TED (15) 3041 | A21-08282 | Reg.No.....

(Revision-2015/19) | Signature.....

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, APRIL-2021

COMMUNICATION ENGINEERING

[Maximum marks: 75] (Time: 2.15 Hours)

PART – A

I (Answer any ***three*** questions in one or two sentences. Each question carries 2 marks)

1. Define radiation pattern of an antenna
2. List the classification of smart antenna
3. State sampling theorem
4. List any two methods of FM generation
5. Define sensitivity and selectivity of receivers (3 x 2 = 6)

PART – B

II (Answer any ***four*** of the following questions. Each question carries 6 marks)

1. Explain ground wave propagation
2. Explain the working of parabolic reflector antenna
3. Explain the working of balanced modulator
4. Draw the frequency spectrum of DSBSC,SSBSC and VSB
5. Explain the methods to improve signal to noise ratio
6. Explain direct method of FM generation
7. Explain the working of envelope detector (4 x 6= 24)

PART – C

(Answer ***any of the three units*** from the following. Each full question carries 15 marks)

UNIT –I

III. (a) Define skip distance, critical frequency, maximum usable frequency and virtual height (8)

(b) Explain the working of folded dipole antenna (7)

OR

IV. (a) Explain the structure of ionosphere (8)

(b) Define MANET and list its application (7)

UNIT-II

V. (a) Explain the need for modulation (8)

(b) Draw and explain the block diagram for PCM transmitter (7)

OR

VI. (a) Explain various digital carrier modulation scheme (9)

(b) Derive the mathematical expression for AM wave (6)

UNIT-III

VII.(a) Explain different types of noise affecting a communication system (9)

(b) Explain Pre-emphasis and De-emphasis in FM system (6)

OR

VIII.(a) Draw and explain the working of AM transmitter (9)

(b) Explain signal to noise ratio and noise figure (6)

UNIT-IV

IX. (a) Draw and explain the working of superheterodyne receiver (8)

(b) Explain Simple and delayed AGC (7)

OR

X. (a) Draw and explain the working of FM Receiver (10)

(b) Explain the need of limiter in FM receiver (5)

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