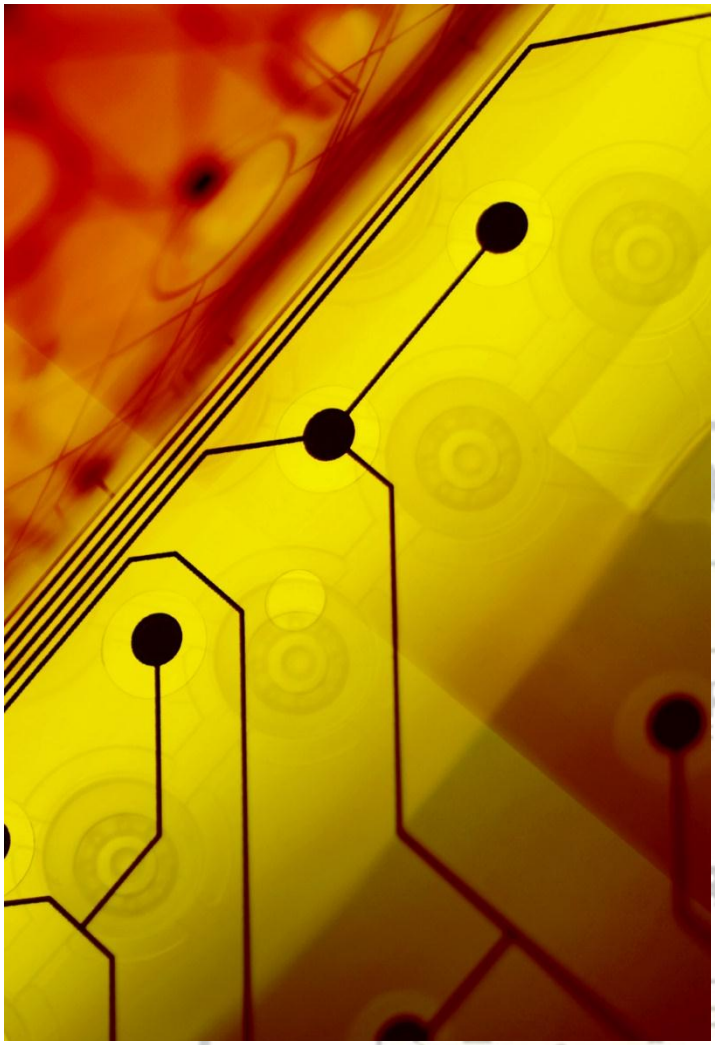

[Question Bank]

LAB:

ANALOG COMMUNICATION SYSTEMS

Code: ECE-352

Subject Teacher:

Dr. Rajbir Kaur

Semester Vth

This booklet Includes:

- List of Equipments
- List of Softwares- COM.SIM soft ware
- List of Experiments
- lab Manual
- Question Bank

ECE 352 ANALOG COMMUNICATION SYSTEMS LAB

Quiz Questions

AM

1. **Define AM and modulation index.**
2. **Write the modulated equation of AM**
3. **What are the types of Modulators used in AM?**
4. **Draw waveforms of AM modulated signal.**
5. **What are advantages of DSB-SC?**
6. **Write the limitations of SSB-SC.**
7. **Draw the circuit of phase shift method of AM.**
8. **Draw the circuit of filter method of AM.**
9. **What do you mean by vestigial side band?**
10. **10. Draw spectrum of video signal for VSB.**
11. **Draw block diagram of generation of VSB.**
12. **Draw block diagram of detection of VSB.**
13. **What are the advantages of VSB?**
14. **Define energy and power of a signal.**
15. **Define the terms Noise figure and Noise equivalent temperature.**
16. **What is the formula of total Power in AM system?**
17. **Define the term modulation index for AM and write its formula's in terms of Vmax. And Vmin.**
18. **Why we prefer SSB instead of DSB in AM?**
19. **Write Square law modulation equation.**
20. **Justify square law equation.**
21. **Derive the formula of total Current in AM system.**
22. **Draw Frequency spectrum of AM modulated wave and label it properly.**
23. **Write the condition of over modulation**
24. **Draw basic circuit of square law diode detector.**
25. **Give comparison of SSB transmission and conventional AM.**

FM

26. **Define FM**
27. **Write the modulated equation of FM.**
28. **How FM is generated from PM?**
29. **How PM is generated from FM?**
30. **Write the formula for modulation index of FM.**
31. **At what values of Bessel function FM signal disappear.**
32. **Draw frequency spectrum of FM modulated wave, and how many side bands are there in FM?**
33. **What do you mean by the term instantaneous frequency in terms of Angle modulation?**
34. **What are the draw backs of Direct methods for FM generation.**
35. **Draw foster seeley discriminator circuit.**
36. **Draw characteristics of quadrature detector.**
37. **What is envelop detector?**
38. **What is ratio detector?**
39. **Define the term frequency deviation and percent modulation in FM wave.**
40. **What is FM capture effect?**
41. **Why there is need of pre-emphasis and de-emphasis circuits in FM.**
42. **Draw diagram of Armstrong method of FM generation.**
43. **Write the formula of pre-emphasis circuit in FM.**
44. **Write the formula of de-emphasis circuit in FM.**
45. **Draw the waveforms of pre-emphasis and de-emphasis.**

PM

46. **Define PM.**
47. **What is function of sample and hold circuit in pulse modulation?**
48. **What is pulse position modulation?**
49. **How PWM and PPM signals are generated in pulse modulation transmission?**
50. **Give comparison of PAM and PPM pulse modulation techniques.**

51. Give comparison of PPM .and PWM pulse modulation techniques.
52. Draw circuit diagram of PWM.
53. Draw circuit diagram of PPM.
54. Draw circuit diagram of PAM.

TDM

55. What is Time division multiplexing?
56. What is bit interleaving?
57. Define FDM.

AM TX. And RX.

58. Draw block diagram of AM Transmitter.
59. Write the basic difference between high level and low level AM modulation.
60. Draw block diagram of AM Receiver
61. What do you mean by tracking and alignment in superheterodyne receiver?
62. What are the advantage of using a RF amplifier in super heterodyne receiver.
63. What is the function of frequency mixer?
64. What do you mean by tracking and alignment in superheterodyne receiver?

Sampling

65. Define Sampling
66. Give comparison of Instantaneous sampling, Natural sampling and Flat top sampling techniques.
67. Write the condition of sampling.

Reference Books: George kennedy, G.K.Mithal.