

# Computer Programming

## Lab - 06

### Functions(User defined & Recursive)

**Objective : To understand the user defined functions and recursive functions**

Read the following table to understand the instructions for the smooth flow of lab.

#### **Lab time and marks distribution**

No#	Topic/Task	Time	Assessment Marks
<b>Topic Demonstration By Instructor : 30 minutes</b>			
1	functions	15 minutes	01
2	functions	15 minutes	01
3	functions	20 minutes	01
4	Recursion	20 minutes	01
5	functions	20 minutes	01
		Total Time 2:00 hours	Total Marks: 06

#### **Lab Policy :**

- All the students have to do this lab individually
- Anyone doing cheating will be assigned **ZERO** in assessment marks
- All the tasks are mandatory to obtain the assessment marks
- During lab No one is allowed to move outside without permission

## Walkthrough Task:

### Program that make the sum of 'n' numbers using recursive function

```
#include <stdio.h>

int sum(int n);

int main()
{
    int number, result;
    printf("Enter a positive integer: ");
    scanf("%d", &number);
    result = sum(number);
    printf("sum=%d", result);
}

int sum(int num)
{
    if (num!=0)
        return num + sum(num-1); // sum() function calls itself
    else
        return num;
}
```

## Practice Tasks :

1. Write a program to find the factorial of a number using function.
2. Write a program to take user input for a starting number and ending number then , sum the odd numbers using parameters and return value function.
3. Write a C function that takes a positive integer n as an argument and returns 0 if n is prime, and 1 otherwise.
4. Write a program to calculate factorial of a number using recursive function.
5. Write a program to take two input numbers and swap them using a function.