

Numericals

Practice. Learn. Succeed

Sub : Science

Grade: IX

Date:

Name:

ID No.....

Important Formulae

■ Velocity, $v = \frac{s}{t}$

■ Acceleration, $a = \frac{v-u}{t}$

■ Average velocity, $v_{av} = \frac{u+v}{2}$]

■ Equation of motion, $v = u + at$

Average velocity, $v_{av} = \frac{2v_1 + 2v_2}{v_1 + v_2}$

$$s = ut + \frac{1}{2}at^2$$

$$v^2 = u^2 + 2as,$$

[If a journey is divided into two equal parts: One half distance with velocity v_1 and other half with velocity v_2]

$$S_n \text{th} = u + \frac{1}{2}a(2n-1)$$

[$S_n \text{th}$ = displacement in nth second]

■ Time taken to complete one revolution, $t = \frac{2\pi r}{v}$

1. A car starts from rest and moves along the x-axis with constant acceleration 5 ms^{-2} for 8 seconds. If it then continues with constant velocity, what distance will the car cover in 12 seconds since it started from the rest?

2. A motorcyclist drives from A to B with a uniform speed of 30 km h^{-1} and returns back with a speed of 20 km h^{-1} . Find its average speed.
