Reg. No..

Signature ....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2018

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. State the fundamental characteristics that determine the effectiveness of communication.

2. Define bandwidth of a composite analog signal.

3. List any two guided transmission media.

4. List any two propagation methods for wireless transmission.

5. Define Hamming distance between two words.   (5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Differentiate point to point and multipoint connections.

2. Explain different dataflow methods.

3. Explain Pulse code Modulation.

4. Explain Cyclic Redundancy Check.

5. Explain Circuit Switching.

6. Explain HDLC Frames.

7. Explain Frequency Shift Keying.   (5×6 = 30)

Marks

PART — C

(Maximum marks : 60)

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

UNIT — I

III   Explain any three physical topologies of computer network with neat diagrams.   15

OR

IV   Explain the functions of each layer in ISO-OSI reference module with neat diagram.   15

UNIT — II

V   (a) Explain Asynchronous and Synchronous transmission modes.   8

(b) Explain PCM.   7

OR

VI   (a) Explain FDM and TDM   8

(b) Explain different Transmission Impairments.   7

UNIT — III

VII   (a) Explain physical structure and working principle of Optical Fiber Cable.   8

(b) What are the advantages and disadvantages of optical fiber communication ?   7

OR

VIII   (a) Explain different types of wireless wave communication.   7

(b) Differentiate circuit switching and packet switching.   8

UNIT — IV

IX   (a) Explain different random access protocols.   9

(b) Explain Stop and Wait protocol with neat diagram.   6

OR

X   Explain data link layer protocols for flow and error control in noisy channel with diagrams.   15