

SHEET 1

PENANG SANGAM HIGH SCHOOL YEAR 12 TECHNICAL DRAWING WORKSHEET – 3

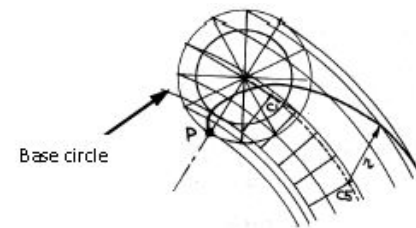
MULTIPLE CHOICES

1. Which of the following curves has both an equal movement towards or away from a pole and an increase in its vector angle?

A. Helix.
B. Involute.
C. Logarithmic spiral.
D. Archimedean spiral

2. The curve labelled P is known as:

A. A superior trochoid.
B. A superior Epitrochoid.
C. An inferior epitrochoid.
D. A superior hypotrochoid.



3. Which of the following statements **best** describes the motion of a cam known as **Dwell**?

A. The cam is at rest.
B. The cam ceases rotation.
C. The follower ceases to rotate with the cam.
D. The follower ceases to move in a straight line

DESIGN

Problem:

Domestic rubbish packed in garbage bags placed alongside the road is not hygienic. It becomes a hazard when the rubbish trucks do not turn up on time

Brief:

Design a **garbage stand** for ease of collection and prevention from stray animals.

Specification: The **garbage stand** should be:

1. safe from stray animals;
2. made from combination of materials;
3. be stable and safely fixed on the ground;
4. Have a storage capacity to store at least 5 garbage bags.

Requirements:

(a) Produce two freehand pictorial sketches of the garbage stand.

(b) Evaluate each sketch on the following criteria:

- (i) Materials
- (ii) Functionality

(c) Explain with the help of sketches how the garbage stand will be fixed to the ground.

(d) Draw a pencil-rendered or a colour-rendered pictorial sketch of the final solution

SHEET 2

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| (a) Possible Solution 1 (4 marks) | | | | | | | | Possible Solution 2 (4 marks) | | | | | | | | (c) (3 marks) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | 1 | | Overall neatness and clarity of sketch(es) | | 1 | | | | 3 | | Evidence shown | | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | 2 | | Relevant explanations and labels given | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>1</td> <td>Pictorial</td> <td>Crate/Box used</td> <td>1</td> <td></td> <td>3</td> <td>Correct labels</td> <td>1</td> <td></td> </tr> <tr> <td>2</td> <td>Correct line work</td> <td>1</td> <td></td> <td>4</td> <td>Correct proportion</td> <td>1</td> <td></td> <td></td> </tr> </table> | | | | | | | | 1 | Pictorial | Crate/Box used | 1 | | 3 | Correct labels | 1 | | 2 | Correct line work | 1 | | 4 | Correct proportion | 1 | | | <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>1</td> <td>Pictorial</td> <td>Crate/Box used</td> <td>1</td> <td></td> <td>3</td> <td>Correct labels</td> <td>1</td> <td></td> </tr> <tr> <td>2</td> <td>Correct line work</td> <td>1</td> <td></td> <td>4</td> <td>Correct proportion</td> <td>1</td> <td></td> <td></td> </tr> </table> | | | | | | | | 1 | Pictorial | Crate/Box used | 1 | | 3 | Correct labels | 1 | | 2 | Correct line work | 1 | | 4 | Correct proportion | 1 | | | | | | | | | | |
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| 2 | Correct line work | 1 | | 4 | Correct proportion | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| (b) Criteria | | | | Possible Solution 1 (2 marks) | | | | Possible Solution 2 (2 marks) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Materials | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functionality | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | Overall neatness and clarity of sketch | 1 | | 3 | Correct rendering shown | 1 | | 5 | Correct line work | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Correct labels | 1 | | 4 | Correct proportion | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

THE END