

B.E/B.TECH. (Full Time /Part Time) DEGREE END SEMESTER EXAMINATIONS, APR/MAY 2012
COMPUTER SCIENCE AND ENGINEERING
V - SEMESTER
CS 9305 / DATA COMMUNICATION & COMPUTER NETWORKS
(REGULATION 2008)

Time: 3hour

Max. Mark: 100

ANSWER ALL QUESTIONS
Part – A (10 * 2 = 20 Marks)

1. How does NRZ – L differ from NRZ – I
2. Suppose it is desired to transmit at a rate of 64Kbps over 3KHz telephone channel. What is the minimum SNR in dB?
3. Assume a framing protocol that uses bit stuffing. Show the bit sequence transmitted over a link when the frame contains the bit sequence 111101111110100110111110101111110.
4. Is stop-and-wait ARQ, what happens if a Negative Acknowledgment (NAK) is lost in transit? Why is there no need for such NAKs to be numbered?
5. What are the difference between classfull addressing and classless addressing in IPV4?
6. What is the use of ICMP in networks?
7. What are the six flags used in the TCP header? What is purpose of each flag?
8. How do you achieve reliable data transfer over perfectly reliable channel?
9. What are the transmission modes of FTP?
10. What are the things define in URL?

Part – B (5*16 = 80 Marks)

11. a) What is multiplexing? Explain Frequency- Division Multiplexing. (8)
b) Explain DSSS with the following data sequence 1 1 0 1 0 1 0 0 1. (8)
12. a. i) Describe the collision avoidance mechanism used in 802.11 wireless LAN. In particular, how such a mechanism solves the hidden terminal problem. (12)
ii) What are the design issues in data link layer? (4)
Or
12. b. i) What happens in a token ring if a station accepts the token and then crashes immediately? How Does IEEE 802.5 handles it? (8)
ii) Compare the various switching techniques used in networks with a neat diagram. (8)
13. a. i) Consider sending a 1500-bytes datagram that has arrived at a router R1 that needs to be Sent over a link that has an (maximum transmission unit) MTU of 500bytes to R2. Then it has to traverse a link with an MTU of 200 bytes. Let the identification number of the original datagram be 350. How many fragments are generated? What are the parameters associated with these fragments? (8)
ii) Explain the working of DHCP and its packet format (6)
Or
13. b. i) State the major difference between Distance Vector Routing and Link State Routing. Discuss how these routing technique works. (10)
ii) Is CIDR network prefix visible outside IP network? Justify? (6)
14. a. i) Describe the Nagle's algorithm & Karl-Partidge Algorithm & mention their merits and demerits. (8)
ii) Explain three-way handshake process of setting up or closing of a connection in TCP. (8)
Or
14. b) Explain in detail about Congestion control mechanism in TCP. (16)