



C09-EC-304

3236

BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL—2016
DECE—THIRD SEMESTER EXAMINATION

COMMUNICATION ENGINEERING

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 'noise temperature'.
2. List the applications of UHF band of frequency spectrum.
3. Define overmodulation.
4. Define de-emphasis in FM.
5. Calculate the (a) bandwidth, (b) LSB frequency, and (c) USB frequency if a carrier signal $20 \sin 6280 t$ is amplitude modulated by a signal $12 \sin 628 t$.
6. List the advantages of FM receivers over AM receivers.
7. List various frequency bands used in radio receivers.

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8. Define image ^{*} frequency rejection ratio in radio receivers.
9. List various losses in transmission lines.
10. Define reflection coefficient.

PART—B

10×5=50

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

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

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Classify various types of continuous wave modulation and sketch their waveforms.
12. Explain the measures for distortionless transmission.
13. Derive time-domain equation for FM signal.
14. Explain the differences between amplitude modulation and frequency modulation.
15. Draw the block diagram of FM transmitter using Armstrong method and explain its working.
- ^{*} 16. Draw the block diagram for heterodyne AM transmitter and briefly explain its operation.
17. Explain ground-wave propagation of EM waves.
18. Explain sky-wave propagation of EM waves.

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