

Explain in formation of cyclones
with help of Coriolis force. →

The wind flows on the surface of the earth in the atmosphere due to pressure gradient set up at different places from a high pressure zone to a low pressure zone.

Two isobars have been shown and air flow occurs perpendicular to the isobars. In the northern hemisphere Coriolis force acts on the winds to deviate its direction towards right and this process is continuous so that the wind flows wind in a spiral direction towards the center of low pressure in an anticlockwise direction. If R is the radius of wind trajectory then the centripetal acceleration.

$$\frac{v^2}{R} = 2\omega v \text{ or } \omega = \frac{v}{2R}$$

The eye of cyclones simultaneously moves

moves along the pressure gradient. In southern hemisphere, the spiral motion is clockwise.