071906T4AEN
Agricultural Engineering Level 6
ENG/OS/AGR/CC/08/6/A
Prepare and Interpret Technical Drawings
July /Aug 2023

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

WRITTEN ASSESSMENT

Time : 3 hours

INSTRUCTIONS TO CANDIDATES

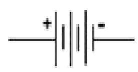
1. This paper has **two** sections **A** and **B.**
2. You are provided with a separate answer booklet.
3. Marks for each question are as indicated.
4. Do not write on the question paper.

This paper consists of 6 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)

Answer all questions in this section.

1. Highlight TWO uses of a pair of dividers. (2 marks)
2. Outline FOUR care and maintenance practices for drawing Instruments (4 marks)
3. Highlight FOUR details that should be included in a title block. (4 marks)
4. Interpret the meaning of the following symbols in engineering drawings
   a. Ø 55 (1 mark)
   b. □ 100 (1 mark)
   c. R 40 (1 mark)
   d. 

   (1 mark)
   e.  (1 mark)

5. Sketch the convectional sign for the
   a. 1st Angle Projection (2 marks)
   b. 3rd Angle Projection (2 marks)
6. State TWO hazards that could occur in a technical training environment (2 marks)
7. Identify FOUR types of sectional views (4 marks)
8. Using **Figure 1** below, sketch the shape of an isometric block generated from the views. (6 marks)

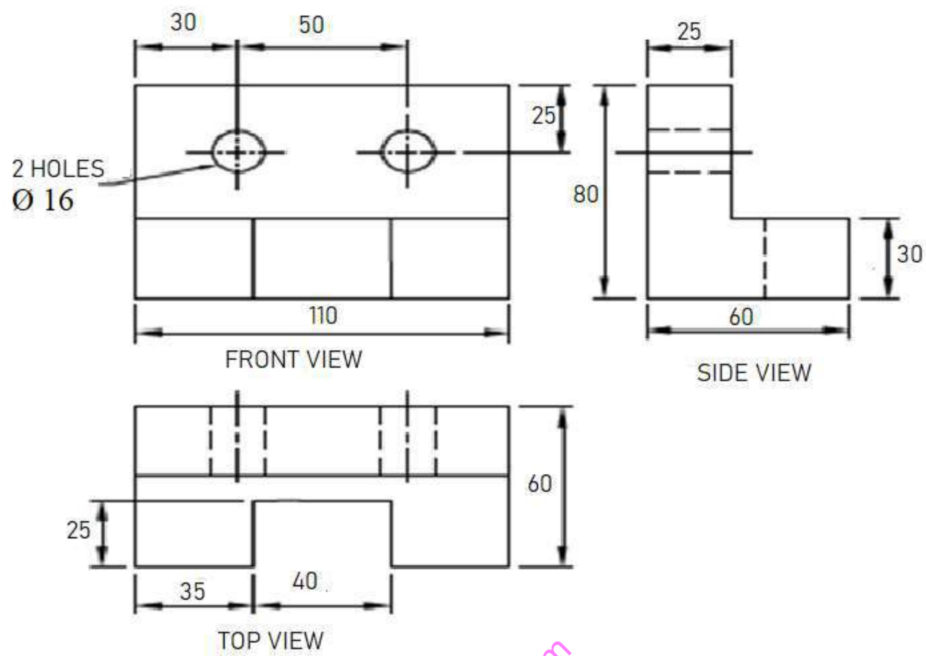


FIGURE 1

9. Identify SIX methods of ellipse construction apart from rectangular/oblong method. (6 marks)

10. Outline THREE functions of a computer Aided Design software. (3 marks)

SECTION B (60 Marks)

Answer ANY THREE questions in this section

11. Construct an ellipse of major axis 120mm and minor axis 60 mm using the rectangular method. (20 marks)

12. A cone of base 50 mm diameter and height 65 mm rests with its base on horizontal plane as shown in **Figure 2** below. A section plane perpendicular to vertical plane and inclined at 30^0 to horizontal plane bisects the axis of the cone.

    a. Copy the views to full scale as provided in the figure below (6 marks)

    b. Draw the development of the lateral surface of the truncated cone. (14 marks)

