

6 :Aittif

USN

18CPS13/23

**First/Second Semester B.E. Degree Examination, June/July 2019**  
**C Programming for Problem Solving**

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

**Module-1**

- 1 a. With a neat block diagram of computer, explain its components. (10 Marks)
- b. Classify the following into input and output devices:  
 Monitors, visual display unit, Track balls, Bar code reader, Digital camera, Film recorder, Microfiche, OMR, Electronic Whiteboard, Plotters. (05 Marks)
- c. Define the terms: Network, LAN, WAN, MAN and network topology. (05 Marks)

**OR**

- 2 a. Write the basic structure of C program. Explain each section briefly with suitable example. (09 Marks)
- b. Define operator. Explain any 6 operators with suitable example. (07 Marks)
- c. State whether the following are valid identifiers or not: integer, float, I am, 123\_AbC. (04 Marks)

**Module-2**

- 3 a. Define and write the classification of Input and Output statements in C. Write a C-program that prints the following output:

```

t, I am
an E nj;im-etY;fj
SC lett, Slucl e r41
    
```

- b. Define branching statements. Explain them with syntax and suitable example. (06 Marks)
- c. Evaluate:  $i = 1$   
 L : if ( $i > 2$ )  
     {  
         printf ("Saturday");  
          $i = i + 1$ ;  
         goto L;  
     }  
     printf ("Sunday");  
 Explain your result briefly. (04 Marks)

**OR**

- 4 a. State the drawback of ladder if-else. Explain how do you resolve with suitable example. (08 Marks)
- b. Write a C program to get the triangle of numbers as a result:

```

|
1 2
1 2 3
1 2 3 4
    
```

- c. Write a C program to check whether given number is prime or not. (06 Marks)

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**Module-3**

- 5 a. Define an array. Explain with suitable example how do you declare and initialize ID array. (10 Marks)  
b. Write a C program to search an element using linear and binary techniques. (10 Marks)

**OR**

- 6 a. Define a string. Explain any 4 string library functions with syntax and example. (10 Marks)  
b. Write a C program to copy a string (combination of digits and alphabets) to another string (only alphabets). (10 Marks)

**Module\_4**

- 7 a. Define a function. List and explain the categories of user defined functions. (10 Marks)  
b. Write a C-program for evaluating the binomial coefficient using a function Factorial (n). (10 Marks)

**OR**

- 8 a. Define a recursion. Write a C recursive function for multiplying two integers where a function call is passed with two integers m and n. (10 Marks)  
b. Differentiate: (i) User defined and built-in function (ii) Recursion and iteration (10 Marks)

**Module\_5**

- 9 a. Define structures. Explain how do you declare, initialize and represent the memory for structure variable. (10 Marks)  
b. Write a C program that accepts a structure variable as a parameters to a function from a function call. (10 Marks)

**OR**

- 10 a. Define pointers. Explain pass by value and pass by reference with C statements and an example. (10 Marks)  
b. Define pre-processor directives. Write C program that finds the addition of two squared numbers, by defining macro for Square (x). (10 Marks)