

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2018

COMMUNICATION ENGINEERING

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. What is Maximum Usable Frequency (MUF) ?
2. What is Diffraction ?
3. Define Frequency modulation.
4. Define sensitivity of radio receiver.
5. State the need for limiters in FM Receiver.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Write a note on diversity reception.
2. What are the characteristics of rhombic antennae ?
3. Distinguish between low level and high level modulation.
4. What is pre-emphasis and de-emphasis ?
5. What is principle of AFC ?
6. Distinguish between simple AGC and delayed AGC.
7. What is the function of a harmonic generator in AM transmitter ?

(5×6 = 30)

## PART — C

(Maximum marks : 60)

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

## UNIT — I

- III (a) What is sky wave propagation ? 3  
 (b) Explain the ionosphere and the characteristics of various layers. 12

OR

- IV Write short notes on :  
 (a) Marconi Antenna  
 (b) Skip Distance  
 (c) Broadside antenna array 15

## UNIT — II

- V (a) Describe the frequency spectrum of AM with relevant figure and equations. 8  
 (b) Explain vestigial side band system. 7

OR

- VI (a) Draw the waveforms of AM, FM and PM wave. 6  
 (b) Compare narrow band and wide band FM. 9

## UNIT — III

- VII (a) Draw the block diagram of an AM transmitter. 7  
 (b) Discuss about noise in communication system. 8

OR

- VIII With the help of necessary figure explain method for FM generation. 15

## UNIT — IV

- IX Explain a super heterodyne receiver with the help of a block diagram. 15

OR

- X (a) What are the characteristics of a radio receiver ? 6  
 (b) State the reasons affecting choice of IF in radio receivers. 9