

071306T4EEN

ELECTRICAL ENGINEERING (POWER OPTION) LEVEL 6

ENG/OS/PO/CC/04/6

Prepare and Interpret Technical Drawing

March/April 2026



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. This paper consists of **TWO** sections: **A** and **B**.
2. Attempt **ALL** questions in section **A** and any other **THREE** (3) questions in section **B**.
3. Marks for each question are indicated in the brackets.
4. Candidates are provided with a separate answer booklet
5. **DO NOT** write on the question paper.

This paper consists of FIVE (5) printed pages

Candidates should check the question paper to ascertain that all pages are printed as indicated and that no questions are missing.

SECTION A (40 MARKS)

Attempt ALL the questions in this section.

1. Construct the following angles using a ruler and a compass only (4 marks)
 - a) 75°
 - b) 15°
2. A set square is a fundamental instrument in technical drawing engineering, Architecture Wood working. Explain any two uses of setsquare in preparing and interpretation of Technical drawing (2 marks)
3. Sketch the conventional symbols of the following (4 marks)
 - First angle orthographic projection
 - Third angle orthographic projection
4. Construct a rectangle whose diagonal is 70mm long and one side of 30mm long (3 marks)
5. Sketch the following tools used for an electrical installation workshop (4 marks)
 - a. Hacksaw
 - b. Pliers
6. Construct a regular pentagon circumscribed by a circle of diameter 100mm (5 marks)
7. Define lettering as used in technical drawing (2 marks)
8. Care in handling and maintaining of drawing tools and equipment is paramount. Briefly outline THREE safety and precautions while using Drawing boards (3 marks)
9. Construct a triangle ABC in which $\angle B, \angle C$ and their included side BC= 30mm (4 marks)
10. Construct a triangle given the perimeter of 130mm in the ratio 4:3: 6 (5 marks)
11. Briefly explain any THREE safety precautions while you are in a technical drawing room (3 marks)

SECTION B (60 MARKS)

Attempt question TWELVE (12) and any TWO (2) questions in this section

12. Figure 1 shows the view of a template, (20 Marks)

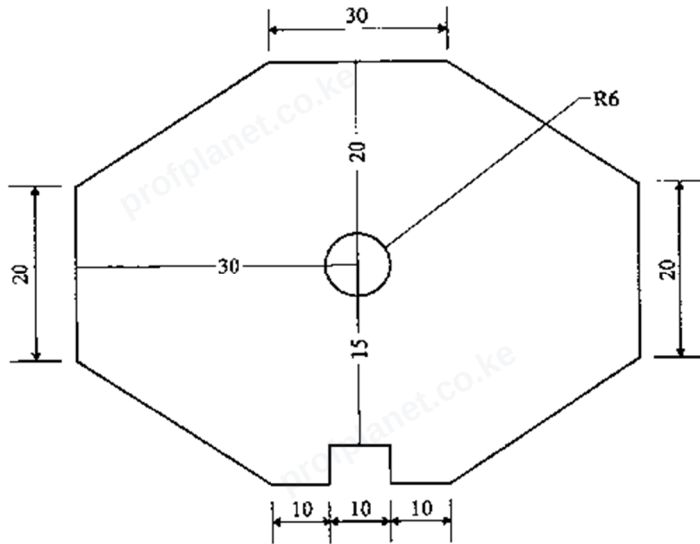


Figure 1

- Draw the template using Auto-CAD software
 - On the title block, write your name and registration number
 - Print your work and attach the printout to your answer booklet
13. Figure 2 shows two views of an object drawn in third angle orthographic projection. Draw, full size an isometric view of the object taking corner p the lowest point, include FIVE major dimensions (20 marks)

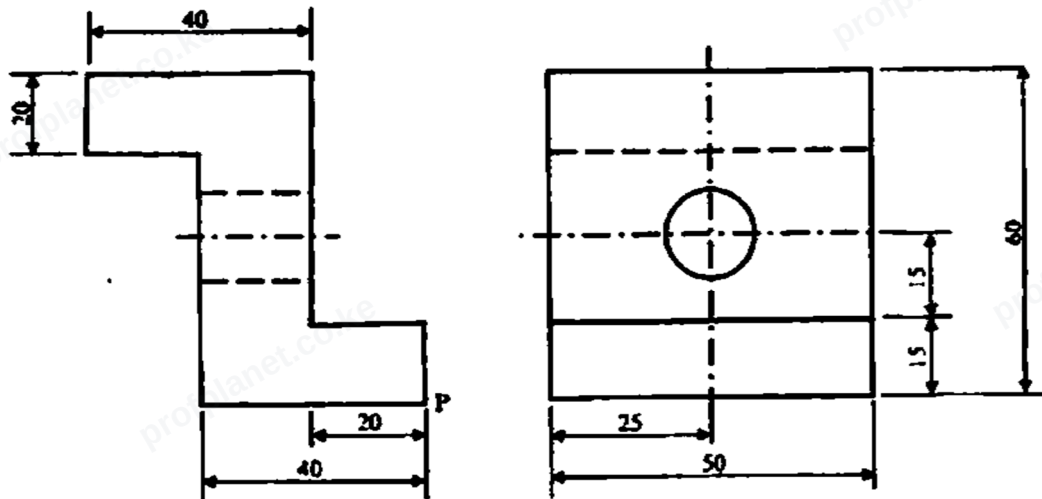
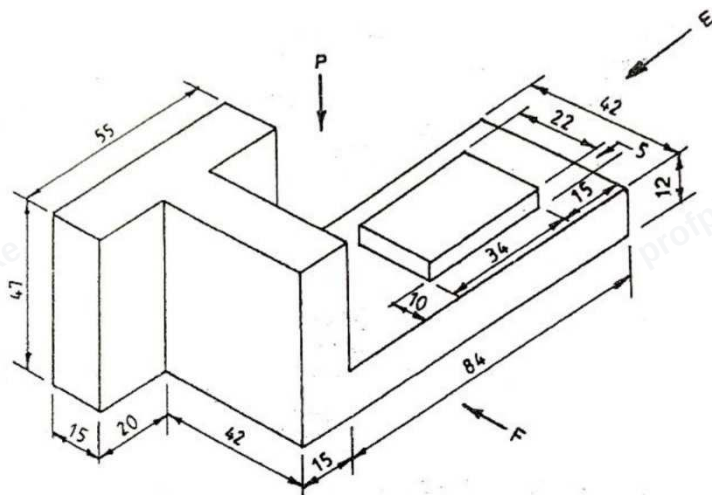


Fig. 2

14. Figure 3 shows a pictorial view of an isometric projection. Draw the following views in full size in first angle projection

- Front view in the direction of F
- plan
- End Elevation
- Insert SIX major dimensions



15.

- Construct the common external tangent between two unequal circles of centers O and O_1

And radii R and r respectively, given that $R=40\text{mm}$, $r=20\text{mm}$ and the line between the two centers O and O_1 is 100mm .

(10 marks)

- b. Using Oblong method with a major axis of 120mm and a minor axis of 80mm, draw an ellipse (10 marks)

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