



QUESTION 2: LOCI (MECHANISMS)

Given:

A mechanism consisting of a crank OP that is pin-jointed to a slotted link AB. The slotted link AB slides over a fixed pin R that is located on the circumference of a wheel, centre Q.

FIGURE 1: A detailed drawing of the mechanism

FIGURE 2: A schematic drawing of the mechanism

Motion:

Crank OP rotates in an anti-clockwise direction while the wheel, centre Q, rotates at the same speed in a clockwise direction. The slotted link AB slides over pin R during the rotation.

Instructions:

- 2.1 Draw, to scale 1:1, the given schematic drawing using point O as a reference point. Include ALL the labels.
- 2.2 Trace the locus generated by point A of the slotted link for one revolution.
- 2.3 Trace the locus generated by point B of the slotted link for one revolution.

- Show ALL necessary construction.

[33]

O+

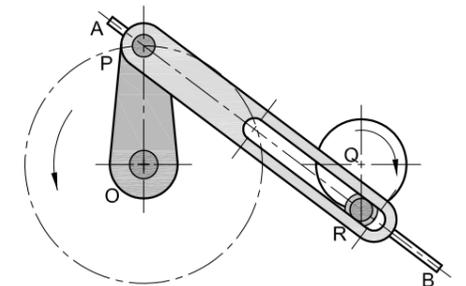


FIGURE 1

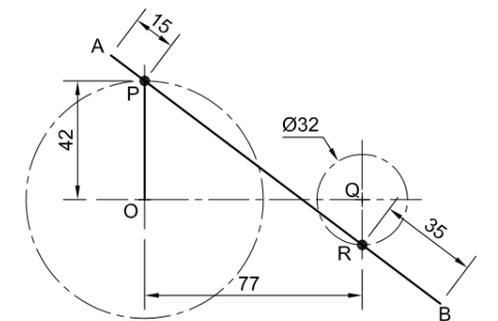


FIGURE 2

ASSESSMENT CRITERIA			
GIVEN + LABELS	5		
CONSTRUCTION	8		
LOCUS A + CURVE	10		
LOCUS B + CURVE	10		
TOTAL	33		
EXAMINATION NUMBER			
EXAMINATION NUMBER			3