

M.Sc. (Mathematics with Applications in Computer Science)

Term End Examination

December 2020

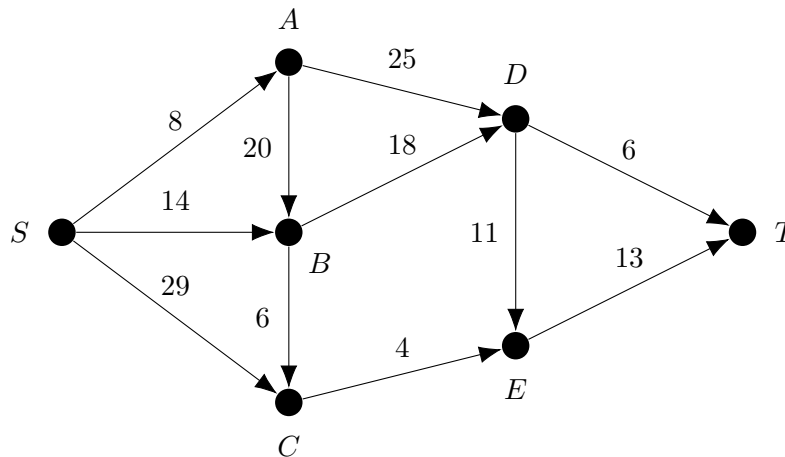
MMTE-001(P) : Graph Theory

Time allowed: 1½ hours

Maximum Marks 40

Note: The question paper has two questions totalling 40 marks. Attempt both of them. All the programs are written in C language.

- 1) a) Write a program that uses Dijkstra's algorithm to output the shortest path between any two vertices in a weighted graph.
b) Use the program to find the shortest path between the vertices S and T for the following graph. (25)



- 2) a) Write a program that prints the adjacency matrix for a graph, given a sequence of edges as input.
b) Use the program to find the adjacency matrix for the graph given below. (15)

