073206T4BLD

BUILDING TECHNOLOGY LEVEL 6

CON/OS/BUT/CC/02/6/A

Prepare and Interpret Technical Drawings

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. Attempt 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 the questions in this section.

1. We use various instruments to draw in technical drawing. Give the difference between a compass and a divider. (4 Marks)
2. Hammers are often used in construction of buildings. Make a freehand sketch of a claw hammer. (2 Marks)
3. Conventional code is the representation of any matter by a standard symbol on a drawing. Draw the convectional symbol of a broken round rod. (3 Marks)
4. A polygon is a plane having boundaries defined by three or more sides that are all straight. Construct a regular hexagon of 50 mm across flats. (5 Marks)
5. Any geometric shape can be circumscribed or inscribed. Circumscribe a triangle of sides 55mm, 72mm and 80mm. (5 Marks)
6. Appearance of a circle in isometric projection can appear as an ellipse. Construct a circle in an isometric square of 40mm by 40mm. (4 Marks)
7. Lines in technical drawing are used as alphabets of the graphic language. Provide sketches of the following type of lines. (4 Marks)
   a) Chain line
   b) Zigzag line
8. Construct an involute to an equilateral triangle of sides 20mm. (5 Marks)
9. Produce a diagrammatic presentation of A-size papers used in technical drawing indicating the paper sizes in mm according to ISO. (5 Marks)
10. Three dimensional diagrams have length, width and height. List THREE types of 3-D diagrams in technical drawing. (3 Marks)

SECTION B (60 MARKS)

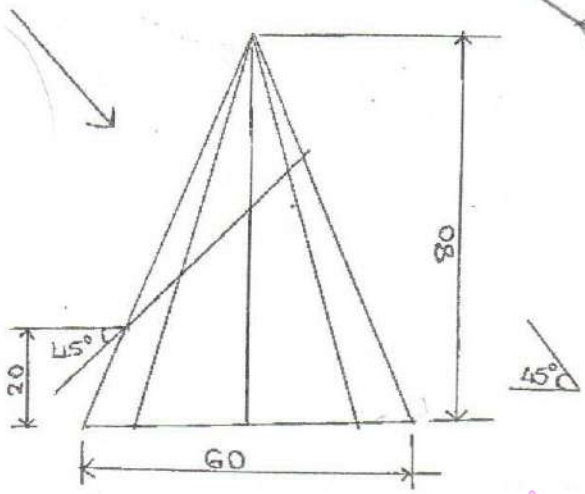
Attempt Any THREE Questions in This Section.

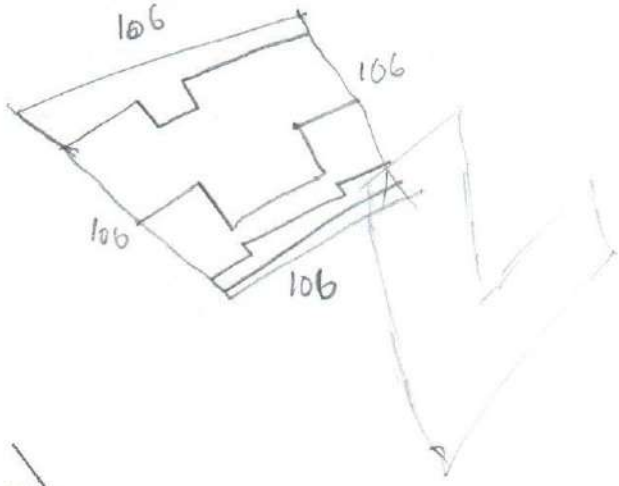
11. You are provided with the front elevation of a truncated octagonal pyramid in first angle orthographic projection. Produce; (20 Marks)

