

II B.Tech I Semester Examinations, December 2011

ADVANCED DATA STRUCTURES

Common to Electronics And Computer Engineering, Computer Science And Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. Elucidate Brute Force pattern matching algorithm with an example. [16]
2. Write a C++ program to create or destroy a list or a chain using constructors or destructors. [16]
3. Describe the following AVL Tree rotations.
 - (a) LL Rotation
 - (b) RR Rotation
 - (c) LR Rotation
 - (d) RL Rotation [16]
4. (a) Explain the need for “Virtual Constructors”
(b) Can we have “Virtual Constructors”? [8+8]
5. (a) The root of Red Black tree be always black after performing a deletions. Justify.
(b) Explain LL_r , LR_r imbalances of a Red Black Tree. [8+8]
6. Illustrate the following:
 - (a) Copy constructor
 - (b) Data hiding
 - (c) Polymorphism
 - (d) This pointer [16]
7. Create a minheap and maxheap for the following list
 - (a) $L = \langle A, B, C, D, E, F, G \rangle$
 - (b) $L = \langle G, F, D, B, A, H, I, J, K \rangle$
 - (c) $L = \langle 20, 10, 5, 4, 25, 70, 60, 40 \rangle$
 - (d) $L = \langle 5, 8, 3, 9, 2, 10, 1, 40, \rangle$ [16]
8. (a) What is level assignment of a skip list structure?
(b) Enumerate the advantages and drawbacks of level assignment skiplist. [6+10]

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