

Day: Monday  
Date: 20/11/2017

W-2017-1640

Time: 02.00 PM TO 05.00 PM  
Max. Marks: 70

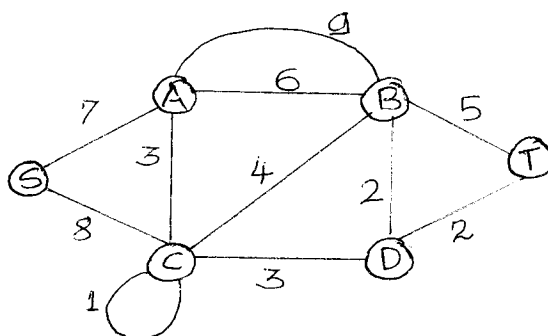
N.B.:

- 1) Q. No. 1 is **COMPULSORY**.
- 2) Attempt any **FOUR** questions from Q. No. 2 to Q. No. 7
- 3) Figures to the right indicate **FULL** marks.

Q.1 a) Define the following terms with examples. (07)  
i) Bipartite Graph ii) Euler's path

b) Define the following terms with examples: (07)  
i) Hamilton Graph ii) Eulerian Circuits

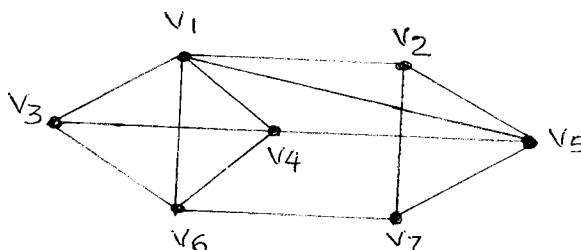
Q.2 Describe Kruskal's Algorithm. Find minimum spanning tree for graph given below: (14)



Q.3 Discuss traversing in trees with reference to In order, Pre order and Post order. (14)

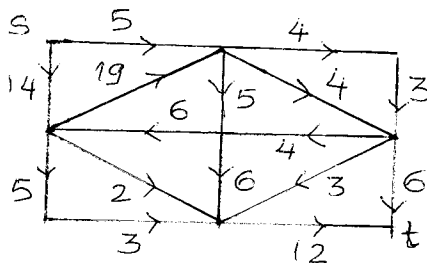
Q.4 a) Draw the tree corresponding to the algebraic expression: (07)  
 $E = (2x - y)^3 + \{a + (b \div c)\}$ .

b) Use the Welch-Powell algorithm to paint G with minimum colors. (07)



Q.5 Define concept 'Coloring of Graph' and describe Appel and Haken Algorithm. (14)

Q.6 Discuss 'Maximum Network flow' and find a maximum flow from s to t. (14)



Q.7 Write short notes on any **TWO** of the following: (14)

- a) Heap Algorithm
- b) Breath First search algorithm
- c) Chromatic Number