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BIEL-021

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

Term-End Examination

December, 2015

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) What is peer-to-peer process ? How is information passed from one layer to the next ? 5

(b) What are the responsibilities of the transport layer in the OSI internet model ? 5

2. (a) Compare various customers' site of DSL technologies. 5

(b) Describe the SS7 service and its relation to the telephone network. 5

3. (a) What are the responsibilities of the network layer in the internet model ? 5

(b) What is the difference between a forwarding port and a blocking port ? How is a repeater different from an amplifier ? 5

4. (a) Define framing and give the reason for its need. 5

(b) Briefly describe the services provided by the data link layer. 5

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

(a) HDLC

(b) Hub and Switch

(c) CDMA

(d) CSMA/CD

6. (a) A pure ALOHA network transmits 200-bit frames on a shared channel of 200 kbps. What is the throughput, if the system produces

(i) 1000 frames per second ?

(ii) 500 frames per second ?

(iii) 250 frames per second ? 5

(b) Explain the terms : Unicast, Multicast and Broadcast, in brief. 5

7. (a) Explain different types of forwarding techniques. 5

(b) What are the common Ten-Gigabit Ethernet implementations ? 5

8. (a) What is the relationship between a switch and a bridge ? 5

(b) Explain briefly the algorithm used to solve the loop problem. 5

9. (a) Compare and contrast the options in the IPv4 and the extension headers in IPv6. Make a table that shows the presence or absence of each. 5

(b) Explain reserved addresses with the help of frame format. 5

10. (a) Draw and explain the User Datagram Format. 5

(b) Give the difference in context of transport layer for the following : 5

(i) Connectionless and Connection oriented services

(ii) Reliable and Unreliable