Roll No. ....

OLE-24234

B. Tech. 5th Sem. (ECE) Examination – April, 2021

COMMUNICATION ENGG.

Paper : EE-301-F

Time : Three hours]   *[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note :   Attempt *five* questions in all. Question No. **1** is *compulsory*. Answer other *four* questions selecting *one* from each Section. All questions carry equal marks.

1. (a) What do you mean by signals. Define different types of signals.   5

    (b) Discuss the effect of Noise on different channel and how it can be minimized.   5

    (c) Discuss the joint probability density function.   5

    (d) What is error function. Explain it details.   5

UNIT – I

2. Explain the convolution theorem.   20

3. What is the difference b/w Fourier series and Fourier transform. Discuss various properties of Fourier transform.   20

UNIT – II

4. Explain the Shannonfano coding and Huffman coding by taking an examples.   20

5. (a) State and prove Shannon Hartley theorm.   15

  (b) Derive relation b/w different Entropies.   5

UNIT – III

6. Explain the probability of joint occurrence and conditional probability. Also discuss the random signal.   20

7. Write short notes on :

  (a) Probability distribution function   10

  (b) Discrete probability theory   10

UNIT – IV

8. Explain the following :

    (a) Ergodic Process   10

    (b) Central limit theorm   10

9. (a) Explain the encoding and decoding process of cyclic code.   10

    (b) Discuss optimum filter   5

    (c) Cross spectral density   5

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