STEPPING STONE SCHOOL (HIGH)

CLASS :7

Subject: physics **Date :- 03. 06 .2020**
Topic: Force and Motion **Time:- 30 mins**

Worksheet No.:8

[Read and learn the notes thoroughly. Copy the questions and solve them on a sheet of paper date wise. Keep the WorkSheet prepared in a file to be submitted on the opening day]

Types of Speed :-
There are two types of speed

I) Uniform speed
II) Variable speed

Uniform speed :- *when a body covers equal distance in equal interval of time then the speed is known as uniform speed.*

Variable speed :- *when a body covers unequal distance in equal interval of time then the speed is known as variable speed.*
Variable speed are also known as Non – uniform speed.

Type of Velocity :-
There are two types of velocity.

I) Uniform velocity
II) Non – uniform velocity

Uniform velocity :- When a body covers equal displacement in equal interval of time then the velocity is known as uniform vwlociry.

Non – uniform velocity :- When a body covers unequal displacement in equal interval of time then the vwlociry is known as Non – uniform velocity.

Acceleration

The rate of change of change of velocity of a body is known as acceleration.

If a= acceleration
V= Velocity
T = Time

$$\text{Then } a. = \frac{V}{T}$$

Another formula of acceleration

If a= acceleration
U= Initial velocity
V = Final velocity
T = Time

$$\text{Then } a = \frac{V - U}{T}$$

Acceleration is a vector quantity because it has both magnitude and direction

Units of acceleration :-

C. G. S Unit :- cm / square second
S. I unit :- m / square socond

Q) Why time is mentioned twice in the unit of acceleration

Ans) Time is mentioned twice in the unit of acceleration for the following reason

We know that

$$a = \frac{V}{T}$$

$$a = \frac{d/T}{T}$$

$$a = \frac{d}{T \times T}$$

We see that the formula of acceleration contains time twice in its denominator therefore time is mentioned twice in the unit of acceleration.

POINTS TO REMEMBER

I) Acceleration can be positive and negative both.

II) Acceleration can be zero

III) Acceleration can be variable even if the body moves with uniform speed.

Types of acceleration :-

There are two types of acceleration

I) Uniform acceleration

II) Variable acceleration

***Uniform acceleration** :- When the rate of change of velocity of a body is equal in equal interval of time then the acceleration is known as uniform acceleration.*

Non – uniform acceleration :- *When the rate of change of velocity of a body is not equal in equal interval of time then the acceleration is known as Non - uniform acceleration.*

ANSWER THE FOLLOWING QUESTION :-

I) Define the following
Uniform velocity, Non uniform velocity, acceleration, uniform acceleration, Non uniform acceleration, uniform speed, Non uniform speed

II) Why acceleration is a vector quantity.

III) Why time is mentioned twice in the unit of acceleration.