    a) The plan

    b) The true shape

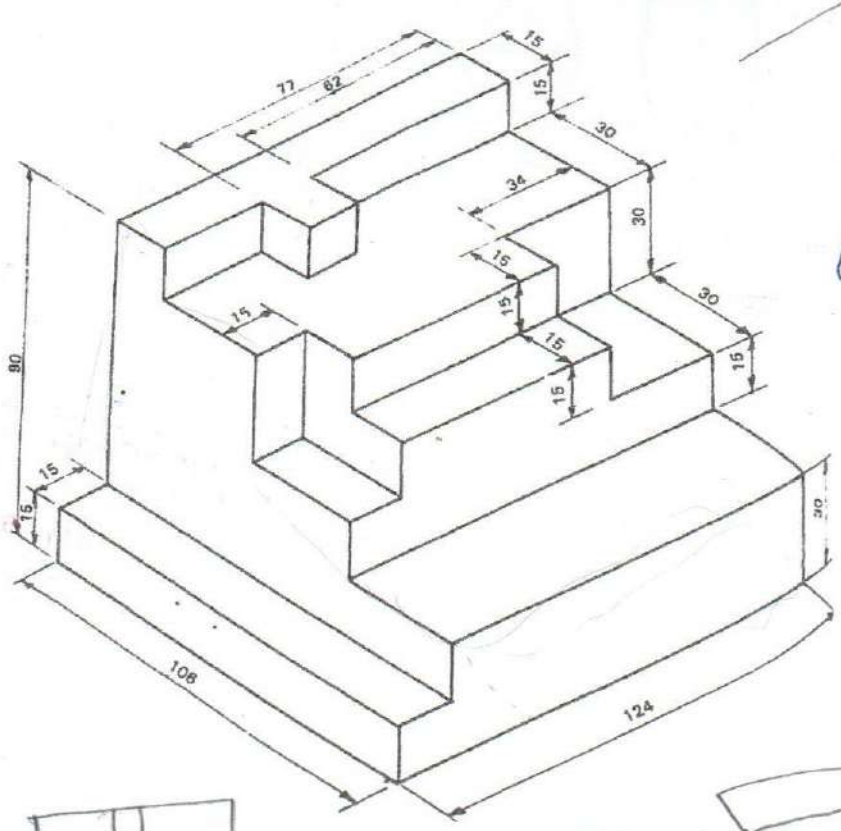
    c) The auxiliary view at 45^0





12. Construct the first angle orthographic projection of the figure below.

    Note: State any FOUR dimensions. (20 Marks)



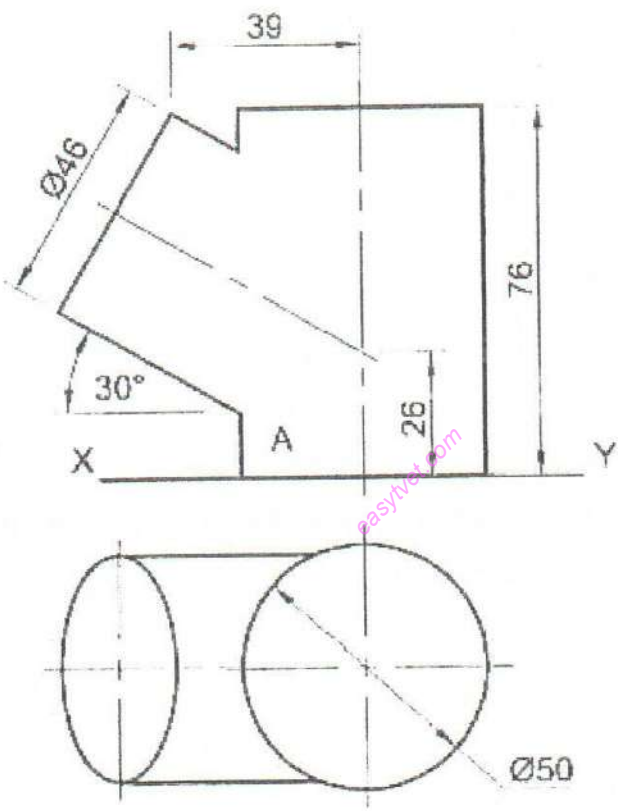
13. You are provided with the following orthographic elevations of two interpenetrated cylinders. Produce; (20 Marks)

a) The front elevation

b) The plan elevation

c) Line of interpenetration

d) Development of the branch pipe



14. Produce an isometric diagram from the orthographic projection provided below.

Note: Units are in mm, Use a scale of 1:1. (20 Marks)