

MEASUREMENT OF LENGTH AND MOTION.

I. Short Answer Questions:

1. pg 105 I. Qn 3

The given picture shows a non-circular track. Can motion on this track be periodic? Give reason for your answer. (Picture: Ref pg 105)

Ans: Yes, motion on this non-circular track can be periodic.

If an object moves on this non-circular track and returns to its starting point at regular interval of times, it can be considered as periodic.

2. pg 106 II. Qn 6

Arrange the following measurements in decreasing order: 1mm, 1km, 1cm, 1m.

Ans: $1\text{ km} > 1\text{ m} > 1\text{ cm} > 1\text{ mm}$.

3. pg 106 II. Qn 7.

Look at the picture of a man riding a bicycle. Suppose he is moving to the right side, mark at least three types of motion in the picture and name them (picture: Ref pg 106)

Ans: (a) Rotational motion of the wheels about their axes.

(b) Translatory motion of the wheels along the road.

(c) Rolling motion.

ii. Higher order thinking:

1. pg 106 ii. Qn. 1

Why are the co-passengers in a train appear to be stationary, while the trees outside appear to move to a passenger sitting in the train?

Ans: The trees outside a train appear to move while co-passengers appear stationary because the position of the trees changes relative to the passengers, but the position of the co-passengers does not change.

2. pg 106 ii. Qn. 2

A turning screw undergoes two kinds of motion at the same time. Identify the two kinds of motion.

Ans: Rotatory motion and Translatory motion.

3. pg 106 iii. Qn. 3

A student has to measure the length of his pencil. The zero mark on the scale is not clearly visible. How should he/she use the scale to get the correct length of the pencil?

Ans: The student can measure the length of an object by placing it on a visible mark on the scale and subtracting the reading on that mark from the reading at the other end.