

PROBLEMS

1. A particle of mass m moves in a straight line with constant acceleration a . It starts from rest at the origin. Find its velocity and displacement after time t .

2. A particle is projected vertically upwards with an initial velocity u . Find the time it takes to reach a height h and the time it takes to return to the ground.

3. A particle is projected from the top of a cliff of height H above the ground with an initial velocity u . Find the time it takes to reach the ground and the velocity with which it strikes the ground.

4. A particle is projected from the ground with an initial velocity u at an angle θ to the horizontal. Find the time it takes to reach a height h and the horizontal distance it travels.

5. A particle is projected from the ground with an initial velocity u at an angle θ to the horizontal. Find the time it takes to reach its maximum height and the maximum height it reaches.

EXERCISES

1. A particle starts from rest and moves in a straight line with constant acceleration a . It travels a distance s in time t . Find a and the velocity of the particle at the end of time t .

2. A particle is projected vertically upwards with an initial velocity u . It reaches a maximum height h and returns to the ground after time T . Find u and h .

3. A particle is projected from the top of a cliff of height H above the ground with an initial velocity u . It reaches the ground after time T . Find u and the velocity with which it strikes the ground.

4. A particle is projected from the ground with an initial velocity u at an angle θ to the horizontal. It reaches a maximum height h and travels a horizontal distance R . Find u and θ .

5. A particle is projected from the ground with an initial velocity u at an angle θ to the horizontal. It reaches a maximum height h and travels a horizontal distance R . Find u and θ .

KINGSTON

