DEPARTMENT OF COMPUTER SCIENCE

2022 – 2023

COURSE OUTCOMES

M.Sc.

YEAR/ SEM: I/ I –CS21A-ADVANCED DATA STRUCTURE AND ALGORITHM

NO.	COURSE OUTCOME
C101.1	Analyze programming problem statements.
C101.2	Comprehend and select algorithm design approaches in a problem specific manner.
C101.3	Choose appropriate data structures for a specific problem
C101.4	Utilize necessary mathematical abstractions to solve problems
C101.5	Come up with analysis of efficiency and proofs of correctness

YEAR/ SEM: I/ I – CS21B-ADVANCED PYTHON PROGRAMMING

NO.	COURSE OUTCOME
C102.1	Be able to program decorators, closures, lambda, iterators and generators comprehensions with in OOP.
C102.2	Learn modern data structures to include collections, array, and queues
C102.3	Use platform independent file manipulation, file pattern matching using CSV, HTML, XML, JASON
C102.4	Be able to set up a client-server program and also multiprocess applications.
C102.5	Be able to use python as an analytical and presentation tool

YEAR/ SEM: I/I – CS21C-ARTIFICIAL INTELLIGENCE

NO.	COURSE OUTCOME
C103.1	Solve basic AI based problems.
C103.2	Define the concept of Artificial Intelligence.
C103.3	Apply AI techniques to real-world problems to develop intelligent systems.
C103.4	Select appropriately from a range of techniques when implementing intelligent systems.
C103.5	Possess the basic knowledge of different machine learning techniques.

YEAR/ SEM: I/I – CS31A-THEORY OF COMPUTATION

NO.	COURSE OUTCOME
C104.1	To Acquire knowledge and ideas in Mathematics for solving Applied Problems, Fundamental Theorem of Arithmetic.
C104.2	To outline the concept of Finite Automata and Regular Expression.
C104.3	To Illustrate the design of Context Free Grammar for any language set.
C104.4	To demonstrate the push down automaton model for the given language and to make use of Turing machine concept to solve the simple problems.
C104.5	To explain decidability or undesirability of various problems.

YEAR/ SEM: I/I -MSSED– DOCUMENT AND INTERVIEW SKILLS FOR SOFTWARE ENGINEERS

NO.	COURSE OUTCOME
C105.1	Demonstrate effective communication and interpersonal skills during job interviews, including articulating technical concepts concisely and confidently.
C105.2	Analyze common technical interview questions and apply problem-solving strategies to solve coding challenges efficiently.
C105.3	Prepare a compelling and well-structured resume and cover letter tailored to the software engineering industry.

C105.4	Employ strategies for researching companies, understanding their culture, and tailoring responses to align with their values and goals.
C105.5	Practice mock technical interviews and receive constructive feedback to enhance performance and identify areas for improvement.

YEAR/ SEM: I/I – PRACTICAL –CS211-DATA STRUCTURE AND ALGORITHMS LAB

NO.	COURSE OUTCOME
C106.1	Design and analyze programming problem statements
C106.2	Choose appropriate data structures and algorithms, understand the ADT/libraries, and use it to design algorithms for a specific problem.
C106.3	Be familiar with programming language constructs available for rapid application development,
C106.4	Understand the necessary programmatic abstraction to solve problems.
C106.5	Gain the capacity to solve real life problems by matching to the available algorithms.

YEAR/ SEM: I/I – PRCTICALS-2-CS212 -ADVANCED PYTHON PROGRAMMING LAB

NO.	COURSE OUTCOME
C107.1	Apply exception handling and user defined exception(s) Develop Module(s) and Package(s) in python
C107.2	Possess an ability to write database applications in Python
C107.3	Implement Object Oriented concepts in programming Apply Collection modules for the data types
C107.4	Possess the Object-oriented programming skills in Python. and the skill of to design graphical-user interfaces (GUI) in Python
C107.5	Make use of Pandas and Numpy Libraries

YEAR/ SEM: I/II – CS22A-MACHINE LEARNING

NO.	COURSE OUTCOME
C108.1	Recognize the characteristics of machine learning strategies.
C108.2	Apply various supervised learning methods to appropriate problems and Identify and integrate more than one technique to enhance the performance of learning.
C108.3	Create probabilistic and unsupervised learning models for handling unknown pattern.
C108.4	Analyze the co-occurrence of data to find interesting frequent patterns
C108.5	Preprocess the data before applying to any real-world problem and can evaluate its performance.

