Total No. of Questions—**8**] [Total No. of Printed Pages—**2**

Seat No.	

[5559]-140

S.E. (II Semester) (Electronics/ETC) EXAMINATION, 2019
ANALOG COMMUNICATION
(2015 PATTERN)

Time : 2 Hours **Maximum Marks : 50**

N.B. **:—** (*i*) Answer Q. No. **1** *or* **2**, **3** *or* **4**, **5** *or* **6**, **7** *or* **8**.
(*ii*) Neat diagrams must be drawn wherever necessary.
(*iii*) Figures to the right indicate full marks.
(*iv*) Your answers will be valued as a whole.
(*v*) Use of logarithmic tables side rule, Mollier charts, electronic pocket calculator and steam tables is allowed.
(*vi*) Assume suitable data, if necessary.

1. (*a*) What is base communication ? What are its limitations ? [6]
(*b*) Explain non-linear modulator for DSBSC generation. [6]

Or

2. (*a*) What are the tracking methods in AM superheterodyne receiver. [6]
(*b*) Explain the following terms : [6]
(*i*) Selectivity
(*ii*) Sensitivity
(*iii*) Fidelity
(*iv*) Image Frequency.

3. (*a*) Describe Armstrong method for FM generation. [6]
(*b*) Draw and explain FM stereo receiver. [6]

Or

4. (*a*) Explain Pre-emphasis and De-emphasis. [6]
(*b*) Justify ratio detector act as Detector as well as limiter. [6]

P.T.O.

5. (*a*) Explain different types of internal noise. [6]

(*b*) Derive expression for Friss formula for noise factor of amplifier in cascade. [7]

Or

6. (*a*) Explain the performance of SSBSC in presense of noise. [7]

(*b*) There resistors have values R_1 = 10 kΩ, R_2 = 14 kΩ and R_3 = 24 kΩ. It is known that thermal noise voltage generated by R_1 is 0.3 μV. Assume T = 27°C. Calculate thermal noise voltage generated by :

(*i*) the *three* resistors connected in series.

(*ii*) the *three* resistors connected in parallel. [6]

7. (*a*) Describe types of sampling with their merits and demerits. [7]

(*b*) Compare PAM, PWM and PPM with waveform. [6]

Or

8. (*a*) With the help of neat diagram, explain the transmitter and receiver of pulse code modulation. [7]

(*b*) What is meant by 'Aperture effect' ? How can it be reduced ? [6]