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

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Reg.No……..
Signature……...

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, NOVEMBER – 2023

COMMUNICATION ENGINEERING

[Maximum Marks : 100] [Time : 3 hours]

PART – A
(Maximum Marks : 10)

Marks

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

1. Define skip distance.
2. Explain critical frequency.
3. Define signal-to-noise ratio.
4. Define selectivity.
5. Draw the frequency spectrum of AM. (5x2=10)

PART – B
(Maximum Marks : 30)

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

1. Explain ground wave propagation.
2. Explain pulse amplitude modulation.
3. What are needs for modulation?
4. Explain pre-emphasis and de-emphasis.
5. Explain AFC with block diagram.
6. Explain AM demodulation circuit using diode detector.
7. Explain the need of limiter circuit in FM.

(5x6=30)

PART – C

(Maximum Marks : 60)

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

UNIT – I

III. (a) Explain space wave propagation. (8)

(b) Explain the working of parabolic antenna. (7)

OR

IV. (a) List the layers of ionosphere and explain. (8)

(b) Explain folded dipole antenna. (7)

UNIT – II

V. (a) Explain the working of balanced modulator with circuit. (8)

(b) Explain vestigial side band transmission with frequency spectrum. (7)

OR

VI. (a) Draw and explain pulse code modulation. (8)

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

UNIT –III

VII. (a) With the help of a block diagram explain AM transmitter. (8)

(b) List different types of noises. (7)

OR

VIII. (a) With the help of block diagram explain direct FM transmitter. (8)

(b) Explain how to improve signal-to-noise ratio. (7)

UNIT – IV

IX. (a) Draw and explain super-heterodyne receiver. (8)

(b) Explain the factors influencing the choice of IF. (7)

OR

X. (a) Draw and explain FM receiver. (8)

(b) Compare AM and FM receivers. (7)

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