YEAR/ SEM: I/II – CS22B-ADVANCED NETWORKS

NO.	COURSE OUTCOME
C109.1	Differentiate between different LAN-based forwarding devices so that they can make thoughtful suggestions on how to build a network.
C109.2	Select appropriate transport protocol and quality of service mechanisms for a give computer network
C109.3	Write networking code that uses TCP and UDP in client-server applications.
C109.4	Design and implement networking protocols.
C109.5	Design and implement networking applications.

YEAR/ SEM: I/II – CS221-MACHINE LEARNING LAB

NO.	COURSE OUTCOME
C110.1	Understand the implementation procedures for the machine learning algorithms.
C110.2	Design Java/Python programs for various Learning algorithms.
C110.3	Apply appropriate data sets to the Machine Learning algorithms.
C110.4	Identify and apply Machine Learning algorithms to solve real world problems.

C110.5	Be capable of confidently applying common Machine Learning algorithms in practice and implementing their own

YEAR/ SEM: I/II –CS241-FULL STACK WEB DEVELOPMENT LAB

NO.	COURSE OUTCOME
C111.1	Structure and implement HTML/CSS.
C111.2	Apply intermediate and advanced web development practices.
C111.3	Develop a fully functioning website and deploy on a web server.
C111.4	Create webpages that function using external data.
C111.5	Identify mobile strategies and design for multiple operating systems.

YEAR/ SEM: I/II – CS42B-INTERNET OF THINGS

NO.	COURSE OUTCOME
C112.1	Explain the concept of IoT
C112.2	Analyze various protocols for IoT.
C112.3	Design a PoC of an IoT system using Raspberry Pi/Arduino
C112.4	Apply data analytics and use cloud offerings related to IoT
C112.5	Analyze applications of IoT in real time scenario

YEAR/ SEM: I/II – CS42D-FULL STACK WEB DEVELOPMENT

NO.	COURSE OUTCOME
C113.1	Design user interactions on web pages
C113.2	Develop back end website applications
C113.3	Create servers and databases for functionality

C113.4	Develop adaptive content for multiple devices (cell phone, tablets, etc.) Ensure cross-platform optimization for mobile phones
C113.5	Design and develop Application Programming Interfaces (APIs)

YEAR/ SEM: I/II – CS32A-PRINCIPLES OF COMPILER DESIGN

NO.	COURSE OUTCOME
C114.1	Understand the different phases of the compiler
C114.2	Design a lexical analyzer for a sample language.
C114.3	Apply different parsing algorithms to develop the parsers for a given grammar.
C114.4	Design and implement a scanner and a parser using LEX and YACC tools
C114.5	Learn to implement code optimization techniques and a simple code generator.

YEAR/ SEM: I/II – MSSEA-COMMUNICATION SKILLS FOR SOFTWARE ENGINEERS-I

NO.	COURSE OUTCOME
C115.1	Enumerate varied soft skills needed for employment
C115.2	Identify the lack in oneself and improve it
C115.3	Learn the current technical implementations and Summarize the different requirements for employability
C115.4	Calculate self performance ,Generalize narration , oration and debate skills
C115.5	Conceptualize the representation of current technologies

YEAR/ SEM: II/III-PSD3A-PRINCIPLES OF COMPILER DESIGN

NO.	COURSE OUTCOME
C201.1	Understand the different phases of the compiler.

C201.2	Design a lexical analyzer for a sample language.
C201.3	Apply different parsing algorithms to develop the parsers for a given grammar.
C201.4	Design and implement a scanner and a parser using LEX and YACC tools
C201.5	Learn to implement code optimization techniques and a simple code generator.

