N21-08292

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANGEMENT/ COMMERCIAL PRACTICE - NOVEMBER 2021

DIGITAL COMMUNICATION

(Maximum Marks:75)   (Time: 2¼ hours)

PART - A

Marks

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

1.   Define granular noise.

2.   Define aliasing.

3.   Write any two features of BPSK.

4.   Define entropy.

5.   Write any two methods for data security.   (3 x 2 = 6)

PART - B

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

1.   Explain adaptive delta modulation.

2.   Explain companding.

3.   Draw and explain BPSK spectrum.

4.   Explain convolutional coding.

5.   Explain Shannon's channel capacity theorem.

6.   Describe public key algorithm.

7.   Explain the working of sliding window ARQ   (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)   Draw and explain basic elements of PCM system   (9)

      b)   Explain quantization   .   (6)

OR

IV   (a)   Explain PWM generator with block diagram and waveform.   (9)

     (b)   Compare the different Pulse Modulation Techniques   (6)

UNIT – II

V   (a)   Explain BFSK generator with block diagram.   (8)

     (b)   Explain Minimum Shift Keying   (7)

OR

VI   (a)   Explain with waveform, QPSK generation.   (9)

     (b)   Explain pass band transmission model   .   (6)

UNIT – III

VII (a)   Explain Hamming code with an example   .   (9)

     (b)   Explain burst error   (6)

OR

VIII (a)   Explain Shannon-Fano coding with example.   (9)

     (b)   Explain block interleaving method for error correction   (6)

UNIT – IV

IX   (a)   Explain different switching methods in networking.   (9)

     (b)   Explain cipher and cryptography.   (6)

OR

X   (a)   Draw and explain the working of FDM and TDM with block diagram. (9)

     (b)   Explain different data transmission methods.   (6)

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