Qn:→ Explain what are coriolis force & Give an example of this force.

Ans:→ A body which is moving in a rotating frame of reference experiences forces that arise due to rotation of frame of reference. These forces are called inertial forces. If the angular velocity of rotation is constant only two such forces appear. One of them $m\vec{\omega} \times (\vec{r} \times \vec{\omega})$ is well-known centrifugal force while the other $2m(\vec{v} \times \vec{\omega})$ is called Coriolis force.

In order that the Coriolis force may appear it is essential that the projection of the velocity of the body on a plane perpendicular to the axis of rotation is non-zero. The effect of Coriolis force on a moving body is to deflect it from its path.

There are many examples of Coriolis force in nature. One such example may be found in a river flowing along the meridian in northern hemisphere. The flowing water experiences Coriolis force due to rotation of the earth. If the water flows from north to South, then the deflection of flowing water takes place towards the west. The steeper western bank compared to eastern bank of such a river flowing from North to South is a clear evidence of the deflection of the flowing water due to Coriolis force.