

THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY—OCTOBER, 2012

DATA COMMUNICATION
(Common for CT, CM and IF)

[Time : 3 hours

(Maximum marks : 100)

Marks

PART—A

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. Differentiate between analog and digital data.
2. State any two limitations of twisted pair wire.
3. State the importance of parity check.
4. Define transmission media.
5. List the names of different switching techniques.

(5×2=10)

PART—B

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

1. Explain design issues that occur in computer networks in several layers.
2. Explain line of sight propagation with neat diagram.
3. List the distinguishing characteristics of optical fiber from twisted pair and coaxial cable.
4. Explain the feature 'piggybacking' in flow control.
5. Explain frequency division multiplexing.
6. Write notes on Data Encryption Standard (DES).
7. Draw TCP/IP protocol suite.

(5×6=30)

PART—C

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

UNIT—I

III Explain ISO-OSI layered architecture with block diagram. 15

OR

IV (a) Explain the network topologies. 10

(b) Write notes on attenuation and delay distortion. 5

UNIT—II

- V (a) Give physical description and transmission characteristics of satellite microwave transmission. 7
- (b) Describe different digital data to digital signal encoding formats. 8

OR

- VI (a) Describe different wireless propagation modes with neat diagram. 7
- (b) Illustrate any two methods to convert digital data to analog signal. 8

UNIT—III

- VII (a) Explain Selective reject ARQ. 8
- (b) Explain Synchronous Time Division multiplexing. 7

OR

- VIII (a) Describe Synchronous and Asynchronous data transmission. 7
- (b) Write the basic characteristics of HDLC and its frame structure. 8

UNIT—IV

- IX (a) Explain digital signature. 7
- (b) Explain circuit switching techniques. 8

OR

- X (a) Explain a public key algorithm with example. 9
- (b) Compare circuit switching and packet switching. 6

MADIN POLYTECHNIC College