

SRI KRISHNA INSTITUTE OF TECHNOLOGY (Accredited by NAAC, Approved by A.I.C.T.E. New Delhi, Recognised by Govt. of Karnataka & Affiliated to V.T.U., Belgaum) #29, Chimney Hills, Hesaraghatta Main Road, Chikkabanavara Post, Bangalore- 560090

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Sem: 3rd CO's (21scheme)

Data Structures and Applications (21CS32)

CO1: Identify different data structures and their applications.

CO2: Apply stack and queues in solving problems.

CO3: Demonstrate applications of linked list.

CO4: Explore the applications of trees and graphs to model and solve the real-world problem.

CO5: Make use of hashing techniques and resolve collisions during mapping of key value pairs.

Analog and Digital Electronics (21CS33)

CO1: Design and analyze application of analog circuits using timer IC, regulated, power supply, op-amp and also explain the basic principles of A/D converter and D/A conversion circuits and develop the same

CO2: Simplify digital circuits using Karnaugh map and Quine- McClusky Method

CO3: Combinational circuits designs simulation using gates

CO4: Design of sequential circuits using flip flops and develop simple HDL programs

CO5: Designing of different data processing circuits, registers and counters and compare same (using gates and flip flops)

Computer Organization (21CS34)

CO1: Explain the organization and architecture of computer systems with machine instructions and programs

CO2: Analyze the input/output devices communicating with computer system

- CO3: Demonstrate the functions of different types of memory devices
- CO4: Apply different data types on simple arithmetic and logical unit

CO5: Analyze the functions of basic processing unit, Parallel processing and pipelining

Object Oriented Programming with Java Laboratory (21CSL35)

CO1: Use Eclipse/NetBeans IDE to design, develop, debug Java Projects.

CO2: Analyze the necessity for Object Oriented Programming paradigm over structured programming and become familiar with the fundamental concepts in OOP.

CO3: Demonstrate the ability to design and develop java programs, analyze, and interpret object oriented data and document results.

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CO4: Apply the concepts of multiprogramming, exception/event handling, abstraction to develop robust programs.

CO5: Develop user friendly applications using File I/O and GUI concepts.

SEM: 4th CO's(21scheme)

Design and Analysis of Algorithms (21CS42)

CO1: Analyze the performance of the algorithms, state the efficiency using asymptotic notations and analyze mathematically the complexity of the algorithm.

CO2: Apply divide and conquer approaches and decrease and conquer approaches in solving the problems analyze the same.

CO3: Apply the appropriate algorithmic design technique like greedy method, transform and conquer approaches and compare the efficiency of algorithms to solve the given problem.

CO4: Apply and analyze dynamic programming approaches to solve some problems and improve an algorithm time efficiency by sacrificing space.

CO5: Apply and analyze backtracking, branch and bound methods and to describe P, NP and NP-Complete problems.

Microcontroller and Embedded Systems (21CS43)

CO1: Describe the ARM microcontroller's architectural features and program module

CO2: Explain C-Compilers and optimization and ARM instruction set

CO3: Apply the knowledge gained from C-Compilers and optimization for programming on ARM to different applications.

CO4: Program the basic hardware components and their application selection method

CO5: Demonstrate the need of Real Time Operating system forembedded system applications

Operating Systems (21CS44)

CO1: Identify the structure of an operating system and Basics of scheduling mechanism

CO2: Demonstrate the allocation of resources for a process using scheduling and Synchronization Algorithms

CO3: Identify root causes of deadlock and provide the solution for deadlock elimination and Basics of Storage

CO4: Explore about the storage structures and File System

CO5: Analyze Storage Structures and Implement Customized Case study of Linux OS



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Python Programming Laboratory (21CSL46)

CO1: Demonstrate proficiency in handling of loops and creation of functions.

CO2: Identify the methods to create and manipulate lists, tuples and dictionaries.

CO3: Discover the commonly used operations involving regular expressions and file system.

