1. What are the two types of angle modulation?
a) Amplitude Modulation (AM)
b) Frequency Modulation (FM)
c) Pulse Modulation (PM)
d) Phase Modulation (PM)

Explanation: Angle modulation refers to the modulation techniques that vary either the phase or frequency of a carrier wave to encode information. In this context, both frequency modulation (FM) and phase modulation (PM) are forms of angle modulation.

2. Which type of FM has a wider transmission bandwidth?
a) Narrowband FM
b) Wideband FM
c) Phase Modulation
d) Amplitude Modulation

Explanation: Wideband FM has a wider transmission bandwidth compared to narrowband FM. This is because wideband FM modulates the carrier frequency over a broader range, allowing for the transmission of a larger amount of information.

3. What is the primary method of generating FM?
a) Direct modulation
b) Indirect modulation
c) Phase modulation
d) Pulse modulation

Explanation: The primary method of generating FM is direct modulation, where the frequency

of the carrier wave is directly varied in accordance with the modulating signal.

4. Which type of detector is commonly used for demodulating FM signals and is based on phase comparison?
a) Balanced detector
b) Phase shift detector
c) PLL detector
d) Discriminator detector

Explanation: PLL (Phase-Locked Loop) detector is commonly used for demodulating FM signals. It operates based on comparing the phase of the incoming FM signal with a voltage-controlled oscillator (VCO), adjusting the VCO frequency to match the phase of the input signal.

5. What is the purpose of pre-emphasis in FM transmission?
a) To increase the amplitude of the modulating signal
b) To decrease noise interference during transmission
c) To boost low-frequency components of the modulating signal
d) To improve receiver sensitivity

Explanation: Pre-emphasis in FM transmission is used to boost the amplitudes of higher frequency components of the modulating signal before modulation. This helps in reducing the effect of noise interference during transmission, particularly at higher frequencies.

6. Which component of an FM receiver is responsible for maintaining a constant output signal level despite variations in input signal strength?
a) AGC (Automatic Gain Control)

b) AVC (Automatic Volume Control)
c) AFC (Automatic Frequency Control)
d) Discriminator

Explanation: AGC (Automatic Gain Control) in an FM receiver is responsible for maintaining a constant output signal level despite variations in input signal strength. It adjusts the gain of the receiver's amplifier stages to keep the output level consistent.

7. What does AFC in an FM receiver stand for?
a) Automatic Frequency Compensation
b) Automatic Frequency Control
c) Automatic Filtering Control
d) Automatic Feedback Control

Explanation: AFC stands for Automatic Frequency Control in an FM receiver. It is responsible for keeping the receiver tuned to the carrier frequency of the incoming signal, compensating for any frequency drift that may occur.

8. Which block in an FM receiver is responsible for converting the frequency variations into amplitude variations?
a) Mixer
b) Demodulator
c) Discriminator
d) Amplifier

Explanation: The discriminator block in an FM receiver is responsible for converting the frequency variations of the incoming signal into amplitude variations, which can then be

demodulated to retrieve the original modulating signal.

9. What is the primary function of AVC (Automatic Volume Control) in an FM receiver?
a) To adjust the frequency response of the receiver
b) To control the output volume level
c) To synchronize the receiver with the transmitter frequency
d) To minimize distortion in the demodulated signal

Explanation: The primary function of AVC (Automatic Volume Control) in an FM receiver is to control the output volume level, ensuring that the audio output remains consistent even when the input signal strength varies.

10. Which type of FM modulation has a transmission bandwidth typically less than 15 kHz?
a) Narrowband FM
b) Wideband FM
c) Phase Modulation
d) Amplitude Modulation

Explanation: Narrowband FM has a transmission bandwidth typically less than 15 kHz. It is commonly used in applications where spectral efficiency is crucial, such as in two-way radio communication systems.