Question Bank (G scheme)

Name of subject: COMMUNICATION TECHNOLOGY **Unit Test :I**

Subject code: 17519 **Course : IF**

Semester: IV

CHAPTER 1- Analog Communication (Marks 20)

3 Marks

1. Write the different types of frequency bands with application for satellite communication?
2. Explain the necessity of modulation in electronics communication system with the help of
   1] Height of antenna 2] Mixing of various signals in common path
3. Differentiate between analog and digital communication
4. Define modulation index of AM, draw waveforms for m=1,m>1, and m<1 (where m = modulation index for AM)
5. Draw frequency spectrum of AM. State two advantages of FM over AM.
6. Define FM. State ideal and practical bandwidth requirement of FM.
7. Compare AM,FM and PM.
8. Explain concept of AM demodulation and FM Demodulation. Draw simple AM detector and draw its waveforms.

4 Marks

9. Draw block diagram of AM transmitter and describe function of each block.
10. Write superheterodyne principle and explain it with block diagram with respect to AM receiver.
11. Draw block diagram of Armstrong method of FM generation. Explain with phasor diagram.
12. Explain transverse electromagnetic wave with waveform.
13. Describe ground wave propagation. State its application.Give its advantages and disadvantages.
14. Draw and explain Ionosphere.
15. Describe the concept of actual height and virtual height.
16. Define : MUF, fading. State its importance.
17. Describe with neat diagram duct propagation and Troposphere scatter propagation in brief.

CHAPTER 2- Pulse Modulation Techniques (20 Marks)

3 Marks

18. Compare between pulse modulation and CW modulation.
19. Write sampling theorem with different types and Nyquist rate.
20. Compare natural sampling, flat top sampling. State Sampling theorem and Nyquist rate.
21. Define PAM and describe the generation process of PAM with waveforms.
22. Explain PWM generation with its waveform.
23. Define PPM. Explain generation of PPM with block diagram and waveform.

4 Marks

24. Compare PPM and PWM with respect to:
    I. Bandwidth
    II. Transmitted power
    III. Variable parameter of carrier
    IV. Output waveform
25. Draw the block diagram of PCM and explain its working principle. Write its advantages, disadvantages and application.
26. What is meant by quantization and quantization noise?
27. Draw and describe the block diagram of ADM.