

FAQ - UNIT 3

1. Discuss the major factors influencing the choice of intermediate frequency of a receiving system.(IMPORTANT)Write short note on communication receivers(A RECEIVER WITH TWO IF STAGES).
2. Discuss the classification of transmitters in detail.
3. Explain the working of super heterodyne receiver in detail. Give its advantages over TRF receiver.
4. Explain the working of AGC.(IMPORTANT)
5. Define the following terms
 - i. Sensitivity
 - ii. Selectivity
 - iii. Fidelity
 - iv. Image frequency
 - v. Images rejection ratio.
 - vi. Double spotting.
6. Explain the working of Tuned Radio Frequency receiver in detail.
7. In a Commercial AM broadcast receiver the loaded Q of the antenna coupling circuit is 12. If the intermediate frequency of the receiver is 455 KHz then determine the image frequency and its rejection ratio with the incoming signal frequency of 1200 KHz.
8. Explain the process of tracking and alignment in radio receiver.
9. Differentiate low-level and high level transmitters.
10. Explain the operation of squelch circuit in detail.
11. Draw the block diagram of a typical AM transmitter. Discuss the function of each block in brief.
12. Compare AGC with delayed AGC.(IMPORTANT)
13. What is the significance of frequency stability of a transmitter? Explain the methods to achieve frequency stability?
14. Describe the classification of Radio transmitters in detail.
15. Describe the effect of feedback on the performance of AM transmitter.
16. Explain three-point tracking in detail.
17. Determine the selection of RF in radio receivers in detail.
18. What are the important factors to be considered in the choice of Intermediate Frequency?
19. Problems on image frequency and rejection ratio.

Subject: Analog Communication 2015-2016/2016-2017
Assignment 3 (Radio receivers and Transmitters) (CO3)

1. i. Explain the working of communication receiver in detail with neat block diagram 5M.
ii. Discuss the major factors influencing the choice of intermediate frequency of a receiving system.(IMPORTANT) 5M.
2. i. Explain the working of Squelch circuit in detail. 5M.
ii. Write a short note on double spotting. 5M.
3. i. For a super heterodyne receiver having no RF amplifier, the loaded Q of the antenna coupling circuit is 100.if the intermediate frequency is 455K Hz. The super hetero dyne receiver is to be improved for HF reception so that its image rejection at 25MHz is as good as it was at 1100 KHz. obtain
 - a. The loaded Q which an RF amplifier for this receiver would have to have.
 - b. The new intermediate frequency that will be needed in the absence of RF amplifier. 6M.
- ii. Write a short note on tracking in radio receivers.

prepared by

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UNIT3-QUIZ[CO3]

(Radio receivers and Transmitters)

(Questions from Q1-10M: 1 to 5, Q2-15M: 6 to 11, Q3-10M: 12 and 13)

1. Double Conversion Receiver has how many number of Intermediate Stages ().
2M.
a. Three b. two c. four d. none of the above.
2. The ability of a radio receiver to amplify weak signals is called as (). 2M.
a. Fidelity b. Selectivity c. sensitivity d. all of the above.
3. The phenomenon of Picking up of same short wave station at two nearby points on the receiver dial is known as (). 2M.
a. Fidelity b. sensitivity c. Double spotting d. selectivity.
4. The ability of a receiver to reject unwanted signals is called (). 2M.
a. Selectivity b. Fidelity c. sensitivity d. Double spotting
5. Standard broadcast AM receivers tuned in the frequency range of 540 KHz to 1640 KHz has an intermediate frequency of (). 2M.
a. 455 KHz b. 1MHz c. 20Hz d. 200Hz.
6. Standard broadcast FM receivers tuned in the frequency range of 88MHz -108 MHz has an intermediate frequency of (). 2M.
a. 455 KHz b. 1MHz c. 20Hz d. 10.7MHz.
7. Television receivers in the VHF band(54MHz-223MHz) and in the UHF band(470MHz-940MHz) use an IF between 26MHz and 46MHz with the two most popular values ().
3M.
a. 36 MHz and 46 MHz b. 455 KHz and 46 kHz.
b. 36 KHz and 46 KHz. d. none of the above.
8. In a broadcast FM receiver if the local oscillator is tuned to 98.7 MHz then the image frequency is (). 3M.
a. 88MHz b. 109.4MHz c. 96 MHz d. none of the above.
9. In a broadcast AM receiver if the signal is tuned to 530KHz then Intermediate frequency, local oscillator frequency and image frequency are(). 3M.
a. 200 kHz, 730 KHz and 1000 kHz.
b. 10.7MHz, 15.37MHz and 1000 KHz.
c. 455 KHz, 985 KHz and 1440 KHz.
d. None of the above.
10. In communications, Audio frequency range is ----- 2M.
11. In communications, Radio frequency range is----- 2M.
12. Draw the radio frequency spectrum with detailed values starting from Very Low Frequencies (VLF) to Extreme High Frequencies (EHF). 5M.
13. Draw the block diagram of TRF receiver (only diagram). 5M.