

In which of the following examples of motion, can the body be considered approximately a point object :

- (a) a railway carriage moving without jerks between two stations.
- (b) a monkey sitting on top of a man cycling smoothly on a circular track.
- (c) a spinning cricket ball that turns sharply on hitting the ground.
- (d) a tumbling beaker that has slipped off the edge of a table.

Soln. (a) The carriage can be considered a point object because the distance between two stations is very large as compared to the size of the railway carriage.

(b) The monkey can be considered as a point object if the cyclist describes a circular track of very large radius because in that case the distance covered by the cyclist is quite large as compared to the size of monkey. The monkey can not be considered as a point object if the cyclist describes a circular track of small radius because in that case the distance covered by the cyclist is not very large as compared to the size of the monkey.

(c) The spinning cricket ball can not be considered as a point object because the size of the spinning cricket ball is quite appreciable as compared to the distance through which the ball may turn on hitting the ground.

(d) A beaker slipping off the edge of a table can not be considered as a point object because the size of the beaker is not negligible as compared to the height of the table.