YEAR/ SEM: II/III – PSD3C-ARTIFICIAL INTELLIGENCE

NO.	COURSE OUTCOME
C202.1	Understanding the foundational concepts of Artificial Intelligence, including machine learning, natural language processing, computer vision, and robotics.
C202.2	Gaining knowledge of various AI algorithms and techniques, such as decision trees, neural networks, genetic algorithms, and reinforcement learning.
C202.3	Acquiring the ability to apply AI techniques to solve real-world problems and make intelligent decisions.
C202.4	Developing skills in programming AI systems and using AI libraries and frameworks.
C202.5	Analyzing the ethical implications of AI applications and understanding the importance of responsible AI development.

YEAR/ SEM: II/III – PSD3B-INFORMATION SECURITY

NO.	COURSE OUTCOME
C203.1	understanding the principles of information security, risk assessment and management.
C203.2	Developing knowledge on cryptography, network security, security policies and procedures, and incident response.
C203.3	Students are expected to develop skills in securing systems, identifying vulnerabilities.
C203.4	Implementing security measures to protect information assets from unauthorized access, disclosure, or modification.
C203.5	Promoting security awareness among users and providing training to staff to enhance overall security posture.

PRINCE SHRI VENKATESHWARA ARTS AND SCIENCE COLLEGE

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Affiliated to University of Madras, ISO 9001:2015 Certified Institution
Recognized by UGC under section 2(f) of UGC Act 1956

YEAR/ SEM: II/III – PSDEE-CRYPTOGRAPHY

NO.	COURSE OUTCOME
C204.1	Identify the security issues in the network and resolve it.
C204.2	Analyse the vulnerabilities in any computing system and hence be able to design a security solution.
C204.3	Evaluate security mechanisms using rigorous approaches by key ciphers and Hash functions.
C204.4	Identify security studies, deployment and backup in the context of cloud infrastructure.
C204.5	Demonstrate various network security applications, IPSec, Firewall, IDS, Web Security, Email Security and Malicious software etc.,

YEAR/ SEM: II/III – PSDEJ-CLOUD COMPUTING

NO.	COURSE OUTCOME
C205.1	Illustrate levels of services of Cloud.
C205.2	Discuss the fundamental principles of distributed computing.
C205.3	Express the relationship between the grid and cloud distributed environment.
C205.4	Identify security studies, deployment and backup in the context of cloud infrastructure.
C205.5	Analyze the performance of Cloud Computing and Associate the concept of Cloud Security and Cloud Infrastructure Model.

YEAR/ SEM: II/III – PSD31-MINI PROJECT

NO.	COURSE OUTCOME
C206.1	Apply algorithmic, mathematical and scientific reasoning to a variety of computational problems
C206.2	Design, correctly implement and document solutions to significant computational problems

C206.3	Analyze and compare alternative solutions to computing problems
C206.4	Implement software systems that meet specified design and performance requirements
C206.5	Work effectively in teams to design and implement solutions to computational problems

YEAR/ SEM: II/III – PSSEN-SOFT SKILL-CONTEMPORARY AWARENESS

NO.	COURSE OUTCOME
C207.1	To know the Recent Development in Space, Telecommunication and Computer Science.
C207.2	To know the Contemporary Events in National and International level.
C207.3	To enhance the analytical ability and general awareness of various subjects.
C207.4	To understand the various types of Demography.
C207.5	To Study about Environmental Issues.

YEAR/ SEM: II/III – PSSEQ-INTERNSHIP

NO.	COURSE OUTCOME
C208.1	To construct the company profile by compiling the brief history, Management structure, products / services offered, key achievements.
C208.2	To determine the challenges and future potential for his / her internship organization in particular and the sector in general.
C208.3	To test the theoretical learning in practical situations by accomplishing the tasks assigned during the internship period.
C208.4	To apply various soft skills such as time management, positive attitude and communication skills during performance of the tasks assigned in internship organization.
C208.5	To analyse the functioning of internship organization and recommend changes for improvement in processes.

YEAR/ SEM: II/IV – PROJECT & VIVA VOCE

NO.	COURSE OUTCOME
C209.1	Construct a project from initial ideas;
C209.2	Plan, schedule, monitor and control their own work;
C209.3	Defend their ideas in discussions and presentations;
C209.4	Use libraries and other information resources, apply tools and techniques from taught courses
C209.5	Communicate their findings through a written report.