

Q.1. which of the following has more inertia:-
(a). a rubber ball and a stone of the same size? (b.) a bicycle and a train? (c.) a five rupee coin and one or one-rupee coin?

Ans. (a.) The stone of the same size will have more inertia than the rubber ball.

(b.) A train will have more inertia than a bicycle.

(c.) A five rupee coin will have more inertia than a one-rupee coin.

Q.2. Explain why some of the leaves may get detached from the tree, if we vigorously shake its branch?

Ans. when the tree is at rest, its leaves are also at rest. But when we bring the tree in motion by shaking it, due to the inertia of leaves they still

tend to be in rest. Thus, force is acting on leaves vigorously with changing direction rapidly. This results in detaching of leaves from tree.

Q.3. Why do you fall in the forward direction when a moving bus brakes to a stop and fall backward when it accelerates from rest?

Ans - As the driver applies brakes, the bus comes to rest. But, the passenger tries to maintain the inertia of motion. Hence and people fall forward because their inertia as they are in state of motion. The passengers in a bus tend to fall backward when it starts suddenly due to inertia, as the passengers tend to remain the state of rest.