

Question Bank (G scheme)

Name of subject: ANALOG COMMUNICATION

Subject code: 17440

Semester:IV

Unit Test :I

Course : EJ

Chapter 1 Basics of Electronics Communication (6M)

3 Marks Questions

1. State the need of Modulation.
2. State the frequency range of the following
 - i) High Frequency
 - ii) Low Frequency
 - iii) Voice Frequency
3. Compare full duplex and half duplex on following points
 - i) Definition
 - ii) Sketch
 - iii) Examples

4 Marks Questions

4. Draw and explain the block diagram of communication system.
5. State and explain concept of transmission bandwidth.
6. Explain different types of noise involved in communication system.

Chapter 2 Modulation Techniques (24 M)

3 Marks Questions

7. Draw the frequency spectrum of AM.
8. Give AM signal representation in time domain.
9. Give the advantages of digital communication.
10. A 10kw carrier is amplitude modulated by two sine waves to a depth of 0.5 & 0.6 resp. calculate total power content of modulated carrier.
11. Define following terms with respect to FM.
 - i) Frequency deviation
 - ii) Modulation Index
 - iii) Deviation Ratio
12. Give mathematical expression of FM wave and give the meaning of each term in it.
13. Draw frequency domain representation of FM wave.
14. Compare Narrowband and Wide band FM.
15. Draw and explain PAM generation system.
16. Draw neat diagram for PAM, PPM AND PWM.

4 Marks Questions

17. Explain the effect of modulation index on AM wave with waveforms.
18. Derive the expression for total power relation in AM.
19. Compare high level and low level modulation for AM.
20. Sketch the labeled circuit diagram of collector modulated class C amplifier used for AM signal generation.
21. Compare AM and FM signal with minimum 8 points.
22. Explain varactor modulator used for AM modulation.
23. Describe Pre and De-emphasis in case FM.
24. A frequency modulated signal is represented by the voltage eqn.
$$E(f_m) = 10 \sin(6 \times 10^8 t + 5 \sin 1250 t)$$
Calculate, i) carrier frequency

- ii) Modulating frequency.
 - iii) Maximum power deviation.
 - iv) What power will this FM wave dissipate in 20 ohm resistor?
25. Compare PAM, PPM and PWM.

Chapter 3 Radio Receiver (18 M)

3 marks

26. Define with diagram
a)Sensitivity b)selectivity c) fidelity
27. State the type of AGC with characteristics.
28. Sketch and explain TRF receiver.

4 marks

- 29 .Why limiter stage is used before detector and also state the value of IF for AM and FM radio receiver.
- 30.State need of AGC with characteristics.
- 31.What are disadvantages and advantages of super heterodyne receiver.