Monday, May 27, 2019 10:30 am - 01:30 pm 1T00142 - M.C.A. (Sem. II)(Choice Based) / 54903 - Computer Networks. 58494

(Time: 3 Hours) [Total Marks: 80]

N.B: 1) Question No. 1 is compulsory
2) Attempt any three questions from remaining five questions
3) Illustrate answers with sketches wherever required and use of pencil should be done for drawing sketches

1 (a). What is traffic shaping? Explain the techniques used for traffic shaping? [10]
(b). i). Find the range of the addresses in the following blocks
140.179.220.200/19 subnet mask = 255.255.224.0 [5]
ii) What is the netid and subnetid of the address 130.45.34.56 with mask 255.255.240.0 [5]

2 (a). Explain guided media in detail [10]
(b).Define optimality principle. Explain Link State routing algorithm in detail. [10]

3 (a). What are connecting devices? Explain various connecting devices used at various layers of Communication model. [10]
(b). Explain HTTP and SMTP protocols used at the application layer? [10]

4 (a). i) Assume that signal-to-noise ratio, SNR_{dB}= 36 and the channel bandwidth is 2 MHz. Calculate the theoretical channel capacity . [5]
ii)Differentiate between RIP and BGP [5]
(b).Explain different types of network topology [10]

5 (a). A bit stream 1010101010 is transmitted using the standard CRC method . The generator 10001. If the last bit of data is inverted during transmission as 0 to 1 , Is this error detected at the receiver end? [10]
(b). Explain IEEE 802.5 standard [10]

6. Write short notes on any four [20]
a. TCP connection establishment
b. NAT
c. Queue management algorithms in routers
d. Go Back N ARQ
e. Transmission impairments
