| BIEL-021 |

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

Term-End Examination

□□326

June, 2016

BIEL-021 : COMPUTER COMMUNICATION NETWORKS

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) How is data transfer achieved using Cable TV (CATV) channels ? What is dial-up modem technology ?   5

    (b) What is LATA ? Differentiate between intra-LATA and inter-LATA services.   5

2. (a) What is DSL technology ? What are the services provided by the telephone companies using DSL ?   5

    (b) Discuss two protocols used for noisy channel.   5

3. (a) Define piggybacking and its usefulness. Also compare flow control and error control. *5*

(b) Compare byte oriented and character oriented protocols. *5*

4. (a) Define Channelization and list three protocols in this category. *5*

(b) Explain why collision is an issue in random access protocol but not in controlled access or channelizing protocols. *5*

5. (a) What is the difference between a BSS and an ESS ? Explain the purpose of the NAV. *5*

(b) What are the common fast ethernet implementations ? *5*

6. (a) How does a VLAN provide extra security for a network ? *5*

(b) What is a transparent bridge ? Discuss the loop problem. *5*

7. How can we distinguish a multicast address in IPv4 addressing ? How can we do so in IPv6 addressing ? Explain the reason for the elimination of the checksum in the IPv6 header. *3+3+4=10*

8. (a) What is the difference between classful addressing and classless addressing in IPv4 ? *5*

   (b) What is the difference between direct delivery and indirect delivery ? What is the purpose of RIP (Routing Information Protocol) ? *5*

9. (a) What is the purpose of inverse domain ? Write the three domains of the domain name space. *5*

   (b) Draw and explain the TCP segment format. *5*

10. (a) Explain the connection establishment using three-way handshaking. *5*

    (b) What is the basis for membership in a VLAN ? *5*