

R09

Code No: C0501, C5801, C6301, C4001

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.Tech I - Semester Examinations, March/April 2011

ADVANCED PROBLEM SOLVING

**(COMMON TO COMPUTER SCIENCE, COMPUTER SCIENCE AND ENGINEERING,
IMAGE PROCESSING, INFORMATION TECHNOLOGY)**

Time: 3hours

Max. Marks: 60

**Answer any five questions
All questions carry equal marks**

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1. Explain in detail object oriented programming concepts with suitable examples. [12]
2. (a) Give a note on interfaces.
(b) How algorithm's performance is analyzed? Explain. [12]
3. (a) Describe the implementation of skip list.
(b) Write about priority queue. [12]
4. (a) Discuss union and find algorithms.
(b) Explain the properties of a binary tree. [12]
5. (a) Give the abstract data type specification of a binary search tree.
(b) Explain the insertion operation on AVL tree.
(c) What is the difference between B- tree and B+-tree. [12]
6. (a) Is merge sort an external sorting technique? Justify your answer.
(b) Describe collision handling schemes in hashing. [12]
7. (a) Discuss about all pairs shortest path problem.
(b) What is a trie? Write about suffix trie. [12]
8. Write short notes on the following
(a) Splay tree
(b) Dictionary ADT
(c) Non tail recursion. [12]

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