**VIVA QUESTION BANK**

1. What is feedback and what are feedback amplifiers?
2. What is meant by positive and negative feedback?
3. What are the advantages and disadvantages of negative feedback?
4. Differentiate between voltage and current feedback in amplifiers?
5. What are the characteristics of an ideal op amp?
6. Define open loop gain , closed loop gain and slew rate.
7. What are tuned amplifiers?
8. Differentiate between inverting and non inverting op amp.
9. Define sensitivity?
10. What is the type of feedback used in an op- amp Schmitt trigger?
11. Give the expression for the frequency of oscillations in an op-amp sine wave oscillator?
12. What is Oscillator circuit?
13. What are the classifications of Oscillators?
14. What are the types of feedback oscillators?
15. State the frequency for RC phase shift oscillator?
16. What are gain margin and phase margin?
17. What is the minimum value of hfe for the oscillations in transistorized RC Phase shift oscillator?
18. How does an oscillator differ from an amplifier?
19. Name two low frequency oscillators?
20. What is an effect of cascading?
21. What are all the factors affecting the bandwidth of the RC Coupled amplifier?
22. Explain the role of bypass capacitor?
23. What is meant by coupling capacitor?
24. Why does amplifier gain reduce?
25. Explain the different regions in frequency response?
26. State the types of distortions in amplifier?
27. What is cross over distortion? How it can be eliminated?
28. Define noise?
29. Define step response?
30. What are the high frequency effects?
31. Explain the usefulness of the decibel unit.
32. Define the term bandwidth of an amplifier?
33. Why it is not possible to use the h- parameters at high frequencies?
34. What do you mean by the half power or 3 db frequencies?
35. What do you understand by Operating point?
36. Why do we choose the Q point at the center of the load line?
37. Name the two techniques used in the stability of the q point .explain.?
38. Define stability factor &Give the expression for stability factor?
39. List out the different types of biasing.
40. What do you meant by thermal runway?
41. Why transistor is called as a current controlled device?
42. Define current amplification factor?
43. What are the requirements for biasing circuits?
44. When does a transistor act as a switch?
45. What is biasing?
46. What is d.c load line?
47. Write the characteristics in ideal voltage amplifer.
48. Explain about the various regions in a transistor?
49. Explain about the characteristics of a transistor?
50. Why the operating point is selected at the Centre of the active region?
51. What is an amplifier?
52. What is meant by Differential Amplifier?
53. What do you mean by balanced and unbalanced output?
54. What are the advantages of double tuned over single tuned?
55. What are the advantages and disadvantages of multi-stage amplifiers?
56. Why gain falls at High Frequency and Low Frequency?
57. Why the gain remains constant at Mid Frequency?
58. Explain the function of emitter bypass capacitor, CE?
59. How the band width will effect as more number of stages are cascaded?
60. Define frequency response?
61. Give the formula for effective lower cut-off frequency, when N-number of stages are cascaded.
62. Explain the effect of coupling capacitors and inter-electrode capacitances on overall gain.
63. By how many times effective upper cut-off frequency will be reduced, if three identical stages are cascaded?
64. Mention the applications of two-stage RC-coupled amplifiers.
65. What is the necessity of cascading?
66. Define 3-dB bandwidth.
67. Why RC-coupling is preferred in audio range.
68. Explain various types of capacitors.
69. What is loading effect?
70. What is meant by RC coupling?
71. Why voltage gain of RC Coupled Amplifier falls at High Frequency range?
72. Give the formula for effective lower cut-off frequency, when N-number of stages are cascaded.
73. Mention the applications of two-stage RC-coupled amplifiers.
74. What are the conditions of oscillations?
75. Give the formula for frequency of oscillations?
76. What is the total phase shift produced by RC ladder network?
77. What are the types of oscillators?
78. What is the gain of RC phase shift oscillator?
79. Mention the conditions for oscillations in RC phase shift oscillator?
80. Give the formula for frequency of oscillations in RC phase shift oscillator?
