



C09-EC-304

3236

BOARD DIPLOMA EXAMINATION, (C-09)  
APRIL/MAY—2015  
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) Answer should be brief and straight to the point and shall not exceed *five* simple sentences.

1. What is the need for modulation?
2. List the types of distortion.
3. List the advantages of pre-emphasis and de-emphasis.
4. Define amplitude modulation.
5. Calculate the modulation index of an FM signal with 5 MHz carrier modulated by 15 kHz modulating signal with maximum deviation of 75 kHz.
6. Define image frequency rejection ratio in radio receivers.
7. Define selectivity of a radio receiver.
8. List the advantages of AM receivers over FM receivers.
9. What is single stub matching?
10. Draw the electrical equivalent circuit of a transmission line.

/3236

1

[ Contd...

WWW.MANARESULTS.CO.IN

\*

**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.** Describe the frequency spectrums of HF, VHF, UHF, SHF, EHF.
- 12.** Describe the effects of internal and external noises on a communication system.
- 13.** (a) Describe noise triangle in FM. 6  
(b) List the merits of FM over AM. 4
- 14.** (a) Describe the method of producing DSBSC. 5  
(b) List the advantages of DSBSC. 5
- 15.** Draw block diagram of a superheterodyne radio receiver and explain its working.
- 16.** Draw block diagram for heterodyne AM transmitter and briefly explain its operation.
- 17.** Explain ground wave propagation of EM waves.
- 18.** Explain different layers of ionosphere.

\*\*\*