S.E. Comp (IV) CBGS

23/05/14 (AA)

QP Code :NP-19722

(3 Hours) **[Total Marks : 80**

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

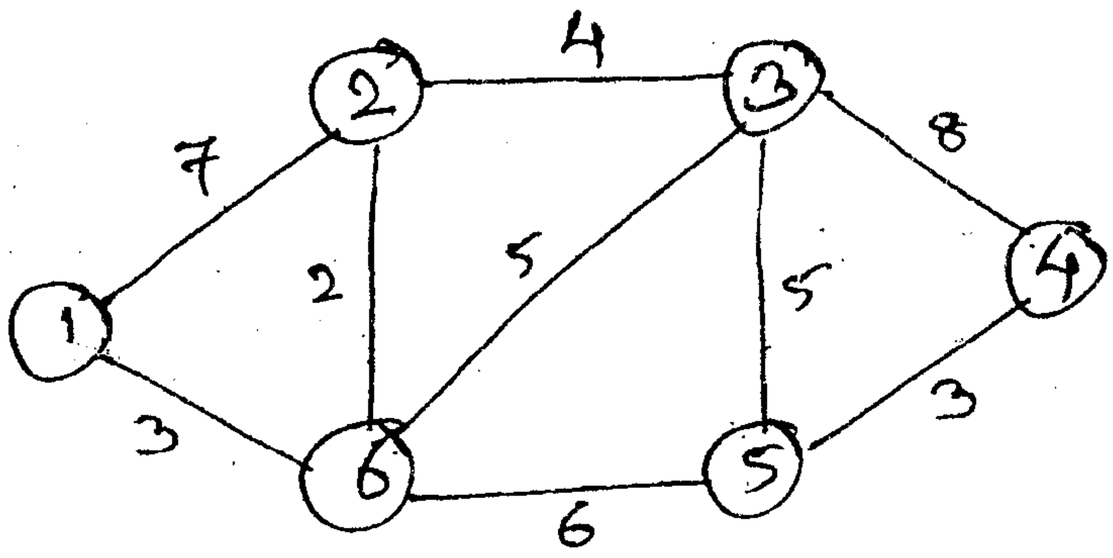
1. (a) Explain O, Ω and θ Notations with the help of Graph. And represent the following function using above notations. **10**
   (i) $T(n) = 3n + 2$
   (ii) $T(n) = 10n^2 + 2n + 1$
   (b) Explain 0/1 Knapsack Problem with example. **10**

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.
