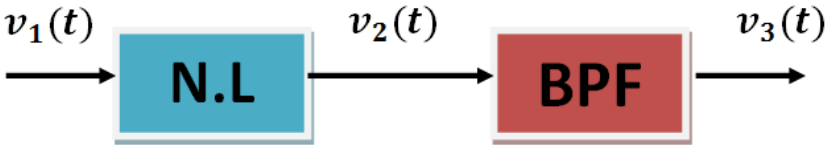
No.	Examples
1.	For an AM, amplitude of modulating signal is 0.5 V and carrier amplitude is 1V.Find Modulation Index.
2.	A 400 watts carrier is modulated to a depth of 75 percent. Find the total power in the amplitude-modulated wave. Assume the modulating signal to be sinusoidal one.
3.	When the modulation percentage is 75%, an AM transmitter radiates 10KW Power. How much of this is carrier Power?
4.	An AM transmitter radiates 20KW. If the modulation Index is 0.7. Find the carrier Power
5.	The total Power content of an AM signal is 1000W. Determine the power being transmitted at carrier frequency and at each sideband when modulation percentage is 100%.
6.	A500W, 100KHz carrier is modulated to a depth of 60% by modulating frequency of 1KHz. Calculate the total power transmitted. What are the sideband components of AM Wave?
7.	A 400W, 1MHz carrier is amplitude-modulated with a sinusoidal signal of 2500Hz. The depth of modulation is 75%. Calculate the sideband frequencies, bandwidth, and power in sidebands and the total power in modulated wave.
8.	***H.W*** A Carrier of 750 W,1MHz is amplitude modulated by sinusoidal signal of 2 KHz to a depth of 50%. Calculate Bandwidth, Power in sidebands and total power transmitted.
9.	Calculate the percentage power saving when one sideband and carrier is suppressed in an AM signal with modulation index equal to 1.
10.	***H.W*** Calculate the percentage power saving when one side band and carrier is suppressed in an AM signal if percentage of modulation is 50%
11.	A Sinusoidal carrier frequency of 1.2MHz is amplitude modulated by a sinusoidal voltage of frequency 20KHz resulting in maximum and minimum modulated carrier amplitude of 110V & 90V respectively. **Calculate**:- **(a)** frequency of lower and upper side bands **(b)** unmodulated carrier amplitude **(c)** Modulation index **(d)** Amplitude of each sideband.
12.	An audio frequency signal $10\,sin(2\pi \times 500t)$ is used to amplitude modulate a carrier of $50\,sin(2\pi \times 10^5\,t)$. **Calculate:- (a)** frequency of side bands **(b)** Bandwidth **(c)** Modulation index **(d)** Amplitude of each side band. **(e)** Transmission efficiency **(f)** Total power delivered to a load of 600Ω
13.	***H.W*** The tuned-circuit of the oscillator in an AM transmitter uses a $50\,\mu$H coil and a $1nF$ capacitor. Now, if the oscillator output is modulated by audio frequencies up to $8\,KHz$, then find the frequency range occupied by the sidebands.

14.	An audio signal given as $$\mathbf{15\sin 2\pi(1500\,t)}$$ Amplitude modulated carrier given as $$\mathbf{60\sin 2\pi(100000\,t)}$$ **Calculate**:- **(a)**Sketch the audio signal. **(b)**Sketch the carrier signal. **(c)**Construct the modulated wave. **(d)** Determine the modulation index and percent modulation. **(e)** What are the frequencies of the audio signal and the carrier? **(f)**What frequencies would be present in a spectrum analysis of the modulated wave ***H.W***?
15.	Derive an expression for the signal $v_3(t)$ in figure below for $v_1(t) = 10\cos(400\pi t) + 4\sin(200\,\pi t)$. Assume that $v_2(t) = v_1(t) + 0.1v_1^2(t)$ and the bandpass is an ideal gain filter with pass band from 800 H_z *to* 1200 H_z. 
16.	***H.W*** In a double side band full carrier AM transmission system . If the modulation index is a doubled, then the ratio of the total sideband power to the carrier power increasing by factor of ----------?
17.	The total power of AM signal is 1000W the power being transmitted at the carrier frequency and the power for each sideband when the percent modulation 100%.
18.	Consider sinusoidal modulation in AM system .Assume no over modulation, the modulation index k when the max and the min values of the envelope representation are $3V$ and $1V$ is ----------.