

Part B

3 x 6 = 18

Answer ALL questions

Each answer should not exceed 400 words or two pages

- 7) a. What is Spanning Tree, Minimum Spanning Tree? Discuss its properties. CO3-K1
(OR)
- b. Explain the String Matching algorithm with example, time complexity and program. CO4-K2
- 8) a. Differentiate between NP-Hard and NP-Complete problems. CO4-K3
(OR)
- b. What are the asymptotic notations used in algorithm analysis? Explain. CO4-K1
- 9) a. Discuss the concept of Distributed Algorithms with examples. CO5-K1
(OR)
- b. Explain how the A* search algorithm works in detail. CO5-K2

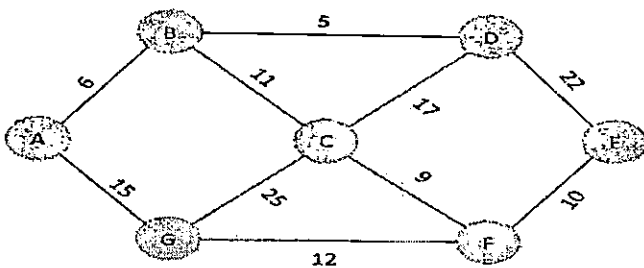
Part C

3 x 12 = 36

Answer ALL questions

Each answer should not exceed 800 words or four pages

- 10) a. Construct a Minimum Spanning Tree (MST) using Kruskal's and Prim's algorithm for the graph and find the minimum cost. CO3-K3



(OR)

- b. Explain any three common string processing algorithms. For each algorithm, describe its approach, time complexity, and an example. CO4-K1
- 11) a. Explain the concepts of NP-Hard and NP-Complete problems with examples. CO4-K2
(OR)
- b. Explain the concepts of lower bounds, upper bounds, and tight bounds in the context of algorithm analysis with example and discuss their significance in evaluating the efficiency of algorithms. CO4-K2
- 12) a. Discuss the concepts of Randomized Algorithms with examples. CO5-K2
(OR)
- b. Explain heuristic search techniques in detail. CO5-K2

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