Total Number of Pages: 03

<u>**M.C.A**</u>

MCC101

102   102   102   102   102   102   102   102

1th Semester Regular / Back Examination 2016-17
PROGRAMMING IN C
BRANCH: MCA
Time: 3 Hours
Max Marks: 70
Q.CODE: Y519
Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1   **Answer the following questions:**   **(2 x 10)**

a) Convert the given binary value to equivalent decimal $(101.11)_2 = (\quad)_{10}$

b) How many times the word WORLD will be printed ?
```c
int main()
{
   int x;
   for(x = -1; x<=10; x++)
   {
      if(x < 5)  continue;
      else  break;
      printf("WORLD");
   }
   return 0;
}
```

c) What will be the value of the N as per the following expression?
```c
int m=1;
int N;
N=(m=m+3, m%3);
```

d) What is the output of the following C code?
```c
int main()
{
int var1=10,var2=11,var3=12;
var1 = var2 == var3;
printf("%d ", var1);
return 0;
}
```

e) Write the output/error of the following C code?
```c
 int main()
{
x();
x();
x();
}
```

```
x()
{
static int a=10,b=20;
printf("\n %d  %d",a,b);
a++; b++;
}
```

f) What the following printf() statement will print?

printf("%d %d %d", sizeof(3.14f),sizeof(3.14), sizeof(3.141L));

g) What is the output of the following code segment?

```
#include<stdio.h>
int main()
{
   struct value
   {
      int member1:1;
      int member2:4;
      int member3:4;
   }var;

   printf("%d\n", sizeof(var));
   return 0;
}
```

h) What value is returned by fopen() if there is an error while opening a file?

i) What is the output of the following code segment?

```
#include<stdio.h>
char* fun(char *p)
{
 p += 3;
 return (p);
}
int main()
{
 char *ptr = "PROGRAMMING IN C";
 char *ptr1;
 ptr1 = fun(ptr);
 printf ("y = %s \n", ptr1);
 return 0;
}
```

j) Write the difference between *malloc()* and *realloc()*.

Q2 a) Draw the flowchart to find the GCD of two positive integers. **(5)**

b) Write a program to find the sum of the series: **(5)**

$$\frac{1}{1!} + \frac{2}{2!} + \frac{3}{3!} + \frac{4}{4!} + \dots \dots \dots \frac{n}{n!}$$

Q3 a) Write a program to print the 2nd largest element from an array of N elements **(5)**

b) Write a function to check whether the given string is palindrome or not? **(5)**

Q4 **a)** Write a program to multiply two integer values using recursive function call. **(5)**

b) Write a function to take two strings as arguments and concatenate them without using string library function. **(5)**

Q5 **a)** Write a program to create a matrix of order M x N using DMA and display the sum of each column of the matrix. **(5)**

b) What do you mean by *constant pointer* and *pointer to a constant*? Explain with two examples. **(5)**

Q6 **a)** Write a program that reads integers from an ASCII file `data.txt` and write all the even values into a file `even.txt` and odd values into `odd.txt.` **(5)**

b) Write a function to print the Fibonacci series of N numbers **(5)**

Q7 Write a program to maintain a student database to store students Name, Roll, Marks of 6 subjects for N students. Display the report card showing students Roll, Name and their Grade using structure. **(10)**

Marks	Grade
>=90	O
>=80 and <90	E
>=70 and <80	A
>=60 and <70	B
<60	F

Q8 Write notes on any two **(5 x 2)**
  a) Self-referencing structure
  b) Command Line Arguments.
  c) Call by value vs Call by reference
  d) Storage Classes