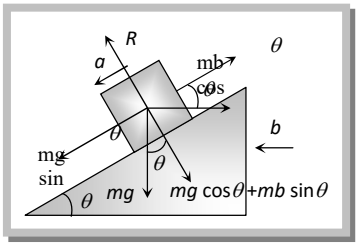
When a inclined plane given a horizontal acceleration 'b'

Since the body lies in an accelerating frame, an inertial force (mb) acts on it in the opposite direction.



Normal reaction R = mg cosθ + mb sinθ

and ma = mg sin θ – mb cos θ

∴ a = g sinθ – b cosθ

Note: The condition for the body to be at rest relative to the inclined plane: a = g sinθ – b cosθ = 0

∴ b = g tanθ