PES UNIVERSITY

(Established under Karnataka Act No. 16 of 2013)
100 Feet Ring Road, BSK III Stage, Bengaluru-560 085
Department of Computer Science and Engineering

UE20CS207 - DATA STRUCTURES AND ITS APPLICATIONS LABORATORY

WEEK – 1
30th August to 4th September 2021

RECURSION(5 + 5 MARKS)
(i) Write a recursive function to search for a substring within a given string. Return True if substring is found, else return false
Ex: input :
string : This is our first DS Lab
substring : DS
output : True

string : This is our first DS Lab
substring : DBMS
output : False

(ii) Write a recursive function to generate all permutations of a given text
Ex : input : ABC, output : ABC,ACB, BAC, BCA, CAB, CBA

STRUCTURE AND DYNAMIC MEMORY ALLOCATION (10 MARKS)
1). Write a C program to create a record for few students containing the student details as SRN, Name, semester, marks for 5 subjects. Each subject should have a code associated with it
a. Compute the class average marks in a particular subject.
b. Sort the students based on SRN.

ASSIGNMENT : (10 MARKS)

1. Perform Tower of Hanoi using recursion
2. Write a C program to create a record for IPL Players containing the details as player name, team name, no of matches played, runs scored.
a. Display the player details who scored maximum runs in a particular match.
b. Also compute the number of matches played by each player.