

QUESTION 2: CAM

Given:

- The detail of a wedge-shaped follower and the camshaft.
- The position of centre point S on the drawing sheet.

Specifications:

- The follower reciprocates on the vertical centre line of the camshaft
- The minimum distance from the follower to the centre of the camshaft is 20 mm.
- Camshaft is $\varnothing 14$
- Rotation is clockwise.

Movement:

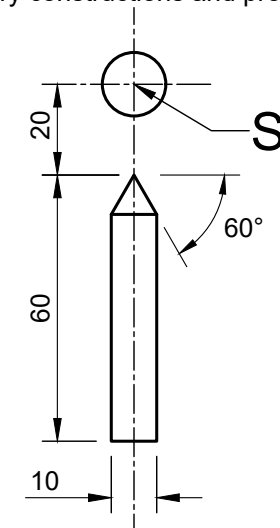
The cam imparts the following uniform motion to the follower:

- It descends 13 mm over the first 60° .
- Thereafter it descends until the maximum lowest position of 70 mm from the original start position over 30° .
- The follower rises 35 mm over 60° .
- It then dwells for 120° .
- The follower then returns to its original position.

Instructions:

- Draw to scale 1:1 the given follower and camshaft at the minimum distance of which the follower will be from the camshaft.
- Draw, to a horizontal scale of 90 mm equal to 360° and a vertical displacement scale of 1:1 the complete displacement graph for the uniform motions.
- Label the graph and include the scales.
- Show the direction of rotation.
- Show all necessary constructions and projections. **[30]**

S



ASSESSMENT CRITERIA

| | | | | |
|----------------|---|-----------|--|--|
| 1 | GIVEN + MINIMUM DISTANCE + CENTRE LINES | 5 | | |
| 2 | CONSTRUCTION DISPLACEMENT GRAPH | 7 | | |
| 3 | GRAPH | 5,5 | | |
| 4 | CAM CONSTRUCTION | 5 | | |
| 5 | CAM & CURVE QUALITY | 7,5 | | |
| PENALIZING (-) | | | | |
| TOTAL | | 30 | | |



CAM

| | |
|-------------------------------|--------|
| ESTIMATED TIME FOR COMPLETION | 35 MIN |
| YOUR TIME OF COMPLETION | MIN |

GRADE
11

NAME &
SURNAME

TASK
11.4

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