Shree Santkrupa Institute of Engineering and Technology

Department of Computer Science and Engineering

Academic Year: 2018-19

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	BTHMC306	Basic Human Rights	2	-		Audit
7	BTCOL307	Python Programming	1	-	2	2
8	BTCOL308	HTML and JavaScrip	1	-	2	2
9	BTCOL309	Data Structures Lab	-	-	2	1
10	BTCOL310	Digital Electronics & Microprocessor Lab	-	-	2	1
11	BTCOF311	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	BTXXC406	Product Design Engineering	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

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	Demonstarte 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 knowladge of Fundamental Structures and Basic Logic .	
CO 2	Classify basic concepts of Functions and Relations .	
CO 3	Apply and demonstrate knowladge of Graph in data structures.	
CO 4	Identify and explain knowladge 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	Classify different data structures such as stack, queues, linked list, trees and graphs
CO 2	Analyze and implement various searching and sorting techniques
CO 3	Implement linear and non-linear data structures
CO 4	Apply appropriate data structures to solve specific problems
CO 5	Evaluate algorithms and data structures in terms of time and space complexity of basic operations.

Semester : 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.	

Semster : III		
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 microprocesor.	
CO 5	Write the program using 8086 microprocessor.	

Semster : III		
Course Name		**Basic Human Rights**
Course Code		**BTHM 306**
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		**BTCOL307**
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		**BTCOL308**
Course Outcome No	**Course Outcome Statement**	**By the end of the course, the student will be able to:**
CO 1	Explain functionalities of HTML website.	
CO 2	Create both simple and complex HTML and CSS forms.	
CO 3	Create a working contact form.	
CO 4	Create their own website to showcase their skills.	

Semster : III		
Course Name		**Data Structures Lab**
Course Code		**BTCOL309**
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	Identity the appropriate data structure to solve a given problem	
CO 5	Evaluate time complexities of different algorithms	

Semster : III		
Course Name		**Digital Electronics & Microprocessor Lab**
Course Code		**BTCOL310**
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	Analyse Comparator, Flipflop etc	
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 Spearman's rank correlation coefficient, Probable errors	
CO 4	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 regression lines, Coefficients of regression	
CO 5	Identify 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	Explain the basic concepts, types, and system components of OS	
CO 2	Illustrate the performance of process scheduling techniques	
CO 3	Apply the knowledge of process management, synchronization, deadlock to solve basic problems.	
CO 4	Analyze various memory management techniques	
CO 5	Describe I/O management and file systems	
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	**BTXXC406**	
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 & Analysis of Algorithms 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	Explain Unix Operating System Commands	
CO 2	Implement the different algorithms for CPU Scheduling	
CO 3	Develop algorithms for handling synchronization	
CO 4	Develop algorithms for memory management	