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Reg. No……
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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2022

DATA COMMUNICATION

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

PART-A

[Maximum Marks: **10**]

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

1. Mention two advantages of ring topology.
2. Define protocol in terms of data communication.
3. Compare Analog data and digital data.
4. Name two packet switched networks.
5. Compare single bit error and burst error. (5 x 2 = 10)

PART-B

[Maximum Marks: **30**]

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

1. Explain briefly components of data communication with diagram.
2. Discuss the various types of transmission impairments.
3. Discuss radio waves briefly.
4. Write the advantages and disadvantages of optical fibre cables.
5. Discuss stop and wait protocol with the help of diagram.
6. Discuss Point to Point protocol briefly.
7. Explain Frequency Division Multiplexing with the help of diagram. (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) Discuss different data flow methods with diagram and example. 9

b) Explain LAN, MAN WAN. 6

OR

IV. a) With neat sketch, explain Bus and Star topology with its advantage and disadvantage. 9

b) Write the functions of physical layer. 6

UNIT--11

V. a) Differentiate between Baseband and Broadband transmission with diagram. 6

b) Discuss Asynchronous transmission with the help of diagram. 9

OR

VI. a) Differentiate between parallel and serial transmission mode with diagram. 6

b) Explain Pulse code modulation with diagram. 9

UNIT—III

VII. a) With the help of neat sketch, explain the constructional characteristics and application of coaxial cable. 8

b) Explain datagram packet switched networks. 7

OR

VIII. a) Write short notes on microwaves with its application. 8

b) Explain the three phases of Virtual Circuit networks. 7

IX. a) Explain Normal Response mode and Asynchronous Balanced mode of High level data Link Control Protocol. 7

b) Discuss checksum error detection method. 8

OR

X. a) Explain Character oriented protocol with the help of diagram. 7

b) Explain the three persistence methods of CSMA. 8

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