

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, NOVEMBER-2021**

COMMUNICATION ENGINEERING

[Maximum marks: 75]

(Time: 2.15 Hours)

PART – A

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

1. What is MANET?
2. Define EM wave.
3. State sampling theorem.
4. What is AFC?
5. State the need of limiter in FM receiver. (3 x 2 = 6)

PART – B

II (Answer any *four* of the following questions. Each question carries 6 marks)

1. Explain Refraction and Reflection.
2. Compare AM and FM.
3. What are the needs for modulation?
4. Explain Pre-emphasis and De-emphasis.
5. Explain different methods to improve SNR.
6. Describe simple AGC.
7. Explain the working of diode detector with circuit diagram. (4 x 6= 24)

PART – C

(Answer *any of the three units* from the following. Each full question carries 15 marks)

UNIT –I

- III. (a) Define skip distance, maximum usable frequency and critical frequency. (6)
(b) Explain space wave propagation. (9)

OR

- IV(a) Briefly explain the working of parabolic antenna. (8)

(b) Explain ground wave propagation (7)

UNIT-II

V (a) Describe the working of balanced modulator with block diagrams. (8)

(b) Derive the expression for Amplitude Modulated wave. (7)

OR

VI. (a) Explain different Pulse Modulation Techniques. (9)

(b) Draw the waveforms of FM and write the band width of FM. (6)

UNIT-III

VII.(a) Explain AM transmitter with block diagram. (8)

(b) Draw the block diagram of direct FM transmitter and explain. (7)

OR

VIII.(a) Draw the block diagram of indirect FM transmitter and explain. (9)

(b) List different types of noises. (6)

UNIT-IV

IX. (a) Draw and explain super heterodyne receiver. (9)

(b) Explain the factors influencing choice of IF. (6)

OR

X. (a) Define selectivity, sensitivity, fidelity and noise figure of radio receivers. (8)

(b) Draw the block diagram of FM receiver. (7)
