1.Find the force P to produce the impending motion of the block B down the palne.(**CO1,CO3**)
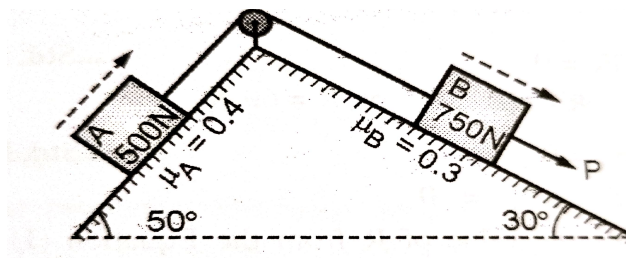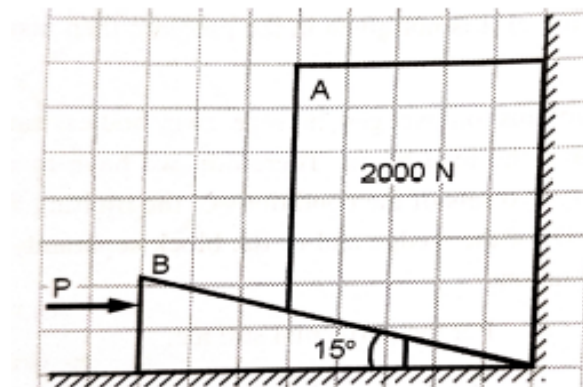

2.

Assuming the values for μ=0.25 at the floor and 0.3 at the wall and 0.2,between the blocks. find the minimum value of horizontal force P applied to the lower block that will hold the system in equilibrium.
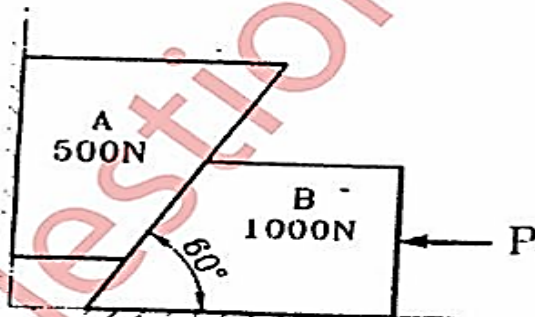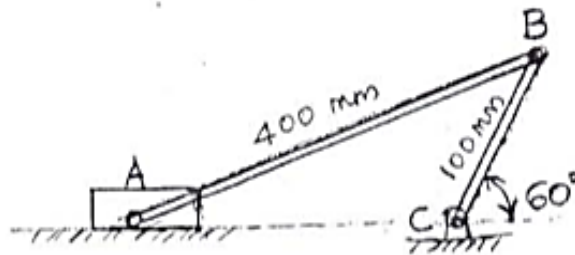
3. Find Load P to raise the heavy stone block A using wedge B negligible weight as shown in the figure.**(CO 3)**

4.

· The crank BC of a slider crank mechanism is rotating at constant speed of 30 rpm clockwise. Determine the velocity of the piston A at the given instant.

$AB = 400\,mm$ $\qquad$ $BC = 100\,mm$


Q6)

A curvilinear motion of a particle is defined by $v_x = 25-8t$ m/s and $y = 48-3t^2$ m. At t=0, x= 0. Find out Position, velocity and acceleration.

Q7)

From the top of a tower, 28 m high, a stone is thrown vertically up with a velocity of 9m/s. After how much time will the stone reach the ground? With what velocity does it strike the ground?

8. The Crank OA of length 200mm rotates at 100rad/sec. Determine the angular velocity of the connecting rod AB and the velocity of the piston at B.
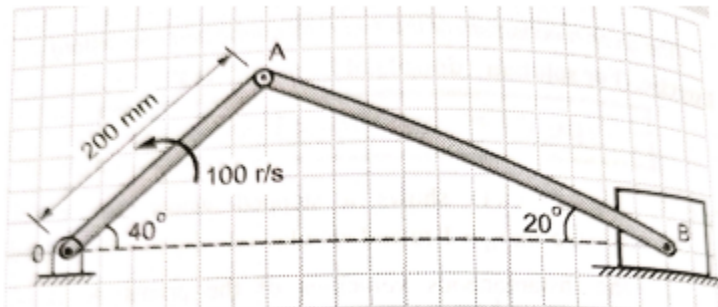
9)

Determine the angular velocity of the wheel and velocity of points P,Q and R on the wheel. OP=.6m,OP makes 30 degree angle with negative axis.