

SE - COMP - CBAS
Sem IV - Analysis of Algorithms
Dt: - 23/5/14

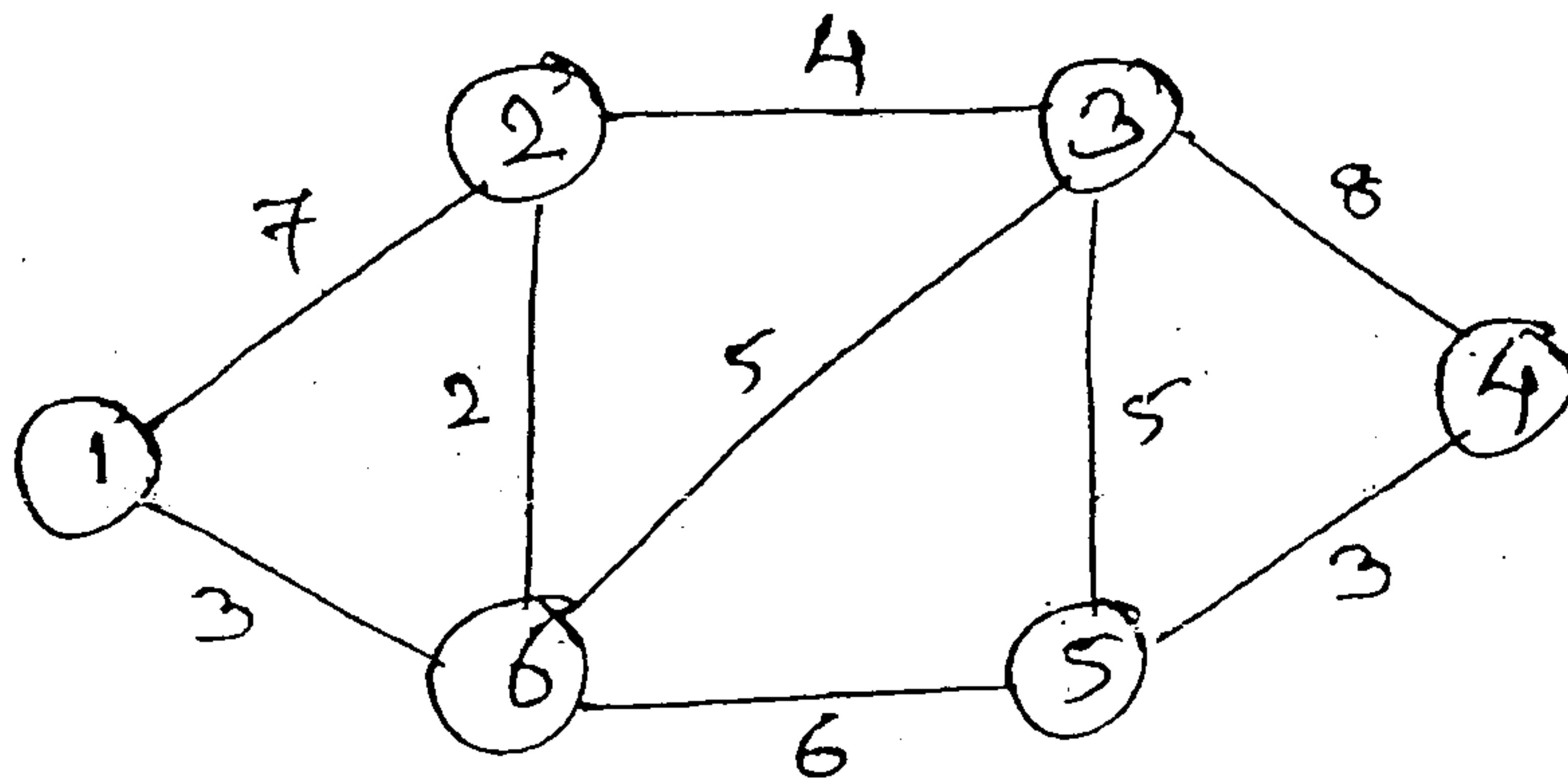
QP Code : NP-19722

(3 Hours)

[Total Marks : 80

- N.B. : (1) Solve any **four** from **six** questions.
(2) Assume suitable data wherever required.

1. (a) Explain O , Ω and θ Notations with the help of Graph. And represent the following function using above notations. 10
 - (i) $T(n) = 3n + 2$
 - (ii) $T(n) = 10n^2 + 2n + 1$
- (b) Explain 0/1 Knapsack Problem with example. 10
2. (a) Write an algorithm of sum of subsets. Solve following problem and draw portion of state space tree $M = 35$, $W = (5, 7, 10, 12, 15, 18, 20)$. 10
- (b) Explain longest common subsequence with example. 10
3. (a) Explain all pair shortest path algorithm with suitable example. 10
- (b) Explain different string matching algorithms. 10
4. (a) Write a Min Max function to find minimum and maximum value from given set of values using divide and conquer. Also drive its complexities. 10
- (b) Comment on any two modules of computation. 10
5. (a) To find Dijkstra's shortest path from vertex 1 to vertex 4 for following graph. 10



- (b) Explain flow shop scheduling with example. 10
6. Write note on :— (any two) 20
 - (a) Job sequencing with deadlines
 - (b) Randomized Algorithm
 - (c) The 15 Puzzle Problem
 - (d) N-Queen Problem.