

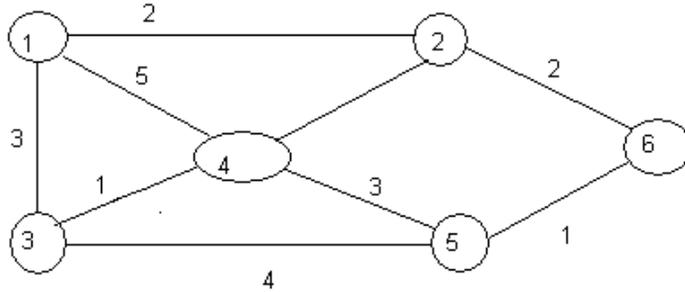
SIXTH/EIGHTH SEMESTE EXAMINATION-2008

COMPUTER NETWORK

Answer question no-1 which is compulsory and any 5 from rest

1. Answer the following question 2x10
 - a. Suppose the size of an uncompressed text message is 1 megabyte. How long does it take to download the file over a 32kb/sec modem?
 - b. What is the difference between simplex and half transmission mode?
 - c. Explain the difference between character stuffing and bit stuffing.
 - d. State how connectionless protocol differ from connection oriented protocol.
 - e. Explain the meaning of the term protocol converter.
 - f. Why does IPv6 allow fragmentation at the source only.
 - g. Perform bit stuffing for the following sequence : 1101 1111 1101 1111 10101
 - h. Explain the difference between connectionless unacknowledged service and connectionless acknowledged service
 - i. Define Nyquist signaling rate.
 - j. How many errors in a message can be corrected using LRC ?
2. a. What is the function of a null modem ? Show the internal connections used within a null modem and explain the significance of each connection. 5
- b. Explain how clock synchronization can be achieved using :
 - i. Bipolar encoding
 - ii. Differential Manchester encoding. 5
3. a. With the help of frame sequence diagram, explain how the following frames are handled in a Go-Back-N ARQ protocol:
 - i. A corrupted I-Frame and
 - ii. A corrupted ACK-frame . 5
- b. Explain the principle of operation of CSMA/CD MAC used in LAN. 5
4. a. describe the structure of IP datagram and explain the function of each field in the context of the ip protocol.
- b. List the message type associated with the internet control message protocol (ICMP) and explain the various function associated with the protocol. 5

5. a. Sketch the header of a TCP segment Explain the function of each field. 5
- b. Use Dijkstra algorithm to find the set of shortest path from node 4 to other nodes. 5



6. a. Computer the CRC-4 character for the following message using a "divisor" constant of 10011. 5
 b. The original three network types were LAN, MAN and WAN. Describe how they differs from one another . 5
7. a. What is the drawback of PSK versus FSK modulation. 5
 b. How does frame relay differs from ATM. 5
8. Write short note on any *two*: 5x2
 - a. Guided media
 - b. bluetooth.
 - c. Cryptography.

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