



B. P. PODDAR INSTITUTE OF MANAGEMENT & TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
ACADEMIC YEAR: 2023-2024 EVEN SEMESTER
Programming for Problem Solving (ES-CS201)

Lesson Plan Required

Text Books:

B1. Introduction To Computing (WBUT Series), E. Balagurusamy B2.

Computer Fundamentals and Programming in C by Reema Thareja

Required Reference Books:

B3. C: The Complete Reference by Herbert Schildt

Web resources

W1. https://onlinecourses.nptel.ac.in/noc17_cs43/preview

W2. <https://www.slideshare.net/dwivedi2512/introduction-to-c-programming>

Lecture No.	Topics to be covered	Ref	Teaching Aid	Testing Method
1	Basic structure of C Language (source code, variables (with data types) variables and memory locations)	B1	BB, PPT	Discussion
2	Introduction to components of a computer system (disks, memory, processor, where a program is stored and executed, operating system, compilers etc.)	B1	BB, PPT	Discussion
3.	Idea of Algorithm: steps to solve logical and numerical problems. Representation of Algorithm: Flowchart/Pseudocode with examples.	B1	BB	Discussion
4.	Arithmetic expressions and precedence	B1	BB	Discussion
5.	Arithmetic expressions and precedence(cont.) & Associativity	B1	BB	Discussion
6.	Conditional Branching: SELECTION STATEMENTS (DECISION MAKING) – if with all case study	B1	BB	Discussion
7.	Conditional Branching: SELECTION STATEMENTS (DECISION MAKING) – switch, break, continue, go to statement	B1	BB	Discussion
8.	Loops: while, do-while with examples	B1, B3	BB	Discussion
9.	Loops: for with examples	B1	BB	Discussion
10	Introduction to Array: 1D with examples	B1	BB	Discussion
11	Introduction to Array: 2D with examples	B1	BB	Discussion

12	Character arrays and Strings	B1	BB	Discussion
13	Introduction of function: declaration of a function, call of a function, define body of function.	B1	BB	Discussion
14	Parameter passing in functions: call by value, call by reference	B1	BB	Discussion
15	Function (cont.) with example	B1	BB	Discussion
16	Searching, Basic Sorting Algorithms (Bubble, Insertion)	B1, B2	BB	Discussion
17	Searching, Basic Sorting Algorithms (Selection), Finding roots of equations, notion of order of complexity through example programs (no formal definition required)	B1, B2	BB	Discussion
18	Recursion, as a different way of solving problems. Example programs	B2	BB	Discussion, Assignments
19	Recursion, as a different way of solving problems. Example programs (contd.)	B2, B3	BB, PPT	Discussion Assignments
20	Introduction to Structures with examples	B1	BB	Discussion
21	Array of Structures with examples	B1	BB	Group discussion
22	Introduction to pointers	B1	BB	Group discussion
23	Pointers in self-referential structures, notion of linked list (no implementation)	B1	BB	Group discussion
24	Pointer (cont.) with example	B1	BB	Group discussion
25	Introduction to File Handling with examples	B1	BB	Discussion
26	Previous year Question Paper discussion	B2	BB, PPT	Illustration by example, Problem Solving, Flip Class
27	Previous year Question Paper discussion (Contd.)	B2	BB, PPT	Illustration by example, Problem Solving
28	Previous year Question Paper discussion (Contd.)	B2	BB, PPT	Problem Solving
29	Introduction to Number system	B2, B3	BB	Problem Solving, Quiz

Signature of Faculty