

073105T4PLM

PLUMBING LEVEL 5

CON/OS/PL/CC/02/5

Apply Technical Drawing

November/December 2025



**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. Answer **ALL** Questions in section A and **THREE** 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 FOUR (4) printed pages
Candidate 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 questions from this section

1. Name FOUR basic drawing tools. (4Marks)
2. Sketch the following Conventional symbols used in engineering drawing (4 Marks)
 - i. External screw threads (detail)
 - ii. Internal screw threads (detail)
 - iii. Screw threads(assembly)
 - iv. Thread inserts
3. Construct a diagonal scale, 30 mm _ 1 mm, 4 m long to read to 10 mm. (4Marks)
4. Plane geometry forms the foundation of technical drawing. Explain TWO applications of plane geometry drawings in engineering or construction. (2 Marks)
5. Construct a heptagon having one of its length as 20mm using universal method of construction. (4Marks)
6. Modern industries rely heavily on CAD systems. Identify TWO benefits of applying CAD in technical drawing. (2 Marks)
7. List FOUR contents of a title block. (4 Marks)
8. Define the following terms as used in technical drawing. (2Marks)
 - i. Oblique drawing -
 - ii. Isometric drawing
9. High-quality materials are critical in producing neat drawings. Explain THREE criteria for selecting quality-drawing materials. (3 Marks)
10. Construct an equilateral triangle, given the length of the side 40mm (4 Marks)
11. Good maintenance of drawing materials prolongs their lifespan. List THREE methods of maintaining pencils. (3Marks)
12. Accurate plane drawings require basic constructions. State FOUR geometric constructions. (4 Marks)

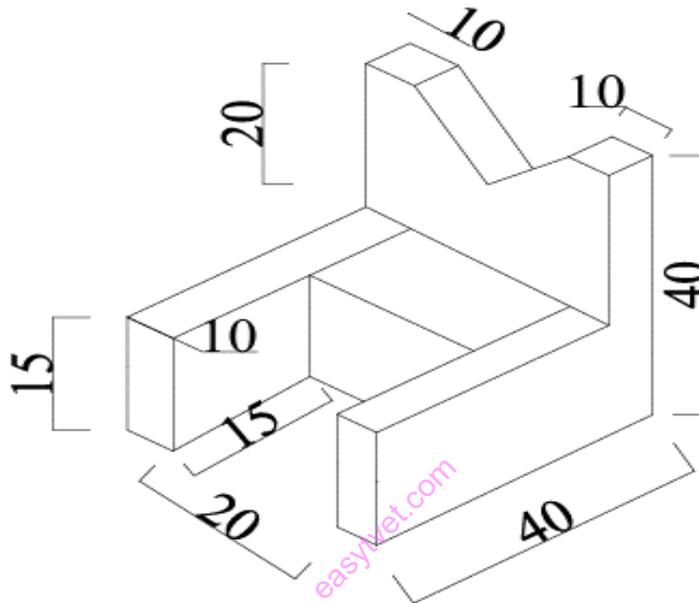
SECTION B (60 MARKS)

Attempt THREE questions from this section

13. Draw the following views in first angle orthographic projection of the figure below

- i. Plan
- ii. Front elevation
- iii. End elevation

(20 Marks)



14. (a) Describe FIVE advantages of using CAD for pictorial and orthographic drawings.

(10 Marks)

(b) Your supervisor assigns you to prepare working drawings for hose reel systems.

Describe FIVE factors to consider when selecting drawing equipment for high-precision technical drawings.

(10 Marks)

15. (a) During project work, a student damages a T-square. Explain FIVE Importance Of Proper Care Of Drawing Instruments.

(10 Marks)

(b) Draw the following types of lines as applied in technical drawing

(10 Marks)

- ii. Cutting plane line
- iii. Dashed thin
- iv. Continuous thin
- v. Chain thick
- vi. Centre line

16. Draw the projections of a pentagonal pyramid, base 30 mm edge and axis 50 mm long, having its base on the Horizontal Plane and an edge of the base parallel to the Vertical Plane. Also, draw its side view. (20 Marks)

