



Solution of Questions For Short Answer

Chapter 4 : The Forces

Ans. 1.

No the increase acceleration will apply on both sides of beam so there would be no profit such as to weigh moongfali more than actual.

(in case it was electronic weighing machine the moongfali would weigh more definitely)

Ans. 2.

In free fall there would be no force exerted on boy in case mass of box is equal to or less than mass of boy. but in case mass of box is greater than mass of boy in that cases there would be a little force exerted on boys head.

But when boy will strike ground the force attained by box that is Mg would be exerted on boy's head and that would be way too much greater than the weight while free falling.

Ans. 3.

a) In car the coin would fall directly downward in case viewed from car. in case viewed from outside the coin would be under projectile trajectory as if coin was projected horizontally with the speed of car.

b) In case of freely falling elevator the coin would retain its position where it was left as it will not feel any gravity.

Ans. 4.

Yes in case of moving frame of reference a uniformly moving particle can undergo curved path.

For example if you roll a ball out of merry go round while it is rotating the ball as viewed from merry go round would be going in straight direction outward of Mary go round.

but as seen from ground the ball will be undergoing semicircle like shape.

Ans. 5.

Inertia pushes us forward.

As we are moving with the same momentum as of the car when driver applies breaks the car stops but our body keeps moving in same inertia as of car thus we are pushed forward.



Ans. 7.

As inertial frame is used to understand unknown forces acting on body under motion, as in case of car when breaks are applied no apparent force is applied but still our body moves forward so to understand this frame of reference is used but actually this does not exist

Ans. 8.

- a) Torque (angular force) is acting on pulley A
- b) Gravitational force is acting on boy as well pull due to weight of block C
- c) On block C gravity as well force upward due to force applied by boy are acting.

Ans. 9.

Pull

Weight of wagon

And friction may be acting on the wagon.

Friction + weight of wagon are cancelled out by pulling force of boy.

Ans. 10.

Force on	Force by	Nature	Direction
cart	gravity(weight)	gravitational	downward
	friction(road)	mechanical	backward
	pull(horse)	mechanical	forward
horse	cart(weight)	gravitational	downward
	pull(cart)	mechanical	backward
driver	pull (cart)	mechanical	forward