

(Please write your Exam Roll No.)

Exam Roll No. 205100

END TERM EXAMINATION

SIXTH SEMESTER [B.TECH] JULY 2023

Paper Code: ETCS-306

Subject: Computer Networks

Time: 3 Hours

Maximum Marks: 75

Note: Attempt five questions in all including Q.No1 which is compulsory. Select one question from each unit.

(2.5x10=25)

- Q1 Answer the following in brief:
- a) Differentiate between LAN, MAN & WAN?
 - b) What is Packet Switching?
 - c) State the role of Multiple Access Protocols?
 - d) Define Subnetting & its role?
 - e) What is IPv4 and IPv6?
 - f) Differentiate between UDP and TCP?
 - g) Explain PDH Networks?
 - h) Describe Routing Protocols?
 - i) Define the terms bit rate in terms of data transmission?
 - j) Differentiate between TDM and WDM?

UNIT-I

- Q2 a) Explain various network topologies? What is OSI Model? What are the different layers of OSI Model? Explain each layer and its role in a network? (12.5)

OR

- b) Explain Multiplexing and its types? Differentiate between PSTN and ISDN? Also mention the role of transmission media (12.5)

UNIT-II

- Q3 a) Explain Leaky bucket algorithm. What kind of problems addressed using Leaky bucket algorithm? Explain Error Detection and Correction Techniques used by Data Link Layer? (12.5)

OR

- b) Write a note on the following: (12.5)
- i) PPP
 - ii) HDLC
 - iii) Bridges
 - iv) Channel Allocation Problem
 - v) IEEE 802.3

UNIT-III

- Q4 a) Draw and explain packet format of Transmission control protocol. Explain various steps that are followed in releasing a TCP connection? Compare Link State routing and Distance Vector Routing using suitable diagram? (12.5)

OR

- b) Explain Congestion Control Algorithm? What are Queuing Models? Describe SONET (12.5)

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UNIT-IV

- Q5 a) Explain CSMA/CD and CSMA/CA random access protocols?
How does ATM differ from Frame Relay? Describe role of UDP in
a network? (12.5)

OR

- b) Discuss Transport Layer Services? Also discuss Elements of
Transport Protocols? Explain advantage of GO-Back-N ARQ
protocol over stop-and-wait ARQ? (12.5)
