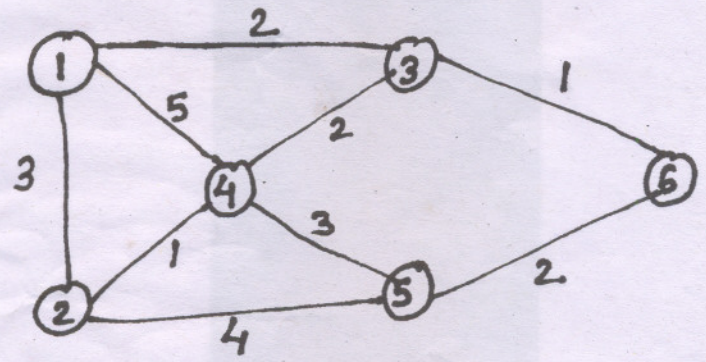


(Library)

N.B. :- (1) Question No. 1 is **compulsory**.
(2) Attempt any **four** questions out of the remaining **six** questions.

- 1. (a) Explain SONET multiplexing and SONET frame structure. 10
- (b) Draw OSI network architecture and explain the function of each layer. 10
- 2. (a) Explain circuit switching, datagram packet switching and virtual packet switching. 10
- (b) Explain Repeater, Bridges, Routers and Switches. 10
- 3. (a) Find the shortest path from source node 1 to 'every' other node for the graph given below using Dijkstra's algorithm. Also draw the shortest path tree from node 1 to other node. [Explain the steps of iteration]. 10



- (b) Explain Transparent bridges. Also show how bridge learning takes place with appropriate example. 10
- 4. (a) Explain signaling in the Telephone network. 10
- (b) Explain stop-and-wait ARQ protocol. 10
- 5. (a) Explain CSMA and CSMA/CD. 10
- (b) Differentiate TCP and UDP. 10
- 6. (a) Compare and contrast IPV₄ and IPV₆. 10
- (b) Explain Bellman-Ford algorithm using graph and table with a suitable example. 10
- 7. Write short notes on any **two** : 20
 - (a) Spanning tree algorithm
 - (b) HDLC
 - (c) ISDN
 - (d) ATM traffic management
 - (e) Flooding and deflection routing.