

Roll No.

24152

B. Tech. 4th Semester (ECE)

Examination – May, 2017

COMMUNICATION SYSTEM

Paper : EE-206-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, selecting *one* question from each Section. Question No. 1 is *compulsory*. All questions carry equal marks.

1. (a) Need of modulation in communication system. 4
- (b) Linearity and time scalling property F. T. 4
- (c) What is BW of DSB-SC signals ? 4
- (d) What do you mean by Sampling period and Sampling mode ? 4
- (e) Write expression for thermal noise in system. 4

SECTION - A

2. (a) Explain radio frequency spectrum used in communication system. 10
(b) Classification of signals. 10
3. Classification of system with example. 20

SECTION - B

4. (a) Explain square-law diode modulation method for AM. 10
(b) Sketch and explain the working of ring modulator to generate a DSB-SC signal. 10
5. (a) Calculate the Nyquist rate for given analog signal $x(t) = 3\cos(50\pi t) + 10\sin(300\pi t) - \cos(100\pi t)$ 15
(b) Explain aliasing with neat diagram. 5

SECTION - C

6. Explain with diagram QPSK System. 20
7. Explain PCM, DPCM and DM. 20

SECTION - D

8. Derive the expression for Noise figure calculation. 20

9. Write notes on :

20

- (i) ASK
(ii) TDM
(iii) Measurement of Information
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