UNIT-8

MOTION

- 1. Define uniform velocity and uniform acceleration?
- 2. Derive the second equation of motion graphically?
- 3. A car moving with a certain velocity comes to a halt in 20m if the retardation was $5m/s^2$, find the initial velocity of the car?
- 4. A ball starts from rest and rolls down 16m down an inclined plane in 4 s

(a) What is the acceleration of the ball? (b) What is the velocity of the ball at the bottom of the incline?

- 5. Calculate the acceleration and distance of the body moving with 5m/s² which comes to rest after traveling for 6seconds ?
- 6. A body is dropped from a height of 320m. The acceleration due to the gravity is 10m/s²? (a) How long does it take to reach the ground? (b) What is the velocity with which it will strike the ground?
- 7. A boy throws a stone upward with a velocity of 60m/s. (a) How long will it take to reach the maximum height $(g = -10m/s^2)$? (b) What is the maximum height reached by the ball? (c) How long will it take to reach the ground?
- 8. A body is moving with a velocity of 12m/s and it comes to rest in 18m, what was the acceleration?
- 9. A body starts from rest and moves with a uniform acceleration of 4m/s² until it travels a distance of 800m, find the find velocity?
- 10. Differentiate between scalars and vectors?