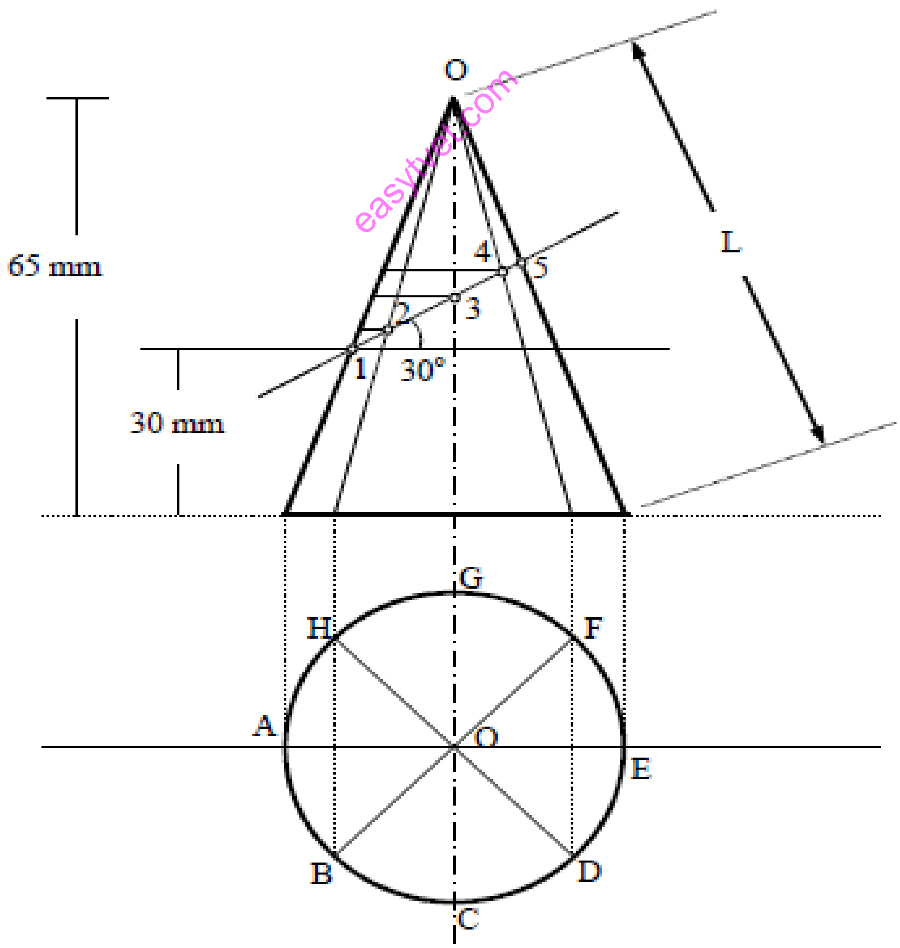


FIGURE 2

13. **Figure 3** shows an isometric drawing of a bracket. Draw the following views of the bracket in either first or third angle orthographic projection:

    a. The front Sectional elevation seen along cutting plane X – X
    b. The left end elevation
    c. The plan

    Label the views and show the symbol for the method of orthographic projection used.

(20 Marks)

