4240

C14-EC–304

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BOARD DIPLOMA EXAMINATION, (C-14)

JUNE—2019

DECE - THIRD SEMESTER EXAMINATION

ANALOG COMMUNICATION

Time : 3 hours] [*Total Marks* : 80

PART—A

3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define frequency modulation and draw its waveforms.

2. Define Baseband, Carrier and Modulated signals.

3. State the need of Pre-emphasis and De-emphasis in FM.

4. Write the advantages and disadvantages of SSB.

5. Explain the need for AVC.

6. Explain the need for Super heterodyne receiver.

7. Define Isotropic antenna and draw its radiation pattern.

8. List the applications of Dish antenna.

9. Define Power density and Electric field intensity of EM waves.

10. Define the terms Critical frequency and Mixmum usable frequency in Sky wave propagation.

PART—B

5×10=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answer should be comprehensive and the criteria for valua tion are the content but not the length of the answer.

11. Describe about Internal and External noise.

12. *(a)* With the help of figure explain the vestigial side band transmission.

(b) List the applications of SSB.

13. *(a)* A carrier wave of 400 watts is subjected to 90% amplitude modula tion. Determine *(i)* Power of modulated wave and *(ii)* Power in side bands.

(b) Write the AM equation and deduce the frequency components and bandwidth.

14. With the help of block diagram explain the Armstrong method of FM generation.

15. *(a)* Define AGC

(b) Draw the block diagram of TRF Receiver and explain.

16. *(a)* Explain the construction and working of Rhombic antenna.

(b) Define Resonant and Non-Resonant antennas.

17. Draw and explain the working of Helical and Log periodic antennas.

18. Explain the space wave propagation.