Roll No. | | | | | | | |

Paper Code: TCS101

B.Tech

End Semester Examination 2017

I *Semester*

Fundamental of computers and Introduction to C Programming

Time: Three Hours MM: 100

Note:

(i) This question paper contains two sections.

(ii) Both sections are compulsory.

Section – A

Q1. Fill in the blanks/True-False (1X 5 = 5 Marks)

a) '//' is multiline comment (True/False)

b) X=!(-7), the value of X is_____

c) && is logical operator (True/False)

d) Y=(7>3)?1:0, value of Y is _____

e) Drum is a impact printer(True/False)

Q2. Attempt any five parts out of seven. (3 X 5 = 15 Marks)

(Define/Short Numerical/Short Programming/Draw)

a) What are the advantages of using flowcharts?

b) Y= 3*4/2||7>8&&1, Calculate value of Y

c) What are pre processor directives?

d) Explain special operators.

e) Explain characteristics of Computer.

f) What are the advantages of using function?

g) Write down the output of the following code:-

i.
```
main( )
{
        int i;
        for(i=1;i<5;i++)
        {
                switch(i)
                {
                        case 1 : printf("one");
                        case 2 : printf("two");
                                 break;
                        case 3 : printf("three");
                        case 4 : printf("four");
                }
        }
}
```

ii.
```
void inc( );
void main( )
{
        inc( );
        inc( );
        inc( );
}
void inc( )
{
        int i;
        printf("%d", i):
        i++;
}
```

Section – B

Each question contains three parts a, b & c. Attempt any two parts of choice from each question.

Q3. (10X 2 = 20 Marks)

a. What are output devices? Explain any three of them. Differentiate between impact and non impact printer.

b. Draw a flowchart to input three unequal integers and print the second highest.

c. Write a program to print charges for bus ticket based upon the following conditions:-

1. Base charges Rupees 100/-
2. If age is below 12 and above 60 than give a discount of 10%
3. If gender is female give an extra discount of Rupees 20/-

Q4. (10X 2 = 20 Marks)

a. Convert the following:

1. $(1111011.11)_2=(\ )_8$
2. $(ABC.12)_{16}=(\ )_2$
3. $(22712)_8=(\ )_{10}$
4. $(5689.87)_{10}=(\ )_{16}$

b. Explain memory hierarchy, with a well defined diagram. Differentiate between primary and secondary memory.

c. Write a program to print the following pattern

1
2 3
4 5 6
7 8 9 10
.
.
.
.
Upto n.

Q5. (10X 2 = 20 Marks)

a. What is recursion? Differentiate between recursion and iteration with example.

b. Draw a flowchart to find sum of following series using recursion

$1^2+2^2+3^2+4^2+\ldots\ldots\ldots\ldots n^2$

c. Write a recursive function to print Fibonacci series for n term.

Q6. (10X 2 = 20 Marks)

a. What is operator precedence and associativity? Explain with an example.

b. Write an algorithm to check a number is palindrome or not.

c. Write a menu driven program which can perform the following operations

1. Check a number is odd or even
2. Check a number is single or multi digit
3. Calculate factorial of a number