B.Tech. – VIEP – ELECTRONICS AND COMMUNICATION ENGINEERING (BTECVI)

00013   **Term-End Examination**

June, 2018

BIELE-016 : DATA COMMUNICATION AND NETWORK

Time : 3 hours   *Maximum Marks : 70*

*Note : Attempt any **seven** questions. All questions carry equal marks. Make suitable assumptions if required. Use of scientific calculator is allowed.*

1. (a)   Briefly explain the functions of different OSI layers.   *5*

   (b)   What is network topology ? Explain any two types of network topologies.   *5*

2. (a)   What is circuit switching ? Discuss how packet switching is better than circuit switching for computer to computer communication.   *5*

(b) What do you mean by data transparency and bit stuffing ? What is the need for bit stuffing ?   5

3. (a) Explain in detail about data link control protocol with architectural diagram.   5

(b) What are the various design issues for data link layer ?   5

4. Explain HDLC protocol with its frame format.   10

5. (a) Describe in detail the CSMA based protocol.   5

(b) Explain the functions of token ring and token bus.   5

6. How is the shortest path found by Static routing algorithm ? Which metric is generally considered for deciding the routing path in case of most routing algorithms and why ?   3+7=10

7. (a) Explain functions of the transport layer of TCP/IP model.   5

(b) Explain the connection establishment and release in TCP.   5

8. (a) Compare virtual circuit and datagram subnets.   5

(b) Explain different functions of a session layer.   5

9. (a) Describe the architecture of ATM networks. 5

(b) What do you mean by email systems ? 5

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

(a) Distributed queue dual bus

(b) SLIP

(c) IEEE 802·3 frame format

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