(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 199128

Roll No. [ ][ ][ ][ ][ ][ ][ ][ ][ ]

B.Tech. (I Semester)

SPL. THEORY EXAMINATION, 2014-15

COMPUTER SYSTEM & PROGRAMMING IN C

Time : 3 Hours] *[Total Marks : 100*

Note: Attempt questions from each Section as per instruction.

Section - A

Note: Attempt all parts of this question. Each part carries 2 marks. 2×10=20

1. (a) What will be the value of i and j after the execution of the following statememt-

   i=6; j=4; i=i+(++j); j=j+i++;

   (b) What is the value of y for y=19%-2.

(c) Write down the output of the following :

```
main()
    {
    int n=4;
        printf("%d",++n==4);
    }
```

(d) Give the loop statement to print the following sequence of integer.

-8 -6 -4 -2 0 2 4 6 8

(e) What are escape sequences characters?

(f) Why do we need signed and unsigned chart?

(g) Define the Operating System. What are the functions of Operating System?

(h) Write down the output of the following :

```
main()
    {
        int i=1;
        for( ; ; )
        {
```

(b) Write a program in C to classify a given no. as prime or composite.

5. Attempt <u>any one</u> part :

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

(b) Name the 8 different DOS commands with example.

6. Attempt <u>any one</u> part :

(a) Write a C program to read a contents from a file in structure form.

(b) What are the different types of Operator in C language and also write down the difference between the associativity and precedence of operators.

7. Attempt <u>any one</u> part :

(a) Write a program in C to swap two numbers using Call by Reference and Call by Value Methods.

(b) Explain the following :

   (i)   Function Prototype

   (ii)   Double Precision

   (iii) Identifier and Keywords

   (iv) Android Operating System

—x—

```
        printf("%d%,i);
        if(i==7)
        break;
        }
    {
```

(i) If a=40 and b=90, find the value of following statement:

a>b?a+5: b+6

(j) What is a flow chart? What are its advantages over algorithm?

Section - B

Note: Attempt any six parts of this question. Each part carries 5 marks.   5×6=30

2. (a) Write a C Program that accepts name and marks scored by students in four subjects. Use functions.

(b) What is recursive function? Write a program using recursive function to calculate the factorial of a given number.

(c) Define a Structure type, struct Personal that would contain personname, date of joining and salary. Using this structure, write a program to read this information for one person from the keyboard and print same on the screen.

(d) Write a program in C to generate a following numbers structure :

1

21

321

4321

54321

(e) Convert the following :

(i) $(11010.0010)_2 = ()_{16}$

(ii) $(786.983)_{10} = ()_{16}$

(iii) $(467.342)_8 = ()_{10}$

(iv) $(7BD.3E)_{16} = ()_2$

(v) $(82.35)_{10} = ()_4$

(f) Explain with example, the syntax and usage of the following in C Program.

(i) Array of Structure

(ii) Structure Pointers

(g) Write the function to concatenate two strings without using the library function.

(h) Primary data types in C language, mentioning their range, space they occupy in memory and keyword used for their representation in programming.

Section - C

Note: Attempt all questions. Each question carries 10 marks.

$10×5=50$

3. Attempt <u>any one</u> part :

(a) Write a program in c language to find the sum of series

$$Sum = x - x^3/3! + x^5/5! - x^7/7! + x^9/9!$$

(b) Write a program in C to calculate sum of all elements of the matrix.

4. Attempt <u>any one</u> part :

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