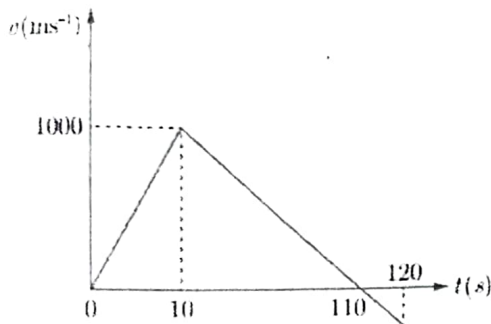


- 12 If a car at rest accelerates uniformly to a speed of 144 km/h in 20 sec., How much distance it will cover in this period ?
- 13 The graph shows the variation of velocity of a rocket with time. Then, the maximum height attained by the rocket is



- 14 Derive the second equation of motion numerically ($s = ut + \frac{1}{2} at^2$)
- 15 A student weighs 30 kg. Suppose his body is entirely made up of electrons. How many electrons are there in his/her body. (Mass of an electron is 9.1×10^{-31} Kg)

SECTION D

Long Answer (5M x 2)

- 16 A truck starts from rest and roll down a hill with a constant acceleration. It covers a distance of 400m in 20 s. Find the force acting on it if its mass is 7000Kg
- 17 A stone is thrown vertically upwards against earth's gravity with velocity of 40 m/s. What is the total distance travelled by the stone if it is caught back at the same point of projection?

SECTION E

- 18 Take two eggs, a raw egg and a hardboiled egg. Try to spin both the eggs with the same force on the same surface. Which one will spin for more time? You can see that the hardboiled egg spins for more time than the raw egg. What made the boiled egg spin for more time? Can you explain?