

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

00599

**Term-End Examination**

**December, 2017**

**BIEL-021 : COMPUTER COMMUNICATION  
NETWORKS**

*Time : 3 hours*

*Maximum Marks : 70*

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

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1. What is a Peer-to-Peer Process ? What are the responsibilities of the transport layer and network layer in the Internet model ? 10
  
2. (a) What is Digital Subscriber Line (DSL) technology ? Write down the services provided by the telephone companies using DSL. 5
  
- (b) Differentiate between TCP/IP reference model and OSI model with necessary diagram. 5

3. (a) Explain Byte Stuffing and Bit Stuffing. Which technique is used in byte-oriented protocols and bit-oriented protocols ? 5
- (b) Define Framing. What is the function of framing in data link control (DLC) ? 5
4. (a) Explain Stop and Wait protocol mechanism in a noiseless channel with necessary diagram. 5
- (b) Why is channelization required ? Write down the main features of the TDMA technique. 5
5. (a) Describe Carrier Sense Multiple Access (CSMA) technique. Also write down its advantages. 5
- (b) Write down the objective of fast ethernet. How is it different from gigabit ethernet ? 5
6. (a) Explain the IEEE 802.11 addressing mechanism. 5
- (b) Compare direct versus indirect delivery with an example. 5
7. (a) What is a Transport Bridge ? How does a Virtual LAN (VLAN) reduce network traffic ? 5
- (b) What is the difference between connectionless and connection-oriented services ? Which type of service is provided by IPv4 and IPv6 ? 5

8. (a) How is multicasting different from multiple unicasting ? Also write down the various applications of multicasting. 5
- (b) Explain the distance vector routing technique with suitable example. 5
9. (a) Enlist the various fields in the TCP header that are missing from the User Datagram Protocol (UDP) header. Give the reason for their absence. 5
- (b) Write short notes on error control and flow control. 5
10. Write short notes on any *two* of the following :  $2 \times 5 = 10$
- (a) Cable T.V. for Data Transmission
- (b) IPv6 Addresses
- (c) Resolution in Transport Layer
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