
Semster : III		
Course Name		Data Structures
Course Code		BTCOC303
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain the concept of Dynamic memory management, data types, algorithms, Big O notation	
CO 2	Describe basic data structures such as arrays, linked lists, stacks and queues	
CO 3	Explain the hash function and concepts of collision and its resolution methods	
CO 4	Solve problem involving graphs, trees and heaps	
CO 5	Apply Algorithm for solving problems like sorting, searching, insertion and deletion of data	
Semster : III		
Course Name		Computer Architecture & Organization

Course Code		BTCOC304
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Identify the basic organization of computer system, its function, interconnection and CPU structure.	
CO 2	Explain basic instruction set, operations, addressing modes and RISC and CISC architecture.	
CO 3	Perform Arithmetic operations, 2's complement representation and operations with this representation.	
CO 4	Identify a memory module and analyze its operation by interfacing with the CPU.	
CO 5	Create the organization for the Control unit, Arithmetic and Logical unit, Memory unit and the I/O unit and I/O interfaces.	
Course Name		Digital Electronics & Microprocessors
Course Code		BTCOC305
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Examine the structure of number system and performs the conversion among different number systems.	
CO 2	Create combinational circuits for given application.	
CO 3	Design and analysis of synchronous and asynchronous sequential circuits using flip-flops.	
CO 4	Explain the architecture of 8086 microprocessor.	
CO 5	Write the program using 8086 microprocessor.	
Semster : III		
Course Name		Basic Human Rights
Course Code		BTHM3401
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Expain the history of human rights.	
CO 2	Recall responsibilities of others caste, religion, region and culture.	
CO 3	Remember the importance of groups and communities in the society.	
CO 4	Analyse the philosophical and cultural basis and historical perspectives of human	
CO 5	Aware of their responsibilities towards the nation.	
Semster : III		
Course Name		Python Programming
Course Code		BTCOL306

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain programming, algorithms, data structure concepts and a simple Python program.	
CO 2	Make use of variables, operators and control-flow statements and Functions in Python program.	
CO 3	Illustrate Python Exception handling, String processing, basic input/output and file-handling methods	
CO 4	Analyze classes, Objects and data structures	
CO 5	Develop Python code with SQLite database	
Semster : III		
Course Name		HTML and JavaScript
Course Code		BTCOL307
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain the basic commands of HTML.	
CO 2	Apply content to an HTML page using HTML elements.	
CO 3	Create hyperlinks to connect various HTML pages together.	
CO 4	Implement program logic using JavaScript.	
Semster : III		
Course Name		Data Structures Lab
Course Code		BTCOL308
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Differentiate static and dynamic memory allocation techniques	
CO 2	Implement various operations on linear and non-linear data structures	
CO 3	Implement different searching and sorting techniques	
CO 4	Identify the appropriate data structure to solve a given problem	
CO 5	Compute the time complexities of different algorithms	
Course Name		Digital Electronics & Microprocessor Lab
Course Code		BTCOL309

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain the basic logic operations and logic circuit elements to create digital circuits	
CO 2	Construct basic combinational circuits and verify their functionalities	
CO 3	Identify the appropriate data structure to solve a given problem	
CO 4	Apply the design procedures to design basic sequential circuits	
CO 5	Analyse the basic digital circuits and to verify their operation	
Semster : IV		
Course Name		Design and Analysis of Algorithm
Course Code		BTCOC401
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Define worst-case running times of algorithms using asymptotic analysis	
CO 2	Compare searching algorithms using divide-and-conquer paradigm.	
CO 3	Design algorithms using dynamic programming and back tracking methods.	
CO 4	Apply the greedy algorithms to solve real world problems such as knapsack and TSP.	
CO 5	Develop various types of programming paradigms in a high-level language.	
Semster : IV		
Course Name		Probability & Statistics
Course Code		BTCOC402
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Apply knowledge of Bayes' theorem of inverse probability, Properties of probabilities.	
CO 2	Classify Relation between binomial and normal distributions.	
CO 3	Analyse Poisson and normal distributions, importance of normal distribution, Properties of Karl Pearson's correlation coefficient and demonstrate the linear and non-linear regression, Lines of regression, Derivation of regression lines of y on x and x on y, Angle between the	
CO 4	regression lines, Coefficients of regression	
CO 5	restate the principles of Estimation, Large Sample Estimation of a Population mean, Small Sample Estimation of a Population mean, Large Sample Estimation of a Population Proportion	
Semster : IV		
Course Name		Operating Systems
Course Code		BTCOC403

