

Roll No.

Total No. of Questions : 13]

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J-3660[S-1516]

[2037]

M.Sc. (IT) (Semester - 2nd)

COMPUTER NETWORKS & OS ESSENTIALS (M.Sc. (IT) - 201/401)

Time : 03 Hours

Maximum Marks : 75

Instruction to Candidates:

- 1) Section - A is **compulsory**.
- 2) Attempt any **Nine** questions from Section - B.

Section - A

Q1)

(15 x 2 = 30)

- a) What is a distributed system?
- b) Define WAN?
- c) What is simplex transmission? Give examples.
- d) What is a protocol?
- e) Explain DNS.
- f) What is URL?
- g) Describe networking features of MS Windows XP.
- h) Explain FDM.
- i) What do you mean by a web browser?
- j) What is ping utility?
- k) Explain RPC.
- l) Compare flow control and congestion control.
- m) What is subnetting?
- n) What is point-to-point protocol?
- o) How router is different from gateway?

P.T.O.

Section - B

(9 × 5 = 45)

- Q2)** What is OSI standard? Describe the role of each layer in brief.
- Q3)** If a binary signal is sent over a 4 KHz channel whose signal-to-noise ratio is 30dB, what is the maximum achievable data rate?
- Q4)** Distinguish between datagram packet switching and virtual circuit switching.
- Q5)** What do you understand by MAC address? How is a MAC address translated into an equivalent IP address?
- Q6)** Compare the efficiencies of ALOHA and CSMA/CD.
- Q7)** Explain distance vector routing algorithm in detail.
- Q8)** What is LAN? Define 1-persistent and p-persistent CSMA.
- Q9)** Discuss the following.
(a) Exponential back off algorithm.
(b) Go back n ARQ.
- Q10)** Define switching. Differentiate between message switching and packet switching.
- Q11)** What is the importance of E-commerce?
- Q12)** Suppose a data link has a probability ρ of successfully transmitting a data frame, so that it arrives undamaged. If a frame is damaged, in this network the receiver sends back a request for retransmission. (For simplicity, assume all these requests arrive back perfectly at the sender). What is the mean number of transmissions required to successfully transmit a frame?
- Q13)** Write note on
(a) IP Telephony
(b) ICMP.

