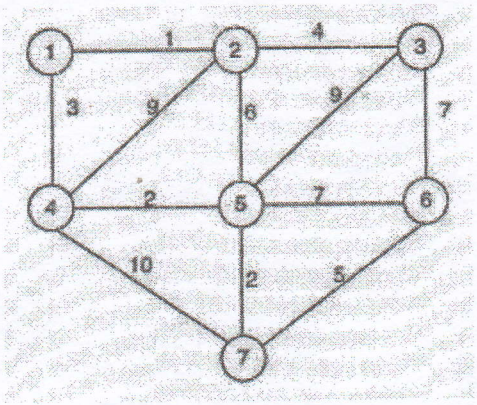
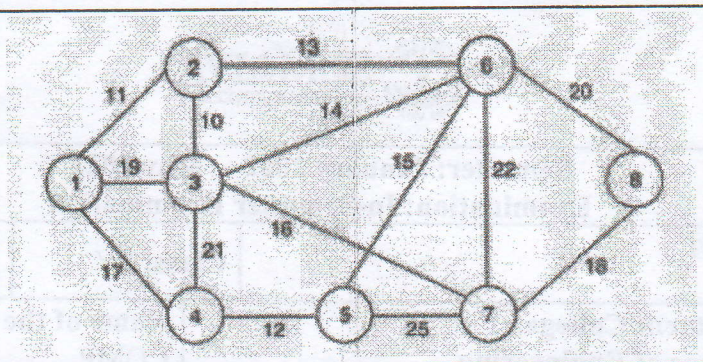
SOMAIYA VIDYAVIHAR UNIVERSITY

Semester: January 2022 – May 2022 Examination: In-Semester Examination		
Programme code: 01 **Programme: UG**	**Class: SY**	**Semester: IV** **(SVU 2020)**
Name of the Constituent College: **K. J. Somaiya College of Engineering**	**Name of the department:** COMP	
Course Code: 116U01C402	**Name of the Course: Analysis of Algorithm**	

Question No.		Max. Marks
Q1	Explain the following with the help of graph: 1. Big-oh 2. Omega 3. Theta Notations With the help of any algorithm find the Big-oh, Omega and Theta notations	 02 02 02 04
Q2	Explain the general method of Divide and Conquer.Sort the given numbers using Quick sort. Show output after every pass clearly. 10, 96,28, 24, 66, 33, 9, 4, 19 Derive the time complexity of the Quick Sort algorithm using the Recursion Tree method. Analyze Quick Sort algorithm for worst case time complexity.	 10M (01+05+04)
Q3	What is the difference between Prim's and Kruskal's approach to obtain minimum spanning Trees? Illustrate the results for the following Graph $G = (V,E)$.  **OR** Find the shortest path from node 1 to node 8 of the distance network shown in figure below using Dijkstra's Algorithm.	10M (02+04+04) 10 M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