

Code: 9A05302

R09

II B. Tech I Semester (R09) Supplementary Examinations, May 2012

ADVANCED DATA STRUCTURES

(Common to ECC, CSS, IT & CSE)

Time: 3 hours

Max Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Describe the data types supported by C++.
(b) Write a program to arrange the given set of numbers in ascending order using pointer.
- 2 (a) Write a program in C++ to illustrate the multiple inheritance concepts.
(b) Explain the concepts of function overloading and operator overloading with an example.
- 3 (a) What characteristics should a good algorithm possess?
(b) Analyze the time and space complexity for recursive binary search algorithm.
- 4 (a) What is hashing? Explain an instance where hashing technique is used.
(b) Compare time complexities of linear search, binary search and searching from hash tables.
- 5 (a) Discuss in brief the working of heap sort algorithm.
(b) Write notes on priority queue.
- 6 (a) Write algorithms to implement the basic binary search tree operations-search, delete.
(b) Explain the concepts for performing single and double rotations of AVL Trees?
- 7 (a) How do you find height of B-tree? Explain.
(b) Analyze the time complexity of Red-black tree.
- 8 Analyze the time complexity of Knuth-Morris-Pratt algorithm.
