



D.K.S. Charitable Institute •

GLOBAL INSTITUTE OF MANAGEMENT SCIENCES

(Affiliated to Bangalore University, Recognized by Govt. of Karnataka and Approved by AICTE, New Delhi)
#6, 3rd Cross, D Road, Ideal Homes Township, Rajarajeshwari Nagar, Bangalore-560098

DEPARTMENT OF COMPUTER APPLICATIONS

BACHELOR OF COMPUTER APPLICATIONS

PROGRAMME OUTCOMES

PO1: Analyze design, develop and implement inter-disciplinary software applications to meet the societal and industrial needs

PO2: Adopt sustainable learning, leading innovations to address global needs

COURSE OUTCOMES

I SEMESTER

CA-C1T DISCRETE STRUCTURE

CO-1: To develop understanding of Logic Sets and Functions.

CO-2: To use mathematical reasoning techniques including induction and recursion

CO-3: To understand and apply counting techniques to the representation and characterization of relational concepts.

CO-4: To develop an understanding of how graph and tree concepts are used to solve problems arising in computer science.

CO-5: To communicate the solutions of technical problems to other professionals.

CO-6: To develop improved collaborative skills.

CA-C2T PROBLEM SOLVING TECHNIQUES

CO-1: Understand the fundamental concepts of computers, algorithms, flowcharts and problem solving techniques

CO-2: Apply the basic knowledge of mathematical factoring methods to model an algorithm, flowchart for a given problem.

CO-3: Apply merging, sorting, searching and text processing techniques to develop algorithms.

CO-4: Analyze the given problem, use appropriate array technique and write an effective report.

CA-C3T DATA STRUCTURE

CO-1: To provide the knowledge of basic data structures and their implementations.

CO-2: To understand the importance of data structures in the context of writing efficient programs.

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CO-3: To develop skills to apply appropriate data structures in problem solving.

CA-C4L PROBLEM SOLVING LAB

CO-1: Understand the basics of programming

CO-2: Learn coding and identify the problem

CO-3: Understanding procedure oriented programming

CA-C5L DATA STRUCTURE LAB

CO-1: Learning advanced file organizing concept and how to access data

CO-2: Apply knowledge and logic to real world scenario in developing software

CO-3: Understanding algorithms and implementing in problem solving

OE1: SPOKEN ENGLISH FOR CORPORATE JOBS (OEC)

CO-1: This paper teaches them skill in the front desk management

CO-2: It introduces students to business English

SEC : OFFICE MANAGEMENT TOOLS

CO-1: Improve planning skills in order to prioritize tasks necessary for achieving organizational goals.

CO-2: Coordinate tasks to avoid duplication of work.

CO-3: Establish clear departmental goals and objectives.

CO-4: Develop and strengthen relationships with staff through improved communication techniques and emotional intelligence.

CO-5: Increase productivity within your department/office. Improve planning skills in order to prioritize tasks necessary for achieving organizational goals.

II SEMESTER

CA-C6T COMPUTER ARCHITECTURE

CO-1: The purpose of the course is to introduce principles of computer organization and the basic architectural concepts.

CO-2: It begins with basic organization, design, and programming of a simple digital computer and introduces simple register transfer language to specify various computer operations.

CO-3: Topics include computer arithmetic, instruction set design, microprogrammed control unit, pipelining and vector processing, memory organization and I/O systems, and multiprocessors

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CA-C7T OBJECT ORIENTED PROGRAMMING USING JAVA

CO-1: Able to apply object oriented programming features and concepts for solving given problems.

CO-2: Able to use the Java standard API library to write complex programs. •

CO-3: Able to implement object oriented programming concepts using java

CO-4: Able to develop interactive programs using applets and swings

CA-C8T DATABASE MANAGEMENT SYSTEM

CO-1: Demonstrate the basic elements of a relational database management system. Application

CO-2: Identify the data models for relevant problems. Remember

CO-3: Design entity relationship and convert entity relationship diagrams into RDBMS and formulate SQL queries on the respective data into RDBMS and formulate SQL queries on the data. Analyze,

CO-4: Demonstrate their understanding of key notions of query evaluation and optimization techniques

CO-5: Extend normalization for the development of application software.

