

TIME: 3 Hours

Max. Marks : 100

PART - A

ANSWER ALL QUESTIONS

(20 x 2 = 40 Marks)

1. Why do we need modulation?
2. A carrier wave of frequency 10MHz and peak value 10V is amplitude modulated by a 5 KHz sine wave of amplitude 6V. Determine its frequency spectrum.
3. List the different types of FM detectors.
4. Compare AM and FM.
5. What are the losses in Transmission Lines?
6. Define the term SWR.
7. What is fading?
8. What is interference of radio waves?
9. What is hamming distance?
10. Define the term companding.
11. What is quantization noise?
12. Compare FSK and PSK.
13. What are the advantages of serial interface over parallel interface?
14. List the LAN topologies.
15. Explain the term Crosstalk.
16. Mention any two codes used for telegraph transmission.
17. Define the term station keeping.

18. What is meant by effective isotropic radiated power?
19. Mention the losses in fiber optics.
20. What is the difference between a step-index fiber and a graded-index fiber?

PART - B

ANSWER ANY FIVE QUESTIONS

(5 x 12 = 60 Marks)

- 21.a. Explain the balanced modulator with suitable circuit. (8)
- b. Briefly explain the FM receiver block diagram. (4)
- 22.a. Explain about Ground-Wave propagation. (8)
- b. Write short note on characteristic impedance in transmission lines. (4)
- 23.a. Explain the FSK digital transmission system with block diagram (8)
- b. Write short note on time division multiplexing. (4)
- 24.a. Discuss the OSI architecture model for WAN. (8)
- b. Write short note error control in data communication. (4)
- 25.a. Discuss about the geostationary satellites. (8)
- b. Briefly explain how energy is lost from a "leaky mode". (4)
- 26.a. Describe the Super heterodyne receiver with block diagram. (8)
- b. Write short note on white Gaussian noise. (4)
- 27.a. Discuss the importance of Telephone network in data communication. (8)
- b. Write short note on stubs. (4)
- 28.a. Explain the data modem with suitable sketch. (6)
- b. Explain a model fiber optic communication system. (6)

\*\*\*\*\*THE END\*\*\*\*\*