Total No. of Questions—8]   [Total No. of Printed Pages—3

Seat No.	

[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 alowed.

(*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]