CA-C9L JAVA LAB

CO-1: Understand the basics of object oriented programming

CO-2: Implement polymorphism and inheritance

CO-3: Learn to develop programs with class and object

OE2: SPOKEN ENGLISH FOR GLOBAL COMMUNICATION (OEC)

CO-1: The learner will have knowledge of pronunciation skills, standard accent useful for international communication

CO-2: English Variants

CO-3: Listening ability

ENVIRONMENTAL STUDIES

CO-1: Articulate the interconnected and interdisciplinary nature of environmental studies;

CO-2: Demonstrate an integrative approach to environmental issues with a focus on sustainability

CO-3: Use critical thinking, problem-solving, and the methodological approaches of the social sciences, natural sciences, and humanities in environmental problem solving


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CO-4: Communicate complex environmental information to both technical and non-technical audiences;

CO-5: Understand and evaluate the global scale of environmental problems

III SEMESTER

CA-C11T OPERATING SYSTEMS

CO-1: Will be able to control access to a computer and the files that may be shared.

CO-2: Demonstrate the knowledge of the components of computer and their respective roles in computing.

CO-3: Ability to recognize and resolve user problems with standard operating environments

CO-4: Gain practical knowledge of how programming languages, operating systems, and architectures interact and how to use each effectively

CA-C12T COMPUTER NETWORK

CO-1: Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

CO-2: Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

CO-3: Communicate effectively in a variety of professional contexts.

CO-4: Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.

CO-5: Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

CA-C13T PYTHON PROGRAMMING

CO-1: Create your first program in Python IDLE

CO-2: Implement OOPs concepts in your programming

CO-3: Use Arrays, and Data structures

CO-4: Create an application with the support of graphics in Python

CO-5: Implement error handling

CA-C14L COMPUTER NETWORK LAB

CO-1: Learn and understand hardware and networking components

CO-2: Apply knowledge of networking, technologies, for solving network issues

CO-3: Ability to identify, formulate and solve security issues based on computer network


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CA-C15L PYTHON PROGRAMMING LAB

- CO-1: To develop skills of using machine learning for solving practical problems
- CO-2: To identify required data structure and suitable algorithm
- CO-3: to develop real world problem solving
- CO-4: Ability to use new ideas on AI based programming

20E3: SPOKEN ENGLISH FOR CORPORATE JOBS (OEC)

- CO-1: This paper teaches them skill in the front desk management
- CO-2: It introduces students to business English

SEC II: COMPUTER ASSEMBLY AND REPAIR

- CO-1: Students will learn about Design of basic computers.
- CO-2: Students will know what registers, various types of registers are and interfacing various registers. Students will learn about the architecture of the common bus system.
- CO-3: Students will learn about the different micro-operations used.
- CO-4: Students will learn about I/O interface, DMA controller, modes of data transfer and various address modes.
- CO-5: Students will learn how to assemble a PC

IV SEMESTER

CA-C16T SOFTWARE ENGINEERING

- CO-1: Students will be able to decompose the given project in various phases of a lifecycle.
- CO-2: Students will be able to choose appropriate process model depending on the user requirements.
- CO-3: Students will be able perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance
- CO-4: Students will be able to know various processes used in all the phases of the product.
- CO-5: Students can apply the knowledge, techniques, and skills in the development of a software product

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CA-C17T DESIGN AND ANALYSIS OF ALGORITHM

CO-1: Students will learn to apply creative thinking, algorithmic design, and coding skills to build modern AI systems.

CO-2: Students will gain deep technical training and expertise in our focus areas of machine learning, computer vision, and natural language processing.

CA-C18T INTERNET TECHNOLOGIES

CO-1: Describe the Internet, its architecture, services and protocol.

CO-2: Implement a simple search engine.

CO-3: Implement a web crawler.

CO-4: Use java script technologies to make a website highly responsive, more efficient and user friendly

CA-C19L DESIGN AND ANALYSIS OF ALGORITHM LAB

CO-1: Apply knowledge and logic to real world scenario in developing software

CO-2: Understanding algorithms and implementing in problem solving

CA-C20L INTERNET TECHNOLOGIES LAB

CO-1: Understand to create dynamic web page with validation

CO-2: Learn to create interactive web pages

CO-3: Learn to connect with server or local storage to access data

OE4: SPOKEN ENGLISH FOR GLOBAL COMMUNICATION (OEC)

CO-1: The learner will have knowledge of pronunciation skills, standard accent useful for international communication

CO-2: English Variants

CO-3: Listening ability

THE CONSTITUTION OF INDIA

CO-1: Understand the philosophy of the constitution and its structure

CO-2: Measure the powers and functions of various offices under the constitution

CO-3: Appreciate the role of constitution in democracy

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V SEMESTER

CA-C21T ARTIFICIAL INTELLIGENCE

CO-1: Understand the various characteristics of problem-solving agents and apply problem-solving through search for AI applications.

