BCA – 121 Advanced Programming in C

Maximum Marks: 100   **External: 80**
Minimum Pass Marks: 35   **Internal: 20**
Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions 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.

UNIT – I

Strings in 'C': Introduction, Declaration and initialization of string, String I/O, Array of strings, String manipulation functions: String length, copy, compare, concatenate, search for a substring.
Structure and Union: Introduction, Features of structures, Declaration and initialization of structures, Structure within structure, Array of structures, Structure and functions. Union: Introduction, Union of structures. Typedef, Enumerations.

UNIT – II

Pointers: Introduction, Pointer variables, Pointer operators, Pointer assignment, Pointer conversions, Pointer arithmetic, Pointer comparison, Pointers and arrays, Pointers and functions, Pointers and strings, Pointer to pointer, dynamic allocation using pointers.

UNIT – III

Files: Introduction, File types, File operations, File I/O, Structure Read and write in a file, Errors in file handling, Random-access I/O in files.

UNIT – IV

Preprocessor: Introduction, #define, macros, macro versus functions, #include, Conditional compilation directives, undefining a macro. Command line arguments: defining and using command line arguments.

TEXT BOOKS
1. Yashwant Kanetker, "Let us C", BPB publications.
2. Balagurusamy, E., "Programming in ANSI C", Tata McGraw-Hill

REFERENCE BOOKS
1. Jeri R. Hanly & Elliot P. Koffman, "Problem Solving and Program Design in C", Addison Wesley.
2. Gottfried, Byron S., "Programming with C", Tata McGraw Hill
3. Behrouz A. Forouzan & Richard F. Gilberg, "Computer Science: A structured programming approach using C", Cengage Learning
4. Ashok N. Kamthane, "Programming with ANSI and Turbo C", Pearson Education.
5. Herbert Schildt, "The Complete Reference: C", Tata-McGraw-Hill.