

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2019

DATA COMMUNICATION

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. What is protocol ?
2. Define network.
3. Define analog data.
4. What are datagrams ?
5. Define Burst Error.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain half duplex and full duplex communication.
2. Write notes on Periodic analog signals.
3. Compare parallel and serial transmission.
4. Explain about Radio Waves.
5. Explain Crossbar Switch.
6. Explain parity check error detection with example.
7. Write short note on Flow Control.

(5×6 = 30)

## PART — C

(Maximum marks : 60)

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

## UNIT — I

- |     |   |   |
|-----|---|---|
| III | (a) Explain components of data communication with figure.   | 6 |
|     | (b) Explain different topologies used in computer networks. | 9 |

OR

- |    |   |    |
|----|---|----|
| IV | (a) Explain different categories of Networks.                       | 5  |
|    | (b) Draw ISO OSI layered architecture and explain any three layers. | 10 |

## UNIT — II

- |   |                                    |   |
|---|------------------------------------|---|
| V | (a) Explain about Digital signals. | 6 |
|   | (b) Explain Pulse Code Modulation. | 9 |

OR

- |    |  |   |
|----|--|---|
| VI | (a) Explain Frequency Division Multiplexing. | 8 |
|    | (b) Describe Transmission impairments.       | 7 |

## UNIT — III

- |     |  |   |
|-----|--|---|
| VII | (a) Explain any two Guided transmission media. | 8 |
|     | (b) Explain virtual-circuit network.           | 7 |

OR

- |      |   |   |
|------|---|---|
| VIII | (a) Explain about Microwave and Infrared waves. | 8 |
|      | (b) Explain Circuit switched Networks.          | 7 |

## UNIT — IV

- |    |                                     |   |
|----|-------------------------------------|---|
| IX | (a) Explain block codes.            | 8 |
|    | (b) Explain Stop-and-Wait Protocol. | 7 |

OR

- |   |  |   |
|---|--|---|
| X | (a) Explain check sum error detection.     | 8 |
|   | (b) Explain HDLC Frame Format with figure. | 7 |