CO-2: Appreciate the concepts of knowledge representation using propositional logic, predicate calculus, and apply them for inference/reasoning.

CO-3: Obtain insights about planning and handling uncertainty through probabilistic reasoning and fuzzy systems.

CO-4: Understand the basics of computer vision and natural language processing and understand their relevance in AI applications.

CO-5: Obtain insights about machine learning, neural networks, deep learning networks, and their significance.

CA-C22T DATA ANALYTICS

CO-1: Explore the fundamental concept of data analytics.

CO-2: Recognize and conduct statistical inference to solve engineering problems.

CO-3: Summarize and present data in meaningful ways.

CO-4: Select the appropriate statistical analysis depending on the research question at hand.

CO-5: Effectively and clearly communicate results from analyses performed to others

CA-V1 QUANTITATIVE TECHNIQUES

CO-1: Master fundamental mathematical concepts like numbers, HCF, LCM, and probability. Develop problem-solving skills for series, codes, and classification.

CO-2: Acquire skills for time-related problems, distance, and speed. Learn to calculate areas, volumes, and interpret data graphically.

CO-3: Understand financial mathematics and reasoning. Gain knowledge of research methods, reading comprehension, and effective communication.

CO-4: Learn teaching methodologies, research basics, and reading comprehension. Understand effective classroom communication.

CA-E1 ELECTIVE I:

A. DATA MINING

CO-1: Introduce basic data mining tasks and techniques such as classification, regression, and association rules. Explore the development and uses of data mining from a database perspective.


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CO-2: Learn classification algorithms like regression, Bayesian classification, and K-Nearest Neighbors.

CO-3: Understand clustering techniques, including hierarchical and partitional algorithms.

CO-4: Familiarize with association rule mining and parallel/distributed algorithms. Compare various approaches for rule mining and incremental rule generation.

B. COMPUTER GRAPHICS

CO-1: Explore computer graphics applications and display devices. Learn line and circle drawing techniques and area filling methods.

CO-2: Master 2D transformations and clipping techniques. Understand window-to-viewport transformations.

CO-3: Gain knowledge of 3D graphics transformations and hidden surface removal.

CO-4: Explore graphical input devices and techniques for user interaction.

CA-C23T WEB PROGRAMMING

CO-1: Understand the basics of web programming concepts.

CO-2: Build dynamic web pages with validation using JavaScript objects and by applying different event-handling mechanisms.

CO-3: Analyze various PHP library functions that manipulate files and directories.

CO-4: Develop modern interactive web applications using PHP and XML

SEC III: CYBER CRIME, CYBER LAW, AND INTELLECTUAL PROPERTY RIGHT

CO-1: Understand cybercrime, its nature, legal remedies, and how to report the crime through available platforms and procedures.

CO-2: Recognize various privacy and security concerns on social media and e-commerce platforms.

CO-3: Use basic tools and technologies to protect their devices.

CO-4: Understand digital environment and related issues.

CA-C24L DATA ANALYTICS LAB

CO- To learn the principle algorithms and techniques used in data mining, such as clustering, association mining, classification and prediction.

CA-C25L WEB PROGRAMMING LAB

Develop web pages using HTML, DHTML and Cascading Styles Sheets • Develop a dynamic web pages using JavaScript (client side programming) • Build and consume web services


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VI SEMESTER

CA-C27T MACHINE LEARNING

CO-1: Learn the basics of machine learning, understanding its uses, challenges, and various applications.

CO-2: Build practical data skills covering data collection, analysis, visualization, and preparation.

CO-3: Become skilled in using classification and regression algorithms, including selecting, training, and evaluating models.

CO-4: Dive into advanced clustering and specialized applications, using methods like K-Means, DBSCAN, and others.

CA-C28T MOBILE APPLICATION DEVELOPMENT

CO-1: Understand the basic concepts of mobile application development.

CO-2: Design and develop user interfaces for the Android platform.

CO-3: Apply Java programming concepts to Android application development and create an application using a database.