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Illustrate the basic concepts of operating systems .	
CO 2	Differentiate between programs, processes and threads.	
CO 3	Describe the concept of process and scheduling algorithms.	
CO 4	Identify deadlock and use various algorithms to handle deadlocks.	
CO 5	Illustrate various memory mgmt,file mgmt and disk storage management mechanisms.	
Semster : IV		
Course Name		Object Oriented Programming in Java
Course Code		BTCOE404A
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain the concept of Hardware and Software, Programming Language, JDE, JDK, and the structure of Java Programs.	
CO 2	Illustrate Classes, Objects, Methods, and string operations.	
CO 3	Make use of Control Statements in java code.	
CO 4	Classify types of Array in java.	
CO 5	Demonstrate classes, objects and java packages.	
CO 6	Apply the concept of Inheritance and Polymorphism in java	
Semster : IV		
Course Name		Product Design Engineering
Course Code		BTID405
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Define Simple Products and Modules.	
CO 2	Illustrate Creation and Knowledge Sharing.	
CO 3	Identify Self and Work Management.	
CO 4	Analyze Team Work and Communication.	
CO 5	Explain Managing Health and Safety.Data and Information Management.	
Semster : IV		
Course Name		Soft Skills and Personality Development

Course Code		BTHM3402
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Demonstrates the skills to manage and express their emotions, thoughts, impulses and stress in effective ways.	
CO 2	Apply various time management techniques in productive manner.	
CO 3	Build performance, enhanced wellbeing, personal growth, or a sense of purpose	
CO 4	Develop interpersonal communication skills to establish and enhance personal and work-based relationships.	
CO 5	Design an effective Presentation and speak with greater control in front of others.	
Semster : IV		
Course Name		Design and Analysis of algorithm Lab
Course Code		BTCOL407
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Analyze the performance of merge sort and quick sort algorithms using divide and conquer technique.	
CO 2	Develop algorithms using divide and conquer, greedy and dynamic programming	
CO 3	Design algorithms using dynamic programming and back tracking methods.	
CO 4	Apply the dynamic programming technique to solve real world problems such as knapsack and TSP.	
CO 5	Develop various types of programming paradigms in a high-level language.	
Semster : IV		
Course Name		Introduction to Data science with R
Course Code		(BTCOL408)
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Choose R Studio, an advanced environment for using the R language (scripts, projects, customizing R studio)	
CO 2	Explain the R language syntax, how to write proper code for solving a given problem.	
CO 3	Develop a strong foundation on the R data-types and data-structures (vectors, matrices, lists, data.frames)	
CO 4	Examine the plot functions with base R, e.g. scatter plots, bar plots, box plots, histograms.	
CO 5	Design the R Package to do graphics and data visualization.	
Semster : IV		
Course Name		Object-Oriented Programming Lab

Course Code		BTCOL409
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Build Java code using Classes, Objects, and Operators in Java.	
CO 2	Make use of Control Statements in java code.	
CO 3	Create Java code by using different types of Array.	
CO 4	Develop Java code by using userdefined classes, objects and java packages.	
CO 5	Create Java code by implementing inheritance and Polymorphism	
Semster : IV		
Course Name		Operating System Lab
Course Code		BTCOL410
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Describe Unix environment and execute basic Unix Commands.	
CO 2	Execute Bash Shell commands.	
CO 3	Describe the CPU scheduling algorithms and page replacement algorithms.	
CO 4	Illustrate different memory management algorithms.	
CO 5	Identify different system calls.	
Semster : V		
Course Name		Database Systems
Course Code		BTCOC501
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain the database design for applications and make use of ER diagram.	
CO 2	Describe relational algebra concepts.	
CO 3	Apply the various concepts in query processing using SQL.	
CO 4	Apply normalization techniques in database application.	
CO 5	Describe basic database storage structures and access techniques using file organizations, indexing and Transaction Processing.	
Semster : V		
Course Name		Theory of Computation

