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TED (15) – 3041

(REVISION — 2015)

Reg. No...

Signature ....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE — OCTOBER, 2019

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 smart antenna.

2. State sampling theorem.

3. Define signal to noise ratio.

4. State the need of limiter in FM receivers.

5. Draw the frequency spectrum of DSBSC wave.

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain different layers of ionosphere.

2. Explain the working of parabolic antenna.

3. State any four needs for modulation.

4. Illustrate pulse amplitude modulation.

5. Draw the block diagram of Armstrong FM transmitter.

6. Compare AM and FM receivers.

7. Explain simple AGC with circuit diagram.

(5×6 = 30)

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PART — C

(Maximum marks : 60)

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

Unit — I

III (a) Explain different types of wave propagation.   9

     (b) Describe MANET and list its applications.   6

Or

IV (a) Define the terms :

        (i) Critical frequency   (ii) Maximum Usable Frequency (iii) Skip distance   9

     (b) Explain folded dipole antenna.   6

Unit — II

V (a) Derive the expression for amplitude modulated wave.   8

   (b) Explain different digital carrier modulation schemes with necessary wave forms.   7

Or

VI (a) With neat diagram explain the working of balanced modulator.   8

     (b) Explain pulse code modulation.   7

Unit — III

VII (a) Draw and explain the block diagram of AM transmitter.   8

     (b) Explain pre-emphasis and de-emphasis.   7

Or

VIII (a) Explain different types of noise affects in communication system.   7

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

Unit — IV

IX (a) Draw the block diagram of super heterodyne receiver and explain the function of each block.   9

   (b) Define :

       (i) Fidelity   (ii) Noise figure   6

Or

X (a) Draw and explain the block diagram of FM receiver.   9

   (b) Explain the working of envelop detector with diagram.   6