



THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/  
TECHNOLOGY — OCTOBER, 2016

COMMUNICATION ENGINEERING

(Common for EL and EC)

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

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

1. Define Electric and Magnetic field.
2. What is meant by radiation pattern of an Antenna.
3. State the term modulation index for AM.
4. List any two advantages of FM over AM.
5. State the need of limiter 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. Define Skip Distance, MUF and Critical Frequency.
2. Explain atmospheric Refraction and Diffraction.
3. Compare AM with DSB-SC and SSB-SC.
4. Illustrate different analog pulse modulation.
5. Define Pre-Emphasis and De-Emphasis.
6. What is AGC ? Describe simple AGC.
7. Define IF, explain the factors governing the choice of IF. (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) Explain the types of Ground wave propagation. 8  
(b) Explain the operation of Folded dipole antenna 7

OR

- IV (a) Explain the Physical concept of electromagnetic energy. 8  
(b) What is Smart antenna ? Write its advantages and application. 7

UNIT — II

- V (a) Describe different Digital Carrier Modulation Schemes. 8  
(b) Draw the waveform of AM and deduce the expression for AM wave. 7

OR

- VI (a) Draw the circuit diagram of Balanced modulator and explain its Working. 8  
(b) Describe Frequency spectrum and Band width of FM. 7

UNIT — III

- VII (a) Draw the Block diagram of direct FM transmitter and explain the function of each block. 8  
(b) Compare the noise performance of AM and FM system. 7

OR

- VIII (a) Explain high level AM transmitter with the help of block diagram. 8  
(b) Explain various types of external and internal noise. 7

UNIT — IV

- IX (a) Draw the Block Diagram of FM Receiver and explain function of each block. 8  
(b) Explain the detection of AM signals using envelope detector. 7

OR

- X (a) Describe the characteristics of radio receiver. 8  
(b) In comparison with AM receiver explain the additional features included in the FM receiver. 7