

II B.Tech II Semester Supplementary Examinations, April/May 2005
DATA STRUCTURES THROUGH C
(Civil Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Write a C program to replace a particular word by another word in a given line of text.
2. Write an algorithm to create a doubly linked list of integer elements and do the following operations
 - (a) Add a node at given locations
 - (b) Delete a node from given location
3.
 - (a) Define stack. Describe any three examples of stack .
 - (b) Use the operations push, pop, stack top and empty to construct operations to set i to the bottom element of the stack, leaving the stack unchanged.
4.
 - (a) Write and explain algorithms to insert and delete an element to and from a circular queue respectively.
 - (b) Given the circular queue with front (F)=6 and Rear(R)=2, give the values of R and F after each operation in the sequence: insert, remove, remove, insert, remove.
5.
 - (a) Define Binary tree. Explain basic operations on Binary tree.
 - (b) Write C program for Inorder and postorder traversal of a Binary tree.
6.
 - (a) Write C program to create an empty graph, to enter graph information and to have output from graph.
 - (b) Write a C program to breadth first search of a graph.
7. Write an iterative function for binary search method and trace it. Write a suitable example.
8. Trace the action of heap sort in the following list. Draw the initial tree to which the list corresponds, show how it is converted in to a heap.
26,33,35,29,19,12,22.
