

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER - 2024**

DATA COMMUNICATION

(Maximum Marks:100)

(Time: 3 Hours)

PART - A
(Maximum Marks : 10)

Marks

- I. Answer **all** the questions in one or two sentences. Each question carries 2 marks.
1. Define Data Communication.
 2. List any two types of transmission impairments.
 3. Write any two advantages of optical fiber cable.
 4. What is Redundancy Bits?
 5. List any two propagation methods used in wireless transmission. (5 x 2 = 10)

PART - B
(Maximum Marks: 30)

- II Answer **any five** questions from the following. Each question carries 6 marks.
1. Explain data flow methods with the help of neat diagram.
 2. What are the services provided by Presentation Layer in ISO-OSI Architecture?
 3. List and explain the characteristics of a sine wave.
 4. Explain Transmission impairments.
 5. Explain FDM with a neat diagram.
 6. Write a short note on different types of errors in Computer Network.
 7. Explain Cyclic Redundancy Check (CRC). (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) Draw ISO – OSI model and explain the functions of any two layers. (9)

(b) Compare LAN and WAN. (6)

OR

IV Draw and explain different topologies with a neat diagram. (15)

UNIT – II

V (a) Differentiate Analog and Digital Data and signals. (6)

(b) Explain ASK and FSK with neat diagram. (9)

OR

VI (a) Explain the different phases of Pulse Code Modulation with a neat diagram. (9)

(b) Compare baseband and broad band transmission. (6)

UNIT – III

VII (a) Explain the physical structure and working principle of Coaxial Cable. (9)

(b) What are the advantages of using Fiber Optic Cable? (6)

OR

VIII (a) Explain the phases of circuit switching network with a neat diagram. (9)

(b) List the features of infrared waves. (6)

UNIT – IV

IX (a) Explain Stop and Wait flow control in Data Link Layer. (9)

(b) Explain the following

(i) Bit Stuffing (ii) Parity Check (6)

OR

X (a) Explain Random Access Protocols. (12)

(b) Write a short note on the transfer modes supported by HDLC Protocol. (3)
