

Class- 7

subject : physics

topic: motion

WORKSHEET

Synopsis

REST:- An object is said to be at rest, if it does not change its position with respect to the stationary surroundings with the passage of time.

E.G-a book lying on the table.

MOTION:- An object is said to be in motion if it changes its position with respect to the stationary surroundings with the passage of time.

Rest and motion are relative terms.

Types of motion:

- Translatory motion
 - 1) Rectilinear -e.g. Coin moving over a carrom board etc.
 - 2) Curvilinear. -e.g. A basket ball thrown into the basket etc.
- Rotatory-e.g. Motion of an electric fan.
- Oscillatory -e.g. motion of a swing & simple pendulum.
- Vibratory-e.g. Tabla and violin.
- Periodic-e.g. Motion of the Moon around the earth in 37.3 days.
- Non periodic motion -e.g. The motion of fingers as they type on a keyboard.
- Multiple motion (combination of motions)-eg. When A ball rolls on the ground, it has rotatory as well as rectilinear motion.
- Random motion-e.g. Motion of particles of a liquid and gas.

Uniform and non uniform motion

Uniform motion is the kind of motion in which a body covers equal distances in equal intervals of time. eg. Earth moving round the sun is a uniform motion.

Non uniform motion is the kind of motion in which a body covers unequal distances in equal intervals of time, no matter how small the time intervals are. eg. horse running in a race.

SPEED:- it is defined as the ratio of the distance travelled by a body to the time taken to do so.

Speed=distance/time

S.I unit-m/s

Average speed:- it is the ratio of the total distance travelled to the total time taken to cover that distance.

Average speed=total distance/total time

Average speed= $2 \times S_1 \times S_2 / (S_1 + S_2)$.

WEIGHT AND MASS

MASS	WEIGHT
It is the amount of matter contained in a body.	It is a force equal to the gravitational pull exerted by a planet.
It is a constant quantity and does not change with respect to position or place.	It is a variable quantity and changes with the change in acceleration due to gravity of a place.
Mass of a body can never be zero.	Weight of a body can be zero during free fall.
It is measured by using a physical balance. <i>beam balance</i>	It is measured by using a spring balance.
It is a scalar quantity.	It is a vector quantity.
It is measured in kilogram.	It is measured in newton. <i>(N)</i>

Exercise: page :24

A. Short answer type question : 1,4,5,6 &7

B. Long answer type question :
1,2,3,4 & 9

D. Fill in the blanks : 1---10

E. Define the following terms : 1,2,3,5 & 6

F. True and false: 1----7

I. Give one word for the following:- 1--7

H. Write the type of motion for the given examples of motion :-

1. soldiers in a march past on a straight road. _____
2. The movement of our chest while breathing. _____
3. Hands of an athlete in a race. _____
4. Pedal of a bicycle in motion. _____
5. Motion of earth around the sun. _____
6. Motion of a swing. _____
7. Motion of a pendulum. _____
8. A stone falling from certain height. _____
9. A car moving on a curved path. _____
10. The movement of the wheel of a cycle. _____

