A22 – 09351

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2022

DATA COMMUNICATION

[Maximum Marks: **100**]   [Time: **3** Hours]

PART-A

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

1. List the different data representation.

2. Define bit rate and bit length.

3. List the different layers in the OSI model.

4. Give an application of twisted pair cable.

5. Define framing.   (5 x 2 = 10)

PART-B

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

1. Explain the components of data communication.

2. Describe the different data flow methods.

3. Explain the characteristics of a sine wave.

4. Describe the transmission impairments.

5. List the characteristics and advantages of coaxial cable.

6. Write notes on infrared waves.

7. Explain the concept of framing.   (5 x 6 = 30)

PART-C

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

UNIT – I

III.   What is topology? Explain the different topologies of network.   (15)

OR

IV.   Explain the functions of layers in the OSI reference model.   (15)

UNIT – II

V. (a) Explain periodic analog signal.   (8)

  (b) Differentiate baseband and broadband transmission.   (7)

OR

VI. (a) Explain the different methods for analog to digital signal conversion.   (9)

  (b) Explain wavelength division multiplexing.   (6)

UNIT- III

VII.   Explain the characteristics of guided transmission media.   (15)

OR

VIII. (a) Explain the characteristics of microwaves.   (7)

  (b) Describe about packet switching.   (8)

UNIT - IV

IX.   (a) Explain the CRC method with an example.   (8)

  (b) Explain the stop and wait protocol.   (7)

OR

X.   Write notes on:

  (a) HDLC.   (9)

  (b) Point to point protocol.   (6)

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