Roll No. | | | | | | | |

Paper Code -TCS-101

B.Tech Mid Semester Examination 2017

1st Semester(All Branch)

Fundamentals of Computer and Programming in C

Time: 1:30 Hours MM: 50

Note:

(i) This question paper contains two sections.

(ii) Both sections are compulsory.

(iii) Assume that the each programming code is compiled on 16 bit Machine.

Section-A

Q1. Attempt all **(1 x 5 = 5 Marks)**

a) Write the following memories in their increasing order of access time:
SRAM, DRAM, Register, Hard-disk.

b) The value of -13 % -7 is .....

c) Integrated circuits are used in .....generation of computer.

d) Is main() is predefined function. (True/False)

e) Evaluate the following C expression:

```
int x;
x = 2 + 5 < 7 % 4 * 6 / 7 + 1 > 2;
```

Q2. Attempt any five **(3 x 5 = 15 Marks)**

a) Rules for defining Identifier.

b) Which of the following operations are **INCORRECT** (16 bit machine)?

```
int i = 35; i = i%5
long int k = 365L; k = k
float a = 3.14; a = a%3
```

c) High Level Language v/s Low level Language

d) Advantages and Disadvantages of Mesh & Ring Topology

e) Use of Primary & Secondary Memory

f) Find the output of following code in 16 bit Machine-

i)void main() (1.5)

```
{
 int i = 3;
 float j;
 j = i/5;
printf("i=%d j=%f", i, j);
}
```

ii) void main() (1.5)

```
{
int b=15, c=5, d=8, e=8, a;
a = b>c ? c>d ?12 : d>e ? 13 : 14 : 15;
printf("%d", a);
}
```

Section-B

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

Q3. **(5 x 2 = 10 Marks)**

a) Explain various characteristics and Tokens of 'C' language?

b)Write a C program to input threeinteger numbers divide the largest no by the second smaller no. Need to take care of boundary conditions.

c) Draw a flow chart to calculate the value of f(x) if x has different ranges of value as below-

$F(x) = x^2+6$	If	0<=x<=8
$F(x) = x^2+2x$	If	9<=x<=20
$F(x) = x^3+3x^2$	If	21<=x<=30
F(x) =0	If	x>30

Q4. **(5 x 2 = 10 Marks)**

a) What is Flow-Chart? What are the advantages of using flow-charts? Explain various symbol of flow-chart with an example.

b) In a town, the percentage of men is 52. The percentage of total literacy is 48. If total percentage of literate men is 35 of the total population, write a C program to find the total number of Illiterate men and women if the population of the town is 80,000.

c) Draw a Flowchart for the multiplication of digits (3 digits no only) in a given decimal number. Discard all the zeros if present in the number. Example: number =248 then answer is=64, number =208 then answer is=16, number =48 then answer is=wrong number

Q5. **(5 x 2 = 10 Marks)**

a) What is operating system? Explain its function in detail.

b) What is a computer network? Categorize the computer network on the basis of their area coverage and explain them.

c) Find the output of following code in 16 bit Machine-

i)
```
#define FUNCT(A) A*A*A+A*A+A
#include<stdio.h>
int main()
{
printf("%d\n",FUNCT(5+1));
return 0;
}
```

ii)
```
int main()
{
int i=2;
{
int i=4,j=5;
printf("%d,%d",i,j);
}
printf("%d,%d",i,j);
return 0;
}
```

iii)
```
int main()
{
int a=0;
 if(a=0)
printf("a is Zero");
printf("\nEnd of If");
 if(a==0)
printf("a is Value is Zero");
printf("\nEnd of Second If");
return 0;
}
```