81. The phase produced by a single RC network is RC phase shift oscillator?
82. RC phase shift oscillator uses positive feedback or negative feedback?
83. The phase produced by basic amplifier circuit in RC phase shift oscillator is?
84. What is the difference between damped oscillations undamped oscillations?
85. What are the applications of RC oscillations?
86. How many resistors and capacitors are used in RC phase shift feedback network.
87. How the Barkhausen criterion is satisfied in RC phase shift oscillator
88. What are Barkhausen conditions of oscillators?
89. Mention the basic reason for any oscillations.
90. Which type of feedback is used in RC phase shift oscillator?
91. What must be the gain of internal amplifier in the general RC phase shift oscillator?
92. What is a phase shift oscillator?
93. Why RC oscillators cannot generate high frequency oscillations?
94. What are the applications of RC phase shift oscillators?
95. What phase shift does RC phase shift oscillator produce?
96. Why we need a phase shift between input and output signal?
97. How is phase angle determined in RC phase shift oscillator?
98. How can we get a maximum phase angle of 90 degrees in RC phase shift oscillator?
99. What is the frequency of RC phase shift oscillator?
100. Name a sine wave generating circuit.
101. Name a square wave generating circuit.
102. What is a multivibrator ?
103. What is the purpose of multivibrator?
104. Why is an astable multivibrator called so?
105. Why is an monostable multivibrator called so?
106. What is an astable multivibrator? Mention its applications.
107. What is a monostable multivibrator? Mention its applications.
108. What is the purpose of monostable multivibrator?
109. Give some examples of multivibrator.
110. Mention the applications of multivibrator.
111. What is the principle of monostable multivibrator?
112. How does a monostable multivibrator work in terms of the astable multivibrator?
113. What is the disadvantage of an astable multivibrator?
114. What are the different types of multivibrator circuits?
115. What is Schmitt trigger?
116. What is the expression of time delay of a astable multivibrator?
117. What is the expression of time delay of a monostable multivibrator?
118. Define duty cycle
119. Give methods of obtaining symmetrical waveform.
120. What is another name for mono stable multi?
121. What is the purpose of pin reset?
122. What are the various applications of one shot?
123. How many external triggers are necessary in one shot?
124. Explain the pulse width of the astable multivibrator?
125. What is the other name for astable multivibrator?
126. Write one application of free running oscillator?
127. How many external triggers are necessary for astable?
128. What is meant by quasi stable state? What does the term "stable" mean?
129. Explain how an astable multivibrator can be recognized?
130. Define transition time.
131. What is modulation? Need for modulation.
132. Advantages and Disadvantages of modulation.
133. Compare and contrast between analog and digital modulation schemes.
134. Advantages and Disadvantages of analog modulation.
135. Advantages and Disadvantages of digital modulation.
136. What is modulation index?
137. Compare AM, FM, and PM
138. Write the modulation index equation for AM FM and PM.
139. Write the frequency range of AM and FM.
140. What is bandwidth for AM and FM?
141. Explain frequency deviation and phase deviation.
142. What is the bandwidth of TV Broadcasting?
143. What is the bandwidth of FM Broadcasting?
144. What is the bandwidth of mobile communication?
145. What is Carson Bandwidth rule?
146. Differentiate ASK, PSK, FSK.
147. Define the term OOK.
148. Compare PWM and PPM.
149. What do you mean by coherent and non coherent detection?
150. Explain the process of digitization.
151. State sampling theorem.
152. What is nyquist criterion?
153. What is aliasing.
154. What is under sampling and over sampling?
155. What is the purpose of providing the supply voltage for electronic circuits?
156. Explain the relevance of grounding the circuit.
157. What is diode? Draw the ideal chara.
158. What is barrier potential?.
159. What is the knee voltage for silicon and germanium diode.
160. What are different transistor configurations? Specify applications for each.
161. Differentiate analog, discrete and digital signals?
162. What is quantization?