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| Q-no | Question | Images | Marks | Unit-no | COO | BT |
| 1 | Write down the algorithm to determine articulation points in a given undirected graph. Give any application where it is applicable. |  | 8 | 2 | 2 | 4 |
| 2 | Following are the details of various jobs to be scheduled on multiple processors such that no two processes execute at the same on the same processor. |  | 6 | 1 | 5 | 1 |
| 3 | Explain following terms with example:   * 1. Set   2. Relation   3. Equivalence Relation   4. Function   5. Quantifiers   6. Linear inequality   7. Linear equations. |  | 6 | 4 | 3 | 4 |
| 4 | Using greedy algorithm find an optimal solution for knapsack instance n=7, M = 15 (P1,P2,P3,P4,P5,P6,P7)=(10,5,15,7,6,18,3) and (w1,w2,w3,w4,w5,w6,w7) = (2,3,5,7,1,4,1) using the formula |  | 4 | 3 | 2 | 5 |
| 5 | Consider the following undirected weighted graph. Find minimum spanning tree for the same using Kruskal’s algorithm. |  | 5 | 2 | 3 | 1 |
| 6 | Define/Explain in Brief: P, NP Problem, NP, NP complete and NP-Hard problems, Travelling Salesman Problem, Polynomial reduction. |  | 4 | 1 | 1 | 3 |
| 7 | Find Minimum Spanning Tree for the given graph using Prim’s Algorithm (initialization from node A) |  | 6 | 3 | 3 | 2 |
| 8 | Write down the algorithm to determine articulation points in a given undirected graph. Give any application where it is applicable. |  | 4 | 4 | 1 | 4 |