Sadakathullah Appa College
(Autonomous)
PG & Research Department of Computer Science
M.Sc Computer Science

Programme Outcome

PO No	A Post Graduate with a M.Sc. in Computer Science will have the ability to:
PO 1	Achieve scientific knowledge in software and understanding of contemporary issues professionally and applying in modern computing platform.
PO2	Analyze and interpret computational impacts of resulting data in multidisciplinary projects.
PO 3	Implement the design and apply innovative methodologies for complex software system.
PO4	Improve the ability of imparting knowledge in various domains and to solve real world problems with modern technological tools.
PO5	Acquire the attitude to adapt to emerging technological changes.

Programme Specific Outcome

PSO No	A PostGraduate with a M.Sc in Computer Science will have the ability to:	PO Mapped
PSO 1	Understand the fundamental concepts and methodology of computer systems and Interpret the functionality of hardware and software aspects of computer system.	PO 1
PSO 2	Analyze and design good programming skills in web design, algorithms, database applications, network security and graphics projects using efficient data structure.	PO2
PSO 3	Apply standard software Testing practices and strategies in software project development using open-source programming environment to deliver a quality for business success.	PO 3
PSO 4	Evaluate the contemporary issues, latest trends in technological development and thereby innovate new ideas and solutions to existing problems.	PO4
PSO5	Create research-based knowledge and research methods including design of experiments, analysis and interpretation of data to provide valid conclusions.	PO5

COURSE OUTCOMES

I SEMESTER

Design and Analysis of Algorithm

CO. No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand data structures and the concepts of algorithms for searching, sorting and dynamic programming.	PSO1	Understanding
CO2	Demonstrate Mathematics and analytical system of algorithms	PSO1	Understanding
CO3	Compute optimum solutions for the given recurrence equation.	PSO3	Applying
CO4	Apply appropriate algorithms and data structures for various applications.	PSO3	Applying
CO5	Analyze the computational complexity of various algorithms.	PSO2	Analyzing

Linux Programming

CO. No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the basic set of commands and utilities in Linux/UNIX systems.	PSO1	Understanding
CO2	Implement software for Linux systems.	PSO3	Applying
CO3	Organize the important Linux library functions and system calls.	PSO2	Analyzing
CO4	Develop the inner workings of Linux-like operating systems.	PSO5	Creating
CO5	Implement in C some standard linux utilities like mv,cp and ls	PSO3	Applying

Linux Programming Lab

CO. No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Apply the concept of client-server communication.	PSO3	Applying
CO2	Understand the basic knowledge of Linux commands and file handling utilities by using Linux shell environment.	PSO1	Understanding
CO3	Evaluate the concept of shell scripting programs by using an AWK and SED commands.	PSO4	Evaluating
CO4	Create the directory and learn how to change and remove the directory.	PSO5	Creating
C05	Create processes background and fore ground by fork() system calls.	PSO5	Creating

Python Programming

CO. No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the programming constructs of Python.	PSO1	Understanding
CO2	Apply the concepts of Python in simple tasks.	PSO3	Applying
CO3	Analyze web programming using Python.	PSO2	Analyzing
CO4	Create simple web applications using Python.	PSO5	Creating
CO5	Compare python programming language with other languages.	PSO1	Understanding

Python Programming Lab

CO. No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the basic concepts of python programming.	PSO1	Understanding
CO2	Apply python concepts to develop applications that solves industrial problem.	PSO3	Applying
CO3	Apply web applications using python programming.	PSO3	Applying
CO4	Create applications using python programming.	PSO5	Creating
CO5	Apply python concepts to develop applications that solves industrial problem.	PSO3	Applying

Cloud Computing

CO. No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the concepts of cloud Architecture and its services.	PSO1	Understanding
CO2	Classify different services providers and its services, tools.	PSO1	Understanding
CO3	Analyze the best service provider for cloud computing in terms of storage.	PSO2	Analyzing
CO4	Design various industrial platforms for the developments	PSO5	Creating
CO5	Demonstrate various web based applications for collaborating everyone in the cloud computing.	PSO1	Understanding

Ad-hoc and Sensor Networks

CO. No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Explain the basic concepts of WIRELESS networks and challenges of adhoc and sensor networks.	PSO1	Understanding
CO2	Classify the design issues and different categories of MAC protocols.	PSO1	Understanding
CO3	Apply this knowledge to analyze adhoc and sensor based networks and compute various parameters associated with it.	PSO3	Applying
CO4	Analyze various transport layer and analyze various protocols associated with it.	PSO2	Analyzing
CO5	Discuss the different congestion control techniques.	PSO1	Understanding

