

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, APRIL - 2025**

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 Communication orbit.
3. State acceptance angle.
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 TWT with diagram.
2. Describe the working of Avalanche diode.
3. List any six application of satellite.
4. List any three advantages and disadvantages of F.D.M.A.
5. Describe Channel fading.
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 Receiver 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 FDMA with a neat diagram and state it features. (9)
- (b) Discuss geostationary satellite. (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) Handoff strategies. (6)

OR

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