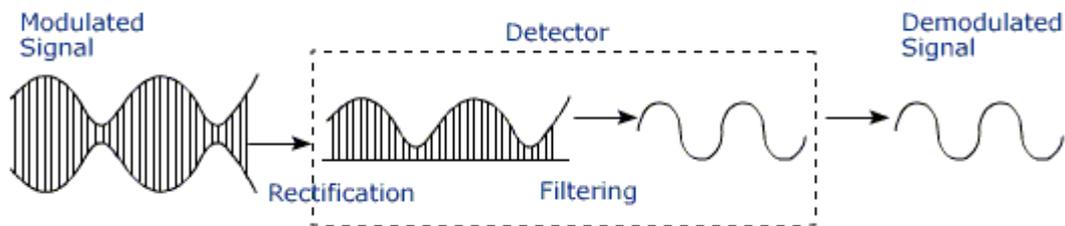


Modulation and Demodulation based Interview Questions

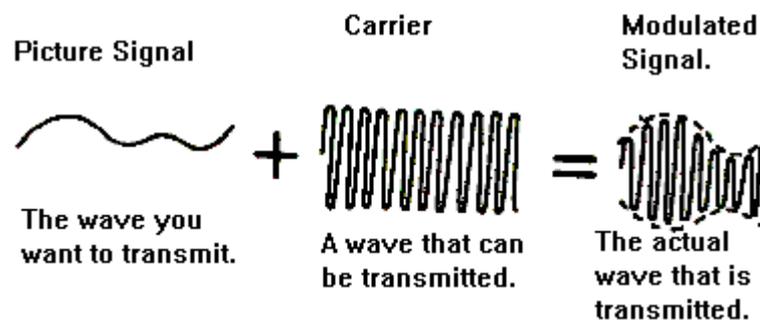
Q1. What is modulation and demodulation?

Ans. Modulation is the process of altering the characteristics of the amplitude, frequency, or phase angle of the high-frequency signal in accordance with the instantaneous value of the modulating wave.

Demodulation is the process of extracting the original information signal from a modulated carrier signal.



Modulation



Modern Modulation Process

Q2. Explain the need of modulation and demodulation?

Ans. Modulation is required to send the information over long distances as low frequency signals are not able to cover large area.

While demodulation is required to get back the information sent at the receiving side.

Q3. What is analog modulation and state various techniques?

Ans. In it, the modulating technique is applied to the analog information signal. Its various techniques are:

- Amplitude modulation(AM)
- Frequency modulation(FM)
- Phase modulation(PM)

Q4. Why frequency modulation is better than amplitude modulation?

Ans. Modulation is better as it provide more resistance to noise as compared to demodulation.

Q5. What is digital modulation and state various techniques?

Ans. We can consider it as conversion of analog to digital signal. Its various techniques are:

- PSK- Phase shift keying
- ASK- Amplitude shift keying
- FSK- Frequency shift keying
- QAM- Quadrature amplitude modulation

Q6. State the techniques of demodulation?

Ans. There are several ways of demodulation depending on how parameters of the carrier signal, such as amplitude, frequency or phase.

- For a signal modulated with a linear modulation, like AM, we can use a synchronous detector.
- For a signal modulated with an angular modulation, we must use an FM demodulator or a PM demodulator.

Q7. Which type of modulation is used in TV transmission?

Ans. Vestigial side band modulation (VSBM).

Q8. What is the difference between detector and demodulator?

Ans. A detector is a device that recovers information of interest contained in a modulated wave.

Demodulation is updated form of detector which extracts the original information from a modulated carrier wave.

Q9. What is depth of modulation?

Ans. It refers to the ratio of the unmodulated carrier amplitude to the amplitude deviation for which the modulated carrier wave reaches its minimum value.

Q10. What is the difference between coherent and non-coherent demodulation?

Ans. In case of coherent, carrier used for demodulation purpose is in phase and frequency synchronism with carrier used for modulation purpose while for non-coherent, it is not in synchronism.