

SMARTWIZ

GRADE11 Engineering Graphic Designing (EGD) EXAM

MARKS: 100

MARKS	

TIME: 2 HOURS

SCHOOL _____

CLASS (eg. 4A) _____

SURNAME _____

NAME _____

Instructions for Learners:

- Read all instructions carefully before you begin the exam.
- Write your full name and student number clearly on the answer sheet/book.
- Answer all questions unless otherwise instructed.
- Show all your work/calculations where necessary.
- Write neatly and clearly.
- Use only a blue or black pen. Do not use correction fluid or tape.
- Electronic devices (calculators, cell phones, etc.) are not allowed unless explicitly permitted.
- Raise your hand if you have any questions.
- Do not talk to other learners during the exam.
- Any form of dishonesty will result in immediate disqualification from the exam.

This exam consists of five pages, including the cover page.

Section A: Multiple Choice Questions (20 marks)

Circle the correct answer.

1. Which line type is used to represent cutting planes in sectional views?
 - a) Continuous thick line
 - b) Chain line with thick ends
 - c) Dashed line
 - d) Dotted line
2. What does the abbreviation 'CAD' stand for?
 - a) Computer-Aided Drafting
 - b) Computer-Aided Design
 - c) Computer Algorithm Design
 - d) Creative Art Design
3. Which projection method shows three views arranged with the front view in the center and the top view above it?
 - a) First angle projection
 - b) Third angle projection
 - c) Isometric projection
 - d) Oblique projection
4. What instrument is primarily used to draw precise angles?
 - a) Protractor
 - b) Ruler
 - c) Compass
 - d) T-square
5. What is the meaning of a scale 2:1 in a drawing?
 - a) The drawing is twice as large as the actual object
 - b) The drawing is half the size of the actual object
 - c) The drawing is the same size as the object
 - d) The drawing is four times the size of the object

Section B: Matching (15 marks)

Match the terms in Column A with their correct descriptions in Column B. Write the letter of the correct description next to the number.

Column A	Column B
1. Hidden line	a) Line showing the center of circles or arcs
2. Cutting plane line	b) Line showing edges not visible in the view
3. Dimension line	c) Line that indicates where a sectional cut is made
4. Center line	d) Line used to show measurements between points
5. Extension line	e) Line that extends from the object to the dimension line

Section C: Short Answer Questions (35 marks)

1. Explain the role of **line weights** in engineering drawings and why they are important. (6 marks)

2. List and describe **three types of projections** used in engineering graphics. (9 marks)

3.

4.

5.

6. What is the purpose of a **title block** in a technical drawing? (5 marks)

4. Explain how **tolerances** are used in engineering drawings and why they matter. (7 marks)

5. Describe the difference between **oblique** and **perspective** drawings. (8 marks)

MYST PATHWORKS

Section D: Drawing (30 marks)

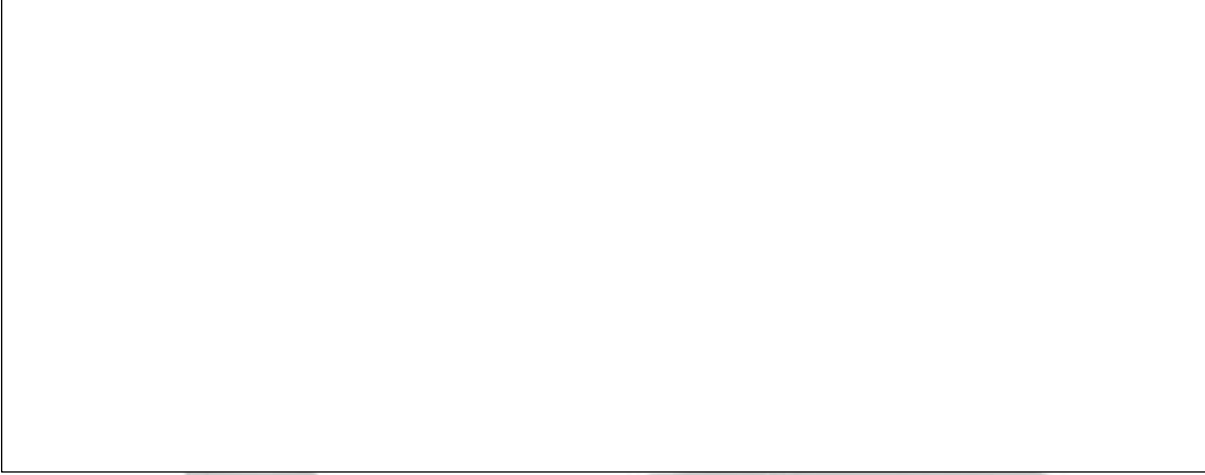
1. Draw a **front and top view** of an L-shaped object with the following dimensions:

