

**B.Tech. – VIEP – COMPUTER SCIENCE AND  
ENGINEERING (BTCSVI)**

**Term-End Examination**

**June, 2016**

00186

**BICS-017 : COMPUTER NETWORKS**

*Time : 3 hours*

*Maximum Marks : 70*

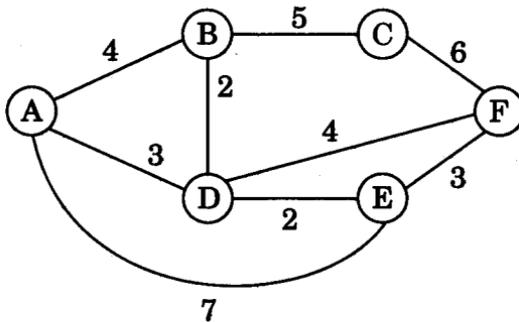
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*Note : Attempt any seven questions. All questions carry equal marks.*

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1. (a) What are the different states in ethernet transmission ? Can each user on the LAN transmit continuously at the peak rate ? Give reasons for your answer. 6
- (b) What advantage does a circuit-switched network have over a packet-switched network ? 4
2. (a) What is meant by a handshaking protocol ? Explain the process of connection establishment and connection termination in 3-way handshaking protocol in TCP with the help of diagrams. 7
- (b) What is the 32-bit binary equivalent of the IP address 150.5.25.35 ? 3

3. What is the use of RTT estimation in TCP operation ? How does TCP estimate the round trip time between a sender and a receiver ? Write the appropriate expressions and explain them. 10
4. (a) What are the situations, where UDP is useful in comparison to TCP ? Give some applications. 6
- (b) What is the difference between active and passive sockets ? 4
5. The following is an abstract model of a network. Apply Dijkstra's algorithm to calculate the shortest path from the source node A to F node in the network. Also write the complete algorithm. 10



6. What is a key distribution centre ? How do you set up one time session key using a key distribution centre ? 10
7. (a) Find CRC for the data polynomial  $X^5 + X^4 + X^3 + 1$  with a generator polynomial  $X^3 + 1$ . 6
- (b) Explain any one service provided by DNS. 4

8. (a) How does audio compression for MPEG-2 in the Internet take place ? Explain. 5
- (b) What are the different types of OSPF routers ? Differentiate. 5
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