



C09-EC-304

3236

**BOARD DIPLOMA EXAMINATION, (C-09)
OCTOBER/NOVEMBER-2018
DEC-THIRD SEMESTER EXAMINATION**

COMMUNICATION ENGINEERING

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. List three applications of SHF band frequency spectrum.
2. List the types of distortion.
3. Define pre-emphasis in FM.
4. Define Modulation Index of FM signal.
5. State how bandwidth varies with frequency deviation in FM signal.
6. List advantages of AM receivers over FM receivers.
7. What is high level modulation?
8. Define Image frequency rejection ratio in radio receivers.
9. Define 'standing wave ratio'.
10. State the need for impedance matching in transmission lines.

PART-B

10X5=50

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

11. Explain different types of internal and external noise.
12. (a) Distinguish between base band, carrier and modulated signals with waveforms.
(b) Explain the relation between channel bandwidth, base band bandwidth and transmission time.
13. (a) Explain the method of producing SSB.
(b) A 1200 Watt carrier signal is amplitude modulated to a depth of 90 percent. Calculate (i) total transmitted power (ii) power in USB (iii) total sideband power.
14. (a) State the expressions for power in carrier, side bands, total power and total current in an AM signal.
(b) Explain time division multiplexing.
15. Draw block diagram of a super heterodyne radio receiver and explain its working.
16. Draw block diagram of FM transmitter using Armstrong method and explain its working.
17. Explain ground wave propagation of EM waves.
18. Explain different layers of ionosphere.