II SEMESTER

Advanced Database Management System

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Demonstrate the structure and model of the relational database system.	PSO1	Understanding
CO2	Analyze a database using normalization function.	PSO2	Analyzing
CO3	Analyze the requirements of transaction processing and concurrency control.	PSO2	Analyzing
CO4	Design multiple tables, Data bases and using group functions.	PSO5	Creating
CO5	Demonstrate various queries by applying RDBMS concepts.	PSO1	Understanding

Advanced Database Management system Lab

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Design database schema considering normalization and relationships within database.	PSO5	Creating
CO2	Use the database from a front end application.	PSO3	Applying
CO3	Write SQL queries to user specifications.	PSO1	Understanding
CO4	Develop triggers, procedures, user defined functions and design accurate and PL/SQL programs in Oracle and DB2.	PSO5	Creating
CO5	Understand the concepts of integrity constraints with some example queries.	PSO1	Understanding

Open Source Technology

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the concept of open source technology with significance of open source practices and guidelines.	PSO1	Understanding
CO2	Understand the architecture of open source Web frameworks.	PSO1	Understanding
CO3	Implement web programming with Ruby & Rails.	PSO3	Applying
CO4	Design and Develop an application using open source web framework.	PSO5	Creating
CO5	Comprehend the process, issues and considerations related to IPR and Licensing.	PSO1	Understanding

Open Source Technology Lab

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Design the Web applications.	PSO5	Creating
CO2	Develop applications for any IT problems using Web Technologies.	PSO5	Creating
CO3	Develop program in interactive and script mode.	PSO5	Creating
CO4	Apply varied Open Source tools for different productivity and development tasks Analyze domain specific Open Source tools.	PSO3	Applying
CO5	Develop applications using FOSS tools.	PSO5	Creating

Internet of Things

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the vision of IoT from a global context.	PSO1	Understanding
CO2	Analyze various devices of IOT.	PSO2	Analyzing
CO3	Implement of IoT in Industrial and Commercial Building Automation and Real World Design Constraints.	PSO3	Applying
CO4	Evaluate the Market perspective of IoT.	PSO4	Evaluating
CO5	Design a portable IoT using Ardunio or any equivalent boards and relevant protocols.	PSO5	Creating

Cyber Security

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the cyber security policies, standards and procedures.	PSO1	Understanding
CO2	Analyze the root causes of cyber crime.	PSO2	Analyzing
CO3	Apply appropriate security countermeasures for the given scenario.	PSO3	Applying
CO4	Apply security principle in system design.	PSO3	Applying
CO5	Implement the security by strengthening the complex password.	PSO3	Applying

Security Practices

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the security concepts related to networks in wired and wireless scenario.	PSO1	Understanding
CO2	Implement essential security in IT sector.	PSO3	Applying
CO3	Apply the basic security algorithms and policies required by computing system.	PSO3	Applying
CO4	Predict the vulnerabilities across any computing system and hence be able to design a security solution for any computing system.	PSO4	Evaluating
CO5	Analyze network security protocols.	PSO2	Analyzing

Internet Concepts and Web Design

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the fundamental concepts of Internet and functions of search engine.	PSO1	Understanding
CO2	Understand the services of Internet.	PSO1	Understanding
CO3	Design the colorful web pages using HTML tags.	PSO5	Creating
CO4	Create different purpose of website.	PSO5	Creating
CO5	Develop the networking skills and use the internet based applications.	PSO5	Creating

III SEMESTER

Data Mining Concepts and Techniques

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand basic concepts of data mining.	PSO1	Understanding
CO2	Apply data mining techniques to carry out simple data mining case studies.	PSO3	Applying
CO3	Implement various algorithms using data mining tools.	PSO3	Applying
CO4	Compare various supervised and unsupervised learning techniques in data mining.	PSO4	Evaluating
CO5	Assess the methods and techniques appropriate for the task.	PSO4	Evaluating

Software Testing

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand software testing tools.	PSO1	Understanding
CO2	Analyze software testing techniques in commercial environment.	PSO2	Analyzing
CO3	Implement testing tool to real time Application.	PSO3	Applying
CO4	Evaluate test cases using the techniques involved in selecting (a) White Box testing (b) Block Box testing.	PSO4	Evaluating
CO5	Assess good standards to be followed to deliver successful software.	PSO4	Evaluating

Digital Image Processing

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the steps of image processing.	PSO1	Understanding
CO2	Analyze mathematical model of the basic algorithms used in image processing.	PSO2	Analyzing
CO3	Implement image processing techniques in real world applications.	PSO3	Applying
CO4	Compare different algorithms in image processing.	PSO4	Evaluating
CO5	Apply filters in digital image processing.	PSO3	Applying

Mobile Computing

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the architecture and protocols in mobile computing.	PSO1	Understanding
CO2	Analyse mobile network architecture.	PSO2	Analyzing
CO3	Develop applications for Android platform devices.	PSO5	Creating
CO4	Analyze recent mobile hardwares.	PSO2	Analyzing
CO5	Comparatively evaluate deployment platforms for mobile computing applications.	PSO4	Evaluating