CA-V2 II: ELECTRONIC CONTENT DESIGN

CO-1: Delivering content through various media such as radio, television, and computers.

CO-2: Increasing students' concentration on particular subject matter for in-depth learning.

CO-3: Fostering positive emotions and joyful learning through active student involvement during content delivery.

CO-4: Reusing content multiple times for various groups within the same class without hesitation or alteration.

CO-5: Ensuring ease of handling for facilitators during content delivery.

CO-6: Modifying content to align with present-time needs

CA-E2 ELECTIVE 11:

a. OPERATIONS RESEARCH

CO-1: Formulation of optimization models and applying appropriate optimization techniques for decision making.

CO-2: Solve linear programming problems using appropriate optimization techniques.

CO-3: Finding the optimal strategy for minimizing the cost of shipping products from source to destination.


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VI SEMESTER

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CO-4: Optimizing the allocation of resources to demand points in the best possible way.

b. SOFTWARE TESTING

CO-1: Distinguish between different testing techniques.

CO-2: Generate test cases for any given problem.

CO-3: Categorize the problem into suitable testing models.

CO-4: Implement a wide range of testing techniques effectively and efficiently.

CO-5: Justify the importance of planning and monitoring a process.

CA-C29L: MACHINE LEARNING LAB

CO-1: Achieve proficiency in setting up Python, installing vital libraries, and configuring essential tools.

CO-2: Demonstrate competence in data manipulation, dataset loading, and the creation of insightful visualizations.

CO-3: Exhibit the ability to preprocess data, address missing values, perform categorical encoding, and implement fundamental machine learning algorithms.

CO-4: Develop an understanding of clustering techniques, create cluster visualizations, and interpret decision tree splits.

CA-C30 MOBILE APPLICATION DEVELOPMENT LAB

CO-1: To deliver the content via various media such as radio, television, and computer.

CO-2: To increase students' concentration on particular subject matter for in-depth learning.

CO-3: To evoke positive emotions with joyful learning and active involvement of students during content delivery.

CO-4: To reuse the content multiple times for various groups of the same class without hesitation and without changing it.

CO-5: To be easy for facilitators to handle during content delivery.

CO-6: To modify the content to meet present-time needs.

HOD

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DEPARTMENT OF COMPUTER APPLICATIONS

MASTER OF COMPUTER APPLICATIONS

PROGRAMME OUTCOMES

PO1: Analyze design, develop and implement inter-disciplinary software applications to meet the societal and industrial needs

PO2: Adopt sustainable learning, leading innovations to address global needs

COURSE OUTCOME

I SEMESTER

IMCA1 THE ART OF PROGRAMMING

CO-1: Understand data, Complexity, and order notation and their operations.

CO-2: Demonstrate the key concepts introduced in C programming by writing and executing the programs.

CO-3: Implement the single/multi-dimensional array for the given problem.

CO-4: Demonstrate the application of searching and sorting in solving some societal/industrial problems.

IMCA2 DISCRETE MATHEMATICS

CO-1: To Acquaint with advanced knowledge of formal computation and its relationship to languages.

CO-2: To understand fundamentals of logic (the laws of logic, rules of inferences, quantifiers, proofs of theorems), Fundamental

CO-3: To solve principles of counting (permutations, combinations), set theory, relations and functions, graphs, trees

CO-4: Develop mathematical concepts and techniques which should serve as a preparation for more advanced quantitative courses.

CO-5: To analyze and express computer science problems as mathematical statements and formulate proofs

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IMCA3 COMPUTER ORGANIZATION AND ARCHITECTURE

CO-2: To learn the concept of data representation and digital logic circuits used in the computer system.

CO-1: To understand architecture of processing, memory and input output organization in a computer system.

CO-3: To Identify, understand and apply different number systems and codes.

CO-4: Interpret concepts of register transfer logic and arithmetic operations.

IMCA4 THEORY OF COMPUTATION

CO-1: To acquaint yourself with advanced knowledge of formal computation and its relationship to languages.

CO-2: To understand the theoretical computer science areas of formal languages and automata.

CO-3: Interpret the mathematical foundations of computation including automata theory; the theory of formal languages and grammars; the notions of algorithm, decidability, complexity, and computability.

CO-4: The students will be able to analyze and express computer science problems as mathematical statements and formulate proofs.

