MCA-14-11 PROGRAMMING IN C

Maximum marks: 100 (External: 80, Internal: 20) **Time: 3 hours**

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of objective type/short-answer type questions covering the entire syllabus. In addition to question no. 1, the examiner is required to set eight more questions selecting two from each unit. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit. All questions will carry equal marks.

UNIT - I

Overview of C: Structure & Memory Layout of C Program; Elements of C, Data types; Storage classes in C: auto, extern, register and static storage class; Header files: Using pre-defined and user-defined header files, Operators: Arithmetic, relational, logical, bitwise, unary, assignment and conditional operators, side effects, precedence & associativity of operators.

UNIT - II

Input/output: Unformatted & formatted I/O function in C.

Control statements: Sequencing, Selection: if statement, switch statement; Repetition: for, while, and do-while loop; break, continue, goto statements.

Functions: Definition, prototype, parameters passing techniques, recursion, built-in functions.

UNIT - III

Arrays: Definition, types, initialization, processing an array, passing arrays to functions, returning arrays from functions, String handling.

Pointers: Declaration, operations on pointers, pointers and arrays, dynamic memory allocation, pointers and functions, pointers and strings.

UNIT - IV

Structure & Union: Definition, processing, Structure and pointers, passing structures to functions, use of union.

Data files: Opening and closing a file, I/O operations on files, Error handling during I/O operation, Random access to files.

Preprocessor commands and Macro definitions.

Text Books:

1. Forouzan Behrouz, “Computer Science: A Structured Programming Approach Using C”, Cengage Learning.
2. Balagurusamy E., “Programming in ANSI C”, Tata McGraw-Hill.

Reference Books:

1. Gottfried, Byron S., “Programming with C”, Tata McGraw Hill.
2. Jeri R. Hanly & Elliot P. Koffman, “Problem Solving and Program Design in C”, Pearson Education.
3. Yashwant Kanetker, “Let us C”, BPB Publications.
4. Rajaraman, V., “Computer Programming in C”, Prentice Hall of India Learning.