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. What type of line is used to indicate symmetry in a drawing?
   a) Continuous thick line
   b) Chain line
   c) Center line
   d) Hidden line
2. Which view is usually placed at the bottom of an orthographic drawing?
   a) Front view
   b) Side view
   c) Bottom view
   d) Top view
3. What is the correct angle for the axes in an isometric drawing?
   a) 45°
   b) 30°
   c) 60°
   d) 90°
4. Which of the following is NOT a standard dimensioning method?
   a) Baseline dimensioning
   b) Chain dimensioning
   c) Angular dimensioning
   d) Random dimensioning
5. The term **‘projection’** in engineering graphics refers to:
   a) Drawing objects to scale
   b) Creating 3D models on computers
   c) Showing different views of an object on 2D planes
   d) Measuring the size of objects

Section B: Fill in the Blanks (10 marks)

Fill in the missing word(s).

1. A _____ is used to draw parallel lines accurately.
2. The _____ view in orthographic projection shows the length and height of an object.
3. In engineering drawings, a _____ line represents edges that are not visible.
4. The scale 1:5 means the drawing is _____ times smaller than the actual object.
5. The point where two lines or edges meet is called a _____.

Section C: Short Answer Questions (30 marks)

1. Explain what a **sectional view** is and why it is important in engineering drawings. (6 marks)

2. Describe the difference between **first angle** and **third angle** projection. (6 marks)

3. List and briefly explain **three types of lines** used in technical drawings. (9 marks)
4.
5.
6.
7. Why is dimensioning important in engineering drawings? (4 marks)

5. What safety measures should be taken when using a compass and cutting tools? (5 marks)

Section D: Drawing (40 marks)

1. Draw the **front, top, and left side views** of a simple rectangular prism with dimensions:
   Length = 90 mm, Width = 40 mm, Height = 60 mm.
   Include proper dimensions and labels. (25 marks)

2. Draw an **isometric view** of the same rectangular prism. (15 marks)

(Use the back of the paper if necessary)

End of Examination

MEMO

Section A: Multiple Choice Questions (20 marks)

1. **c) Center line**
2. **d) Top view**
3. **b) 30°**
4. **d) Random dimensioning**
5. **c) Showing different views of an object on 2D planes**

Section B: Fill in the Blanks (10 marks)

1. **T-square**
2. **Front**
3. **Hidden**
4. **5** (The drawing is 5 times smaller than the actual object)
5. **Vertex**

Section C: Short Answer Questions (30 marks)

1. **Sectional view:** (6 marks)

- A sectional view is a drawing that shows the interior details of an object as if it were cut through.
- It helps to reveal internal features not visible from the outside.

2. **First angle vs Third angle projection:** (6 marks)

- **First angle:** The object is imagined in the first quadrant; the top view is below the front view, and the right side view is on the left.
- **Third angle:** The object is imagined in the third quadrant; the top view is above the front view, and the right side view is on the right.

3. **Three types of lines:** (9 marks)

- **Continuous thick line:** Used for visible edges and outlines.
- **Hidden line:** Dashed line used to represent edges not visible in the current view.
- **Center line:** Chain line used to indicate symmetry or centers of circles/arcs.

4. **Importance of dimensioning:** (4 marks)

- Dimensioning provides exact sizes and locations of features.
- It ensures parts are manufactured correctly and fit together.

5. **Safety measures when using compass and cutting tools:** (5 marks)

- Handle tools carefully to avoid injury.
- Always point sharp ends away from yourself and others.
- Use cutting tools on a proper surface.
- Keep tools organized and store them safely after use.
- Maintain focus and do not rush.

Section D: Drawing (40 marks)

1. **Orthographic views (25 marks):**

- Front view: Length 90 mm, Height 60 mm.
- Top view: Length 90 mm, Width 40 mm.
- Left side view: Width 40 mm, Height 60 mm.
- Views aligned correctly and dimensioned neatly.

2. **Isometric view (15 marks):**

- Correct 3D shape with edges at 30° from horizontal.
- Proportional to given dimensions.
- Neat and clear with proper labeling.

TOTAL : 100