

QUESTION 2a

LOCI

CAM

The **cam profile** and the starting point of a **roller-ended** follower that reciprocates with **uniform velocity** along the profile is given. **Complete** the **displacement graph** to the following specifications and then answer the questions below:

- Use a **horizontal scale** of 7 mm = 30°.
- Use a **vertical scale** of 1 mm = 1 mm.
- The **camshaft** has a diameter of 21 mm.

Instructions:

- **Draw** and **hatch** the shaft.
- Project and complete the **displacement diagram** in the space provided.
- **Print** the required labels at **A**, **B** and **C**.

Answer the following related questions:

- 2a.1 What is the **travel** after 210°? **80 mm**
- 2a.2 What is the **total travel**? **160 mm**
- 2a.3 What is the **maximum displacement**? **60 mm**
- 2a.4 What is the **distance** between the cam shaft **centre** and the cam **profile**? **15mm**

ASSESSMENT CRITERIA

- |                                     |                   |   |
|-------------------------------------|-------------------|---|
| <input checked="" type="checkbox"/> | Complete graph    | 8 |
| <input checked="" type="checkbox"/> | Print labels      | 3 |
| <input checked="" type="checkbox"/> | Draw the shaft    | 2 |
| <input checked="" type="checkbox"/> | Hatch the shaft   | 1 |
| <input checked="" type="checkbox"/> | Scale/orientation | 1 |
| <input checked="" type="checkbox"/> | Answers           | 4 |
| <input checked="" type="checkbox"/> | Lw/Acc/Pr.        | 1 |

GPH	8	
LAB	3	
SFT	2	
HAT	1	
SC/O	1	
ANS	4	
L/A/P	1	

20 MARKS

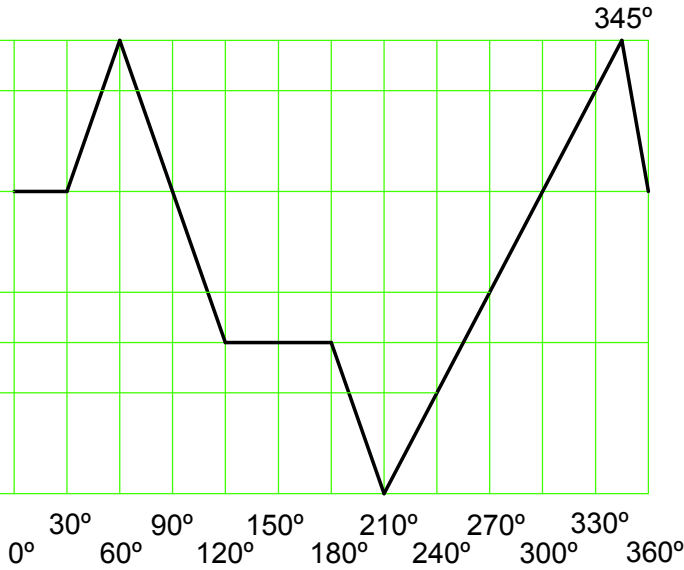
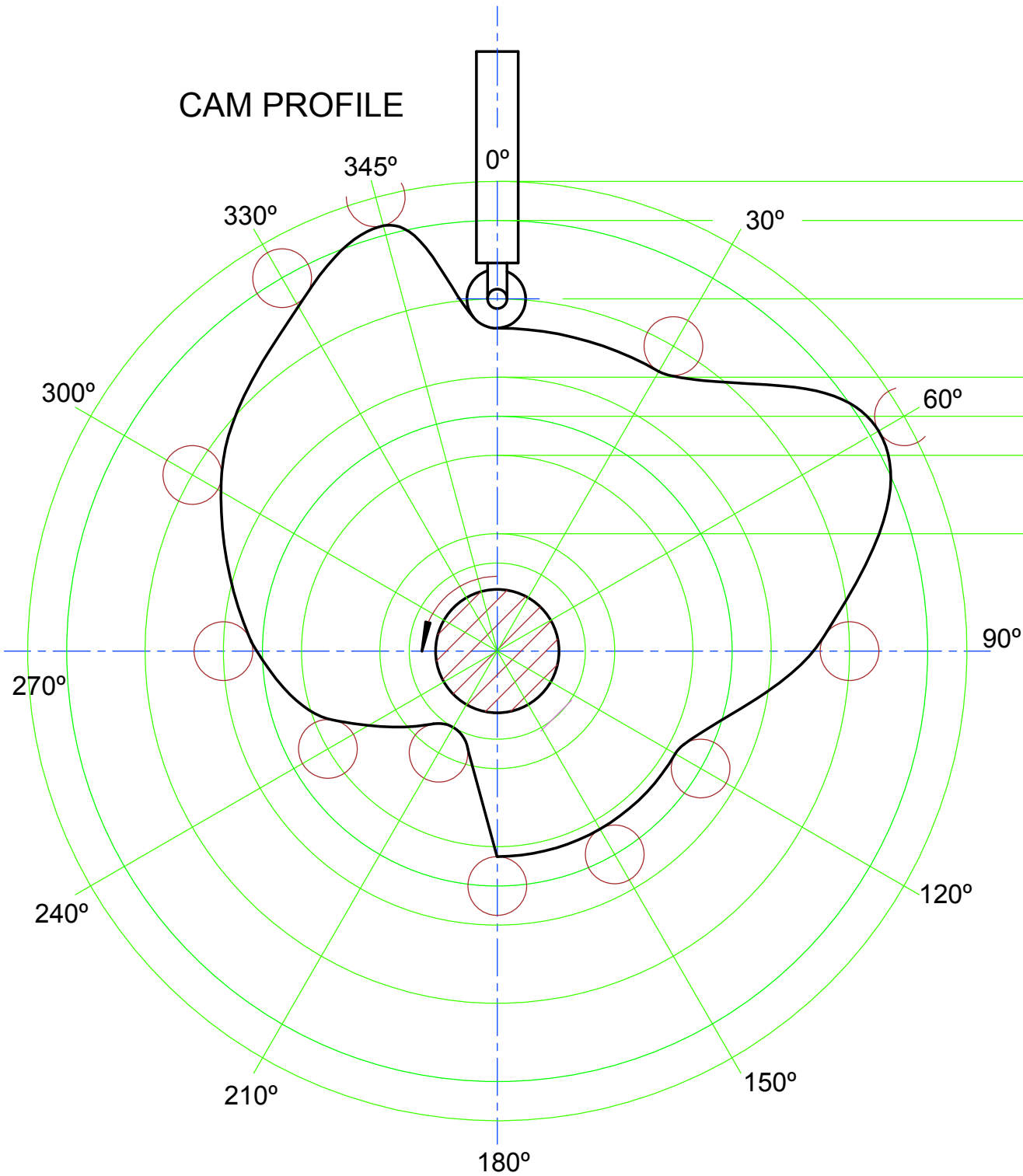
EXAMINATION NUMBER

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ANSWER SHEET 2a

CAM PROFILE

A. DISPLACEMENT DIAGRAM



C. HORIZONTAL SCALE 7 MM = 30°

B. VERTICAL SCALE 1 MM = 1 MM