

(i) Printed Pages: 2

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(ii) Questions : 9

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Exam. Code : 

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**Bachelor of Computer Applications 1<sup>st</sup> Semester**  
**(1129)**

**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 decision table ? What are the components of a decision table ? Explain with the help of an example decision table. 6  
(b) Discuss different data types available in C language. 7
2. (a) Discuss arithmetic, relational and logical operators used in C language. Discuss the hierarchy among these operators. 6  
(b) What is a variable ? How is it different from a constant ? Discuss the rules to name variables. 7

**UNIT—II**

3. (a) What is the use of goto statement in a program ? Show with the help of an example. 6  
(b) Write a program in C language to convert an integer into binary. 7
4. (a) Discuss storage classes available in C language. 6  
(b) How to define a function ? Write a function to check whether given number is even or not. Use this function to print all even numbers from 1 to 100. 7

### UNIT—III

5. (a) Discuss call by value and call by reference methods of passing arguments to a function with the help of example code. 6  
(b) Write a program to search the smallest and the largest elements in an array. 7
6. (a) How to use malloc, calloc, realloc and free in a program ? Explain with the help of example code. 6  
(b) What is a pointer ? How to use pointers with single dimensional array ? Write a program to print all the elements in an array with the help of a pointer. 7

### UNIT—IV

7. (a) How to read and write strings in a C program ? Discuss any four string handling functions used in C language. 6  
(b) What is a structure ? How structures are different from arrays ? How to define and use structures in a program ? Explain with the help of example code. 7
8. (a) How to use structures with pointers ? Write a program to get information about students from user and store the information in structures. Now using pointers print the information of all the students on screen. 6  
(b) Write a program to get a string from user and store the string in a file. Now read the alternate characters in the string and print on screen. 7

### UNIT—V

9. (a) What is a keyword ? Give example. 2  
(b) What do you understand by character set of a language ? 2  
(c) What is a library function ? Give example. 2  
(d) What do you understand by function prototype ? Give example. 2  
(e) What is the difference between getch() and getche() ? 2  
(f) What is a union ? Give example. 3