Solved Examples

Example 1 A car is moving with the accelaration 2 m/s2 from rest. Find the distance traveled by the car in 10th second. **(Ans: Distance traveled by the car in 10^{th} s =21m)**

Example 2 A car is moving with the initial velocity 15 m/s. Car stopped after 5s by application of breaks. Find the retardation (Decelaration). (Ans: –3 m/s2)

Example 3 A bus is moving with the initial velocity of 'u' m/s. After applying the breaks, its retardation is 0.5 m/s2 and it stopped after 12s. Find the initial velocity (u) and distance travel by the bus after applying the breaks. (Ans: Bus has stoped 36 m distance after applying the break)

Example 4 At a distance L= 400m away from the signal light,brakes are applied to a locomotive moving with a velocity, u = 54 km/h.Determine the position of rest of the locomotive relative to the signal light after 1 min of the application of the brakes if its acceleration a = - 0.3 m/s2 (Ans: 25 m from the signal light.)

Example 5 What is the speed of the body moving with uniform acceleration at the midpoint of two points on a straight line, where the speeds are u and v respectively? (Ans:)

Example 6 A car travels from rest with a constant acceleration 'a' for 't' seconds. What is the average speed of the car for its journey if the car moves along a straight road?

(Ans: Average speed = at/2)

Example 7 A particle moving with constant acceleration of 2m/s2 due west has an initial velocity of 9 m/s due east. Find the distance covered in the fifth second of its motion (Ans: S = ½ m)