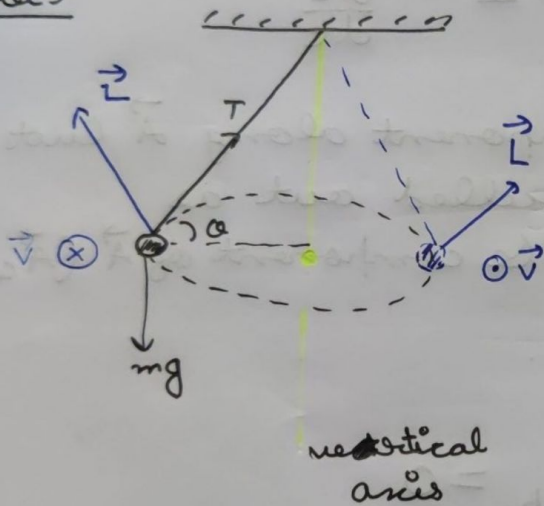


A bob of mass m attached to an inextensible string of length l is suspended from a vertical support. The bob rotates in a horizontal circle with an angular speed ω rad/s about the vertical support. About the point of suspension **(2014 Main)**

- (a) angular momentum is conserved
- (b) angular momentum changes in magnitude but not in direction
- (c) angular momentum changes in direction but not in magnitude
- (d) angular momentum changes both in direction and magnitude

Sol 3



The speed of body will remain constant but not its velocity due to change in direction.

$$|L| = m l v = \text{Constant}$$

but the direction \vec{L} will keep on changing. Hence \vec{L} changes.