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Subject - Theory of Machines
 Assignment - 2

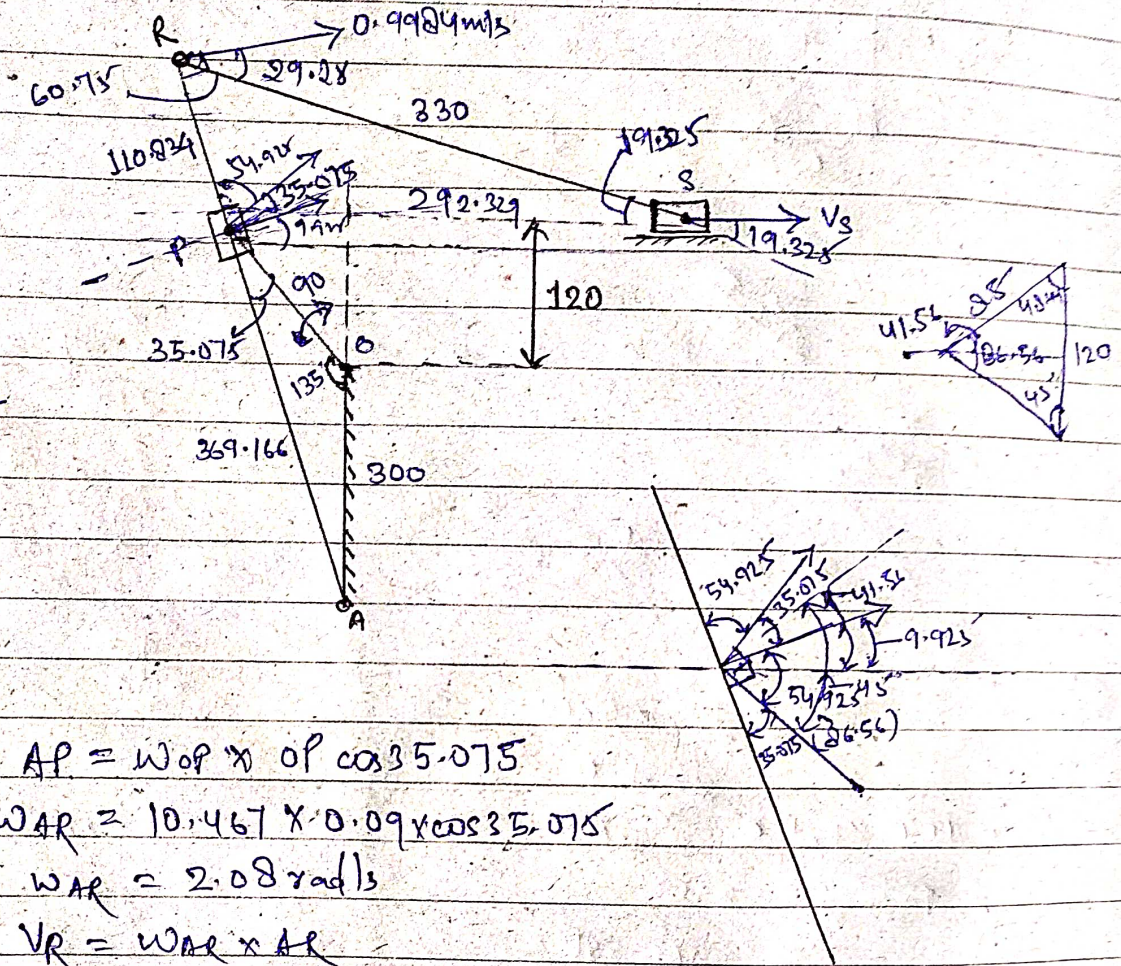
Ans.

$$\cos 135 = \frac{90^2 + 300^2 - x^2}{2 \times 90 \times 300}$$

$$x = 369.166$$

$$\cos 29.2 = \frac{369.166^2 + 300^2 - 90^2}{2 \times 369.166 \times 300}$$

($\theta = 35.075$)



$\omega_{AR} \times AP = \omega_{OR} \times OP \cos 35.075$
 $\omega_{AR} = 10.467 \times 0.09 \times \cos 35.075$
 $\omega_{AR} = 2.08 \text{ rad/s}$
 $V_R = \omega_{AR} \times AR$
 $V_R = 0.9984 \text{ m/s}$

by relative velocity along (RS) link

$$V_R \cos 29.25 = V_S \cos 19.325$$

$$V_S = \frac{0.9984 \cos 29.25}{\cos 19.325}$$

$$V_S = 0.9 \text{ m/s}$$

Velocity of slider when the AOP is 135 is 0.9 m/s