SUBJECT: PROGRAMMING FOR PROBLEM SOLVING

ASSIGNMENT-IV

UNIT - 4	**SUBJECT:**
Date of issue:	**ROLLNO:**
Date of submission:	**FULL NAME:**
Total Marks :	**SECTION:**
ANSWER ALL QUESTIONS	

2 MARK QUESTIONS:

1) What is the role of return statement in a function? Can we write a function which can return more than one value using return statement?
2) Write the syntax and example on function prototype declaration. State the difference between formal parameters and actual parameters.
3) Distinguish local variable and global variable
4) What is extern keyword? Why we use it?
5) Define static variable? How it differs from automatic variables?
6)
```
main( )
{       int a=15, b=19;
        int x=sum(a,b);
        printf("%d",x);  }
int sum(int x, int y)
{       int c=x+y;
        return(x);
        return(y);
}
```
7)
```
main( )
{       static int a=1;
        printf("%d",a++);
        if(a<=4)
                main( );
}
```
8)
```
main( )
{       int x[5]={15,20,7,5,99};
        printf("%d %d %d",*(&x[3]), x[3], 3[x]);
}
```
9)
```
main( )
{       char *ptr;
        ptr="GUNUPUR";
        printf("%c",*(&(*ptr)));
}
```
10) What will be the output and why?
```
#include <stdio.h>
int main( )
{       char str[5]= "ROMAN";
        printf("\n%c %c ", str[2], *(3+str));
   return 0;
}
```

5 MARK QUESTIONS:

1. What are the function categories? Explain all the categories with suitable examples.
2. What is a recursive function? How it is different from a iterative function? Write a program to find the factorial of a given number using recursive function and also using iterative function.
3. Write a program to create a recursive function to test a string is palindrome or not.
4. Write a program to generate Fibonacci series of N numbers using a recursive function.
5. State the difference between call by value and call by address with a suitable example.
6. Write a C program which contains three UDF's namely add(), subtract() and multiply(). Each function accepts two integers as their arguments and calculate and return the results.
7. What is pointer ? How a pointer can be used to interact with memory locations of a 1D array.
8. Write a program to input two numbers and using call by address concept find LCM and GCD.
9. Write a program to create a structure called SUBJECTS having members: rollno, physics, chemistry, maths, total marks. Create a structure array to store 10 students' marks. Display the students details whose marks>=90
10. Write a program to create a structure for maintaining real and imaginary parts of a complex number. Create a function which accepts two complex numbers and performs addition.