Unit 10(Communication system)

Q16 -For an AM wave the maximum amplitude is found to be 8v and minimum amplitude is found to be 2v.Determine the modulation index . What would be the value of modulation index if the minimum amplitude is 0v? (03)

Q17-In an AM modulation, onlythe upper side band of the AM wave is transmitted due to some economic reason .At the receiving station when it is multiplied with the carrier wave available there then show mathematically that it is possible to recover the modulating signal at the receiving station. (03)

Q18 - Draw the sinusoidal waveforms for a modulating signal and a carrier wave and then draw an AM,FM & PM waveforms. **(03)**

Q19-A carrier wave $c(t)=2\sin(8\pi t)$volts is used to transmit a message signal in the form of a square Wave of amplitude 1v and frequency 1Hz.

(1) Sketch the amplitude modulated waveform. (03)

(2)What is the modulation index.

Q20-Give the block diagram of a square law device and show mathematically that its output contains some dc factors as well as ac factors of low and high frequencies both. (03)

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