C16-**EC-304**

6235

BOARD DIPLOMA EXAMINATIONS

SEPTEMBER/OCTOBER - 2020

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. Define modulation.
2. Define periodic and non-periodic signals.
3. Define pre-emphasis and de-emphasis.
4. Define information capacity of a channel.
5. State the advantages of CRC method of error detection.
6. Define ASK and FSK.
7. List any three requirements of transmitters.
8. State the need for AVC in radio receivers.
9. State the difference between Multiplexing and Multiple Access.
10. Compare TDM and FDM.

[cont..,

PART – B 5 X 10 = 50

***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 time-domain equation for an AM signal. 6M

    b) Draw the time-domain waveform of an AM signal. 4M

12. a) State the need for modulation in communication systems. 6M

    b) Classify different types of noise. 4M

13. a) Define the terms: i) baseband bandwidth

    ii) channel bandwidth and iii) transmission time 6M

    b) A 100watt carrier is amplitude modulated to a depth of 50 percent.

    Calculate the total power in the modulated wave. 4M

14. Explain PAM and PWM with waveforms. 5+5M

15. Explain BFSK modulator with block diagram.

16. Draw the block diagram of low level modulated transmitter and explain its working.

17. Draw the block diagram of TRF receiver and explain the function of each block.

18. Explain Time division multiplexing (TDM).