



C16-EC-304

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BOARD DIPLOMA EXAMINATION, (C-16)
MARCH/APRIL—2018
DECE—THIRD SEMESTER EXAMINATION

ANALOG AND DIGITAL COMMUNICATION SYSTEMS

Time : 3 hours]

[Total Marks : 80

PART—A

10×3=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 amplitude modulation. 3
2. List any three advantages and disadvantages of SSB. 3
3. Classify different types of noise. 3
4. State sampling theorem. 3
5. List different error detection schemes. 3
6. State the need for digital modulation. 3
7. Define the terms (a) sensitivity and (b) selectivity of a radio receiver. 3

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8. List any two ^{*} factors to be considered for the choice of intermediate frequency (IF). 3
9. State the need for multiplexing. 3
10. List any four advantages of TDM. 3

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. (a) Derive the relationship between total power and carrier power in AM. 6
- (b) Define over modulation and list its effects. 2+2
12. (a) Define phase modulation. 4
- (b) Explain the need for DSB-SC and SSB modulation. 6
13. (a) Define modulation index of an FM signal. 4
- (b) List the merits of FM over AM. 6
14. Describe the coding and decoding of a PCM signal. 10
15. Explain coherent BFSK demodulator with a neat block diagram. 10
16. Draw the block diagram of high level modulated transmitter and explain its working. 10
17. Explain the process of demodulation with envelope detector in AM receiver. 10
18. Explain frequency division multiplexing. 10
