

Lesson Plan

BA 2nd Sem

B.A.(COMPUTER SCIENCE)

Programming in C

Week	Topic
1	Overview of C: History & Importance of C, Structure of a C Program
2	Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant.
3	Input/output: Unformatted & formatted I/O function, Input functions (scanf(), getch(), getche(), getchar(), gets()), output functions (printf(), putchar(), puts()).
4	Operators & Expression: Arithmetic, relational, logical, bitwise, unary, assignment, conditional operators
5	and special operators. Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity
6	Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, goto statement.
7	Decision making & looping: For, while, and do-while loop
8	jumps in loops, break, continue statement.
9	Functions: Definition, prototype, passing parameters, recursion.
10	Storage classes in C: auto, extern, register and static storage class, their scope, storage, & lifetime.
11	Arrays: Definition, types, initialization, processing an array.
12	Structure and Union.

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Object Oriented Programming with C++

Week	Topic
1	Information Representation: Number Systems, Binary Arithmetic, Fixed-point and Floating- point representation of numbers
2	BCD Codes, Error detecting and correcting codes,
3	Character Representation – ASCII, EBCDIC.
4	Binary Logic: Boolean Algebra, Boolean Theorems, Boolean Functions and Truth Tables,
5	Canonical and Standard forms of Boolean functions, Simplification of Boolean Functions
6	Venn Diagram, Karnaugh Maps
7	Digital Logic: Basic Gates – AND, OR, NOT, Universal Gates – NAND, NOR,
8	Other Gates – XOR, XNOR etc.
9	Combinational Circuits: Half-Adder, Full-Adder, Half- Subtractor,
10	, Full-Subtractor, Encoders, Decoders, Multiplexers, Demultiplexers, Comparators, Code Converters.
11	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
12	Shift registers : serial in parallel out and parallel in parallel out.. Designing counters – Asynchronous