SHRI SHANKARLAL SUNDARBAI
SHASUN
JAIN COLLEGE FOR WOMEN
A Unit of Sri S. S. Jain Educational Society | Reaccredited by NAAC
Affiliated to University of Madras | An ISO 9001:2015 Certified Institution

Programme Name : M.Sc (Computer Science)		Programme Code: PSD
Course Code & Course Name	**Course Outcomes** **At the end of this course the students will be able to**	**Cognitive Level**
Cognitive Level - Remember - (R), Understand - (U), Apply - (P), Analyse - (A), Evaluate - (E), Create - (C)		
I Year - I Semester		
PSD1A - Design and Analysis of Algorithms	CO1: Develop algorithms and compare the algorithms for time and space complexities.	U
	CO2: Solve problems using divide and conquer, greedy method, dynamic programming, graph traversal & search, backtracking, branch and bound techniques.	P
	CO3: Explain and differentiate P, NP , NP hard and NP Complete Problems.	U
PSD1B - Advanced Java Programming	CO1: Explain the advanced programming concepts of JAVA.	U
	CO2: Write server side scripts using Java.	R
	CO3: Explain complex data objects and its elements using Java Beans.	U
	CO4: Elaborate the design of embedded objects using EJB architecture.	U
	CO5: Develop applications with remote method invocations (RMI).	P
PSD1C - Systems Software	CO1: Explain he fundamental framework of language processor.	U
	CO2: Illustrate the scanning and parsing phases of compilation.	U
	CO3: Explain the design specifications of macros and its advanced facilities.	U
	CO4: Illustrate he working principles of linkers and loaders.	U
	CO5: Apply the design aspects of User Interface.	P
PSD11 - Algorithms Lab	CO1: Apply the concept of Divide and Conquer in solving problems using Merge sort, Quick sort and MAximum and Minimum	P
	CO2: Solve the Knapsack and the Job sequencing problem using the Greedy Method	P
	CO3: Solve shortest path finding problems using dynammic programming	P
	CO4: Find solutions for the n queen problem and the hamiltonian cycle problem using backtracking method	P
PSD12 - Advanced Java Lab	CO1: Design online applications using advanced java concepts.	P
	CO2: Develop server side scripting code using Java Beans.	P
	CO3: Implement component model objects using Enterprise Java Beans.	P
	CO4: Develop programs to implement backend connectivity for dynamic applications.	P
	CO5: Build complete web solutions to different applications.	C
PED1A-Theoretical Foundations of Computer Science	CO1: Solve the basic logical operations, equivalence and implications.	U
	CO2:Illustrate the basics of graph theory and its applications with forms the basic data structures in computer science	P
	CO3: Illustrate the working of deterministic and non-deterministic finite automat	A
	CO4: Derive parse trees, identify ambiguous grammars and derive sentential forms	P
	CO5: Simplify context free grammars and normalize given grammar to Chomsky Normal Form	A
	CO6: Design Push Down Atutomata	P

