

(i) Printed Pages : 3

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(ii) Questions : 9

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Exam. Code :

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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