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[5252]-538

S.E. (Electronics/ETC)(Second Semester)

EXAMINATION, 2017

ANALOG COMMUNICATION

(2015 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :- (i) Solve Q. No. 1 or Q. No. 2; Q. No. 3 or Q. No. 4; Q. No. 5 or Q. No. 6 and Q. No. 7 or Q. No. 8.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Use of logarithmic tables, slide rule, Mollier charts, electronic, pocket calculator and steam tables is allowed.

(v) Assume suitable data, if necessary.

1. (a) What is modulation ? Explain need of modulation and its types. [6]

(b) State and compare different SSB generation methods. [6]

Or

2. (a) Discuss the Direct Method of FM generation. [6]

(b) What are the significant changes done in superheterodyne receiver over TRF Receiver ? [6]

P.T.O.

3. (a) What is double spotting and image frequency rejection ratio in radio receiver ? [6]
- (b) Derive the expression for FM Modulated wave for sinusoidal modulating signal [6]
- $$e = A \sin \theta.$$

Or

4. (a) State the significance of Pre-emphasis and de-emphasis in FM. [6]
- (b) How integrated circuit helps to detect FM Signal ? [6]
5. (a) Define Noise and explain various sources of Noise. [7]
- (b) Discuss the behaviour of baseband system in presence of Noise. [6]

Or

6. (a) Consider a radio receiver with RF amplifier having noise figure 3 dB and gain of 12dB followed by a mixer with noise figure 12 dB and conversion gain 20 dB. Calculate overall noise figure and noise temperature. [6]
- (b) Discuss the behaviour of amplitude modulated system in presence of Noise. [7]

7. (a) Discuss the role of sampling theorem in digitization of signal.

[6]

(b) "PCM is integral part of ADC". Comment ? [7]

Or

8. (a) Explain distortion occur in process of sampling and its remedial solutions. [7]

(b) Describe types of sampling with their merits and demerits.

[6]

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