

Summary Of Lesson Plan

Name of College:

GOVT. PG NEHRU COLLEGE, JHAJJAR

ACADEMIC SESSION: 2026-2027

For The Month Of July 2026– December 2027

S. N.	Name of Assistant/ Associate Professor	SUBJECT/ CLASS/ SEMESTER	TOPIC/ Chapters to be covered
1	PARDEEP	B.Sc. C.S. 1 st Semester Computing Fundamentals and C Programming	August: Computing Fundamentals: Overview of computing fundamentals principles and history, Generations of Computers, Major components of Computer, Classification of computers, Applications of computers in various fields, Input/ Output Devices, Memory: Concept of primary & secondary memory, Cache Memory, Secondary storage devices, Basics of Networking & Operating System: Introduction to computer networking, Types of Network, Network Topologies, Internet and its applications; Operating system and its functions. Assignment 1 and Class Test September: Problem Solving: Basics of algorithmic thinking and problem-solving strategies, Planning the Computer Program - Problem definition, Program design, Debugging, Types of errors in programming, Techniques of Problem Solving-Flowcharting, Algorithms Introduction to the C Language: History of C, Importance of C, Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, printf(), scanf() functions, Operators & Expression, type casting and conversion, operator hierarchy & associativity. Assignment 2 October: Decision Making and Branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, go to statement, Decision Making and Looping: while, do-while and for loop, jumps in loops, break, continue statement, Nested loops, Functions and Modular Programming Concepts: Standard Mathematical functions, Input/Output: Unformatted and formatted I/O function in C, Input functions, Output functions, string manipulation functions, User-defined functions: Introduction/Definition, function prototype, local and global variables, passing parameters, recursion. Class Test November: Arrays & Pointers: Definition, types, initialization, processing an array, passing arrays to functions declaration and initialization of string, Input/output of string data, Introduction to pointers, Advance Concepts of C Programming: Pointers and memory management in C; File input/output operations in C; Dynamic memory allocation and deallocation; Advanced control structures: switch, break, and continue statements. Practical applications of C programming in software development: Algorithmic problem-solving using C programming constructs; Design and implementation of C programs; Debugging and testing techniques for C programs; Best practices and coding standards in C programming. Class Test and Discussion December: Revision

Pardeep
29/8/2026

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Govt. Pg Nehru College, Jhajjar

Academic Session: 2026-20267

For The Month Of July 2026– December2027

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1	PARDEEP	B.C.A. 1st Semester Computer Architecture	August: Digital Principles: Definition for Digital signals, Digital logic, Digital computers, VonNeumann Architecture, Boolean Laws and Theorems, K-Map: Truth Tables to K-Map, 2, 3 and 4 variable K Map, K-Map Simplifications, Don't Care Conditions, SOP and POS. Number Systems: Decimal, Binary, Octal, Hexadecimal, Number System Conversions, Binary Arithmetic, Addition and subtraction of BCD, Octal Arithmetic, Hexadecimal Arithmetic, Binary Codes, Decimal Codes, Error detecting and correcting codes, ASCII, EBCDIC, Excess3 Code, The Gray Code. Assignment 1 and Class Test September: Combinational Circuits: Half Adder and Full Adder, Subtractor, Decoders, Encoder, Multiplexer, Demultiplexer Sequential Circuits: Flip-Flops- SR Flip- Flop, D Flip-Flop, J-K Flip-Flop, T Flip-Flop. Register: 4 bit register with parallel load, Shift Registers- Bidirectional shift register with parallel load Binary Counters- 4 bit synchronous and Asynchronous binary counter. Assignment 2 October: Basic Computer Organization and Design: Instruction Codes, Computer Registers, Computer Instructions, Timing and Control, Instruction Cycle, Memory-Reference Instructions, Input Output Interrupt, Complete Computer Description, Design of Basic Computer, Design of Accumulator logic. Central Processing Unit: Introduction, General Register Organization, Stack Organization, Instruction Formats, Addressing Modes, Data Transfer and Manipulation, Program Control, Reduced Instruction Set Computer (RISC), RISC Vs CISC. Class Test November: Pipeline and Vector Processing: Parallel Processing, Pipelining, Arithmetic Pipeline, Instruction Pipeline, RISC Pipeline. Input-Output Organization: Peripheral Devices, Input-Output Interface, Asynchronous data transfer, Modes of Transfer, Priority Interrupt, Direct memory Access, Input-Output Processor (IOP). Memory Organization: Memory Hierarchy, Main Memory, Auxiliary memory, Associate Memory, Cache Memory, Virtual Memory, Memory Management Hardware. Class Test and Discussion December: Revision

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1	PARDEEP	M.Sc. C.S. 3 rd Semester Computer Security	August: Fundamentals of Computer Security: Overview of Computer Security: Key Concepts and Importance, Security Threats and Vulnerabilities: Malware, Phishing, Ransomware, Access Control Models: Discretionary, Mandatory, and Role-Based Access Control (RBAC), Cryptographic Principles: Symmetric and Asymmetric Encryption, Digital Signatures, Case Studies: Notable Cyber Attacks and their Impact. September: Secure Systems and Applications: Secure Software Development Practices, Operating System Security: Process Isolation, Secure Boot, Anti-malware Tools, Database Security: SQL Injection Prevention, Role-based Access, Application Security: OWASP Top 10 and Secure APIs, Penetration Testing and Vulnerability Assessment. Assignment 1 and Class Test October : Network and Wireless Security: Network Security Fundamentals: Firewalls, IDS/IPS, VPNs, Wireless Network Security: WEP, WPA/WPA2, Emerging Protocols. Assignment 2 Secure Network Design: Zero Trust Architecture, Threat Monitoring and Incident Response, Case Studies: Securing IoT Devices. Advanced Topics and Legal Aspects: Emerging Threats: Quantum Computing in Cryptography. Class Test November: AI in Cybersecurity, Blockchain for Secure Transactions, Digital Forensics and Cybercrime Investigation, Cybersecurity Laws and Frameworks: GDPR, HIPAA, NIST, Security Management: ISO 27001 Standards. Class Test and Discussion December: Revision

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