

#### **D. Short Answer Questions.**

1. An object is said to be in motion if it changes its position with respect to a stationary object in its surroundings. For example, when the position of a car changes with time, we say that the car is moving or that the car is in motion.
2. The total length of the paper clip is:  $4.3 \text{ cm} - 1.0 \text{ cm} = 3.3 \text{ cm}$
3. (a) Soldiers in a parade show rectilinear motion.  
(b) We learn to be disciplined from the marching soldiers.
4. Sometimes, an object possesses two or more types of motion at the same time. This type of motion is called **multiple motion**. Examples of this type of motion are :
  - (i) A boy riding a bicycle. The wheels of a bicycle rotate (rotatory motion) and at the same time move forward in a straight or curved

path (rectilinear or curvilinear motion).

- (ii) The earth rotates about its axis (rotatory motion) and revolves around the sun in a circular path (circular motion).
- 5. The earth rotates about its axis, which is rotatory motion. The earth also revolves around the sun in a circular path which is an example of circular motion.
- 6. (i) The scale should be placed with the object along its length. If we place it at a certain angle, our reading will not be correct.  
(ii) The correct position of the eye is also important for taking measurement. Our eyes must be focused exactly above the end point of which we are taking measurement.
- 7. A motion that repeats itself after regular intervals of time is called periodic motion. The swinging pendulum of a wall clock, heartbeat of a normal person are examples of periodic motion.

#### **E. Long Answer Questions.**

- 1. A unit of measurement which has a fixed value and does not change from person to person or place to place is called a standard unit of measurement. For example 'metre' is a standard unit of measuring length. It represents exactly the same length whether used by one person or another person or used in one country or other country. Thus, a 'metre' means the same length to everyone. So, it is a standard unit of measuring length.

It is necessary to have standard units of measurements for the sake of uniformity and convenience in measurement.

- 2. (a) When all the parts of an object move the same distance in a given time, then the motion of an object is said to be translatory motion.  
(b) Translatory motion is of two types—rectilinear and curvilinear.
  - When an object moves along a straight line, its motion is called rectilinear motion.  
For example, (i) a car moving in a straight line  
(ii) a ball falling freely from the roof of a building
  - When an object moves along a curved path, its motion is called curvilinear motion.  
For example, (i) a ball thrown by a boy  
(ii) a javelin or shotput thrown by an athlete.