

073205T4BLD

BUILDING TECHNOLOGY LEVEL 5

CON/OS/BUT/BC/02/5/A

Apply Technical Drawing

March/April 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 **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

**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 Questions in This Section.*

1. Orthographic projections create an image where only two of the three dimensions of the object are seen. Draw the conventional symbol used to represent each. (4 Marks)
 - a) First angle projection
 - b) Third angle projection
2. Various lines in technical drawing are used as alphabets of the graphic language. Draw and name any THREE different lines used in technical drawing. (3 Marks)
3. Angles in technical drawing, gives trainees knowledge on how to draw inclined lines of architectural drawing. Construct the following angles;
 - a) 105° . (2 Marks)
 - b) 75° (2 Marks)
4. Various tools are commonly used in a workshop. Make a free hand sketch of a ball pen hammer. (3 Marks)
5. The following are commonly used drawing equipment. Outline TWO ways can safety and care be given for each. (4 Marks)
 - a) T and set squares.
 - b) Compass
6. Dividing a line segment into equal parts is a fundamental geometric construction that demonstrates precision. Draw line AB of 70mm and divide it into 5 equal parts. (4 Marks)
7. Any geometric shape can be circumscribed or inscribed a circle. Draw a triangle of sides 55mm, 72mm and 80mm and Circumscribe a circle. (4 Marks)
8. Three dimensional diagrams have a length, width and height. List FOUR types of 3-D diagrams in technical drawing. (4 Marks)
9. In technical drawing, different drawings are produced for various purposes. Outline the purposes of the following drawings. (4 Marks)
 - a) A section drawing
 - b) An assembly drawing
10. Building drawings can be printed in different paper sizes depending with the client interest. Give the dimensions of the following drawing paper sizes. (3 Marks)
 - a) A4.
 - b) A0.
 - c) A3.

11. Architectural drawings can be drawn by use of manual method or by use of computer software. List THREE advantages of using CAD other than manual drawing.

(3 Marks)

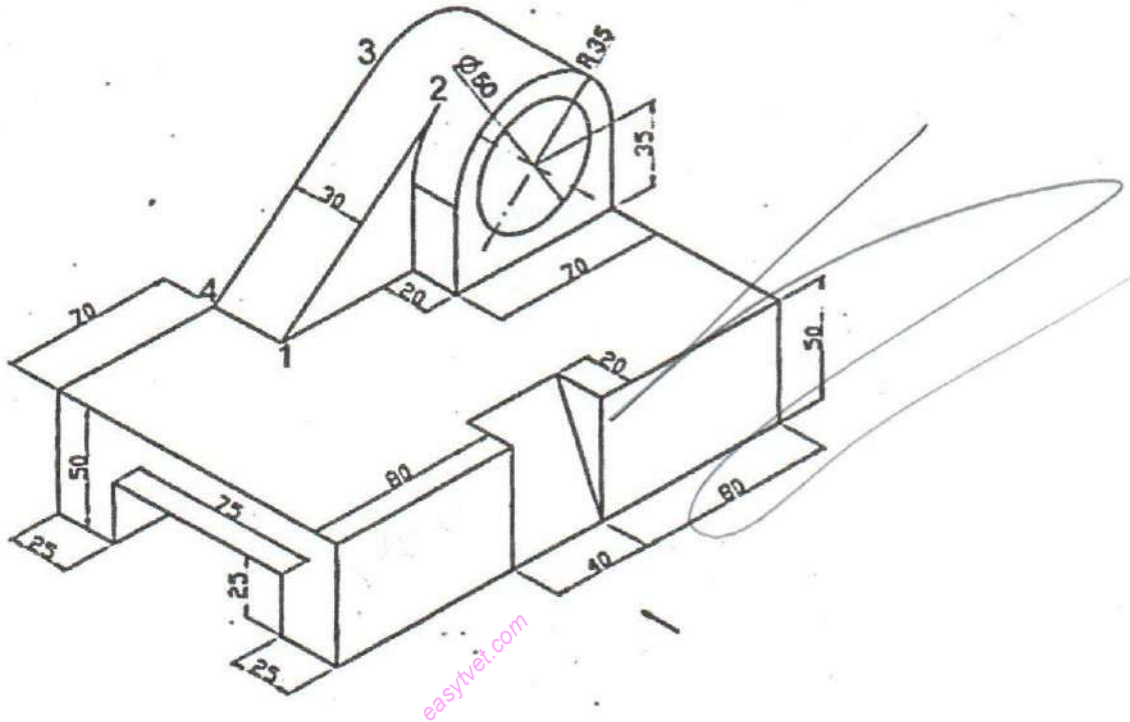
easyvet.com



SECTION B: (60 MARKS)

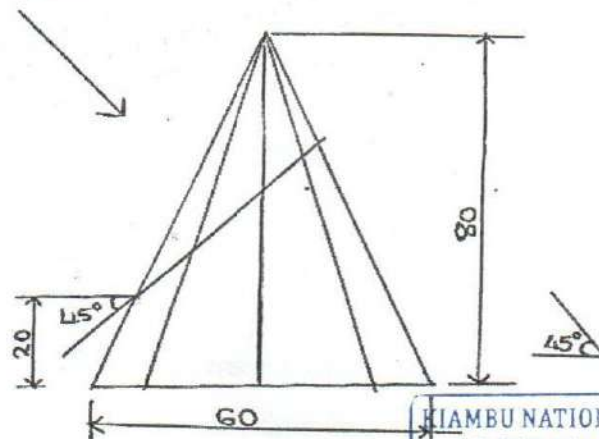
Attempt any **THREE** questions in this section.