CO4: Interpret the concepts of Object-Oriented Programming as used in Python.

CO5: Determine the need for scraping websites and working with PDF, JSON and other file formats

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Department of Artificial Intelligence and Machine Learning

Sem: 5th CO's (2021Scheme)

SOFTWARE ENGINEERING & PROJECT MANAGEMENT (BCS501)

- CO1: Differentiate process models to judge which process model has to be adopted for the given scenarios.
- CO 2: Derive both functional and nonfunctional requirements from the case study.
- CO 3: Analyze the importance of various software testing methods and agile methodology.
- CO 4: Illustrate the role of project planning and quality management in software development.
- CO 5: Identify appropriate techniques to enhance software quality.

COMPUTER NETWORKS (BCS502)

- CO 1: Explain the fundamentals of computer networks.
- CO 2: Apply the concepts of computer networks to demonstrate the working of various layers and protocols in communication network.
- CO 3: Analyze the principles of protocol layering in modern communication systems.
- CO 4: Demonstrate various Routing protocols and their services using tools such as Cisco packet tracer.

THEORY OF COMPUTATION (BCS503)

- CO1: Apply the fundamentals of automata theory to write DFA, NFA, Epsilon-NFA and conversion between them.
- CO2: Prove the properties of regular languages using regular expression
- CO3: Design context-free grammars (CFGs) and pushdown automata (PDAs) for formal languages
- CO4: Design Turing machines to solve the computational problems.
- CO5: Explain the concepts of decidability and undecidability.

DATA VISUALIZATION LAB (BCSL504)

- CO1: Design the experiment to create basic charts and graphs using Tableau and Power BI.
- CO2: Develop the solution for the given real world problem.
- CO3: Analyze the results and produce substantial written documentation.

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Sem:6th CO's(2021Scheme)

SOFTWARE ENGINEERING & PROJECT MANAGEMENT (21CS61)

- CO 1: Understand the activities involved in software engineering and analyze the role of various process models.
- CO 2: Explain the basics of object-oriented concepts and build a suitable class model using modelling techniques.
- CO 3: Describe various software testing methods and to understand the importance of agile methodology and DevOps.
- CO 4: Illustrate the role of project planning and quality management in software development.
- CO 5: Understand the importance of activity planning and different planning models.

DATA SCIENCE AND ITS APPLICATIONS (21AD62)

- CO 1: Identify and demonstrate data using visualization tools.
- CO 2: Make use of Statistical hypothesis tests to choose the properties of data, curate and manipulate data.
- CO 3: Utilize the skills of machine learning algorithms and techniques and develop models.
- CO 4: Demonstrate the construction of decision tree and data partition using clustering.
- CO 5: Experiment with social network analysis and make use of natural language processing skills to develop data driven applications.

MACHINE LEARNING (21A163)

- CO 1: Understand the concept of Machine Learning and Concept Learning.
- CO 2: Apply the concept of ML and various classification methods in a project.
- CO 3: Analyse various training models in ML and the SVM algorithm to be implemented.
- CO 4: Apply the ML concept in a decision tree structure and implementation of Ensemble learning and Random Forest.
- CO 5: Apply Bayes techniques and explore more about the classification in ML.

ADVANCED JAVA PROGRAMMING (21CS642)

- CO 1: Understanding the fundamental concepts of Enumerations and Annotations
- CO 2: Apply the concepts of Generic classes in Java programs
- CO 3: Demonstrate the concepts of String operations in Java
- CO 4: Develop web based applications using Java Servlets and JSP CO 5. Illustrate database interaction and transaction processing in Java.



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MACHINE LEARNING LABORATORY (21AIL66)

- CO 1: Understand the Importance of different classification and clustering algorithms.
- CO 2: Demonstrate the working of various algorithms with respect to training and test data sets.
- CO 3: Illustrate and analyze the principles of Instance based and Reinforcement learning techniques.
- CO 4: Elicit the importance and Applications of Supervised and Unsupervised Machine Learning.