

M.Sc. (MATHEMATICS WITH APPLICATIONS IN COMPUTER SCIENCE)

M.Sc. (MACS)

Term-End Practical Examination

00143

June, 2015

MMTE-001(P) : GRAPH THEORY

Time : $1\frac{1}{2}$ hours

Maximum Marks : 40

- Note :** (i) There are **two** questions in this paper totalling 30 marks.
 (ii) Answer **both** of them.
 (iii) Remaining 10 marks are for the viva-voce.

1. Write a program in 'C' language that prints the adjacency matrix of a graph, taking as input the edge set of the graph. Use the program to print the adjacency matrix of the graph in Figure 1. 10

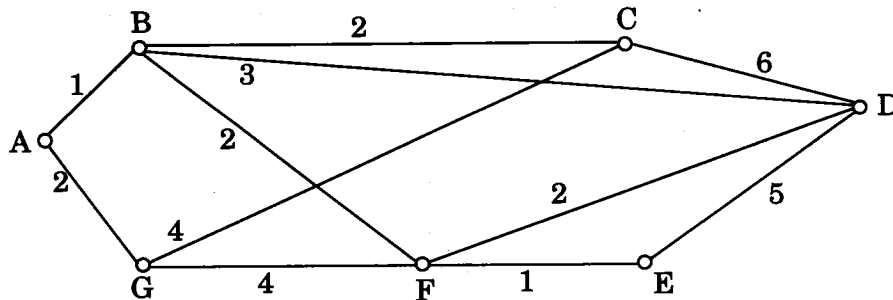


Figure 1

2. Write a program in 'C' language that finds the length of the shortest path from a given vertex to each of the other vertices in the graph. Use the program to find the length of the shortest path from A to each of the other vertices in the graph. 20