DATA STRUCTURES

Duration: 2 Hrs   Marks: 50

INSTRUCTIONS: 1) All questions are compulsory.
                              2) Figures to right indicate marks.

Q.1. Define the following: (5*2=10)
  i.   Depth of Binary tree.
  ii. Stack.
  iii. Linked List.
  iv. Priority Queue.
  v.   Graph

Q.2.A. State the use of getnode() and freenode().   (2)
Q.2.B. State and explain Primitive operations on Queues.   (3)
Q.2.C. Write a C program to check entered string is a palindrome using stack. (5)

Q.3.A. Convert the following: (2*1=2)

   i) Infix to postfix

     (A*B)/C*D$E

   ii) infix to prefix

     (A+B)*(C-D)

Q.3.B. Write C implementation for push(s,x) and insertafter(p,x).   (3)
Q.3.C. Write a C program to create and display a Binary tree.   (5)

Q.4.A. What is O notation?   (2)
Q.4.B. Explain Balanced trees.   (3)
Q.4.C. Explain Bubblesort.   (5)

Q.5.A. What is indexed sequential search?   (2)
Q.5.B. Write an algorithm for right rotation on a tree.   (3)
Q.5.C. Explain shortest path algorithm.   (5)

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