Class	: B.A./B.SC. II Sem.(Comp.Sc.)
Subject Lesson Plan	: **Programming in C**
Name of the Assistant / Associate Professor	: RAJBIR

Months	Unit-I to IV
February	Overview of C: History & Importance of C, Structure of a C Program. Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant. Input/output: Unformatted & formatted I/O function, Input functions (Sc.anf(), getch(), getche(), getchar(), gets()), output functions (printf(), putch(), putchar(), puts()).
March	Operators & Expression: Arithmetic, relational, logical, bitwise, unary, assignment, conditional operators and special operators. Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity. Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, goto statement.
April	Decision making & looping: For, while, and do-while loop, jumps in loops, break, continue statement. Functions: Definition, prototype, passing parameters, recursion.
May	Storage classes in C: auto, extern, register and static storage class, their Sc.ope, storage, & lifetime. Arrays: Definition, types, initialization, processing an array. Structure and Union.

Class	: B.A./B.SC. II Sem.(Comp.Sc.)
Subject Lesson Plan	: **Logical Organization of Computers**
Name of the Assistant / Associate Professor	: Hardeep kaur

Months	Unit-I to IV
February	Information Representation: Number Systems, Binary Arithmetic, Fixed-point and Floatingpoint representation of numbers, BCD Codes, Error detecting and correcting codes, Character Representation – ASC.I, EBCDIC.
March	Binary Logic: Boolean Algebra, Boolean Theorems, Boolean Functions and Truth Tables, Canonical and Standard forms of Boolean functions, Simplification of Boolean Functions – Venn Diagram, Karnaugh Maps.
April	Digital Logic: Basic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR etc. Combinational Circuits: Half-Adder, Full-Adder, Half- Subtractor, Full-Subtractor, Encoders, Decoders, Multiplexers, Demultiplexers, Comparators, Code Converters.
May	Sequential Logic: Characteristics, Flip-Flops, Clocked RS, D type, JK, T type and Master-Slave flip-flops. State table, state diagram. Flip-flop excitation tables Shift registers : serial in parallel out and parallel in parallel out.. Designing counters – Asynchronous and Synchronous Binary Counters, Modulo-N Counters and Up-Down Counters

Class : B.A./ B.SC. IV Sem. (Comp.Sc.)
Subject Lesson Plan : **Object Oriented Programming with C++**
Name of the Assistant / Associate Professor : RAJBIR

Months	Unit-I to IV
February	Object oriented Programming: Object-Oriented programming features and benefits. Object-Oriented features of C++, Class and Objects, Data Hiding & Encapsulation, Structures, Data members and Member functions, Sc.ope resolution operator and its significance, Static Data Members, Static member functions, Nested and Local Class, Accessing Members of Class and Structure.
March	Constructor, Initialization using constructor, types of constructor– Default, Parameterized & Copy Constructors, Constructor overloading, Default Values to Parameters, Destructors, Console I/O: Hierarchy of Console Stream Classes, Unformatted and Formatted I/O Operations.
April	Manipulators, Friend Function, Friend Class, Arrays, Array of Objects, Passing and Returning Objects to Functions, String Handling in C++, Dynamic Memory Management: Pointers, new and delete Operator, Array of Pointers to Objects, this Pointer, Passing Parameters to Functions by Reference & pointers.
May	Static Polymorphism: Operators in C++, Precedence and Associativity Rules, Operator Overloading, Unary & Binary Operators Overloading, Function Overloading, Inline Functions, Merits/Demerits of Static Polymorphism.

INDIRA GANDHI NATIONAL COLLEGE, LADWA
Lesson Plan Computer Science for Session(2022-23) Even Semester

Class   : B.A./ B.SC.   IV Sem.(Comp.Sc.)
Subject Lesson Plan   : **Operating System**
Name of the Assistant / Associate Professor   : Hardeep kaur