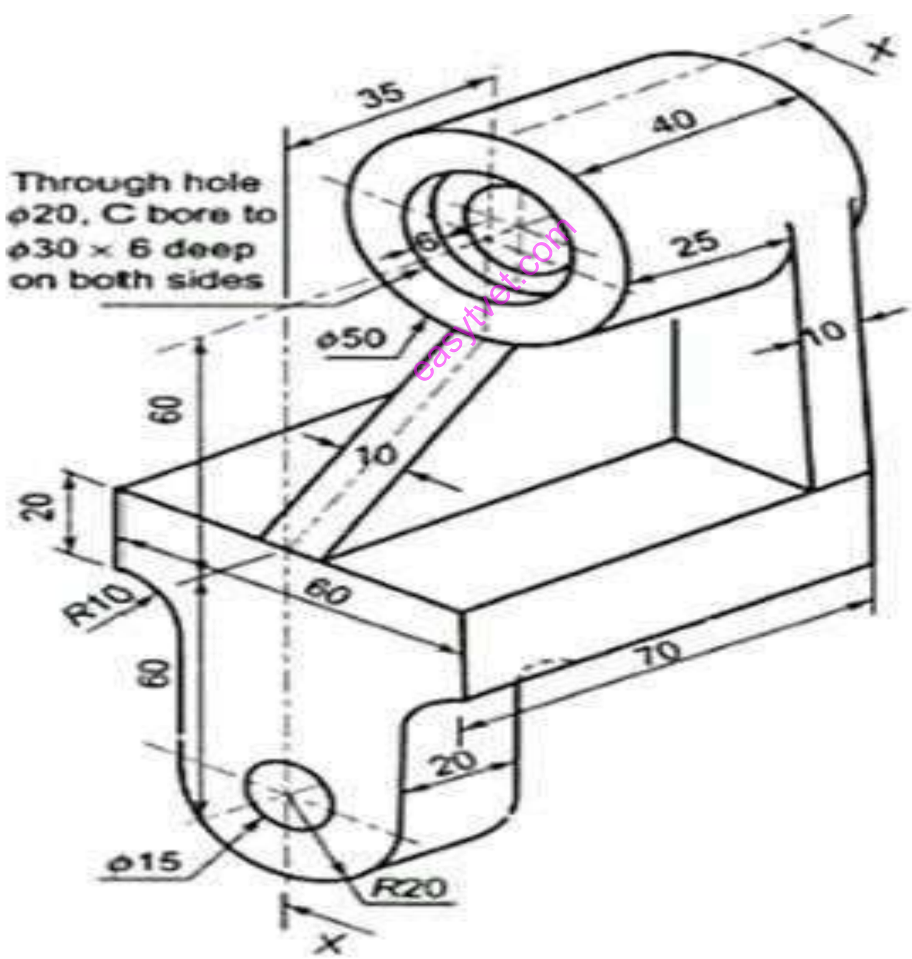


Figure 3

14. **Figure 4** below shows a machined bracket. Produce the drawing to a scale of 1:1 in Isometric view and fully dimension your drawing. (20 marks)

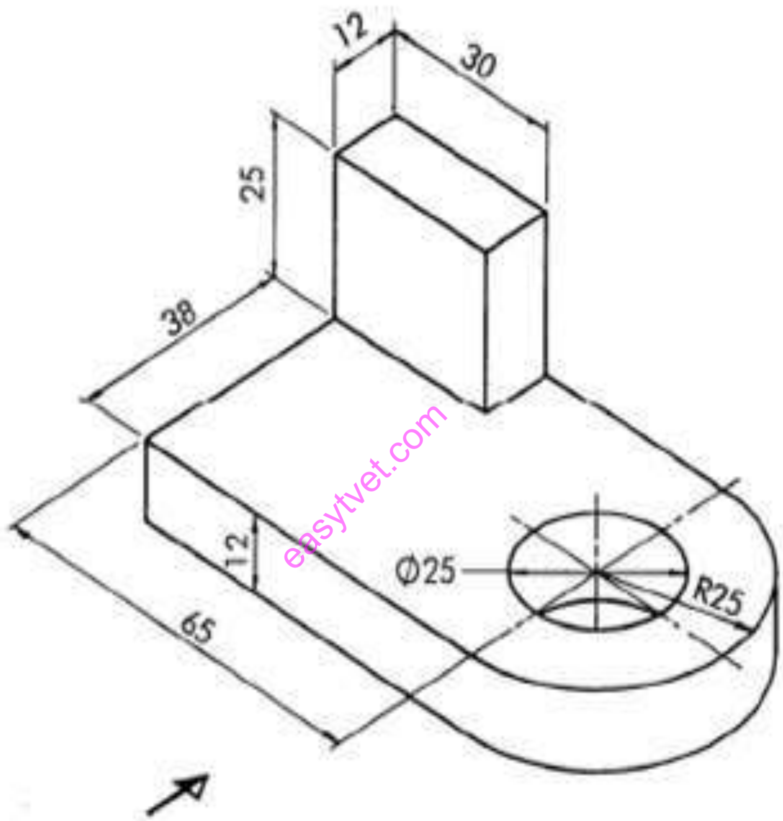


FIGURE 4

END