Paper :Communication.

DSE

Answer all questions

1. What are the needs for modulation?
2. Name different types of modulation.
3. What do you mean by baseband signal.
4. What is the channel bandwidth of TV transmission in India?
5. Let the modulating signal be and the carrier wave is given by . Write down the equation for Amplitude modulated wave.
6. A sinusoidal carrier has amplitude of 10V and frequency 30kHz. It is amplitude modulated by a sinusoidal voltage of amplitude 3V and frequency 1kHz. Write down the value of modulation index and the expression for modulated wave.
7. A receiver has a noise power bandwidth of 10 kHz. Calculate average thermal noise power. Assume temperature to be Boltzman constant, J/K.
8. Write down the Sampling theorem. If highest frequency in Modulating signal be Hz, what is the value of Nyquist Interval.
9. What do you mean by flat top sampling.
10. Explain pulse amplitude modulation.