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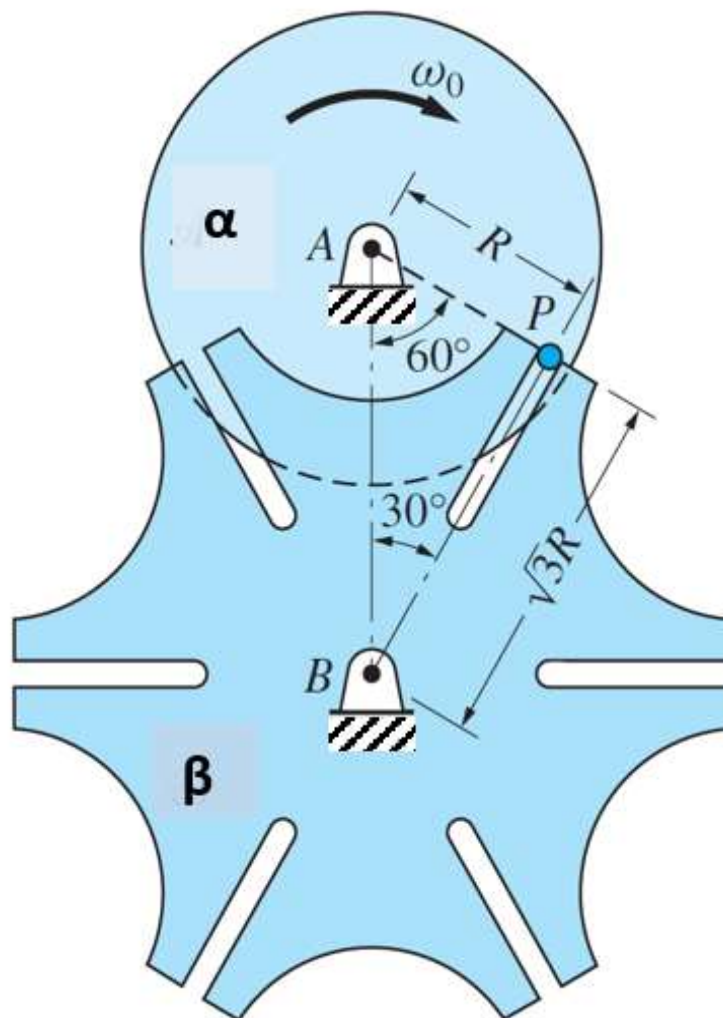
Time taken 29 mins 40 secs

Grade **9.00** out of 10.00 (**90%**)

Question 1

Partially correct

Mark 9.00 out of 10.00



The figure shows a mechanism, which is called Geneva stop. This converts the constant angular velocity, ω_0 of a disk α into the stop-and-go motion of the slotted disk β as shown in the figure. As the position shown, the pin, P , which is fixed to a disk α , is entering the slot in the disk β . At this instance, the angular velocity of the disk β is zero and the pin P just got engaged into the slot of the disk β . Please answer the following questions, taking $\omega_0 = 2.5 \text{ rad/s}$ and $R = 5.5 \text{ m}$.

Note: Report solutions up-to three decimal places.

The absolute value of velocity of pin P w.r.t. the disk α is m/s.



One possible correct answer is: 0

The absolute value of velocity of pin P w.r.t. the disk β is m/s.



One possible correct answer is: 13.75

The absolute value of velocity of pin P w.r.t. the point A is m/s.



One possible correct answer is: 13.75

The absolute value of acceleration of pin P w.r.t. the point A is m/s^2 .



One possible correct answer is: 34.375

The absolute value of acceleration of pin P w.r.t. the disk β is m/s^2 .



One possible correct answer is: 0

The absolute value of angular acceleration of disk β w.r.t. the point B is rad/s^2 .



One possible correct answer is: 3.6084391824352

Your answer is partially correct.

You have correctly answered 5 part(s) of this question.

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