USN:										

BMS College of Engineering, Bangalore-560019

(Autonomous Institute, Affiliated to VTU, Belgaum)

August 2013 Supplementary Examinations

Course: Data Structures **Duration: 3 hours**
Course code: 09CI3GCDSL **Max Marks: 100**
28.08.2013

UNIT 1

1 a) Write a program to compare two strings using pointers, without the aid of string library functions 04

b) Write a program to perform insert, delete and display operations on doubly linked list. 08

c) Provide 'C' functions to insert, delete and display elements in a circular singly linked list. 08

OR

2 a) Write a program to copy a string to a destination string using pointers, without the aid of string library functions. 04

b) Develop a program to insert, delete and display elements in a circular singly linked list using header node. 08

c) Write a program to insert, delete and display elements in a circular doubly linked list. 08

UNIT 2

3 a) Write 'C' functions to read the long integer and to add two long integers, using singly linked ist. 08

b) Write 'C' function to reverse a singly linked list. 06

c) Create an index file using primary key of student records with following struture to perform random access to file. 06

{char name[10]; char USN [10]; int semester ; char address [50]}

OR

4 a) Write 'C' functions to sort a singly linked list and to merge two sorted singly linked list. 06

b) Write 'C' functions to read the polynomial and to add two polynomials using singly linked list. 09

c) Write a program to copy the contents of one file to another using command line arguments. 05

UNIT 3

5 a) Write recursive function to implement binary search 05

b) Write a program to convert an infix expressio to a posrtfix expression 10

c) Explain procedure to evaluate a postfix expression. 05

UNIT 4

6 a) What do you mean by a queue? Discuss queues with respect to its sequential representation. 06

b) What is the difference between priority queue and Dequeue Explain. 06

c) Write a complete C program to demonstrate the concept of Circular queue using linked list. Write the Input and output . 08

UNIT 5

7 a) Give an algorithm for constructing a binary search tree. While constructing the tree take care that duplicate values are not added. Trace the algorithm on 8,13,10,12, 6 ,9 ,5,2. 08

b) Write a 'C' function to delete on item from BST 08

c) Give the structure of a right in-threaded binary tree and its implementation in C for in-order traversal. 04

*****