

Signal Impairment: The damages caused to a travelling signal are called impairments. Following three are the main varieties of impairments in a signal:

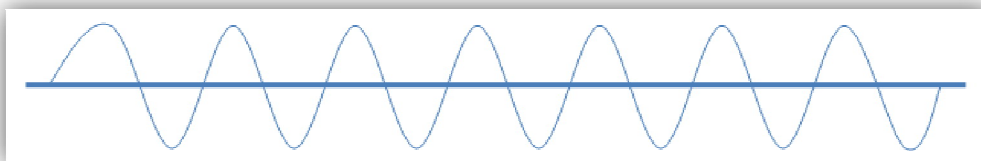
1. Attenuation
2. Distortion
3. Noise

Attenuation: the damage caused in the power of a signal is called attenuation. Usually it is caused due to obstacles in the media like- resistance in wires or storms and tornados in waves. The amplitude of waves in this impairment gets decreased gradually.

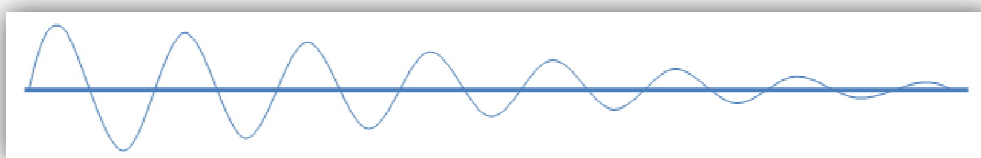
Distortion: In this impairment, the shape of wave gets damaged. The harmony contained in the signal gets affected and serious changes to the phase of wave occur.

Noise: Noise is nothing but an unwanted signal that gets attached with our original signal. Usually the neighbouring frequencies make this kind of damages.

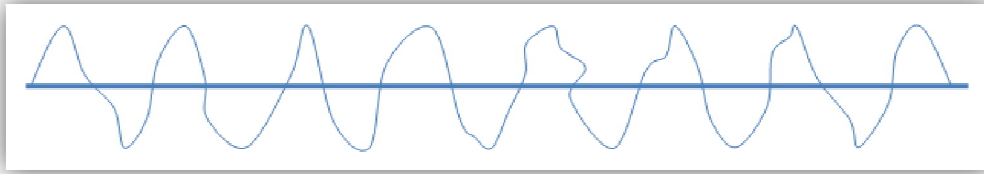
Normal Signal:



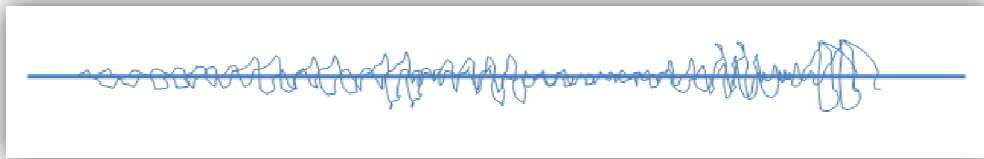
Attenuated Signal:



Distorted Signal:



Noisy Signal:



Assignments:

- 1.** What do you understand by Signal impairment?
- 2.** How is a noisy signal different from a distorted signal?