No. of Printed Pages : 1

MMTE-001 (P)

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

M.Sc. (MACS)

Term-End Practical Examination

June, 2014

00146

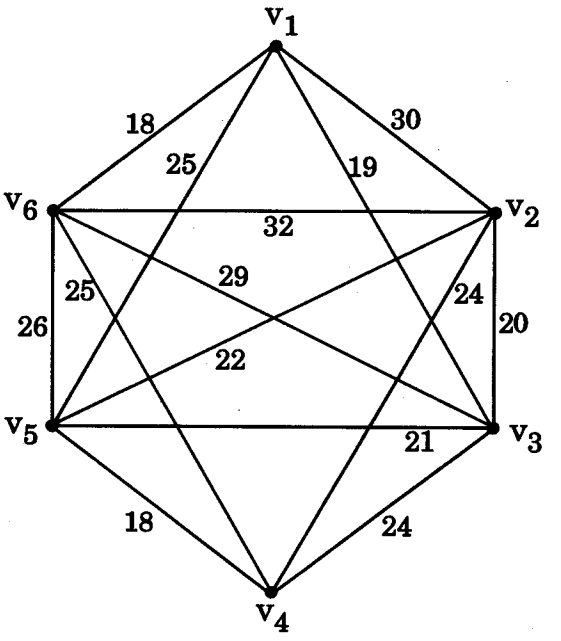
MMTE-001 (P) : GRAPH THEORY

Time : $1\frac{1}{2}$ hours *Maximum Marks : 40*

Note : *There are **two** questions in this paper, totalling 30 marks. Remaining 10 marks are for the viva-voce. All the programs are to be written in 'C' language.*

1. (a) Write a program that prints the incidence matrix of a given undirected graph.

(b) Use it to find the incidence matrix of the following graph : *6+4*



2. (a) Write a program that finds the shortest path between the given source vertex v_1 and any other vertex of the graph using Dijkstra's Algorithm.

(b) Using the program, find the shortest path from v_1 to any other vertex in the graph in Q1(b). *10+10*