

**NATIONAL INSTITUTE OF TECHNOLOGY: TIRUCHIRAPPALLI –620 015.**

Department of Computer Science and Engineering

Fourth Semester

CSPC42 Introduction to Algorithms

Cycle Test-II (Date: 21-04-2021)

Time: 1 hour

Maximum Marks: 25

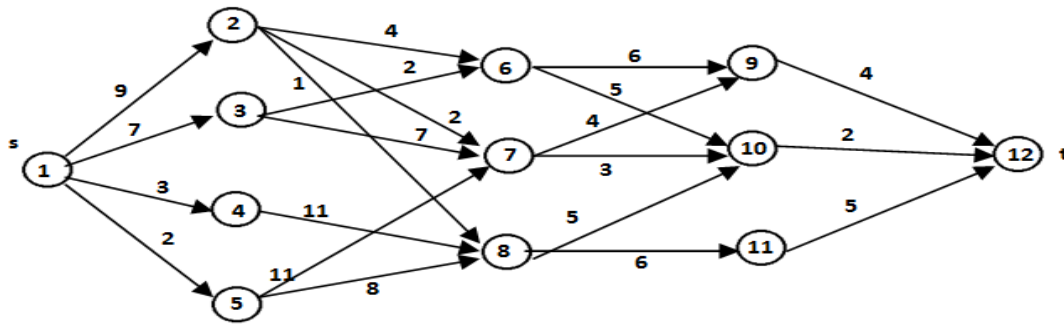
**Answer all Questions**

1. Solve the following Travelling salesperson problem, using dynamic programming

0	10	15	20
5	0	9	10
6	13	0	12
8	8	9	0

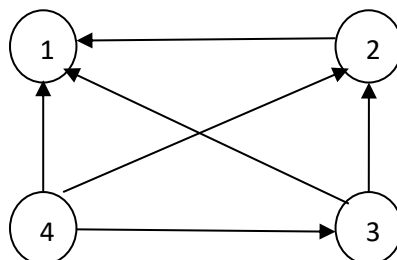
starting city 1 (Note- Index values starts from 1). (5)

2. Find the shortest path from s to t. What is the most suitable way for solving Multistage Graph problem? Explain the step by step process in solving with proper justification. (5)



3. What are the two types of knapsack problem? Is it possible to solve 0/1 knapsack problem using greedy method? Explain with an example. (5)

4. Generate the transitive closure of the graph given below. Explain it in detail. (5)



5. State the differences between Floyd Warshall algorithm and Dijkstra's algorithm. Give suitable example. (5)

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