DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

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| Date | 22-01-2025 | Maximum Marks | 100 |
| Course Code | 1 | Duration | 3 hours |
| Sem | IV | Improvement CIE | No |
| UG/PG | UG | Faculty: | umair |
| Course Title | DBMS |  |  |

# Part- A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Q. No. | Questions | M | BT | CO |
| 1 | Write down the algorithm to determine articulation points in a given undirected graph. Give any application where it is applicable. | 8 | 4 | 2 |
| 2 | Write down the algorithm to determine articulation points in a given undirected graph. Give any application where it is applicable. | 4 | 4 | 1 |

# Part- B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Q. No. | Questions | M | BT | CO |
| 1 | Consider the following undirected weighted graph. Find minimum spanning tree for the same using Kruskal’s algorithm. | 5 | 1 | 3 |
| 2 | 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 | 5 | 2 |
| 3 | Find Minimum Spanning Tree for the given graph using Prim’s Algorithm (initialization from node A) | 6 | 2 | 3 |

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BT-Blooms Taxonomy, CO-Course Outcomes

Total Marks: 27