Q.1. *Explain briefly how the Vestibular System works?*

The vestibular system is a sensory organ located inside the inner ear that helps balance and allows constant vision when the head moves. It is composed of two main parts: the semicircular canals, which detect the head's rotation, and the otoliths organs, which detect forward and backward movements in addition to gravity. Both of these parts are filled with fluid.

The brain receives information from the vestibular system to be processed and sent on to the other organs such as the eyes, to provide a clear vision, or to the muscles to maintain the body balanced.

Q.2. *Why are there three different channels in the Vestibular System?*

As we live in a three-dimensional space we need a three-dimensional canal structure to perceive the surroundings and that is the reason, the Vestibular system consists of three semicircular channels.

They are arranged in almost orthogonal way to maximize the reception of movements relative to the surroundings. They are named as per below.

1. Horizontal or lateral : Captures the head movement around the vertical axis.
2. Anterior semicircular canal or Superior : Capture the rotation of the head in Sagittal Plane (Dividing the body into right and left).
3. Posterior semicircular canal or Inferior : Capture the rotation of the head in Frontal Plane (Dividing the body into front and back).