

# Everest Engineering College

## Sanepa-2, Lalitpur

**Subject: Programming in C**

Date of Distribution: .....

Date of submission: .....

### Lab 8

**Title: Functions**

**Objective:**

- To be familiar with functions

**Theory:**

- Function and its importance
- Function declaration, function definition, function call
- return statement

**Lab Exercises:( Please code yourself and show the output to the instructor)**

- 1) Write a program to find simple interest by using user-defined function.  
Implement following category of functions
  - i) Function with arguments and return value
  - ii) Function with arguments but with no return value
  - iii) Functions with no arguments and but with return value
  - iv) Function with no arguments and no return value
- 2) Write a program to illustrate call by value and call by reference.
- 3) Write a program to find factorial of a given number using recursive function.
- 4) Write a program to find the sum of first n natural number using recursive function.
- 5) Write a program to generate the Fibonacci series upto nth term using recursive function.  
Fibonacci series is 0,1,1,2,3,5,8....  
(Perform above operations upto 25<sup>th</sup> term)  
(Perform above operations starting from 2)
- 6) Write a program to find nth term of Fibonacci number using recursive function.
- 7) Write a program to read an integer number and find the sum of digits using recursive function.
- 8) Write a recursive program to raise the power of X to n. (i.e.  $X^n$ )  
*OR*  
(Write a recursive program to find power of a given number)
- 9) Write a program to input n number in an array and find largest number in an array using user-defined function.
- 10) Write a user-defined function to find the sum of elements of m\*n matrix and finally returns the sum to the calling function.