

QUESTION 2: LOCI

A plate cam which rotates in a clockwise direction imparts the following motion to a roller follower of 20 mm diameter:

0° to 90° rise 40 mm with simple harmonic motion;

90° to 150° dwell;

150° to 270° fall 40 mm with constant velocity;
270° to 360° dwell.

- The minimum radius of the roller centre to the camshaft centre is 45 mm.
- The camshaft diameter is 25 mm.
- The centre line of the camfollower and that of the cam fall in the same plane.

Instructions:

- 2.1 Draw the displacement diagram. Clearly showing intervals.
- 2.2 Draw the profile of the cam and the roller follower at each interval.
- 2.3 Indicate the rotation with an arrow.

Notes:

Show all necessary constructions.

Let 60 mm represent 360° cam rotation.

[36]

ASSESSMENT CRITERIA			
Labels			4
Construction			9
Displacement diagram			8
Cam profile			15
TOTAL			36

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