



C14-EC-304

4239

**BOARD DIPLOMA EXAMINATION, (C-14)  
OCTOBER/NOVEMBER-2018  
DECE-THIRD SEMESTER EXAMINATION**

**ANALOG COMMUNICATION**

Time : 3 Hours ]

[ Total Marks: 80

**PART-A**

3X10=30

- Instructions :**
1. Answer **All** questions.
  2. Each question carries **THREE** marks
  3. Answer should be brief and straight to the point

1. Draw the waveform of an AM wave.
2. Define frequency modulation and phase modulation.
3. List the advantages of SSB.
4. Define modulation index of FM.
5. List the requirements of transmitters.
6. Define sensitivity and fidelity.
7. List the types of wave propagation methods.
8. Define Line of Sight (LOS).
9. Define beam width and radiation resistance.
10. Define resonant and non-resonant antenna.

## PART-B

10X5=50

- Instructions* :
1. Answer any **five** questions.
  2. Each question carries **ten** marks.
  3. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. Explain the frequency spectrum and mention the usage of frequencies for different application.

12. Derive the relation between total power and carrier power in AM.

13. (a) Draw the frequency spectrum of AM wave for the following data  $f_c=200\text{KHz}$

$$f_m=10\text{KHz} \quad V_c=150\text{V} \quad m=40\%$$

(b) A carrier wave of 1200W is modulated simultaneously by two tones of modulation index 20% & 40%. Determine total power radiated.

14. (a) Distinguish between low level and high level modulation.

(b) Draw the block diagram of basic SSB transmitter.

15. (a) Explain the choice of IF.

(b) Explain the need for AVC.

16. Explain ground wave propagation.

17. Explain the Horn antenna.

18. Explain the half wave dipole and give its radiation pattern.

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