

## BCA-116      Programming in C

**Maximum Marks: 100**  
**Minimum Pass Marks: 35**  
**Time: 3 hours**

**External: 80**  
**Internal: 20**

**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

Overview of C: History of C, 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 in C, Input functions ( scanf(), getch(), getche(), getchar(), gets() ), Output functions ( printf(), putchar(), puts() ).

### UNIT-II

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.

### UNIT-III

Decision making & looping: For, while, and do-while loop, jumps in loops, break, continue statement. Functions: Definition, prototype, passing parameters, recursion.

### UNIT-IV

Storage classes in C: auto, extern, register and static storage class, their scope, storage, & lifetime. Arrays: Definition, types, initialization, processing an array, passing arrays to functions, Strings & arrays.

### TEXT BOOKS

1. Gottfried, Byron S., Programming with C, Tata McGraw Hill
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. Yashwant Kanetker, Let us C, BPB.
3. Rajaraman, V., Computer Programming in C, PHI.
4. Yashwant Kanetker, Working with C, BPB.