

073105T4PLM

PLUMBING LEVEL 5

CON/OS/PL/CC/02/5

Apply Technical Drawing

March/April 2026



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

WRITTEN ASSESSMENT

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATE

1. This paper consists of **TWO** sections: **A** and **B**.
2. Answer **ALL** questions in section **A**.
3. Answer **THREE** questions in section **B**.
4. Marks for each question are indicated in the brackets.
5. Candidates are provided with a separate answer booklet.
6. Do not write on the question paper.

This paper consists of THREE (3) printed pages

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

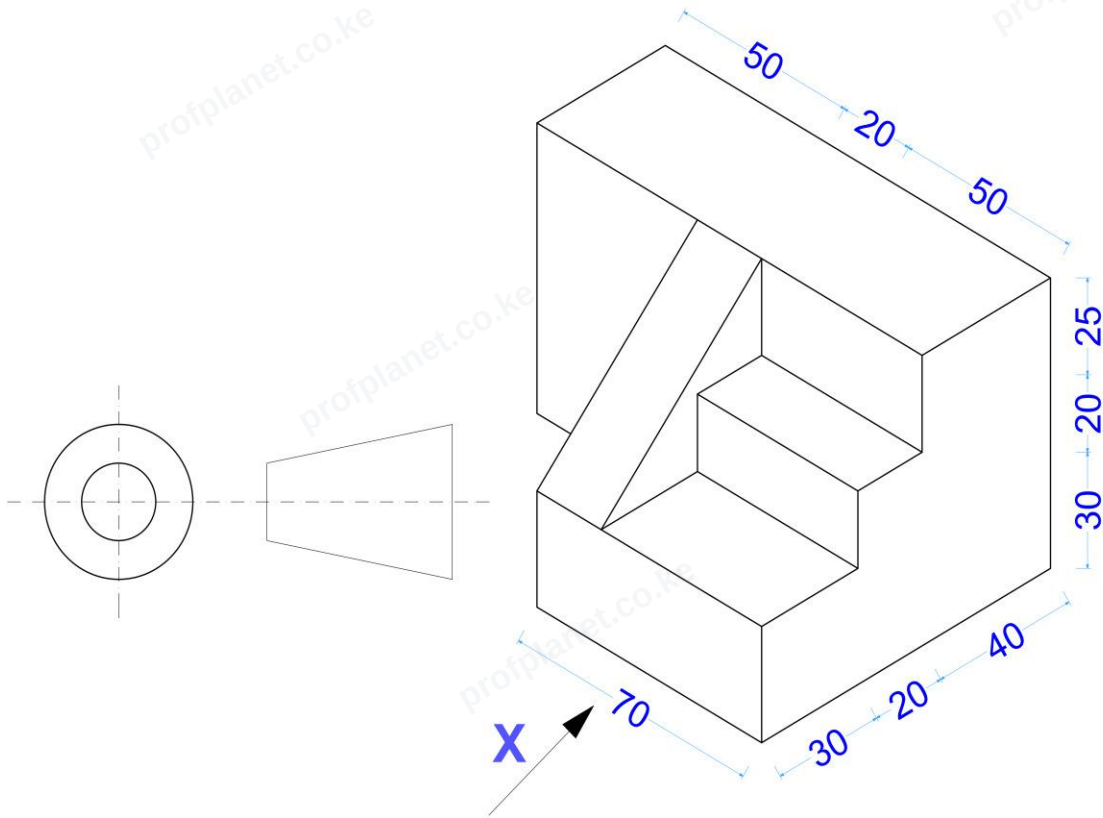
SECTION A (40 MARKS)

Answer ALL questions in this section

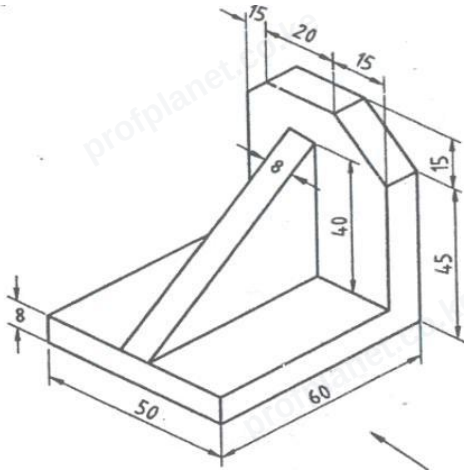
1. Proper handling of technical drawing equipment ensures their durability is achieved. Outline FOUR safety precautions to be adhered to when handling technical drawing tools. (4 Marks)
2. Drawing is essential to communicate ideas in construction. List FOUR drawing papers indicating their sizes. (4 Marks)
3. As a plumber, it's important to use scales to represent objects. State FOUR reasons why scale is important in technical drawing. (4 Marks)
4. CAD software plays a very crucial role in preparing technical drawings. List FOUR advantages of using CAD software. (4 Marks)
5. Plane geometry is critical in technical drawing. Name FOUR forms of representing plane geometry in technical drawing. (4 Marks)
6. Measurements ensure accuracy, precision, and consistency in drawing proportions. Draw a cuboid in isometric measuring 50mm × 30mm × 20mm. (4 Marks)
7. During construction of angles, different tools and equipment can be used. Construct an angle of 45° using ruler and compass only. (4 Marks)
8. Orthographic projection is used in technical drawing to represent a three-dimensional object on a two-dimensional plane. Give TWO comparisons between first angle and third angle projections. (4 Marks)
9. Isometric drawing is a method of representing three-dimensional objects. Sketch the isometric views of the following plane figures. (4 Marks)
 - i. Square
 - ii. Circle
10. ArchiCAD is used by most construction companies in the design of building drawings. State FOUR parts of the CAD interface. (4 Marks)

SECTION B (60MARKS)*Answer THREE questions in this section*

11. The figure below shows a block in isometric view. Project it orthographically in the direction of X. (20 Marks)



12. Draw the orthographic views of the figure below in 1st angle projection. The arrow shows the direction of the front view. (20 Marks)



13. Triangles form the foundation of geometry and many other mathematical concepts.
- Draw an isosceles triangle of base length 60mm and base angle of 45 degrees. (8 marks)
 - Given the perimeter of a triangle is 140 and the ratio of the sides is 3:4:5. Construct the triangle. (6 marks)
 - Construct a quadrilateral triangle of side 60mm. (6 marks)
14. A hexagon is a six-sided polygon.
- Construct a hexagon of side length 40 mm and draw a circumscribing circle to the hexagon. (10 Marks)
 - Construct a hexagon of side length 50 mm and draw an inscribing circle to the hexagon. (10 Marks)