Course Code:ESC106A
Course Title: Construction Materials and Engineering Mechanics

Lecture No. 59:
Numerical on Projectiles

Delivered By: Dr. T. Valsa Ipe

Lecture Intended Learning Outcomes

At the end of this lecture, student will be able to:

- Solve problems on horizontal projection, inclined projection on both horizontal and inclined plane are analyzed neglecting air resistance

Contents

- Numerical problems on projectiles

Projectiles: Problem 1

A rocket is released from a jet fighter flying horizontally at 1200 kmph at an altitude of 6000 m above its target. The rocket thrust gives it a constant horizontal acceleration of 6 m/sec2. At what angle below the horizontal should pilot see the target at the instant of releasing the rocket in order to score a hit ?

Summary

- The horizontal distance through which the projectile travels in its flight is called the horizontal range or simply range of the projectile
- The time interval during which the projectile is in motion is called the time of flight