Code: R7211203

R07

II B.Tech I Semester (R07) Supplementary May 2012 Examinations
ADVANCED DATA STRUCTURES & ALGORITHMS
(Common to Information Technology and Computer Science & Systems Engineering)

Time: 3 hours   Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

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1. (a) List and explain the properties of object oriented programming.
    (b) Explain the various parameter passing techniques with suitable examples.

2. (a) What is function overloading? Explain, how can we overload the functions with suitable examples.
    (b) Explain in detail about the multiple and hybrid inheritance.

3. (a) Write a C++ program by using templates to implement the stack operations by using arrays.
    (b) Explain in detail about the big Oh, Omega and Theta notations.

4. (a) What is hashing? Explain any three hashing techniques to insert an element into a hash table.
    (b) Give brief description about the extendible hashing, rehashing and double hashing.

5. (a) Give brief description about the poly phase merging.
    (b) What is a min heap? Explain, how can we perform the insertion and deletion operations on them.

6. (a) List the drawbacks of binary search trees.
    (b) Explain the L-L rotation of an AVL tree.
    (c) Write short notes on splay trees.

7. (a) Describe in detail about the stressen's matrix multiplication.
    (b) Give brief description about the biconnected components.

8. (a) Write and explain the general method of a greedy technique.
    (b) Write short notes on 0/1 knapsack problem by using dynamic programming technique.

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