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Code No: A0501, A5801
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech I Semester Examinations, March/April 2011
DESIGN AND ANALYSIS OF ALGORITHMS
(COMMON TO COMPUTER SCIENCE, COMPUTER SCIENCE AND ENGINEERING)

Time: 3hours   **Max. Marks: 60**

Answer any five questions
All questions carry equal marks
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1.a)   Explain with suitable example, the various parameter passing techniques.
  b)   Explain briefly about class templates.   [6+6]

2.   Give efficient algorithms (along with running time analysis) to
     a) Find the minimum positive subsequence sum.
     b) Find the maximum subsequence product.   [12]

3.   Show how to implement three stacks in one array.   [12]

4.   What is a binary search tree? Explain about searching, insertion and deletion of elements in a binary search tree.   [12]

5.a)   Explain the disadvantages of separate chaining hashing.
  b)   Explain with suitable example the various collision resolution techniques. [6+6]

6.a)   Prove that the test case running time of quick sort is O(N log N).
  b)   Explain Merge sort in detail.   [6+6]

7.   Write an algorithm to find the minimum cost spanning tree by using kruskal method. Explain the same with suitable example.   [12]

8.a)   Write a Pseudo code for dijkstra's algorithm.
  b)   Write a Pseudo code to perform topological sort.   [6+6]

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