

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, APRIL - 2023**

COMMUNICATION SYSTEMS

[Maximum marks: 100]

(Time: 3 Hours)

PART – A

Maximum marks : 10

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

1. Define velocity modulation.
2. Define geostationary satellite.
3. State numerical aperture.
4. Define a cell.
5. List any two optical receivers.

(5 x 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 reflex klystron with diagram.
2. Describe the working of tunnel diode.
3. List any six application of satellite.
4. List any three advantages and disadvantage of F.D.M.A.
5. Describe handoff strategies.
6. Compare Wi-Fi and Wi-Max.
7. List any six advantages of optical fiber communication.

(5 x 6= 30)

PART – C

Maximum marks : 60

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

UNIT –I

- III. (a) Draw the block diagram of microwave transmitter and describe each block. (9)
- (b) List any six advantages of microwave communication. (6)

OR

- IV. (a) With a neat diagram illustrate the construction and operation of travelling Wave tube (T.W.T) (9)
(b) Describe different type of horn antenna. (6)

UNIT-II

- V. (a) Describe T.D.M.A with a neat diagram and state it features. (9)
(b) Discuss communication satellite orbit. (6)

OR

- VI. (a) Describe D.T.H. TV system with block diagram. (8)
(b) Describe G.P.S navigation system. (7)

UNIT-III

- VII.(a) Describe fiber optic communication with a neat block diagram. (9)
(b) Illustrate different types of optic fiber based on R.I profile. (6)

OR

- VIII.(a) Illustrate the working of L.A.S.E.R. (9)
(b) List any six application of fiber optics in communication. (6)

UNIT-IV

- IX. (a) Describe G.S.M network architecture with a neat diagram. (9)
(b) State (i) Frequency reuse (ii) Channel fading. (6)

OR

- X. (a) Compare G.S.M and C.D.M.A. (9)
(b) State the features of 4G. (6)