12. The drawing provided is a part of a machine. Draw the first angle orthographic projections. (20 Marks)



13. You are provided with the front elevation of a truncated octagonal pyramid in first angle orthographic projection. Produce; (20 Marks)

- The plan
- The true shape
- The auxiliary view at 45°



80
80
80
160
200

Cube

KIAMBU NATIONAL POLYTECHNIC
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15 MAY 2025 (31)

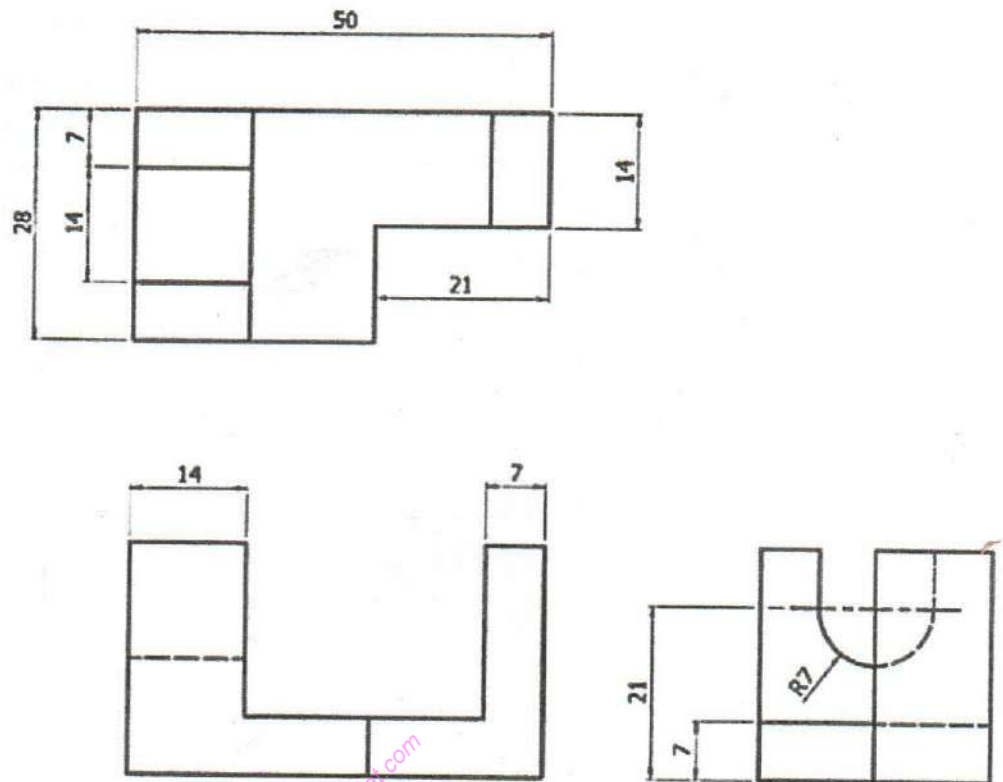
LIBRARIAN

50
75
125

14. Given the orthographic projections below, produce an isometric diagram.

N/B: Use a scale of 1:1.

(20 Marks)



15. Points in a mechanism can be traced if there is a movement of a point rotating and making a revolution.

a) Link mechanism crank AB is connected to link BE which is constrained at D.

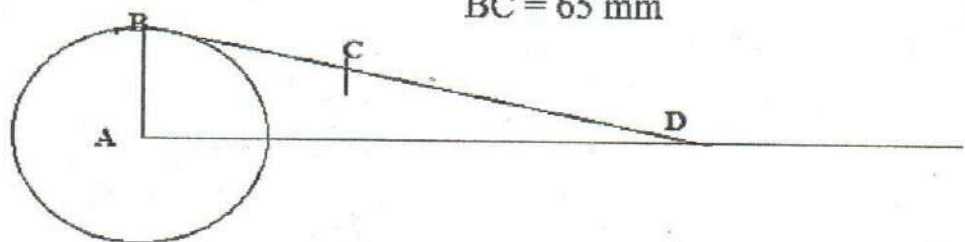
Where:

(10 Marks)

AB = 35 mm

BD = 100 mm

BC = 65 mm



Draw locus of point C

b) Construct an ellipse when given major axis AB = 60mm and minor axis CD = 40 mm using concentric circle method.

(10 Marks)