Department of Computer Science
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Computer Science

---

Course Code: CMSACOR01T, CMSACOR01P

Course Title: Programming Fundamental using C/C++

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Recollect various programming constructs and to develop C programs. (Level 1: Remember)
CO-2:	Explain the fundamentals of C programming. (Level 2: Understand)
CO-3:	Choose the right data representation formats based on the requirements of the problem. (Level 3: Apply)
CO-4:	Develop programs using the basic elements like control statements, Arrays and Strings (Level 5: Evaluate)

Course Code: CMSACOR02T, CMSACOR02P

Course Title: Computer System Architecture

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Recall number system and Logic gates (Level 1: Remember)
CO-2:	Experiment on Simplification of Boolean functions and Sequential and combinational Circuits.(Level 4: Analyze)
CO-3:	Discuss the structure of memory and its components. (Level 2: Understand)
CO-4:	Summarize the concepts of Number system, Boolean algebra and Logic gates. (Level 5: Evaluate)

Department of Computer Science
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Computer Science

---

Course Code: CMSACOR03T, CMSACOR03P

Course Title: Programming in Java

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Remember the fundamentals of programming such as variables, conditional statements and iterative execution statements. (Level 1: Remember)
CO-2:	Understand the concepts of arrays, strings, packages and multithreading. (Level 2: Understand)
CO-3:	Develop reusable programs using the concepts of inheritance, polymorphism, interfaces and packages. (Level 6: Create)
CO-4:	Design event driven GUI and web related applications which mimic the real world scenarios. (Level 6: Create)

Course Code: CMSACOR04T

Course Title: Discrete Structure

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Describe sets, relations, functions and discrete structures (Level 1: Remember)
CO-2:	Apply mathematical logic to solve problems (Level 3: Apply)
CO-3:	Use logical notations to define fundamental mathematical concepts such as sets relations and functions (Level 3: Apply)
CO-4:	Formulate and solve real world problems using graphs and trees (Level 4: Analyze)

Department of Computer Science
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Computer Science

---

Course Code: CMSACOR05T, CMSACOR05P

Course Title: Data Structure

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Define array and linked list (Level 1: Remember)
CO-2:	Describe representation and functions of array and Linked List. (Level 2: Understand)
CO-3:	Use stacks and queues. (Level 3: Apply)
CO-4:	Analyze an algorithm for searching and sorting techniques in terms of time complexity (Level 4: Analyze)
CO-5:	Describe the mathematical model for trees and graphs. (Level 4: Analyze)

Course Code: CMSACOR06T, CMSACOR06P

Course Title: Operating Systems

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Review the basic concepts of operating systems. (Level 2: Understand)
CO-2:	Illustrate the examples on processor scheduling and deadlock prevention. (Level 3: Apply)
CO-3:	Justify the demand paging concepts for the comparison of page replacement algorithms. (Level 5: Evaluate)
CO-4:	Review the file system and its protection mechanism. (Level 2: Understand)

Name of the Academic Program: B.Sc. honours with Computer Science

---

Course Code: CMSACOR07T, CMSACOR07P

Course Title: Computer Networks

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Recognize the technological trends of Computer Networking. (Level 1: Remember)
CO-2:	Discuss the key technological components of the Network. (Level 2: Understand)
CO-3:	Apply different kinds of network models like OSI,TCP/IP model. (Level 3:Apply)
CO-4:	Calculate differennt computer network related parameters like transmission delay.propagation delay,baud rate etc. (Level 4: Analyze)
CO-5:	Evaluate the challenges in building networks and solutions to those. (Level 5: Evaluate)

Course Code: CMSACOR08T, CMSACOR08P

Course Title: Design and Analysis of Algorithms

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Explain the time and space complexity of algorithms using asymptotic notations. (Level 2: Understand)
CO-2:	Discuss different searching algorithms. (Level 2: Understand)
CO-3:	Use an appropriate data structure for a design of algorithms. (Level 3: Apply)
CO-4:	Test the correctness of algorithms using inductive proofs and invariants (Level 4: Analyze)

Department of Computer Science
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Computer Science

---

Course Code: CMSACOR09T, CMSACOR09P

Course Title: Software Engineering

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Understand the concept of software and its development process (Level 2: Understand)
CO-2:	Apply the studied algorithms for the development of software. (Level 3: Apply)
CO-3:	Sketch the data flow for the mini-project (Level 3: Apply)
CO-4:	Develop the software modules as per the software specifications. (Level 6: Create)

Course Code: CMSACOR010T, CMSACOR010P

Course Title: Database Management Systems

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Identify the difference between database systems from file systems and describe each in both function and benefit. (Level 1: Remember)
CO-2:	Model an application's data requirements using conceptual modeling tools like ER diagrams and design database schemas based on the conceptual model. (Level 4: Analyze)
CO-3:	Describe the concept of normalization theory for normalizing database. (Level 2: Understand)
CO-4:	Explain the relational data model. (Level 2: Understand)
CO-5:	Apply practical experience by designing and constructing data models using SQL. (Level 3: Apply)

