6235

BOARD DIPLOMA EXAMINATIONS

OCT/NOV-2019

DECE – THIRD SEMESTER

ANALOG & DIGITAL COMMUNICATION SYSTEMS

Time:3 hours   Max. Marks: 80

PART – A   **3 X 10 = 30**

Instructions: 1. Answer **all** questions.
2. Each question carries **Three** Marks.
3. Answer should be brief and straight to the point and should not exceed five simple sentences.

1. List any three merits of FM over AM.

2. State the need for modulation in communication systems.

3. Define modulation index of AM signal.

4. Define bit rate and dynamic range for PCM system.

5. List the advantages of ASK.

6. Define efficiency of data communication system.

7. State the need for AVC (AGC) in radio receivers.

8. Mention any three requirements of a transmitter.

9. State the need for multiplexing.

10. List any three disadvantages of TDM.

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Instructions: 1. *Answer any **Five** questions*
2. *Each question carries **TEN** Marks.*
3. *Answer should be comprehensive and Criteria forValuation is the content but not the length of the answer.*

11. a) Derive the relation between carrier power and total power in AM.   7M

b) If a carrier power of 400 Watt is amplitude modulated to a depth

of 100% then find the total power of the AM signal.   3M

12. a) Define pre-emphasis and De-emphasis.   5M

b) Explain noise triangle in FM.   5M

13. Derive the time domain equation for FM signal.

14. a) Compare PAM, PWM, PPM.   6M

b) Write the advantages of digital communication system over analog

Communication system.   4M

15. Explain VRC and LRC methods of error detection with an example.

16. Draw and explain the block diagram of Armstrong FM transmitter.

17. Explain the working of Super heterodyne receiver with a block diagram.

18. Explain Asynchronous Digital Subscriber Line (ADSL) technology.