Shakti Academy

TE. SEM-V (Comp) Nov. DEC 2013
C.N.
02/12/13

VT-S.H.Exam. Oct(I).-13- 90

Con. 6799–13. **LJ–11341**

(3 Hours) **[Total Marks : 100**

N.B. : (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions from the **remaining** questions.

1. Answer any **four** :– **20**
   (a) What are the different categories of the network classification ?
   (b) Compute the Hamming Code for the data – 1001101.
   (c) State the reasons for having a minimum length requirement for a frame in Ethernet. How is it achieved ?
   (d) What are the advantages and disadvantages of hierarchical routing ?
   (e) State the reasons why Network layer and Transport layer are kept as two distinct layers even though their services are so similar.

2. (a) Explain the functions of the different Network Hardware Components. **10**
   (b) Explain sliding window protocol. Draw the sender and receiver windows for a system using Go-Back-N sliding window (size = 8) given that – **10**
      (i) frame 0 is sent; frame 0 is ACK
      (ii) frame 1 and 2 are sent; frames 1 and 2 are ACK
      (iii) frame 3, 4, 5 are sent; frame 4 is ACK.
      (iv) timer for frame 5 expires.
      (v) sender resets the window and 4 more frames are sent.

3. (a) Make a comparitive study of Switched ethernet, Fast ethernet and Gigabit Ethernet. **10**
   (b) Draw and explain the architecture and protocol stack of Bluetooth. **10**

4. (a) What are the steps involved in Link state routing. Explain the contents and the requirements of Link state packets. **10**
   (b) Explain the various methods for congestion control used in datagram subnets. **10**

5. (a) Show the different protocol scenarios for establishing a connection using 3-way handshake in the transport layer. **10**
   (b) Explain the different protocols in the MAC sublayer which uses carrier sensing. **10**

6 (a) Show the usage of the different socket programming primitives used for establishing a connection between client and server. **10**
   (b) Explain HDLC protocol. **10**

7. Write notes on (any ~~four~~ Two) :– **20**
   (a) Satellite Networks
   (b) QoS requirements
   (c) IP header format.

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