Subject - Digital Communication

Q1. What are the possible digital-to-analog modulation techniques and Explain

Q2. Why PSK is preferred as the modulation technique in modems?

Q.3 Out of the three digital-to-analog modulation techniques, which one requires higher bandwidth?

Q. 4 Explain In Detail Differential phase shift keying,

Q.5 Explain Method of generation and detection of coherent & non-coherent binary ASK

6. What is the main difference in DPCM and DM?
7. How the message can be recovered from PAM?
8. Write an expression for bandwidth of binary PCM with N messages each with a maximum frequency of fm Hz.
9. How is PDM wave converted into PPM message?
10. Mention the use of adaptive quantizer in adaptive digital waveform coding schemes.
11. What do u understand from adaptive coding?
12. What is meant by quantization?

While converting the signal value from analog to digital, quantization is performed.

13. The signal to quantization noise ratio in a PCM system depends on what criteria
14. What are the necessity of adaptive equalization?
15. Define the principle of adaptive equalization?
16. Write a note on correlative level coding?
17. Write the performance of data transmission system using eye

Pattern technique?

18. What is the necessity of equalization?
19. What is nyquist Bandwidth?

20 Mention the need of optimum transmitting and receiving filter in

baseband data transmission.

21. Define ASK.
22. What is meant by DPSK?
23. Explain coherent detection?

24. What is the difference between PSK and FSK?

What is correlator ?

25. On what factor, the error probability of matched filter depends.

26 Write the expression for bit error rate for coherent binary FSK.

27. Highlight the major difference between a QPSK & MSK signal.

28. What is the error probability of MSK & DPSK?

29. In minimum shift keying what is the relation between the signal

frequencies & bit rate.

30. List the advantages of Passband transmission.

31. List the requirements of Passband transmission.

32. What is meant by linear code?.

33. What are the error detection and correction capabilities of hamming codes?

34. What is meant by cyclic codes?

35.. How syndrome is calculated in Hamming codes and cyclic codes?

36.. What is BCH code?

37. What is RS code?

38. What is difference between block codes and convolutional codes?

39. Define constraint length in convolutional code?

40. Define free distance and coding gain.

41. What is convolution code?

42. What is meant by syndrome of linear block code?

Digital Communication Question Bank

ECE-VI Sem

1. Define Nyquist rate.

2. What is meant by aliasing effect?

3. Define PWM.
4. State Sampling theorem.
5. Mention the merits of DPCM.
1. Bandwidth requirement of DPCM is less compared to PCM.
2. Quantization error is reduced because of prediction filter
3. Numbers of bits used to represent one sample value are also reduced compared to PCM.
6. What is the main difference in DPCM and DM?
7. How the message can be recovered from PAM?
8. Write an expression for bandwidth of binary PCM with N messages each with a maximum frequency of fm Hz.
9. How is PDM wave converted into PPM message?
10. Mention the use of adaptive quantizer in adaptive digital waveform coding schemes.
11. What do u understand from adaptive coding?
12. What is meant by quantization?
While converting the signal value from analog to digital, quantization is performed.
13. The signal to quantization noise ratio in a PCM system depends on what criteria?

14. What is meant by adaptive delta modulation?
15. What is the advantage of delta modulation over pulse modulation schemes?
16. What should be the minimum bandwidth required to transmit a PCM channel?
W is the maximum signal frequency.
17. What is the advantage of delta modulation over PCM?

modulation is low compared to PCM.
18. What are the two limitations of delta modulation?
19. How does Granular noise occurs?
20. What are the advantages of the Delta modulation?
21. What is intersymbol interference in baseband binary PAM systems?
22. What is correlative coding?
23. Define Duobinary baseband PAM system.
24. What are eye pattern?
25. Why do you need adaptive equalization in a switched telephone network.

26.What are the necessity of adaptive equalization?
27. Define the principle of adaptive equalization?
28. Write a note on correlative level coding?
29. Write the performance of data transmission system using eye Pattern technique?
30. What is the necessity of equalization?
31. What is nyquist Bandwidth?
32 Mention the need of optimum transmitting and receiving filter in baseband data transmission.
33. Define ASK.
34. What is meant by DPSK?
35. Explain coherent detection?
36. What is the difference between PSK and FSK?
37. What is meant by coherent ASK?
38. What is the major advantage of coherent PSK over coherent ASK?
39. Explain the model of bandpass digital data transmission system?
40 Explain
. What is baseband signal receiver?
1. What is matched filter?
2. What is the value of maximum signal to noise ratio of the matched filter? When it becomes maximum?
3. What is correlator ?
4. On what factor, the error probability of matched filter depends.

41. Write the expression for bit error rate for coherent binary FSK.
42. Highlight the major difference between a QPSK & MSK signal.
43. What is the error probability of MSK & DPSK?
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54. Define constraint length in convolutional code?
55. Define free distance and coding gain.
56. What is convolution code?
57. What is meant by syndrome of linear block code?

58. What are the advantages of convolutional codes?
59. Define sates of encoder?
60. Compare between code tree and trellis diagram?
61. Write the futures of BCH Codes?
62. Define constraint length in convolutional codes?
63. Define spread spectrum communication
64. What is pseudo noise sequence ?
65. What is direct sequence spread spectrum modulation
66. What is frequency hap spread spectrum modulation?
67. State four applications of spread spectrum.