Course Code		BTCOC502
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Define Finite Automata machines for given problems and conversion of various Machine.	
CO 2	Illustrate given Finite Automata machine and find out its Language	
CO 3	Apply Pushdown Automata machine for given CF language(s)	
CO 4	Discover the strings/sentences of a given context-free languages using its grammar	
CO 5	Design Turing machines for given any computational problem.	
Semster : V		
Course Name		Machine Learning
Course Code		BTCOC503
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain types of Machine learning, hypothesis space, bias, cross-validation, Linear regression, Decision trees and overfitting concepts	
CO 2	Illustrate Instance-based learning, Feature reduction, Collaborative filtering-based recommendation, Probability, and Bayes learning	
CO 3	Classify Logistic Regression and Support Vector Machine	
CO 4	Explain Neural network and deep learning concepts	
CO 5	Apply computational learning theory, PAC learning model, Sample complexity, VC Dimension, and Ensemble learning.	
CO 6	Analyze Clustering k-means, adaptive hierarchical clustering, Gaussian mixture model	
Semster : V		
Course Name		Introduction to Research
Course Code		BTCOE504 -A
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Understand the research process and develop the ability to apply the methods while working on a research project work.	
CO 2	Perform literature reviews through conducting Systematic Research Survey.	
CO 3	Identify procedures of sampling, measurement scales and instruments, data collection, analysis and framework for research studies.	
CO 4	Write a research report, thesis and Technical Presentations.	
CO 5	Choose the appropriate research design and develop appropriate research hypothesis for a research project.	
Semster : V		

Course Name		Business Communication
Course Code		BTCOE505 - B
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Demonstrate verbal and non-verbal communication ability	
CO 2	communicate effectively in various situations.	
CO 3	Develop interpersonal communications skills that are required for social and business interaction.	
CO 4	Employ proper public speaking techniques.	
CO 5	Demonstrate the use of basic and advanced business communication skills.	
Semster : V		
Course Name		Competative Programming I
Course Code		(BTCOL506)
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain how algorithmic problems can be solved	
CO 2	Recognize the time and memory complexity of an algorithm or a structure	
CO 3	Explain the concrete algorithms and data structures	
CO 4	Analyze the given problem and recognize subproblems	
CO 5	Apply the knowledge on a wider set of problems	
Semster : V		
Course Name		Database System Laboratory
Course Code		BTCOL507
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Describe the basics of SQL and construct queries using SQL.	
CO 2	Implement principles for logical design of databases, including the E-R method and normalization approach.	
CO 3	Implement Basic DDL, DML, DCL Commands, Understand Data selection and operators used in queries and restrict data retrieval and control the display order.	
CO 4	Create aggregate and group functions to summarize data, join multiple tables using different types of joins.	
Semster : V		
Course Name		Machine Learning Laboratory

Course Code		BTCOL508
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Interpret Regression Models	
CO 2	Solve a given problem by using the Logistic Regression model	
CO 3	Make use of Random Forest and Parameter Tuning methodsRandom Forest and Parameter Tuning	
CO 4	Apply Clustering Algorithms and make its evaluation	
CO 5	Choose the appropriate research design and develop appropriate research hypothesis for a research project.	
CO 6	Develop Machine Learning Project in Python on House Prices Data.	
Semster : V		
Course Name		Seminar
Course Code		BTCOS509
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	List recent technical topics from interested domain.	
CO 2	Explain the applicability of modern software tools and technology.	
CO 3	Develop the detailed literature survey and built a document with respect to technical publications.	
CO 4	Analyze presentation and communication skills.	
CO 5	Create technical report preparation and professional skills.	
Semster : VI		
Course Name		Compiler Design
Course Code		(BTCOC601)
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Define the various phases and architecture of a compiler and how these phases interact with each other.	
CO 2	Illustrate designing and implementing lexical analyzers and parsers,regular expressions, finite automata,context-free grammars	
CO 3	Apply semantic analysis , manage symbol tables by using variable scopes, data types, and other semantic aspects.	
CO 4	Apply various compiler optimization techniques for improving the efficiency of generated code.	
CO 5	Create efficient and optimized machine code or intermediate code from the input source code.	
Semster : VI		