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PSSEA - Language and Communication Skills	CO1: Demonstrate the twinning functions of listening and speaking with emphasis on clear enunciation.	U
	CO2: Classify between skimming, scanning and structuring to get a general overview of the reading material.	U
	CO3: Understand the need to self-monitor the various aspects of personal communication.	U
	CO4: Outline the different modes of communication and business correspondence.	U
	CO5: Show etiquettes in social communication skills.	U
I Year - II Semester		
PSD2A-Computer Networks	CO1: Explain the basic terminology and concepts of the OSI reference model and the TCP-IP reference model.	U
	CO2: Define the concepts of protocols, network interfaces, and design/performance issues in local area networks and wide area networks.	R
	CO3: Illustrate the basic working principles of communication systems and wireless networking concepts.	U
	CO4: Demonstrate end-to-end data transmission concepts in networks.	U
	CO5: Explain the network protocol and network security issues.	U
PSD2B - Digital Image Processing	CO1: List the steps in Digital Image Processing	R
	CO2: Illustrate filering operations in the spatial domain to perform enhancement.	P
	CO3: Illustrate filering operations in the transform domain to perform enhancement.	P
	CO4: Analyze the various techniques and perform restoration and image segmentation operations	A
	CO5: Summarize the importance of compression , information theory and coding	U
PSD21 - RDBMS Lab	CO1: Develop programs for solving database system application problems.	P
	CO2: Normalize database tables to increase the efficiency of the data transactions.	A
	CO3: Create databases for real time applications with huge data transactions.	C
	CO4: Develop appropriate input screens, menu driven query processing and generate reports.	P
PSDEA - Mobile Computing	CO1:Explain the basic mechanisms and techniques that enable mobile communication	U
	CO2: Illustrate the roles and functionalities of different layers in mobile communication	U
	CO3: Explain the functioning of Hiper LAN and Bluetooth.	U
	CO4: Outline Architecture of GSM and its handover mechanisms.	U
	CO5: Demonstrate mobile network functionalities like packet delivery, registration, Tunneling and reverse tunneling.	P
	CO6: Outline the congestion control techniques and transaction oriented TCP.	U
PSDED - Computer Simulation and Modeling	CO1: List the concepts in discrete event system simulation.	R
	CO2: Explain the system simulation models and the programming languages available for simulation.	U
	CO3: Summarize the techniques used for random number generation and elaborate the various distributions.	U
	CO4: Analyze Input and Output data and perform parameter estimation.	A
	CO5: Perform various tests for verification and validation and measure the performance.	P

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PSDEC - Computer Graphics	CO1: Explain the working of various input and output devices.	U
	CO2: Demonstrate various line drawing , circle generation algorithms.	P
	CO3: Illustrate 2D/3D transformations and the various clipping algorithms.	P
	CO4: Perform various projections and animation using various representations.	P
PSD22 - Image Processing using Java Lab	CO1: Perform operations on images , such as digitization, sampling, quantization, and 2D-transforms.	R
	CO2: Develop programs that Operate on Images using the techniques of smoothing,sharpening and enhancement.	P
	CO3: Develop programs to perform the restoration concepts and filtering techniques.	P
	CO4: Demonstrate the segmentation, features extraction, compression and recognition methods for color models.	P
	CO5: Use tools to Compress images and use tools for image recognition.	P
PED2A - Object Oriented Analysis and Design	CO1: Define the object oriented system development process.	R
	CO2: Illustrate the design process of classes, objects and its relationships.	U
	CO3: List the components of user interface design.	R
	CO4: Summarize the different testing strategies of object oriented system.	U
	CO5: Analyze the user satisfaction aspects of object oriented systems with case studies.	A
PSSEB - Spoken and Presentation Skills	CO1: Demonstrate the right skills for exhibiting their spoken and presentation skills.	U
	CO2: Show sensitivity and articulation in their presentation skills.	U
	CO3: Demonstrate the general communication skills for presentation.	U
	CO4: Summarize the usage of technological aids to make effective presentations.	U
	CO5: Show dynamic presentations by using nonverbal communication for impact.	U
PSSER-Quantitative Aptitude	CO1: Explain the basic concepts of quantitative aptitude.	U
	CO2:Recall the formula to get the solution of the problems	R
	CO3:Classify data and interpret them graphically	U
PSSEQ-Internship	CO1: Explain the industry requirement and the development process of a software product.	U
	CO2: Develop and implement individual application software based on any emerging technologies.	P
	CO3: Demonstrate the development of real time systems.	P
II Year - III Semester		
PSD3A-Principles of Compiler Design	CO1: Explain the design of Compiler software	U
	CO2: Summarize the programming language grammars.	U
	CO3: Construct parse tree and explain the basic techniques.	p
	CO4: Identify the local and global code optimization in compilation process.	P
	CO5: Know about the error detection and recovery process in code generation phase of a compiler.	U

