

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

COMMUNICATION SYSTEMS

[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. List any four types of horn antenna.
2. State the height of geostationary satellites.
3. List any two optical receivers.
4. State the Bluetooth data rates.
5. List two tube devices used in microwave communication.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Describe the working of magnetron tube with a neat diagram.
2. List the features of FDMA.
3. List any six application of satellite.
4. List the advantages of laser diode.
5. Discuss about RFID.
6. Compare 3G and 4G.
7. Describe the working of avalanche diode with diagram.

(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) Describe the working of reflex klystron with neat diagram. 8
 (b) Discuss the operation of Gunn diode with a diagram. 7

OR

- IV (a) Draw the block diagram of microwave receiver and state the functions of each block. 9
 (b) Illustrate the structure of any three horn type antenna. 6

UNIT — II

- V (a) Describe TDMA with a diagram and state its features. 9
 (b) List any three advantages and disadvantages of CDMA. 6

OR

- VI (a) Compare FDMA and CDMA. 8
 (b) Draw the block of Direct Broadcast Services (DBS) and state the function of each block. 7

UNIT — III

- VII (a) Illustrate single mode, multimode graded index mode fibre with the help of diagrams. 8
 (b) Describe cable losses in fibre optic communication with a neat block diagram. 7

OR

- VIII (a) Illustrate the working of Laser with energy state diagram. 8
 (b) Describe the working of PIN diode with a neat diagram. 7

UNIT — IV

- IX (a) Illustrate the operation of cellular network with a neat diagram. 8
 (b) Describe the concept of cell with a neat diagram, state frequency reuse. 7

OR

- X (a) Compare GSM and CDMA. 8
 (b) State Features of Wi - Max. 7