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END TERM EXAMINATION

FIFTH SEMESTER [B.TECH] DECEMBER 2024

Paper Code: CIC-307 ***Subject: Computer Networks***

Time: 3 Hours **Maximum Marks: 75**

Note: Attempt any five questions including Q.No.1 which is compulsory. Select one question from each unit.

Q1 Attempt **any five** questions from the following: **(5x5=25)**

a) Differentiate between TCP and UDP.
b) What are major advantages of STP over UTP?
c) What are different access methods in broadband ISDN?
d) What is the relationship between SONET and SDH?
e) In electronic mail, what is MIME?
f) What is proxy server and how it is related to HTTP?
g) What is network security? Explain the principles of network security.

UNIT-I

Q2 a) What is data communication? What are its four fundamental characteristics? With a neat diagram, explain the components of data communication system. **(6.5)**

b) Compute the CRC for a 10 – bit sequence 1010011110 and a divisor of 1010. **(6)**

Q3 a) What is a peer to peer process? What are heades and trailers and how do they get added and removed? **(6.5)**

b) What is a network adapter? Explain with a block diagram. **(6)**

UNIT-II

Q4 a) Define stop and wait ARQ protocol Explain the reason for moving from stop and wait ARQ protocol to the GO-BACK-N ARQ protocol. **(6.5)**

b) What are some of the factors that determine whether a communication system is LAN, MAN or WAN? **(6)**

Q5 a) Differentiate between ALOHA and slotted ALOHA. **(6)**

b) Explain the different causes of transmission impairments during signal transmission through media. **(6.5)**

UNIT-III

Q6 a) What is the need to change from IPV4 to IPV6? Write IPV6 basic header and describe its field. **(6.5)**

b) Explain the PIM protocol with a suitable example. **(6)**

Q7 a) Name different types of HDLC frames and give a brief description of each. **(6)**

b) Evaluate maximum bit rate for channel having bandwidth 3100 Hz and S/N ratio of 20dB. **(6.5)**

UNIT-IV

Q8 a) Explain the "slow start" mechanism used by TCP to avoid congestion in the network. **(6.5)**

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b) Why transport layer protocols like TCP and UDP are called end to end protocols. What is the difference between them? **(6)**

9 a) Explain the ethernet with special reference to frame format. **(6)**

b) Explain the network layer in internet and the network layer in ATM in detail. **(6.5)**

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