

A body is said to be in motion, when it changes its position with respect to time.

e.g. Rotation of the Earth around the Sun, a running car, hands of the clock, etc.

A body is said to be in rest, when it does not change its postion with respect to time.

e.g. A bottle on the table, a table in the room, a clock on the wall, etc.

Some of the important types of motion are given below

#### 1. Rectilinear Motion

Motion in a straight path without changing its direction is called rectilinear motion.

- e.g. Vehicle running on straight road.
  - March-past of soldiers.
  - Sprinters in a race.

#### 2. Circular Motion

Motion around a circular path is called circular motion.

- e.g. Rotation of Moon around Earth.
  - Motion of bullock.
  - Motion of children sitting on merry-go-around.

#### 3. Periodic Motion

Motion which repeats itself after a regular interval is called periodic motion.

- e.g. Motion of a simple pendulum.
  - Motion of a needle of a sewing machine.
  - String of guitar.

#### 4. Rotational Motion

Motion in which body is turning around its own axis.

- e.g. Wheel of a car.
  - Motion of earth around its axis.
  - · Agitator in washing machine.

### Uniform and Non-uniform Motion

- An object which covers equal distance in equal interval of time, is said to be in uniform motion.
  e.g. A car moving along a straight path such that it covers equal distances in equal time.
- If an object covers unequal distances in equal interval of time, is said to be non-uniform motion.
  e.g. A car moving on a crowded street.

# Practice Exercise

- **1.** A body is said to be in motion, when it changes its ......
  - (a) position with respect to time
  - (b) time
  - (c) structure with respect to time
  - (d) Both (a) and (b)
- **2.** A house situated at a place is said to be in
  - (a) rest
- (b) motion
- (c) stationary
- (d) None of these
- **3**. Motion of body in a straight line is called
  - (a) circular motion
- (b) periodic motion
- (c) rectilinear motion (d) Both (a) and (b)
- 4. A car running in straight road is an example of
  - (a) rectilinear motion (b) periodic motion
  - (c) circular motion
- (d) rotational motion
- **5**. Motion of an athlete participated in olympic game.
  - (a) circular motion
- (b) periodic motion
- (c) rectilinear motion (d) Both (a) and (b)
- **6**. Motion of an object or a part of it around a fixed point is known as ...... motion.
  - (a) rectilinear
- (b) periodic
- (c) circular
- (d) rotational
- **7.** Motion of ceiling fan is an example of
  - (a) rectilinear motion (b) circular motion
  - (c) periodic motion
- (d) Both (a) and (c)
- **8.** Motion of a wheel of a car is ......
  - (a) circular motion
- (b) rectilinear motion
- (c) periodic motion
- (d) Both (a) and (b)
- **9.** A plucked string of a sitar executes ..... motion.
  - (a) circular
- (b) periodic
- (c) rectilinear
- (d) Both (a) and (b)

- **10**. The motion of minute hand of our wrist watch is an example of
  - (a) rectilinear motion (b) periodic motion
  - (c) circular motion (d) rotational motion
- **11**. Motion of the needle of a sewing machine is ......
  - (a) circular motion
  - (b) periodic motion
  - (c) rectilinear motion
  - (d) rotational motion
- **12**. A car is running on the road, the motion on its wheel is an example of
  - (a) circular motion
  - (b) rotational motion
  - (c) rectilinear motion
  - (d) periodic motion
- **13**. A bike moving along a straight line path such that it covers equal distance in equal time is said to be
  - (a) periodic motion
  - (b) rectilinear motion
  - (c) non-uniform motion
  - (d) uniform motion
- **14**. If an object moving along a straight line, keep changing its speed then
  - (a) the motion is said to be a non-uniform motion
  - (b) the motion is said to be uniform motion
  - (c) the object is said to be in rest
  - (d) the object is said be a fast motion
- **15**. A car moving around a crowded street is an example of
  - (a) uniform motion
  - (b) non-uniform motion
  - (c) rectilinear motion
  - (d) None of the above

## Answers

1	(a)	2	(a)	3	(c)	4	(a)	5	(c)	6	(c)	7	(b)	8	(a)	9	(b)	10	(b)	
11	(b)	12	(b)	13	(d)	14	(a)	15	(b)											