## **Definition**

*Radian*- the angle subtended at the center of a circle by an arc equal in length to the radius of the circle

Angular speed or Angular velocity- the angle swept out by the radian per unit time Newton's first law- an object will remain at rest or in a state of constant velocity in a straight line unless it is acted by a resultant force

*Circular motion*- a body moving in a circle at a constant speed change as its direction changes

Centripetal acceleration- acceleration is towards the center of the circle

Acceleration- rate of change of an object's velocity

*Centripetal force*- resultant force acting on an object moving in a circle, directed towards the center of the circle

*Resultant force*- single force that has same effect as all of the forces acting on an object *Newton's second law*- resultant force acting on an object is equal to the rate of change of its momentum

Momentum- product of the mass & velocity of an object

## Formula S= length of arc r = radius of circle end from a generation of a circle end $\theta = 2 \times \pi$ $\omega = \frac{\nu}{\pi}$ $\theta$ = complete circle's angle in radian v = linear velocity $2 \times \pi \times r$ = circumference of the circle $s = r \times \theta$ $\omega = \frac{\theta}{t}$ $f = \frac{1}{t}$ $\theta = \frac{\Delta v}{n}$ f = frequencyt= time taken $\Delta v = \theta \times v$ $\omega = \frac{\theta}{t}$ $\Delta v$ = change in velocity v = velocity $\omega = \frac{2 \times \pi}{t}$