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Paper Id:

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Sub Code: NCS-201

Roll No.

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B TECH
(SEM-II) THEORY EXAMINATION 2017-18
COMPUTER SYSTEM & PROGRAMMING IN C

Time: 3 Hours**Total Marks: 70****Note:** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief.****2 x 7 = 14**

- a. What is token in 'C' language?
- b. What do you mean by formatted output in C language? Explain with example.
- c. What is the use of **fseek()** function in files. Write its syntax?
- d. Write down the output of the following.

```
main()
{
    int i=1;
    for(;;)
    {
        printf("%d\n",i);
        if(i==7)
            break;
    }
}
```

- e. Explain function prototype? Why is it required?
- f. What are subscripts? How are they specified?
- g. Write the use of putchar() and getchar().

SECTION B**2. Attempt any three of the following:****7 x 3 = 21**

- a. Write a program in C to find the largest number of a 4*4 matrix.
- b. Explain the syntax and use of the following directives with examples:

(i) #ifdef	(ii) #undef
(iii) #pragma	(iv) #include
- c. Write short note on:
 - (a) Top down program development approach.
 - (b) Differentiate Structure and Array.
- d. A Write a Recursive program in "C" language to print fibonacci series.
- e. What is algorithm? What are the main steps followed in the development of an algorithm? Write an algorithm for sum of digits in a given number.

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a) Describe Compiler, interpreter, assembler? Write the names of compiler that are used in c programming.

(b) Convert the following:

$$(i) (0110110.1100)_2 = ()_8$$

$$(ii) (74.67)_{10} = ()_{16}$$

$$(iii) (AB.CD)_{16} = ()_8$$

$$(iv) (EFE.45)_{16} = ()_2$$

$$(v) (576.4)_{10} = ()_6$$

$$(vi) (1234.7)_8 = ()_{16}$$

$$(vii) (334.43)_8 = ()_2$$

4. Attempt any *one* part of the following: 7 x 1 = 7

(a) Explain different bitwise operators available in C with examples.

(b) What is meant by type conversion? Why is necessary? Explain about implicit and explicit type conversion with examples.

5. Attempt any *one* part of the following: 7 x 1 = 7

(a) Write a program to find the Armstrong number from 1 to 100.

(b) Write a program to generate a following numbers structure:

12345

1234

123

12

6. Attempt any *one* part of the following: 7 x 1 = 7

(a) Write a program to add two matrices of dimension 3*3 and store the result in another matrix.

(b) Write a program in C to create a database of fifty students to store personal details such as roll no, name and marks. Print all the details of student whose name is entered by user.

7. Attempt any *one* part of the following: 7 x 1 = 7

(a) Write a program in C to reverse a string by using pointer.

(b) Explain the following functions in file operations

(i) getw() (ii) putw() (iii) fscanf() (iv) fprintf()