

**Course Code:ESC106A**

**Course Title: Construction Materials and Engineering  
Mechanics**

**Lecture No. 59:**

**Numerical on Projectiles**

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# 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  $6 \text{ m/sec}^2$ . 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

