STAPEL

QUESTION 2: CAM

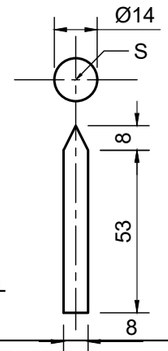
Given:
- The detail of a wedge-shaped follower and the camshaft.
- The position of centre point S on the drawing sheet.

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 17 mm.
- The rotation is anti-clockwise.

Motion:
The cam imparts the following motion to the follower
- It descends 56 mm with uniform acceleration and retardation over the first 180°
- It rises 20 mm with uniform motion over the next 45°
- There is a dwell period for the next 45°
- It returns to its original position with simple harmonic motion over the rest of the rotation

Instructions:
- Draw, to scale 1 : 1 the given camshaft and wedge-shaped follower at the minimum distance.
- Draw to a rotational scale of 30° equals 8 mm and a displacement scale of 1 : 1, the complete displacement graph for the required motions.
- Label the displacement graph and include the scale.
- Project and draw the cam profile from the displacement graph.
- Show the direction of rotation on the cam profile.
- Show all constructions and projections. **[38]**

S



FOLLOWER AND CAMSHAFT DETAIL

ASSESSMENT CRITERIA				
1	GIVEN + MINIMUM DISTANCE + CENTRE LINES	5		
2	GRAPH CONSTRUCTION	7		
3	DISPLACEMENT GRAPH	9		
	CAM CONSTRUCTION	6		
	CAM + CURVE QUALITY	11		
PENALTY (-1)				
TOTAL		38		

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CAM	ESTIMATED TIME FOR COMPLETION	35 MIN	GRADE 12	INITIALS & SURNAME		TASK 13.4	PAGE 49
	YOUR TIME FOR COMPLETION	MIN					