- Horizontal part: 100 mm long, 30 mm wide, 20 mm thick
 - Vertical part: 60 mm high, 30 mm wide, 20 mm thick
- Label all dimensions clearly. (20 marks)



2. Draw an **oblique projection** of the same L-shaped object above. (10 marks)

(Use the back of the paper if needed)



End of Examination

MYST PATHWORKS

MEMO

Section A: Multiple Choice Questions (20 marks)

1. **b) Chain line with thick ends**
2. **b) Computer-Aided Design**
3. **b) Third angle projection**
4. **a) Protractor**
5. **a) The drawing is twice as large as the actual object**

Section B: Matching (15 marks)

No.	Correct Letter	Explanation
1	b	Hidden line shows edges not visible in the view.
2	c	Cutting plane line indicates where sectional cut is made.
3	d	Dimension line shows measurements between points.
4	a	Center line shows the center of circles or arcs.
5	e	Extension line extends from object to dimension line.

Section C: Short Answer Questions (35 marks)

1. Role of line weights in engineering drawings: (6 marks)

- Line weights indicate different types of lines (visible edges, hidden edges, center lines, etc.) by varying thickness.
- Important for clarity, helping viewers distinguish parts of the drawing easily.
- Enhances readability and prevents confusion.

2. Three types of projections: (9 marks)

- **Orthographic projection:** Multiple 2D views of an object (front, top, side) aligned properly.
- **Isometric projection:** A 3D representation where axes are equally spaced at 120° .
- **Oblique projection:** 3D drawing where the front face is drawn true size and other faces are projected at an angle, often 45° .

3. Purpose of a title block: (5 marks)

- Contains important information about the drawing, such as:
 - Title of the drawing
 - Scale used
 - Date
 - Author/designer's name
 - Drawing number/version
- Helps in identification, documentation, and version control.

4. **Use and importance of tolerances:** (7 marks)

- Tolerances specify the allowable variations in dimensions.
- Ensure parts fit and function properly despite small manufacturing variations.
- Critical for quality control and interchangeability of parts.

5. **Difference between oblique and perspective drawings:** (8 marks)

- **Oblique drawing:** The front face is shown in true shape and size; other faces are drawn at an angle (usually 45°). It does not represent depth realistically.
 - **Perspective drawing:** Shows objects as they appear to the eye, with lines converging to vanishing points, creating a realistic sense of depth and distance.
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Section D: Drawing (30 marks)

1. **Front and top view of L-shaped object (20 marks):**

- Front view: Vertical part 60 mm high, 30 mm wide, 20 mm thick shown in elevation.
- Top view: Shows horizontal and vertical parts, with correct lengths and widths (100 mm and 30 mm).
- Dimensions correctly labeled.
- Views aligned and neat.

2. **Oblique projection of L-shaped object (10 marks):**

- Correct front face in true shape and size.
- Other faces projected at 45° .
- Proportions and dimensions reasonable.
- Drawing neat and clear.

TOTAL : 100