KEC

K Education Centre

GCSE Physics

Momentum

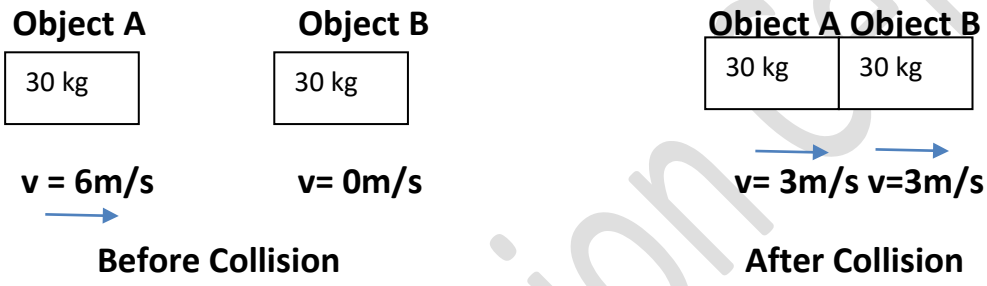
Assignment Questions

Q1 : Calculate the momentum of a 1200 kg car moving at velocity of 30 m/s. The same car at different time has a momentum of 30,000 kg m/s . Calculate its velocity.

Q2: Find the resultant force of the 1000 kg car if it accelerates from 20m/s to 50 m/s in 15 seconds .

Q3 : A truck weighing 3500 kg moving at velocity of 40 m/s collides with stationery truck weighing 2500 kg . After the collision both trucks stuck together and start moving at certain velocity. Find the velocity of trucks after collision.

Q4: Show that momentum is conserved in following collision.



Q5: An object is attached to a trolley of mass attached to a trolley of mass 1.60 kg , which is then pushed into an additional stationery trolley at speed of 2.5 m/s. The two trolleys are coupled together and move at a velocity of 1.5 m/s . Calculate the mass of the object.

Q6 : A car of mass 2000 kg is moving at speed of 35 m/s on horizontal road when driver applies the brakes and the car stops in 15 seconds. Calculate the braking force of the car.

Q7 : A racing bike rider accelerates at 6 m/s^2 when he starts from the rest. The total mass of the rider and his bike is 80 kg. Calculate the :

a) Resultant force that produced this acceleration.

b) Total weight of the bike and the rider.

Q8 : Explain how momentum is conserved in the collision when following objects collides. The diagram below shows the collision and direction of the movement of the objects. Use Newton's second and third law in answering the question.