Social Computing

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the range of social computing applications and concepts.	PSO1	Understanding
CO2	Design and prototype new social computing systems.	PSO5	Creating
CO3	Analyze data left after in social media.	PSO2	Analyzing
CO4	Applying existing analytic tools on social information.	PSO3	Applying
CO5	Evaluate ethics of social computing applications.	PSO4	Evaluating

Image Processing Lab

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Analysis current techniques, skills, and tools necessary for computing practice.	PSO3	Applying
CO2	Apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs.	PSO2	Analyzing
CO3	Design and development principles in the construction of software systems of varying complexity.	PSO5	Creating
CO4	Discuss with recent image processing tools.	PSO1	Understanding
CO5	Implement image processing methodologies using Matlab.	PSO3	Applying

Desktop Publishing

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Create files, brochures and multiple page documents for real time applications.	PSO5	Creating
CO2	Experiment various animation advertisement.	PSO4	Evaluating
CO3	Implement graphic design to various applications.	PSO3	Applying
CO4	Implement the techniques to Printing and Advertising medium.	PSO3	Applying
CO5	Implement personal documents such as business cards and resumes.	PSO3	Applying

Data Mining Lab

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Analyze the data mining fundamental concepts and techniques from multiple perspectives.	PSO2	Analyzing
CO2	Develop skills and apply data mining tools for solving practical problems.	PSO5	Creating
CO3	Develop and gain experience and develop research skills by reading the data mining literature.	PSO5	Creating
CO4	Discuss different datasets in medical field.	PSO1	Understanding
CO5	Implement the association rule mining, classification, clustering, prediction algorithm using R tool.	PSO3	Applying

IV SEMESTER

Big Data Analytics

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand Big Data concepts and techniques.	PSO1	Understanding
CO2	Analyze Web page Recommendations using Big Data.	PSO2	Analyzing
CO3	Apply Machine Learning Techniques in Big Data using R tool.	PSO3	Applying
CO4	Develop Big Data Solutions using Hadoop Eco System.	PSO5	Creating
CO5	Analyze Hadoop components and their uses for big data processing.	PSO2	Analyzing

Big Data Analytics lab

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand data summarization, query, and analysis.	PSO1	Understanding
CO2	Apply data modelling techniques to large data sets.	PSO3	Applying
CO3	Evaluate applications for Big Data analytics.	PSO4	Evaluating
CO4	Create a complete business data analytic solution.	PSO5	Creating
CO5	Demonstrate data analysis and visualization using R tool.	PSO1	Understanding

Soft Computing

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the concepts of soft computing techniques and their roles in building intelligent machines.	PSO1	Understanding
CO2	Analyze and design the artificial neural network to solve real problems using a soft computing approach.	PSO2	Analyzing
CO3	Apply fuzzy logic and reasoning to handle uncertainty and solve computing problems.	PSO3	Applying
CO4	Evaluate optimization techniques using Genetic Algorithms.	PSO4	Evaluating
CO5	Summarize supervised and unsupervised learning in neural networks.	PSO1	Understanding

Artificial Intelligence

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand the knowledge of the building blocks of AI as presented in terms of intelligent agents.	PSO1	Understanding
CO2	Analyze and formalize the problem as a state space, graph, design heuristics and select amongst different search or game based techniques to solve them.	PSO2	Analyzing
CO3	Apply Natural Language processing for problem solving in cognitive computing.	PSO3	Applying
CO4	Develop intelligent algorithms for constraint satisfaction problems and also design intelligent systems for Game Playing.	PSO5	Creating
CO5	Analyze the applicability of different heuristic techniques for problem solving.	PSO2	Analyzing

Human Computer Interface

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Understand common methods in the user-centered design process and the appropriateness of individual methods for a given problem.	PSO1	Understanding
CO2	Understand the classic design standards, guidelines, and patterns.	PSO1	Understanding
CO3	Analyze selected design methods and evaluation methods at a basic level of competence.	PSO2	Analyzing
CO4	Construct prototypes at varying levels of fidelity, from paper prototypes to functional, interactive prototypes.	PSO5	Creating
CO5	Apply appropriate HCI techniques to design systems that are usable by people.	PSO3	Applying

Web Programming Lab

CO.No.	Upon completion of this course students will be able to:	PSO Mapped	Cognitive Level
CO1	Analyze object oriented aspects to Scripting.	PSO2	Analyzing
CO2	Design and develop web pages.	PSO5	Creating
CO3	Apply technologies of Web Programming.	PSO3	Applying
CO4	Create databases with connectivity using JDBC.	PSO5	Creating
CO5	Develop XML applications with DTD and style sheets for use with legacy browsers.	PSO5	Creating