IMCA5 OBJECT ORIENTED PROGRAMMING

CO-1: To understand the basic concepts and techniques which form the object-oriented programming paradigm

CO-2: Fundamental features of an object-oriented language like Java: object classes and interfaces, exceptions and libraries of object collections

CO-3: To model of object-oriented programming: abstract data types, encapsulation, inheritance and polymorphism

CO-4: To take the statement of a business problem and from this determine suitable logic for solving the problem; then be able to proceed to code that logic as a program written in Java.

CO-5: To design and develop documents and prepare a professional looking package for each business project using Java doc.

IMCA6 DATA STRUCTURES

CO-1: Understand data, data structures, Complexity order notation, and various complexity measures.

CO-2: Identify relevant data structures to develop solutions for a problem.

CO-3: Analyzes the performance of Trees, Hashing, and searching techniques.

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CO-4: Analyze and evaluate the algorithms based on the data structures used, order of notation, and performance metrics

1MCA7 DATA STRUCTURES LAB

CO-1: The course is designed to develop skills to design and analyze linear and nonlinear data structures.

CO-2: To strengthen the ability to identify and apply the suitable data structure for the given real-world problem.

CO-3: To design and analyze the time and space efficiency of the data structure.

CO-4: To identify the appropriate data structure for a given problem.

1MCA8 OBJECT ORIENTED PROGRAMMING WITH JAVA LAB

CO-1: To understand object-oriented way of solving problems.

CO-2: To use basic, I/O to communicate with the user to populate variables and control program flow.

CO-3: To apply arithmetic, logical, relational, and string manipulation expressions to process data.

CO-4: Conceptualize, Analyze and write programs to solve more complicated problems using the concepts of Object-oriented and java technology.

CO-5: Apply all the programming concepts as and when required in the future application development.

II SEMESTER

2MCA1 OPERATING SYSTEMS

PO-1: Explain the fundamental concepts of operating systems, including OS structures, virtualization, address space, kernel mode, interrupt, access control, etc.

PO-2: Explain the basic components in a computer system, an operating system, and how they interact with each other in a system

PO-3: Analyze the effect of virtual memory management on program performance.

PO-4: Design or construct OS components such as CPU scheduler, memory management, file systems.

PO-5: Compare the multi-process and multi-thread implementation of an application.

PO-6: Evaluate and Compare different CPU scheduling algorithms.


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2MCA2 DATABASE MANAGEMENT SYSTEMS

CO-1: High-level understanding of major DBMS components and their function.

CO-2: To model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model.

CO-3: To program a data-intensive application using DBMS APIs.

CO-4: To identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer- based systems.

2MCA3 COMPUTER NETWORKS

CO-1: Understand the advanced networking concepts

CO-2: Apply various networking classifications in day-to-day computing • Analyze the importance of routing and congestion control principles

CO-3: Access the different routing protocol methods in the networking support layers

2MCA4 SOFTWARE ENGINEERING

CO-1: To understand principles of Agile software development and evolution.

CO-2: To design, formulate, and solve complex engineering problems by applying principles of SE.

CO-3: To Learn Time measurement, Time management and Quality assurance techniques.

CO-4: To analyze communication and planning in Distributed Agile Projects.

CO-5: Proficiently apply standards, CASE tools and techniques for engineering software projects

2MCA5 THE DESIGN AND ANALYSIS OF ALGORITHM

CO-1: To understand and develop efficient algorithms for simple computational tasks.

CO-2: To apply knowledge of computing and mathematics to algorithm design.

CO-3: To design and implement algorithms for moderately difficult computational problems, using various algorithm design techniques.

CO-4: To analyze the range of behaviors of algorithms and the notion of tractable and intractable.

2MCA6 ARTIFICIAL INTELLIGENCE

CO-1: To understand the main concepts, models, technologies, and services of AI, the reasons for the use of AI, and its advantages and disadvantages.

CO-2: Design user interfaces to improve human-AI interaction and real- time decision-making.

CO-3: Develop systems that process unstructured, uncrated data automatically using artificial intelligence(AI)frameworks and platforms.


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CO-4: Evaluate and Analyze datasets with the following unsupervised learning methods: for dimensionality reduction; for grouping, k-means clustering and hierarchical clustering.

2MCA7 DATABASE MANAGEMENT SYSTEM LAB

CO-1: To practice the designing, developing and querying a database.