Course Name		Computer Network
Course Code		BTCOC602
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Recall the basic concept of Network, Transport and Application Layer.	
CO 2	Classify different terminologies of client server programming.	
CO 3	Apply various error detection and correction techniques at data link layer.	
CO 4	Analyze different network layer protocol like IPv4/IPv6, TCP, UDP and congestion control.	
CO 5	Elaborate different application layer protocol like DHCP, DNS, FTP, HTTP and SMTP.	
Semster : VI		
Course Name		Object-Oriented Analysis Design
Course Code		BTCOE603C
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Illustrate basic OOAD concepts	
CO 2	Design various UML diagrams	
CO 3	Identify and apply various design patterns.	
CO 4	Illustrate Use case analysis and CRC card analysis	
Semster : VI		
Course Name		Internet of Things
Course Code		BTCOE604 - C
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain the impact and challenges caused by IoT networks leading to new architectural model.	
CO 2	Compare smart objects and its deployment model and the technologies to connect to network.	
CO 3	Assess the role of IoT protocol for sustainable network communication.	
CO 4	Explain the need of Data Analytics and Security in IoT.	
CO 5	Design different interdisciplinary IoT applications using Arduino and RaspberryPi	
Semster : VI		
Course Name		National Social Services

Course Code		BTCOE605 -B
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Know Introduction and Basic Concepts of NSS	
CO 2	Know Youth and community mobilization	
CO 3	Identify the importance and Role of Youth Leadership	
CO 4	Identify Life Competencies and skill.	
CO 5	Develop Social Harmony and National Integration.	
Semster : VI		
Course Name		Competitive Programming-II
Course Code		BTCOC606
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain etc concepts of online Judges, feedback and the standard input output to solve the programming challenges.	
CO 2	Design and implement the advanced programs of Arrays, Linked list, Strings, Dynamic Programming, Greedy method, Graph Algorithm etc.	
CO 3	Design the test cases for the various programs.	
CO 4	Describe the programming challenges in competitive platforms like codechef.com,uva.onlinejudge.com.	
Semster : VI		
Course Name		Internet of Things Laboratory
Course Code		BTCOL607 - B
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain the different operating systems for Raspberry-Pi and OS installation on Raspberry-Pi.	
CO 2	Connectivity and configuration of Raspberry-Pi circuit with basic peripherals	
CO 3	Implement interfacing of various sensors with Raspberry Pi	
CO 4	Demonstrate the ability to transmit data between different devices.	
CO 5	Apply IoT concepts in different applications using Raspberry Pi	
Semster : VI		
Course Name		Computer Network Laboratory
Course Code		BTCOL608

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Choose Different types of cables and implement cross-wired and straight cable using Clipping Tool.	
CO 2	Illustration of Network Devices Repeater, Hub, Switch, Bridge, Router.	
CO 3	Organize the computer in Local Area Network.	
CO 4	Analyze a Network topology using Packet tracer software.	
CO 5	Construct a Network using Distance Vector routing protocol.	
Semster : VII		
Course Name		Software Engineering
Course Code		BTCOC701
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Define software lifecycle development models.	
CO 2	Compare requirements engineering including functional & non-functional requirements.	
CO 3	Apply specification into an architectural design and system models.	
CO 4	Analyze Object-oriented design using UML & an implementation issues.	
CO 5	Elaborate fundamental concepts in software testing & designing test cases and test data.	
Semster : VII		
Course Name		Distributed System
Course Code		BTCOE702B
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain distributed operating system concepts & design issues.	
CO 2	Illustrate communication, synchronization and processes in distributed systems.	
CO 3	Describe distributed file systems, distributed shared memory concepts.	
CO 4	Explain distributed architecture, naming, synchronization, consistency and replication, fault tolerance, security, and distributed file systems.	
Semster : VII		
Course Name		Cloud Computing
Course Code		BTCOE703 -A

