Bachelor of Computer Applications 1ˢᵗ Semester

1128

PROBLEM SOLVING THROUGH C

Paper—BCA–16–104

Time Allowed : Three Hours]   **[Maximum Marks : 65**

Note :— Attempt **five** questions in all, selecting **one** question each from Units I, II, III and IV. Unit–V is compulsory.

UNIT—I

1. (a) What is a flowchart ? Draw a flowchart to find out total number of students in a class who have scored more than 60%.   **6**

   (b) What is a constant ? Discuss different types of constants used in C language.   **7**

2. (a) Discuss the structure of a C program with the help of an example program.   **6**

   (b) Discuss various arithmetic and assignment operators available in C language. Give appropriate examples.   **7**

UNIT—II

3. (a) Discuss various looping statements used in C language.   **6**

   (b) What are the different ways to pass parameters to a function ? Explain with the help of examples.   **7**

4. (a) How to use switch, break and continue statements in a program ? Give example code. **6**

    (b) Define a function to print i^{th} Fibonacci where term i is passed as argument to the function. Use this function to print first n Fibonacci terms. **7**

UNIT—III

5. (a) Write a program to find greatest element in each row of a two dimensional array. **6**

    (b) How to declare an array (single and double dimensional) ? How to access individual values in an array ? How to initialize an array during compile time and run time ? Give appropriate example code. **7**

6. (a) What is a pointer ? How to use pointers with double dimensional array ? Write a program to print all the elements of a two-dimensional array using pointers. **6**

    (b) How to allocate memory dynamically ? Discuss various functions used. **7**

UNIT—IV

7. (a) Discuss the following string handling functions with the help of example code :

    (i)   strcat( )

    (ii) strcmp( )

    (iii) strcpy( ) **6**

    (b) Write a program to copy a string from one character array to another without using any built-in string handling function. **7**

8. (a) How to use array of structures ? Explain with the help of an example code. 6

   (b) How to create, open and close a file in a C program ? Discuss various functions used to write into a file. 7

UNIT—V

9. (a) Differentiate between local and global variables. 2

   (b) What are Data Flow Diagrams ? Give example. 2

   (c) What logical operators are available in C language ? 2

   (d) What is a Union ? Give example. 2

   (e) How are structures different from arrays ? 2

   (f) What is the use of static storage class ? 3