Name of the Academic Program: B.Sc. honours with Computer Science

---

Course Code: CMSACOR011T, CMSACOR011P

Course Title: Internet Technologies

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Remember the concept of OOPs and databases. (Level 1:Remember)
CO-2:	Discuss the fundamentals of Java Script, JDBC, JSP etc. (Level 2: Understand)
CO-3:	Illustrate how to establish connectivity and work with connection interfaces. (Level 3: Apply)
CO-4:	Examine JSP application design with MVC. (Level 4: Analyze)
CO-5:	Conclude with setting up the JSP environment,error handling,developing a simple Bean. (Level 5: Evaluate)

Course Code: CMSACOR012T

Course Title: Theory of Computation

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Explain the concept of Automata theory and Turing machine. (Level 2: Understand)
CO-2:	Apply regular expressions on real time problem. (Level 3: Apply)
CO-3:	Use Context-Free Grammars for the real time requirements. (Level 3: Apply)
CO-4:	Discuss on Normal forms. (Level 2: Understand)

Name of the Academic Program: B.Sc. honours with Computer Science

---

Course Code: CMSACOR013T, CMSACOR013P

Course Title: Artificial Intelligence

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Identify the framework in which artificial intelligence may function, including interactions with people, enterprise functions, and environments. (Level 1:Remember)
CO-2:	Explain important search concepts, such as the difference between informed and uninformed search, the definitions of admissible and consistent heuristics and completeness and optimality. (Level 2: Understand)
CO-3:	Apply basic principles of AI in solutions that require problem solving, inference, perception, knowledge representation, and learning. (Level 3: Apply)
CO-4:	Analyze an algorithm for informed searching and uninformed searching in terms of time complexity. (Level 4: Analyze)
CO-5:	Evaluate the advantages, disadvantages, challenges, and ramifications of human–AI augmentation. (Level 5: Evaluate)

Course Code: CMSACOR014T, CMSACOR014P

Course Title: Computer Graphics

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Describe the basic display devices and input devices. (Level 2: Understand)
CO-2:	Explain drawing algorithms for line, circle, ellipse etc. 2D transformations, line and polygon clipping, color fill methods, and 2D projections. (Level 2: Understand)
CO-3:	Explain 2- dimensional graphical objects using geometrical algorithms and perform operations on them. (Level 2: Understand)
CO-4:	Experiment the Computer Graphics algorithms using C. (Level 4: Analyze)

Name of the Academic Program: B.Sc. honours with Computer Science

---

Course Code: CMSADSE01T, CMSADSE01P

Course Title: Microprocessor

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Define the history of microprocessors (Level 1: Remember)
CO-2:	Describe the architectures of 8085 and 8086 microprocessors. (Level 2: Understand)
CO-3:	Write programs using 8085 Microprocessor. (Level 3: Apply)
CO-4:	Distinguish between the different modules of operation of microprocessors. (Level 4: Analyze)

Course Code: CMSADSE02T, CMSADSE02P

Course Title: Data Mining

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Demonstrate various data preprocessing procedures and their application scenarios. (Level 3: Apply)
CO-2:	Discuss the data-mining tasks like classification, regression, clustering, association mining. (Level 2: Understand)
CO-3:	Develop skill in selecting the appropriate data mining algorithm for solving practical problems. (Level 4: Analyze)
CO-4:	Construct statistical predictive models using various techniques such as neural networks, decision trees and logistic regression. (Level 6: Create)

Name of the Academic Program: B.Sc. honours with Computer Science

---

Course Code: CMSADSE03T, CMSADSE03P

Course Title: Cloud Computing

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Summarize the main concepts, key technologies, strengths, and limitations of cloud computing and the possible applications for state-of-the-art cloud computing. (Level 2: Understand)
CO-2:	Categorize the architecture and infrastructure of cloud computing, including SaaS, PaaS, IaaS, public cloud, private cloud, hybrid cloud, etc. (Level 4: Analyze)
CO-3:	Identify the core issues of cloud computing such as security, privacy, and interoperability. (Level 4: Analyze)
CO-4:	Select the appropriate cloud computing solutions and recommendations according to the applications used. (Level 5: Evaluate)

Course Code: CMSADSE04T, CMSADSE04P

Course Title: Big Data

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Discuss the challenges and their solutions in Big Data (Level 2: Understand)
CO-2:	Analyze the Big Data framework like Hadoop and NOSQL to efficiently store and process Big Data to generate analytics. (Level 4: Analyze)
CO-3:	Design Algorithms to solve Data Intensive Problems using Map Reduce Paradigm. (Level 6: Create)
CO-4:	Implement Big Data Activities using Hive (Level 6: Evaluate)

Department of Computer Science
Sarojini Naidu College for Women

Name of the Academic Program: B.Sc. honours with Computer Science

---

Course Code: CMSADSE05T, CMSADSE05P

Course Title: Digital Image Processing

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Review the fundamental concepts of a digital image processing system. (Level 2: Understand)
CO-2:	Analyze images in the frequency domain using various transforms. (Level 4: Analyze)
CO-3:	Apply the techniques for image enhancement and image restoration. (Level 3: Apply)
CO-4:	Describe object detection and recognition techniques. (Level 2: Understand)

Course Code: CMSADSE06P

Course Title: Project

Course Outcome (COs)

After completion of this course successfully, the students will be able to

CO-1:	Create websites for school, PSU, Industries etc. (Level 6: Create)
CO-2:	Develop a model that solves real time social issues. (Level 6: Create)
CO-3:	Sketch the data flow of project (Level 3: Apply)
CO-4:	Generate the documentation of project work. (Level 6: Create)