

Code No: 114CS**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B.Tech II Year II Semester Examinations, November/December - 2020****DESIGN AND ANALYSIS OF ALGORITHMS****(Computer Science and Engineering)****Time: 2 hours****Max. Marks: 75****Answer any five questions****All questions carry equal marks**

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- 1.a) Explain the properties of algorithm with real time example.
- b) How was the Strassen's matrix multiplication better than general matrix multiplication method? [7+8]
- 2.a) Explain non recursive in order tree traversal technique with example.
- b) List the differences between connected and bi-connected components. [7+8]
3. Write an algorithm of OBST. [15]
4. Write a back tracking algorithm for sum of subset problem using the state space tree corresponding to the variable tuple size formulation. [15]
- 5.a) Write the differences between Deterministic polynomial, Non deterministic polynomial algorithms.
- b) Explain about cook's theorem. [8+7]
6. Sort the following data using quick sort.
29, 14, 19, 10, 7, 17, 16, 4, 3, 5. [15]
- 7.a) Write an algorithm of weighted union.
- b) Differentiate between BFS and DFS. [8+7]
- 8.a) Write an algorithm of Greedy knapsack.
- b) Explain about the Reliability design. [8+7]

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