CO-2: To use MySQL/Oracle database to implement the following Case Studies:

1. Company database
2. Library Database
3. Student Management systems

CO-3: To analyze the problem carefully and identify the entities, attributes and primary keys for all the entities.

CO-4: Apply cardinalities for each relationship, DDL and DML commands.

CO-5: Using SQL Special operators, Aggregate functions, SQL Joins.

2MCA8 UNIX PROGRAMMING LAB

CO-1: Demonstrate the working of basic commands of UNIX environment including file processing

CO-2: Apply Regular expression to perform pattern matching using utilities like grep, sed and awk.

CO-3: Implement unix commands/ system calls to demonstrate process management
Demonstrate the usage of different shell commands, variable and AWK filtering to the given problem.

CO-4: Develop shell scripts for developing the simple applications to the given problem

III SEMESTER

3MCA1 OPEN ELECTIVE- MANAGEMENT PERSPECTIVE

CO-1: To understand basic concepts of management

CO-2: To gain conceptual knowledge about the functions of management

CO-3: Learn about different types of organization

CO-4 Get a greater understanding about different kinds of leadership and its characteristics

CO-5: Learn effective ways of business communication

3MCA2 QUANTITATIVE TEACHING AND RESEARCH APTITUDE

CO-1: To Understand the basics of mathematics in quantitative aptitude.

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CO-2: Apply the Quantitative aptitude problem-solving skills in solving a real-world problem and enrich their knowledge and develop their logical reasoning thinking ability.

CO-3: To demonstrate teaching and research aptitude skills for their lifelong learning.

CO-4: To Analyze holistically the higher education system and Develop skills to meet the competitive examinations for a better job opportunity.

3MCA3 RESEARCH METHODOLOGY

CO-1: Identify the research area and articulate the research steps in a proper sequence for the given problem.

CO-2: Carry out a literature survey, define the problem statement and suggest a suitable solution for the given problem, and present it in the research paper format (IEEE).

CO-3: Analyze the problem and conduct experimental design with the samplings

CO-4: Perform tabulation and graphical representation of collected data and obtain statistical inference.

CO-5: To evaluate the research outcome through a research report.

ELECTIVE- MACHINE LEARNING

CO-1: Understand the need for data and preprocessing, machine learning techniques for various applications.

CO-2: Identify and apply the appropriate techniques to process the data and solve the applications using machine learning techniques

CO-3: Implement machine learning techniques for real life problem.

CO-4: Evaluate the different data processing and machine learning techniques for various application

ELECTIVE- BIG DATA & ANALYTICS

CO-1: Understand the fundamentals of big data analytics frameworks.

CO-2: Apply big data analytics frameworks and visualization techniques to solve problems.

CO-3: Analyze the use of HDFS ecosystem, HDFS architecture, Yarn, Pig, Hive QL.

CO-4: Assess the solutions of big data analytics ecosystems.

ELECTIVE- CRYPTOGRAPHY AND NETWORK SECURITY

CO-1: To understand basics of cryptography and network security by symmetric encryption techniques for given applications

CO-2: To apply block, stream ciphers to secure messages over insecure channels

CO-3: To analyze methods for message authentication and access control


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CO-3: To evaluate how to encrypt application layer data to identify users and protect information

CO-4: To examine various protocols for intrusion detection and prevention against network threats

ELECTIVE- CRYPTOGRAPHY AND NETWORK SECURITY

CO-1: This course provides knowledge and skills on recent technologies in cloud computing.

CO-2: It is designed to meet the current business needs in the market. It provides a platform for the students to create innovative and robust applications on cloud platforms.

CO-3: It provides in depth knowledge of Cloud domain and cover the topics of cloud infrastructures, virtualization, software defined networks and storage, cloud storage, and programming models.

CO-4: It will develop the skills needed to become a practitioner or carry out research projects in cloud domain.

ELECTIVE- CRYPTOGRAPHY AND NETWORK SECURITY

CO-1: Understand the basic constructs of the web concepts

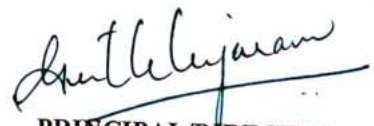
CO-2: Apply the concepts to design and implement the web solutions for the given solutions.

CO-3: To evaluate server-side web application development framework

CO-4: To illustrate responsive web pages using Ajax and rails

CO-5: Analyze the web components in buildings and application


HOD


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