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Experiment No-4

Study of curvillinear Motion.

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* Questions-

Q1) what are the different frames of references used in curvilinear motion?

Ans→ There are two types of frames of references used in curvilinear motion, they are-

① Inertial frame of reference.
② Non-inertial frame of reference.

Q2) what is the difference between velocity and speed?

Ans→ The difference is that, speed is the time rate at which an object is moving along a path, whereas velocity is the rate and direction of an object's movement.

Q3) what is centrifugal and centripetal acceleration?

Ans→ Centrifugal Acceleration-

The apparent force, equal and opposite to the centripetal force, drawing a rotating body away from the center of rotation, caused by the inertia of the body.

② Centripetal Acceleration -

The acceleration of a body traversing a circular path is called centripetal acceleration.

Q4) What is the coriolis component of acceleration in a polar coordinate system?

Ans-> Coroli's acceleration is the acceleration due to the rotation of the earth, experienced by particles moving along earth's surface.

Q5) The tangential component of acceleration gives us the idea of the rate of change of the magnitude of the velocity vector.

Q6) "A particle is moving along a curve with constant velocity". will there be any acceleration?

Ans-> In the case of a particle moving on a curved path, the direction of the velocity is continually changing and thus the particle has acceleration. The magnitude of velocity is not changing but the direction of velocity is continually changing.