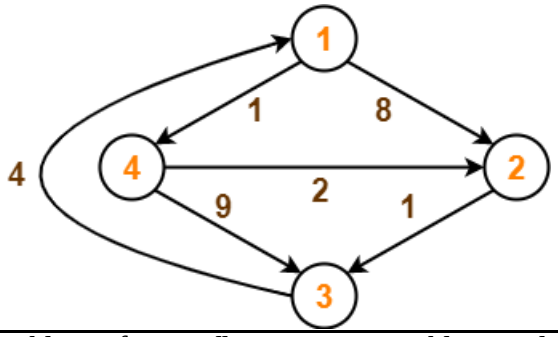
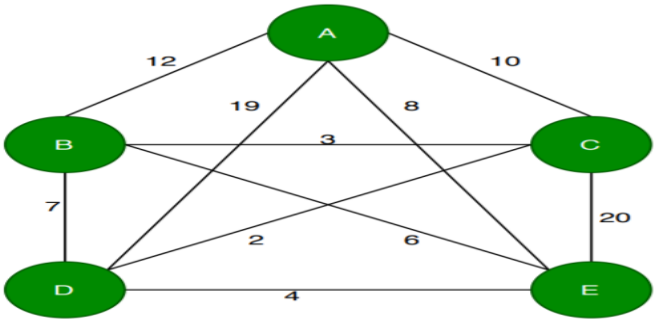
VR Siddhartha Engineering College
Department of Information Technology

INFORMATION TECHNOLOGY

20IT4303: ADVANCED DATA STRUCTURES AND ALGORITHMS
ASSIGNMENT-2 QUESTION BANK
A.Y:2021-22/Sem-2

Q.No		Question	Course Outcome	BTL
1	a	Differentiate between Dynamic Programming Vs Greedy method and Dynamic Programming Vs Divide-and-Conquer	CO3	Understand
	b	Define the Problem All pair shortest path problem and find the shortest path distance between every pair vertices in the following graph. 	CO3	Apply
2	a	Define the problem of Travelling purpose problem and identify the data structure used in the problem. Justify your answer.	CO3	Understand
	b	Find the optimal travel plan for sales person by considering the following instance. 	CO3	Apply
3	a	Differentiate between fractional and 0/1 knapsack problem. Describe 0/1 knapsack problem and how to solve it using dynamic programming.	CO3	Understand
	b	Find solution to the Knapsack using Dynamic programming n = 4, m = 7, (p1, p2, p3, p4) = (1, 4, 5, 7) and (w1, w2, w3, w4) = (1, 3, 4, 5).	CO3	Apply
4	a	Describe the problem of Reliability Design and how it is solved with dynamic programming approach.	CO3	Understand

	b	Design a system with maximum reliability for the following instance. N=3; c1=50, c2=60, c3=30; r1=0.7, r2=0.3, r3=0.9; and C=210	CO3	Apply
5	a	Write short notes on backtracking and develop recursive Backtracking algorithm.	CO2	Understand
	b	Apply backtracking approach to 8-queens problem to find the solution and write the algorithm.	CO2	Apply