Mid Semester Examination 2025-26

Name of the Program: B.Tech (ECE)   *Semester: V*
Name of the Course: Data Communication Network   *Course Code:* TEC-504

Time: 90 minutes   Maximum Marks: 50

Note:
(i) Answer **all the questions** by choosing *any one of the sub questions*.
(ii) Each question carries 10 marks

Q1.   (10 marks)   CO-01
(a)   Discuss the primary goals and applications of data communication networks.

OR

(b)   Define and compare LAN, MAN, WAN, and Wireless networks with suitable examples.

Q2.   (10 marks)   CO-01
(a)   Explain the OSI reference model with functions of each layer..

OR

(b)   Describe the TCP/IP protocol suite. How is it different from the OSI model?.

Q3.   (10 marks)   CO-02

(a)   Differentiate between analog and digital transmission. Explain with diagrams.

OR

(b)   What is bandwidth utilization? Explain multiplexing and spreading techniques with suitable examples.

Q4.   (10 marks)   CO-02

(a)   Explain packet switching and circuit switching with diagrams and real-life examples.

OR

(b)   Describe wireless transmission methods. Discuss the challenges faced in wireless communication.

Q5.   (10 marks)   CO-01 & CO-02
(a)   Write short notes on the following:
     (i) Error control
     (ii) Flow control
     (iii) Framing in the data link layer .

OR

(b)   Describe the sliding window protocol. Explain the difference between Go-Back-N and Selective Repeat protocols with suitable diagram.