

**Code No: 156AD****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year II Semester Examinations, August - 2022****ALGORITHM DESIGN AND ANALYSIS****(Information Technology)****Time: 3 Hours****Max.Marks:75****Answer any five questions  
All questions carry equal marks**

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- 1.a) Write a detailed note on Performance Analysis of Algorithms.
- b) Explain the implementation of Quick Sort with an example. [6+9]
- 2.a) What is Divide and Conquer Technique? Explain its Applications.
- b) Explain the implementation of Binary Search with an example. [6+9]
3. What is n-queens problem? Explain in detail how it is solved using Backtracking technique? [15]
- 4.a) List out the applications of Backtracking techniques.
- b) Explain how sum of subsets problem is solved using Backtracking. [6+9]
- 5.a) List out the applications of Dynamic Programming.
- b) Explain in detail optimal binary search trees. [5+10]
6. Explain with an example how all pairs shortest path problem is solved using Dynamic Programming. [15]
- 7.a) Write a short note on Job sequencing with deadlines.
- b) Explain in detail how knapsack problem is solved using Greedy Technique? [6+9]
- 8.a) Write a brief note on LC Branch and Bound.
- b) Explain in detail about non deterministic algorithms.
- c) Discuss about Cook's theorem. [5+5+5]

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