

Roll No.

--	--	--	--	--	--	--

H

TCS-201

B. Tech. (Second Semester)

(All Branches)

Mid Semester EXAMINATION, 2017

PROGRAMMING IN 'C'

Time : 1:30 Hours] [Maximum Marks : 50

Note : (i) This question paper contains two Sections.

(ii) Both Sections are compulsory.

Section—A

1. State True or False : (1×5=5 Marks)
 - (a) In C all functions except main () can be called recursively.
 - (b) A function may have any number of return statements each returning different values.
 - (c) Is the following declaration same ?
`int fun (int ar []);`
`int fun (int ar [2]);`
 - (d) The expression `Arr[1]` designates the very first element in the array.

[2]

TCS-201

- (e) It is necessary to initialize the array at the time of declaration.

2. Attempt any five parts : (3×5=15 Marks)

- (a) Find the output of the following code :

```
#include<stdio.h>
void fun(int);
int main ( )
{
    int a=3;
    fun(a);
    return 0;
}
void fun (int n)
{
    if (n>0)
    {
        fun(--n)
        printf("%d",n);
        fun(--n);
    }
}
```

- (b) #include<stdio.h>
int fun(int);
int main ()

[3]

TCS-201

```
{
    int k=35;
    k=func(k=func(k=func(k)));
}
int func(intx)
{
    x++;
    return x;
}
```

- (c) #include<stdio.h>
int addmult(int,int);
int main ()
{
 int i=3, j=4,k, l;
 k=addmult(i,j);
 l=addmult(i,j);
 printf("%d%d",k,l);
 return 0;
}
int addmult(int ii, int jj)
{
 int kk ,ll;
 kk=ii+jj;
 ll=ii*jj;

[4]

TCS-201

```

        return (kk,ll);
    }
(d) #include<stdio.h>
    int fun();
    int i;
    int main ()
    {
        while (i);
        {
            fun();
            main ();
        }
        printf("Hello");
        return 0;
    }
    int fun ()
    {
        printf("Hi");
    }
(e) #include<stdio.h>
    int main ()
    {
        char str 1 []="Hello";
        char str 2 []="Hello";
        if(str1==str2)
            printf("Equal");
        else
            printf("unequal")
    }

```

A-27

[5]

TCS-201

```

(f) #include<stdio.h>
    int main ( );
    {
        int arr[5], i=0;
        while(i<5)
            arr[i]=++i;
        for (i=0;i<5;i++)
            printf("%d",arr[i]);
        return 0;
    }

```

Section—B

3. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
 - (a) What is need of functions ? Explain different methods to create user define function.
 - (b) Write a C program to calculate a^b by using user define function.
 - (c) Write a program to pass an integer number as an argument to a function and check whether that number is perfect or not, if it is then return 1 otherwise return 0.
4. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
 - (a) What do you mean by static memory allocation ? List the various disadvantages of static memory allocation.

A-27

P. T. O.

- (b) Write a C program to add two 1D arrays of unequal size into third array.
- (c) Write a recursive function to find sum of digits of a number.
5. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
- (a) Explain different types of storage classes in detail.
- (b) Write the difference between 1-D and 2-D array. Explain different initialization methods for 1-D array and 2-D array.
- (c) Write a program to find sum of each column of a matrix.