

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, APRIL - 2025**

COMPUTER NETWORKS

[Maximum marks: 100]

[Time: 3 Hours]

PART – A

Maximum marks: 10

I. (Answer *all* the questions in one or two sentences. Each question carries **2** marks)

1. List any two network topologies.
2. Define throughput.
3. Define SCTP.
4. Name two email message access protocols.
5. Define Dynamic DNS.

(5 x 2 = 10)

PART – B

Maximum marks: 30

II. (Answer any *five* of the following questions. Each question carries **6** marks)

1. Explain LAN, MAN and WAN with examples.
2. Write notes on standard ethernet implementations.
3. List and explain the different types of delays in a network.
4. Write notes on open loop congestion control policies.
5. Explain port numbers in Transport Layer.
6. Describe the services provided by TCP.
7. Define URL. Explain the components of URL.

(5 x 6 = 30)

PART – C

Maximum marks: 60

(Answer *one full* question from each unit. Each full question carries **15** marks)

UNIT – I

- III.** (a) Describe any two LAN connecting devices. (8)
- (b) Explain the architecture of Wireless LAN. (7)

OR

- IV.** (a) Discuss the functionalities of different layers in TCP/IP protocol suite. (8)
(b) Explain Virtual LAN. (7)

UNIT - II

- V.** (a) Describe IPV4 addressing. (8)
(b) Distinguish between Unicasting, Multicasting and Broadcasting. (7)

OR

- VI.** (a) Explain various network layer services. (8)
(b) Explain Link State Routing algorithm. (7)

UNIT - III

- VII.** (a) Distinguish between Connectionless and Connection oriented protocols. (8)
(b) Explain User Datagram Protocol. (7)

OR

- VIII.** (a) Explain Stop-and-Wait, Go-back-N protocols in Transport Layer. (8)
(b) Explain connection establishment and termination in TCP. (7)

UNIT – IV

- IX.** (a) Explain the architecture of WWW with a neat diagram. (8)
(b) Describe the request message format of HTTP. (7)

OR

- X.** (a) Describe the process of transferring mail messages using SMTP. (8)
(b) Explain Domain Name System. (7)
