TED (15/19) 3041
(Revision-2015/19)

**A23 -07685**

Reg.No.....
Signature.....

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

# COMMUNICATION ENGINEERING

[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 MANET.
2. State vertical polarization in EM wave.
3. Define Modulation index in AM.
4. Define the term Signal to Noise ratio.
5. State the need of limiter in FM receiver. (5 x 2 = 10)

## PART – B

**Maximum marks : 30**

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

1. Explain half wave dipole antenna with figure.
2. Compare AM and FM.
3. Differentiate between PAM and PWM.
4. Explain with a block diagram the working of FM direct transmitter.
5. Describe AFC.
6. Explain AM demodulation circuit using diode detector.
7. What are the criteria for choosing IF. (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) List out the layers of ionosphere and explain (8)

(b) Explain the folded dipole antenna. (7)

**OR**

IV.(a) Explain ground wave propagation. (8)

(b) Define Skip distance, MUF, Virtual height. (7)

**UNIT-II**

V.(a) Compare DSBSC, SSBSC and VSB. (8)

(b) Explain ASK and FSK with waveforms. (7)

**OR**

VI. (a) Derive the expression for AM. (8)

(b) Explain Pulse code modulation technique. (7)

**UNIT-III**

VII. (a) Draw the block diagram of AM transmitter and discuss the function of each block. (8)

(b) Explain different types of noises in communication system. (7)

**OR**

VIII.(a) Explain phase modulated FM transmitter with block diagram. (8)

(b) Explain De-emphasis and Pre-emphasis with necessary diagrams. (7)

**UNIT-IV**

IX. (a) Explain the working of AM receiver with block diagram. (8)

(b) Describe the characteristics of Radio receiver. (7)

**OR**

X. (a) Draw the block diagram of FM Receiver and explain the working of each block. (8)

(b) Explain Delayed AGC in radio receiver. (7)

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