Q.P. Code : 825201

(3 Hours)   [Total Marks : 80]

N.B. (1) Question No. 1 is compulsory
(2) Attempt any three out of remaining five questions
(3) Assumptions made should be clearly stated
(4) Figures to the right indicate full marks
(5) Assume sutaible data whenever required but justify that.

1   Write short note on following   20
(a) Finding Closest pair
(b) Difference Constraints Problem
(c) Master Theorem
(d) Randomized Algorithm

2   (a) Describe amortized analysis with detail   10

(b) Prove that Clique is NP-Complete   10

3   (a) Find an optimal parenthesization for following matrix chain order.   10
<5, 10, 23, 20, 15, 50, 60>

(b) Explain Bipartite matching with Ford Fulkerson   10

4   (a) Prove that 3-CNF is NP-Complete   10

(b) Explain RSA with example   10

5   (a) Explain Dijkstra Algorithm with example   10

(b) Apply All pair shortest path Algorithm on given graph   10
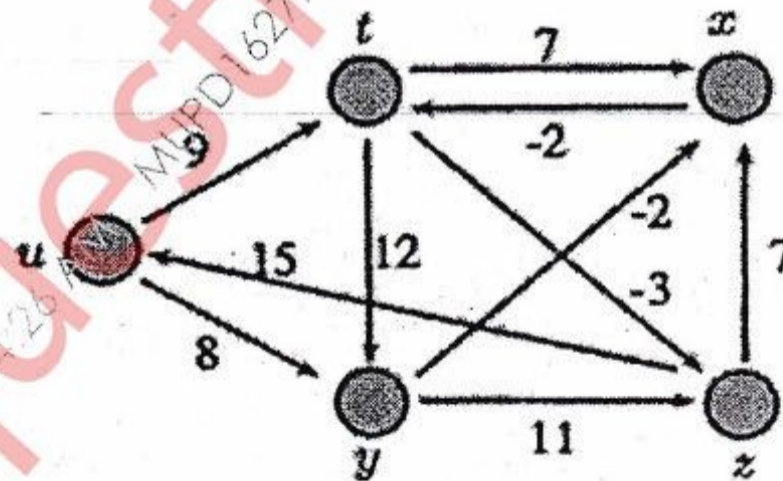
6   (a) Explain Graham Scan algorithm in detail   10

(b) Explain Mesh algorithm for sorting   10