Months	Unit-I to IV
February	Introduction: operating system, architecture, functions, characteristics, historical evolution, types: Serial batch, multiprogramming, time sharing, real time, distributed and parallel. OS as resource Manager. Computer system structures: I/O structure, storage structure, storage hierarchy.Operating system structure: system components, services, system calls, system programs, system structures.
March	Process management: process concepts, process state, process control block, operations, process Sc.heduling, inter process communication. CPU Sc.heduling: Sc.heduling criteria, levels of Sc.heduling, Sc.heduling algorithms, multiple processor Sc.heduling. Deadlocks: Characterization, methods of handling, deadlock detection, prevention, avoidance, recovery.
April	Storage Management: memory management of single-user and multiuser operating system, partitioning, swapping, paging and segmentation, virtual memory, Page replacement Algorithms, Thrashing. Process synchronization: critical section problems, semaphores. Mutual exclusion
May	Device and file management: Disk Sc.heduling, Disk structure, Disk management, File Systems: Functions of the system, File access and allocation methods, Directory Systems: Structured Organizations, directory and file protection mechanisms.

Class   : **B.A./ B.SC. VI Sem.(Comp.Sc.)**

Subject Lesson Plan   : **Relational Data Base Management System**

Name of the Assistant / Associate Professor : **RAJBIR**

Months	Unit-I to IV
February	Relational Model Concepts, Codd's Rules for Relational Model, Hierarchical Data Model– Introduction, Features, Components, Example, Network Data Model– Introduction, Features, Components, Example, Differences between Hierarchical Data Model and Network Data Model Comparison of Relational Data Model with Hierarchical Data Model and Network Data Model Relational Algebra:-Selection and Projection, Set Operation, Join and Division.
March	Relational Calculus: Tuple Relational Calculus and Domain Relational Calculus. Functional Dependencies and Normalization -- Purpose, Data Redundancy, Update Anomalies, Partial/Fully Functional Dependencies, Transitive Functional Dependencies, Characteristics of Functional Dependencies, Decomposition and Normal Forms (1NF, 2NF, 3NF & BCNF).
April	SQL: Data Definition and data types, Create Table, Insert Data, Viewing Data, Filtering Table Data, Sorting data, Creating Table from a Table, Destroy table, Update, View, Delete, Join, Concatenating data from Table Specifying Constraints in SQL; Primary Key, Foreign Key, Unique Key, Check Constraint, Using Functions
May	PL/SQL-Introduction, Advantages of PL/SQL The Generic PL/SQL Block: PL/SQL Execution Environment; PL/SQL Character Set and Data Types, Declaration and Assignment of Variables Control Structure in PL/SQL: Conditional Control, Iterative Control, Sequential Control

INDIRA GANDHI NATIONAL COLLEGE, LADWA
Lesson Plan Computer Science for Session(2022-23) Even Semester

Class : **B.A./ B.SC. VI Sem.(Comp.Sc.)**
Subject Lesson Plan : **Computer Networks**
Name of the Assistant / Associate Professor : **Hardeep Kaur**

Months	Unit-I to IV
February	Introduction to Data Communication and Computer Networks; Uses of Computer Networks; Types of Computer Networks and their Topologies; Network Hardware Components: Connectors, TranSc.eivers, Repeaters, Hubs, Network Interface Cards and PC Cards, Bridges, Switches, Routers, Gateways; Network Software: Network Design issues and Protocols; Connection-Oriented and Connectionless Services; OSI Reference Model; TCP/IP Model;
March	Analog and Digital Communications Concepts: Analog and Digital data and signals; Bandwidth and Data Rate, Capacity, Baud Rate; Guided and Wireless Transmission Media; Communication Satellites; Switching and Multiplexing; Modems and modulation techniques;
April	Data Link Layer Design issues; Error Detection and Correction methods; Sliding Window Protocols: One-bit, Go Back N and Selective Repeat; Media Access Control: ALOHA, Slotted ALOHA, CSMA, Collision free protocols; Introduction to LAN technologies: Ethernet, Switched Ethernet, Fast Ethernet, Gigabit Ethernet; Token Ring; Introduction to Wireless LANs and Bluetooth;
May	Routing Algorithms: Flooding, Shortest Path Routing, Distance Vector Routing; Link State Routing, Hierarchical Routing; Congestion Control; Traffic shaping; Choke packets; Load shedding; Application Layer: Introduction to DNS, E-Mail and WWW services; Network Security Issues: Security attacks; Encryption methods; Firewalls; Digital Signatures;