

Total No. of Questions : 6]

SEAT No. :

P162

[Total No. of Pages : 2

OCT/BE/Insem.-91

B.E. (Computer Engineering)

DESIGN & ANALYSIS OF ALGORITHMS

(2012 Pattern)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates :

- 1) Answer Q1 or Q2, Q3 or Q4 and Q5 or Q6.
- 2) Draw neat diagram whenever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) Write quick sort algorithm using divide and conquer strategy and compute its complexity. [6]

b) Define asymptotic notations. Explain their significance in analyzing algorithms. [4]

OR

Q2) a) Write an algorithm for Recursive Binary Search. What is the time complexity for Successful Search and Unsuccessful Search? [6]

b) Explain amortized analysis. [4]

Q3) a) Explain Chain Matrix multiplication using dynamic programming. [6]

b) State the difference between greedy approach and dynamic programming approach. [4]

OR

Q4) a) Explain use of dynamic programming to compute a binomial coefficient. State its time complexity. [6]

b) Explain job scheduling algorithm using greedy approach. [4]

P.T.O.

- Q5)** a) Explain graph coloring problem using backtracking approach. [6]  
b) What are the general characteristics of branch and bound approach? [4]

OR

- Q6)** a) Write an algorithm to solve N-Queens problem. [6]  
b) Explain knapsack problem using branch and bound method. [4]

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