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Sub Code: RCS201
Roll No.

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

Time: 3 Hours *Total Marks: 70*

Note: 1. 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",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 elements in 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( )