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PSD3B- Information Security	CO1: Explain the importance of information security and apply security measures while using systems.	U
	CO2: Identify and list the goals of providing security with regard to overall system security, operating system security, database security and network security.	U
	CO3: Explain and differentiate about viruses, malicious and non malicious code, how viruses attach and gain entry into a system and also the countermeasures to be taken against them	P
	CO4:Perform case studies wrt the ethical issues in computer security.	A
PSD3C-Artificial Intelligence	CO1: Explain the basic principles and approaches of Artificial Intelligence.	U
	CO2: Summarize the building blocks of AI such as intelligent agents: Search, Knowledge representation, inference, logic, and learning.	U
	CO3: Implement classical Artificial Intelligence techniques, such as search algorithms, minimax algorithm, neural networks, tracking, robot localisation.	P
	CO4: Show the limitations of current Artificial Intelligence techniques.	U
	CO5: Explain the basic concepts of robotics.	U
PSDED-Big Data Analytics	CO1: Make use of various statistical and data mining tools. to enhance the analytical capability.	P
	CO2: Explain the types of data sources, sampling, variable selection and segmentation for data analytics.	U
	CO3: Make use of the various predictive analysis tools which supports the decision making process.	P
	CO4: Illustrate the descriptive type of analytics that helps to learn about a system.	U
	CO5: List the data quality and documentation aspects of data analytics.	R
PSDEE-Cryptography	CO1: Explain the conventional encryption model.	U
	CO2: Illustrate the Euler , Chinese remainder theorem .	U
	CO3: Demonstrate the flow of the Advanced Encryption Standard (AES) and RSA Algorithms.	P
	CO4: Diiferentiate Authorization & Authentication and implement using hash functions and algorithms.	P
	CO5: Explain about Digital Signatures.	U
PSDEF-Distributed Database Systems	CO1: Elaborate on distributed database representation and list the types of data fragmentation.	U
	CO2: Write queries for extracting information from databases.	P
	CO3: Explain concurrency control , deadlocks and resolution of inconsistency of data.	U
	CO4: Illustrate the complete distributed database architecture.	U
	CO5: Perform query optimization and load balancing in databases.	P
PSDEG -Multimedia Systems	CO1: Explain the uses of multimedia and the different stages in the development of a multimedia project	U
	CO2: Distinguish between Windows and MAC systems and the explain the working of multimedia hardware and software, authoring tools for developing multimedia content.	A
	CO3: Make use of the basic building blocks of multimedia like text, image, sound, graphics, animation etc. in building multimedia projects using Flash, photoshop etc.	P
	CO4: Explain the different data compression algorithms , use of multimedia in web designing	U
	CO5: - Describe the importance of multimedia content in media communications, media conferencing, media entertainment and games.	R

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PSDEH- E-Commerce	CO1: List the E-commerce framework and network infrastructure.	R
	CO2: Explain the working of network infrastructure, internet service providers , connectivity.	U
	CO3: Explain the architectural framework for e-commerce applications.	U
	CO4: Demonstrate electronic payment system and electronic data exchange .	P
	CO5: Illustrate advertising and marketing on internet and explain the techology behind software agents.	U
PSDEJ-Cloud Computing	CO1: Understand the evolution, principles, and benefits of Cloud Computing in order to assess existing cloud infrastructures to choose an appropriate architecture that meets business needs.	U
	CO2: Decide a suitable model to capture the business needs by interpreting different service delivery and deployment models.	R
	CO3: Understand virtualization foundations to cater the needs of elasticity, portability and resilience by cloud service providers.	U
	CO4: Infer architectural style, work flow of real-world applications and to implement the cloud applications using map reduce programming models.	U
	CO5: Compare operation and economic models of various trending cloud platforms prevailing in IT industry.	R
PSD31 - Mini Project	CO1: List the steps involved in the development of a software product.	R
	CO2: Develop one or two modules of complete software product.	P
	CO3: Make use of the tools and software packages/ languages for developing software applications relevant to the current scenario.	U
PSSEC - Life and Managerial Skills	CO1: Relate to stress triggers and manage stress in various aspects of life.	U
	CO2: Understand the role of goals in conflict management.	U
	CO3: Extend understanding of interpersonal skills and leadership qualities.	U
	CO4: Explain time management strategies.	U
	CO5: Explain managerial empowerment strategies.	U
II Year - IV Semester		
PSD4Q - Project & Viva-Voce	CO1: List the steps in real time development of software systems.	R
	CO2: Explain the entire life cycle of a software product.	U
	CO3: Use the various development tools for design of models and testing strategies involved in the software development.	P
	CO4: Develop an end to end complete software product for various problems.	C