TED (15)– 3041

(REVISION — 2015)

Reg. No.....

Signature .....

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. Define MANET.
2. Define the term fidelity.
3. Describe antenna array.
4. Define Noise figure.
5. Draw the frequency spectrum of AM. (5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain Refraction and Diffraction.
2. Explain AFC with block diagram.
3. Explain diode AM detector.
4. Compare AM and FM Receivers.
5. Explain single side band transmission.
6. Describe pulse width modulation.
7. Explain Half wave dipole antenna. (5×6 = 30)

Marks

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. 7

(b) Describe Electric and Magnetic fields. 8

OR

IV (a) Draw different layers of Ionosphere and explain it. 8

(b) Explain the parabolic antenna. 7

UNIT — II

V (a) Draw and explain the collector modulator. 8

(b) Explain Vestigial Sideband transmission with frequency spectrum. 7

OR

VI (a) Explain ASK & FSK with wave form. 8

(b) Derive the expression for amplitude modulation. 7

UNIT — III

VII (a) Explain De-emphasis and Pre-emphasis with necessary diagrams. 6

(b) Draw the block diagram of Indirect FM transmitter and explain the functions of each block. 9

OR

VIII (a) Explain AFC with block diagram. 7

(b) Explain the working of AM transmitter with block diagram. 8

UNIT — IV

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

(b) Explain the need of Limiter in FM receiver. 7

OR

X (a) Explain the working of FM receiver with block diagram. 9

(b) Explain the terms sensitivity and selectivity of radio receivers. 6