6235

BOARD DIPLOMA EXAMINATION
MARCH/APRIL - 2019
DIPLOMA IN ELECTRONICS AND COMMUNICATION ENGINEERING
ANALOG AND DIGITAL COMMUNICATION SYSTEMS
THIRD SEMESTER EXAMINATION

Time: 3 Hours **Total Marks: 80**

PART - A (3m x 10 = 30m)

Note 1:Answer all questions and each question carries 3 marks

2:Answers should be brief and straight to the point and shall not exceed 5 simple sentences

1. Compare AM with FM
2. Find the carrier frequency and modulating signal from the following expression.

$$e_{AM} = 10(1+0.8 \sin(2000\pi t)) \sin(2x10^5\pi t)$$

3. Define noise figure
4. Define quantization
5. What is asynchronous method of data transmission
6. Define (i) PSK (ii) FSK
7. Define (i) Sensitivity (ii) Selectivity and (iii) Fidelity
8. Explain image frequency
9. List the different types of modems
10. Draw the block diagram of frequency division multiplexing

PART - B (10m x 5 = 50m)

Note 1:Answer any five questions and each question carries 10 marks

2:The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

11. (a) Draw the waveform of FM wave ? 4 M

    (b) Explain noise triangle in FM? 4M

    (c) Define Modulation index of FM? 2M

12. (a) Draw the block diagram of basic communication system?

    (b) Describe the above block diagram

13. (a) State the advantages and disadvantages of SSB modulation technique?

    (b) State the need of DSB-SC technique?

14. (a) Explain quantization noise?

    (b) List the different data compression techniques

15. (a) Explain LRC method of error detection with example?
    (b) List the different error correction methods

16. (a) Classify the different types of radio receivers?

    (b) Draw the block diagram of TRF receiver and describe the function of each block

17. (a) Distinguish between low level and high level modulation?
    (b) Draw the block diagram of low level modulated transmitter and describe the function each block

18. (a) Explain the differences between multiplexing and multiple access?

    (b) State the need of multiplexing

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