

073205T4BLD

BUILDING TECHNOLOGY LEVEL 5

CON/OS/BUT/CR/02/5

Apply 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. Answer **ALL** questions in section A and **ANY 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

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

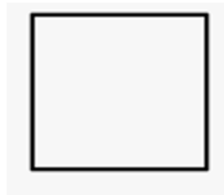
1. In construction drawings, clarity is essential for communication. State TWO reasons why standard abbreviations and symbols are important. (2 Marks)
2. Title blocks provides identification and essential information in technical drawing. Sketch a typical title block for an A3 sheet and label FOUR essential components. (4 Marks)
3. Geometric construction is a core skill in technical drawing. Construct a triangle ABC where $AB = 70 \text{ mm}$, $BC = 60 \text{ mm}$, and $\angle ABC = 75^\circ$. Inscribe a circle within it and measure its radius. (5 Marks)
4. Computer Aided Design (CAD) software enhances efficiency in building technology. Identify TWO CAD applications. (2 Marks)
5. Manual drafting requires appropriate equipment for accuracy. State THREE advantages of using a drawing board over a plain table. (3 Marks)
6. Polygons are common in geometric construction. Construct a regular hexagon inside a circle of 90mm diameter. (5 Marks)
7. Line types convey different meanings in technical drawings. Sketch the following lines as used in technical drawing; (4 Marks)
 - a. Hidden lines
 - b. Center lines
 - c. Construction lines
 - d. Cutting plane
8. Proper care extends the life of drawing instruments. State TWO good practices for maintaining drawing instruments. (2 Marks)
9. Drawing tools have specific functions in technical drawing. List TWO uses for each of the following; (4 marks)
 - a. T-square.
 - b. Set square.
10. Draw three circles of radii 25mm, 18mm and 12mm respectively, all touching each other externally. (4 Marks)

11. Scales allow representation of objects at reduced or enlarged sizes. State the purpose of a scale in technical drawing? (1 Mark)
12. Projection methods are essential for representing 3D objects. State THREE projection methods used in technical drawing. (3 Marks)

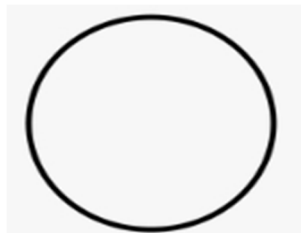
SECTION B (60 MARKS)

Answer THREE questions in this section.

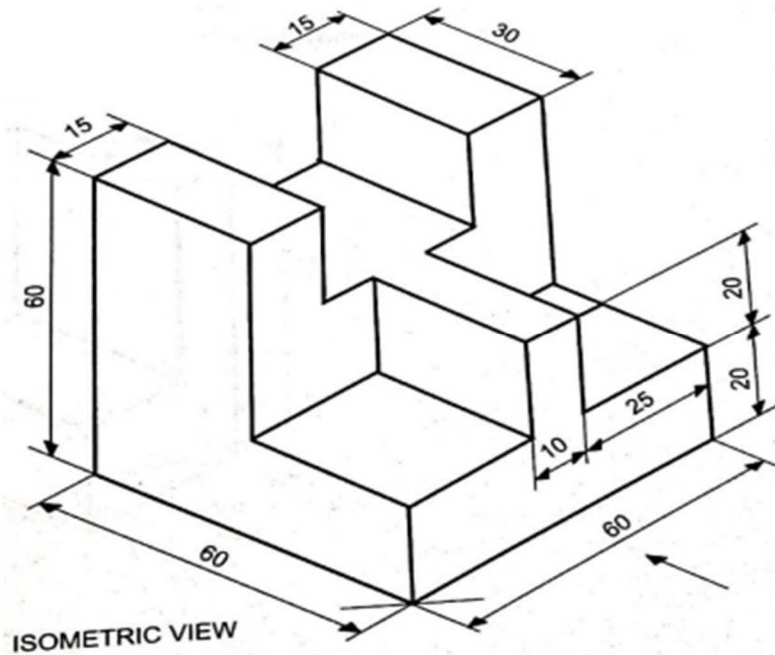
13. A plain scale allows measurement of units and subdivisions accurately.
- a. Construct a plain scale of 1: 40 to read Meters and Decimeters and long enough to measure 6M. Mark on the scale a distance of 4.7M. (10 Marks)
 - b. Construct an ellipse using the rectangle method, given major axis 100mm and minor axis 60mm. (10 Marks)
14. Isometric views help represent plane figures in three dimensions for clearer visualization.
- a. Sketch the isometric views of the following plane figures. (6 Marks)
 - i. Square



