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(REVISION — 2015)

Reg. No. .....

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 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. Define protocol.
2. Compare frequency and bit rate.
3. List any two advantages of optical fiber cable.
4. Name two categories of data communication standards.
5. Define redundancy. (5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Identify the components of a data communication and briefly explain them.
2. Compare different data flow models.
3. With a neat diagram explain the structure of a packet switch.
4. Differentiate CSMA and CSMA/CD protocols.
5. Explain any three propagation methods.
6. Explain any three transmission impairments.
7. Explain CRC. (5×6 = 30)

[P.T.O.

Marks

PART — C

(Maximum marks : 60)

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

Unit — I

III (a) Explain ISO-OSI layered architecture. 9

(b) Compare LAN, WAN and MAN. 6

Or

IV (a) Define data and explain various forms of Data representation. 6

(b) Compare mesh, star and ring topologies. 9

Unit — II

V (a) Explain Frequency division Multiplexing and De multiplexing process. 8

(b) With diagram explain PCM. 7

Or

VI (a) Compare various serial transmission modes. 9

(b) Explain TDM. 6

Unit — III

VII (a) Explain phases and addressing modes of virtual circuit networks. 9

(b) Compare twisted pair and coaxial cable. 6

Or

VIII (a) Explain any three unguided transmission media. 9

(b) Briefly explain about circuit switched networks. 6

Unit — IV

IX (a) Define point to point protocol and explain its frame format. 9

(b) With a neat diagram explain the role of block coding in error detection. 6

Or

X (a) Explain about HDLC frames. 9

(b) Compare single bit error and burst error with example. 6