P1144

[3864] - 241

B.E. (Electronics)

COMPUTER NETWORK

(2003 Course)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

1) *Answer any 3 questions from each section.*

2) *Answers to the two sections should be written in separate books.*

3) *Neat diagrams must be drawn wherever necessary.*

4) *Figures to the right indicate full marks.*

5) *Your answers will be valued as a whole.*

6) *Use of logarithmic tables, slide rule, mollier charts, electronic pocket calculator and steam tables is allowed.*

7) *Assume suitable data, if necessary.*

SECTION - I

Q1) a) Explain the following for LAN. [10]

   i) Topologies.

   ii) Wired & Wireless LAN.

   iii) Hidden and Exposed station problem.

   b) Distinguish between broadcast and point - to - point Communication.[8]

OR

Q2) a) Explain the design issues of any three. Layers of OSI - Model. [10]

   b) Distinguish between OSI and TCP / IP. [8]

Q3) a) Compare the performance of various transmission media used for data communication. [10]

   b) Explain GEO and MEO comparing their applications. [6]

OR

Q4) a) Explain the network components. [9]

    i) Switches.

    ii) Modem.

    iii) Hub.

  b) Explain the various switching techniques used for data communication. [7]

Q5) a) State and explain the protocols for collision avoidance. [10]

  b) Explain the sliding window protocols. [6]

OR

Q6) a) Explain the framming controls. [6]

  b) Explain the frame - formate for IEEE 802.3. [6]

  c) State and explain DQDB. [4]

SECTION - II

Q7) a) Explain the Bellman ford algorithm in detail. [6]

  b) Explain how number of switches affects the routing. [10]

OR

Q8) a) Differentiate virtual circuit and datagram services. [6]

  b) In a network using a token bucket scheme for traffic shaping. A new token is put into bucket every $5 - \mu$ sec. What is the maximum sustainable net data rate (exclude the header bit). [10]

Q9) a) Describe the security issues for internet. [8]

  b) State and explain the suitable protocol for 64 - bit data encryption and decryption. [10]

OR

Q10) a) Explain the DNS in detail. [8]

  b) Explain the video on Demand. [10]

Q11) a) Compare IPV - 4 and IPV - 6. [8]

  b) Explain : FTP and telnet protocol. [8]

OR

Q12) a) Explain IP Addressing. [8]

  b) Explain SNMP & RARP. [8]

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