

505

Register No.:

November 2022

Time - Three hours
(Maximum Marks: 100)

- [N.B. 1. Answer all questions under Part-A each question carries 3 marks.
2. Answer all the questions either (A) or (B) in Part-B each question carries 14 marks.]

PART - A

1. Differentiate between Symmetrical and Asymmetrical Networks.
2. Mention the types of filters used in communication systems.
3. Define amplitude modulation. What is the Band width required for Amplitude Modulation?
4. Draw the frequency spectrum of AM modulation and indicate its sidebands on it.
5. Draw the frequency spectrum of FM.
6. What do you mean by Frequency modulation?
7. What are the types of Pulse digital modulation techniques?
8. Define Sampling theorem.
9. What are Microphones? What are its types?
10. In what principle Carbon microphone is working?

PART - B

11. (a) (i) Draw the circuit diagram and Frequency response Characteristics of LPF, HPF and BPF. Write the expression for cut-off frequency for all the above filters.
(ii) Compare the characteristics of Symmetrical and Asymmetrical networks.

(Or)

- (b) (i) Draw the electromagnetic frequency spectrum and state the applications of various frequency bands in it.
(ii) State the applications of LPF, HPF and BPF.

[Turn over.....

12. (a) (i) Why we need Modulation? What are the various types of AM modulation?
(ii) Represent the AM in Time domain and Frequency domain. Write the expression of AM And indicate its Carrier and Side bands in it.

(Or)

- (b) (i) Define (i) DSB-AM (ii) SSB-AM (iii) VSB -AM.
(ii) Draw the block diagram of High level AM Transmitter. Explain the working of each block.

13. (a) (i) What are the various types of FM transmitters?
(ii) Explain the working of Direct FM transmitter.

(Or)

- (b) (i) Explain the working of Indirect FM transmitter.
(ii) Compare AM and FM

14. (a) (i) Explain the detection of PWM. Draw its input and output waveforms.
(ii) What do you mean by Quantization? Explain how quantization noise affects the signal in the receiver.

(Or)

- (b) (i) Explain the generation of PPM. Draw its input and output waveforms.
(ii) Differentiate between PWM and PPM.

15. (a) (i) What are the advantages and disadvantages of Carbon microphone?
(ii) Explain the construction, principle and working of Moving coil microphone.

(Or)

- (b) (i) What are the advantages and disadvantages of Velocity Ribbon microphone?
(ii) Explain the construction, principle and working of dynamic cone loudspeaker.