- ii. Circle



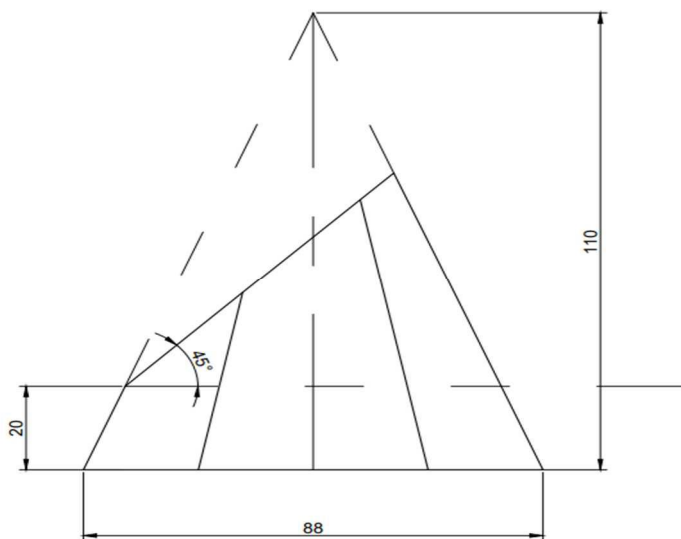
- b. The figure below shows an isometric solid block. Using first angle projection, draw the front, top, and side orthographic views. Show all the dimensions clearly. (14 Marks)



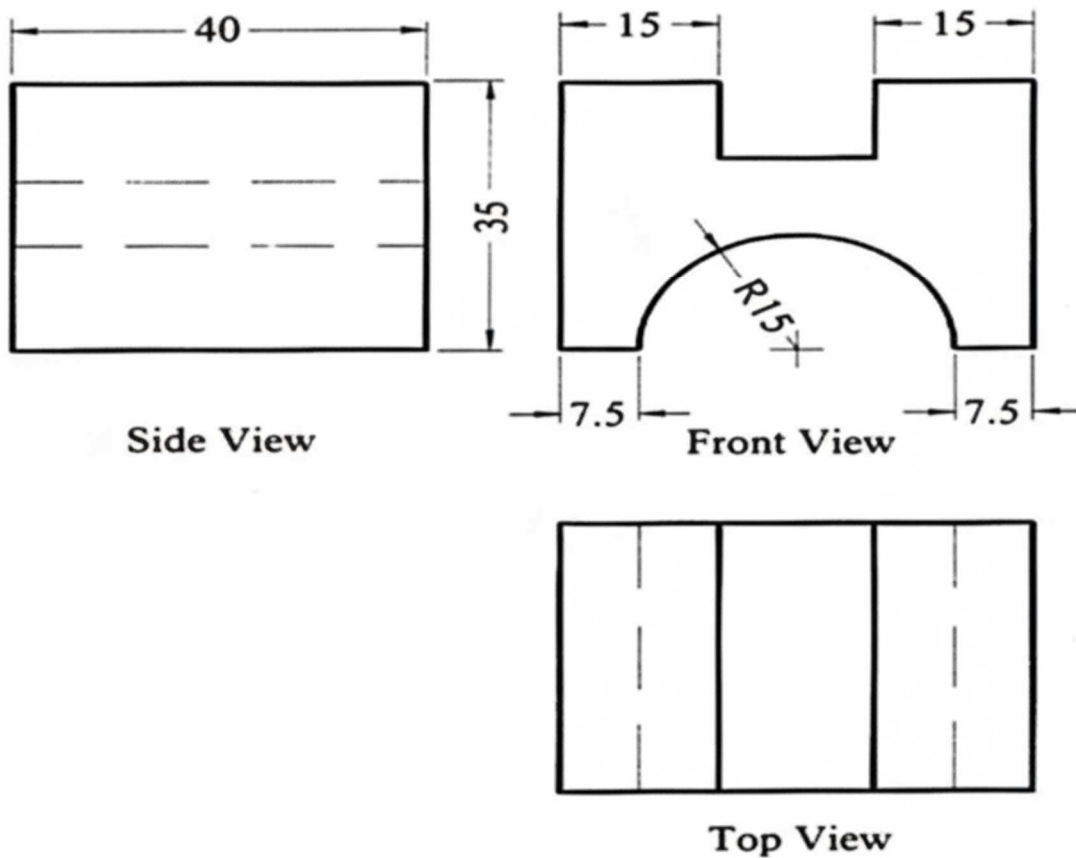
15. A hexagonal pyramid is truncated as shown in the figure below. Copy the given front elevation and draw the following;

- End elevation
- Plan
- True shape of the surface
- Surface development of the truncated pyramid

(20 Marks)



16. Projection drawings are used to represent objects accurately from different views for construction clarity. The figure shown below is an orthographic view of a solid block in first angle projection. Construct the solid block and show all dimensions clearly. (20 Marks)



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