

**B.Tech. - VIEP - ELECTRONICS AND
COMMUNICATION ENGINEERING
(BTECVI)**

00544

Term-End Examination

December, 2017

**BIELE-016 : DATA COMMUNICATION
AND NETWORK**

Time : 3 hours

Maximum Marks : 70

Note : *Attempt any seven questions. All questions carry equal marks. Missing data, if any, may be suitably assumed. Use of scientific calculator is permitted.*

1. (a) List the layers in TCP/IP model and give a brief explanation of each. 6
- (b) Explain Physical and Logical addresses in TCP/IP. 4
2. (a) Discuss various performance parameters of data communication networks. 5
- (b) Differentiate between Circuit and Packet Switching. 5

3. (a) Explain Datagram Switching. 4
 (b) Explain the concept of Sliding Window techniques for error control. 6
4. What do you understand by Traffic Shaping ? How is it implemented through leaky bucket and token bucket traffic shapers ? 5+5=10
5. Differentiate between the operation of Switches and Bridges. 10
6. What is Routing ? Write the distance vector routing algorithm to compute the minimum cost among the nodes with the help of an example. 2+8=10
7. (a) What do you understand by ATM ? 2
 (b) Explain Cell Header Format in ATM. 4
 (c) Briefly describe the four service classes of ATM. 4
8. (a) What is ALOHA ? Differentiate between Pure ALOHA and Slotted ALOHA. 8
 (b) A pure ALOHA network transmits 200 bit frames on a shared channel of 200 kbps. What is the throughput if the system produces 1000 frames per second ? 2
9. Explain IPv4 and IPv6 Internet Protocols. 10

10. Write short notes on any *two* of the following : *2×5=10*

- (a) Network Topology
 - (b) Stop-and-Wait Protocol
 - (c) HDLC
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