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain evolution, vision, benefits, challenges of cloud computing and the concept of Virtualization.	
CO 2	Explain Cloud Computing Architecture along with services and types of Clouds.	
CO 3	Explain other services available in Clouds for Enterprise and Disaster recovery management of cloud.	
CO 4	Identify Aneka: Cloud Application Platform and its Deployment Models.	
CO 5	Design different Applications in Cloud Application Platform	
Semster : VII		
Course Name		Blockchain Technology
Course Code		BTCOE704 -A
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Understand concept of blockchain using bitcoin and cryptography.	
CO 2	Analyze difference in bitcoin and blockchain.	
CO 3	Illustrate different prmissioned model using different algorithms.	
CO 4	Analyze different uses of blockchain such as cross border payment , trading, KYC.	
CO 5	Develop smart contracts in Ethereum framework.	
Semster : VII		
Course Name		Full Stack Development
Course Code		BTCOL705
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain the basic concepts of HTML and CSS to design and implement static web sites.	
CO 2	Design a responsive web site using HTML5 and CSS3 and JavaScripts.	
CO 3	Create PHP programs that uses various PHP library functions, and that manipulate files and directories.	
CO 4	Create PHP Programs to connect, access, and update a MySQL database.	
CO 5	Develop the web based applications using a combination of client-side (JavaScript, HTML) and server-side technologies (PHP).	
Semster : VII		
Course Name		System Administration
Course Code		BTCOL706

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Describe the role and responsibilities of a Unix system administrator	
CO 2	Demonstrate the Installation and configuration of Linux operating system	
CO 3	Differentiate the file and directory sharing using FTP Server and Samba Server	
CO 4	Create remote desktop login using Telnet Server and SSH Server	
CO 5	Host their personal websites on Local Network or on Internet using HTTP Server Configuration	
Semster : VII		
Course Name		Distributed System Lab
Course Code		BTCOL707B
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Define the characterization of Distributed Systems,practical Foundation for Distributed System and Concepts in Message Passing Systems.	
CO 2	Explain the Distributed Mutual Exclusion and Distributed Deadlock Detection.	
CO 3	Apply the Agreement Protocols and Distributed Resource Management.	
CO 4	Evaluate the Transactions and Concurrency Control,Distributed Transactions and Replication.	
Semster : VII		
Course Name		Cloud Computing Lab
Course Code		BTCOL708
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Explain evolution, vision, benefits, challenges of cloud computing and the concept of Virtualization.	
CO 2	Explain Cloud Computing Architecture along with services and types of Clouds.	
CO 3	Explain other services available in Clouds for Enterprise and Disaster recovery management of cloud.	
CO 4	Identify Aneka: Cloud Application Platform and its Deployment Models.	
CO 5	Design different Applications in Cloud Application Platform	
Semster : VII		
Course Name		Project phase - I
Course Code		BTCOP709

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Analyze the problem, formulation and solution of the selected project	
CO 2	Develop solutions for contemporary problems using modern tools for sustainable development.	
CO 3	Demonstrate ethical and professional sustainability while working in a team and communicate effectively for the benefit of the society.	
CO 4	Explain the engineering, finance and management principles.	
CO 5	Elaborate technical information by means of written reports.	
Semster : VIII		
Course Name		Social Networks
Course Code		BTCOE801-B
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Formalize different types of entities and relationships as nodes and edges and represent this information as relational data	
CO 2	Execute network analytical computations.	
CO 3	Analyze advanced network analysis software to generate visualizations and perform empirical investigations of network data.	
CO 4	Interpret the meaning of the results with respect to a question, goal, or task.	
CO 5	Collect network data in different ways and from different sources while adhering to legal standards and ethics standards.	
Semster : VIII		
Course Name		Introduction to Industry 4.0 & Industrial Internet of Things
Course Code		BTCOE802-A
Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1	Choose the topics from the recent various existing industrial systems.	
CO 2	Analyze different modern technologies and software tools that are applicable solve the complex problem.	
CO 3	Identify how cyber-physical systems integrate digital and physical components in an industrial context.	
CO 4	Discover knowledge of theory and practice related to industrial IOT systems.	
CO 5	Develop architectural design patterns,representation,Interaction skill related to Industrial IOT.	
Semster : VIII		
Course Name		Project phase - II
Course Code		BTCOE803

Course Outcome No	Course Outcome Statement	By the end of the course, the student will be able to:
CO 1		Apply the technical knowledge acquired in the program for solving real world problems.
CO 2		Apply new technologies & design techniques (platform, database, etc.) concerned for devising a solution for a given problem statement
CO 3		Apply project management skills (scheduling work, procuring parts and documenting Expenditures and working within the confines of a deadline)
CO 4		Work with team mates, sharing due and fair credits and collectively apply effort for making project successful.
CO 5		Elaborate technical information by means of written reports.