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

Seat No.	

[5668]-140

S.E. (Electronics/E&TC) (II Semester) EXAMINATION, 2019

ANALOG COMMUNICATION

(2015 PATTERN)

Time : Two Hours **Maximum Marks : 50**

N.B. **:—** (*i*) Answer Q. No. **1** *or* Q. No. **2**, Q. No. **3** *or* Q. No. **4**, Q. No. **5** *or* Q. No. **6**, Q. No. **7** *or* Q. No. **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*) Ue of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and stream tables is allowed.

(*vi*) Assume suitable data, if necessary.

1. (A) Enlist the SSB generation methods. Explain any *one* method of SSB generation in detail. [6]

(B) A SSB transmitter radiates 0.5 kW when modulation percentage is 60%. How much of carrier power is required if we want of transmit the same message by an AM transmitter ? [6]

P.T.O.

Or

2. (A) Draw and explain the block diagram of superheterodyne receiver mentoring the typical frequencies at different point. [6]

(B) With the help of circuit diagram explain a simple diode detector used for AM detection. Enlist the drawbacks associated with it. [6]

3. (A) What are the methods of FM generation ? Explain any *one* method in detail. [6]

(B) Compare NBFM and WBFM. [6]

Or

4. (A) Explain different methods of FM detection. Explain any *one* method in detail. [6]

(B) Explain with suitable diagram importance of pre-emphasis and de-emphasis in the performance of FM system. [6]

5. (A) What are the different types of Noise ? Explain any *five* types in detail. [7]

(B) If R_1 = 10 kΩ and R_2 = 15 kΩ. Calculate the thermal noise generated by :

(*i*) R_1 in series with R_2

(*ii*) R_1 in parallel with R_2

Assume 20 MHz noise bandwidth and 27° temperature. [6]

Or

6. (A) A mixer stage has noise figure of 20 dB and this is preceded by an amplifier that has noise figure of 9 dB and an available power gain of 15 dB. Calculate the overall noise figure referred to the input. [7]

(B) Explain the performance of baseband system in presence of noise. [6]

7. (A) Draw and explain generation and detection of PAM. [7]

(B) Compare PAM, PWM and PPM. [6]

Or

8. (A) State sampling theorem and explain the types of sampling. [7]

(B) Draw and explain PCM transmitter. Also enlist the drawbacks associated with it. [6]