

071606T4MCT

MECHATRONIC TECHNICIAN LEVEL 6

ENG/OS/MC/CC/01/6/A

Prepare and Interpret Technical Drawings

July/Aug 2023



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

WRI

SMEN

RS

INSTRUCTIONS TO CANDIDATE:

1. This paper consists of TWO sections **A** and **B**.
2. Answer **ALL** questions in sections **A** and any **THREE** in Section **B**.
3. Marks for each question are indicated in brackets.
4. Do not write on this question paper.

This paper consists of FIVE printed pages.

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

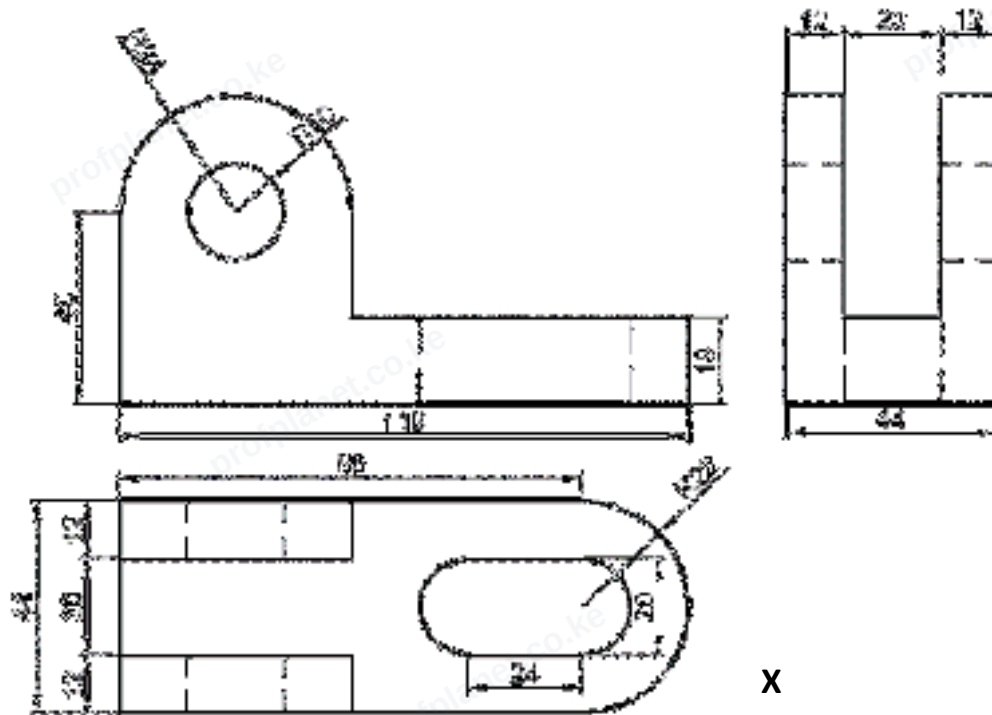
SECTION A: (40 Marks)

*Answer **all** the questions in this section.*

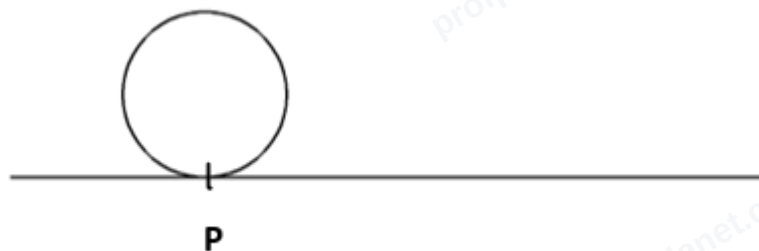
1. State TWO methods of drawing isometric circles. (2 Marks)
2. State the respective use of the following grades of pencils. (2 Marks)
 - a. 2H
 - b. HB grade
3. Identify FOUR information that can be obtained from a title block. (4 Marks)
4. Name FIVE types of lines used in technical drawing. (5 Marks)
5. Draw a line AB measuring 80mm and divide it into 6 equal parts using a pair of compasses and ruler only. (2 Marks)
6. Outline FOUR advantages of using layers in CAD software. (4 Marks)
7. Give THREE advantages of using CAD over manual drawing. (3 Marks)
8. Construct an angle measuring 60° and bisect it into two equal halves. (5 Marks)
9. Draw the symbol of first angle projection. (3 Marks)
10. State THREE types of dimensions used in technical drawing. (3 Marks)
11. Outline THREE tools and equipment used in technical drawing. (3 Marks)
12. State the function of the following tools in AutoCAD. (4 Marks)
 - a. Ortho mode
 - b. Snap mode
 - c. Object snap
 - d. Array

SECTION B: (60 Marks)*Answer any **three** questions in this section*

13. Figure 1 below shows an orthographic projection of a solid. Draw the solid in 3D isometric projection using a CAD software and insert ALL major dimensions. (20 Marks)

*Figure 1*

- 14.
- Plot the locus of a point P on the surface of the circle below of diameter 60mm as the circle makes one complete revolution (10 Marks)



- Draw a hexagon inscribed in a circle of diameter 100mm (10 Marks)

15. With aid of a CAD software draw the pictorial of the given figure 2, dimension it appropriately and print it out on an appropriate paper. (20 Marks)

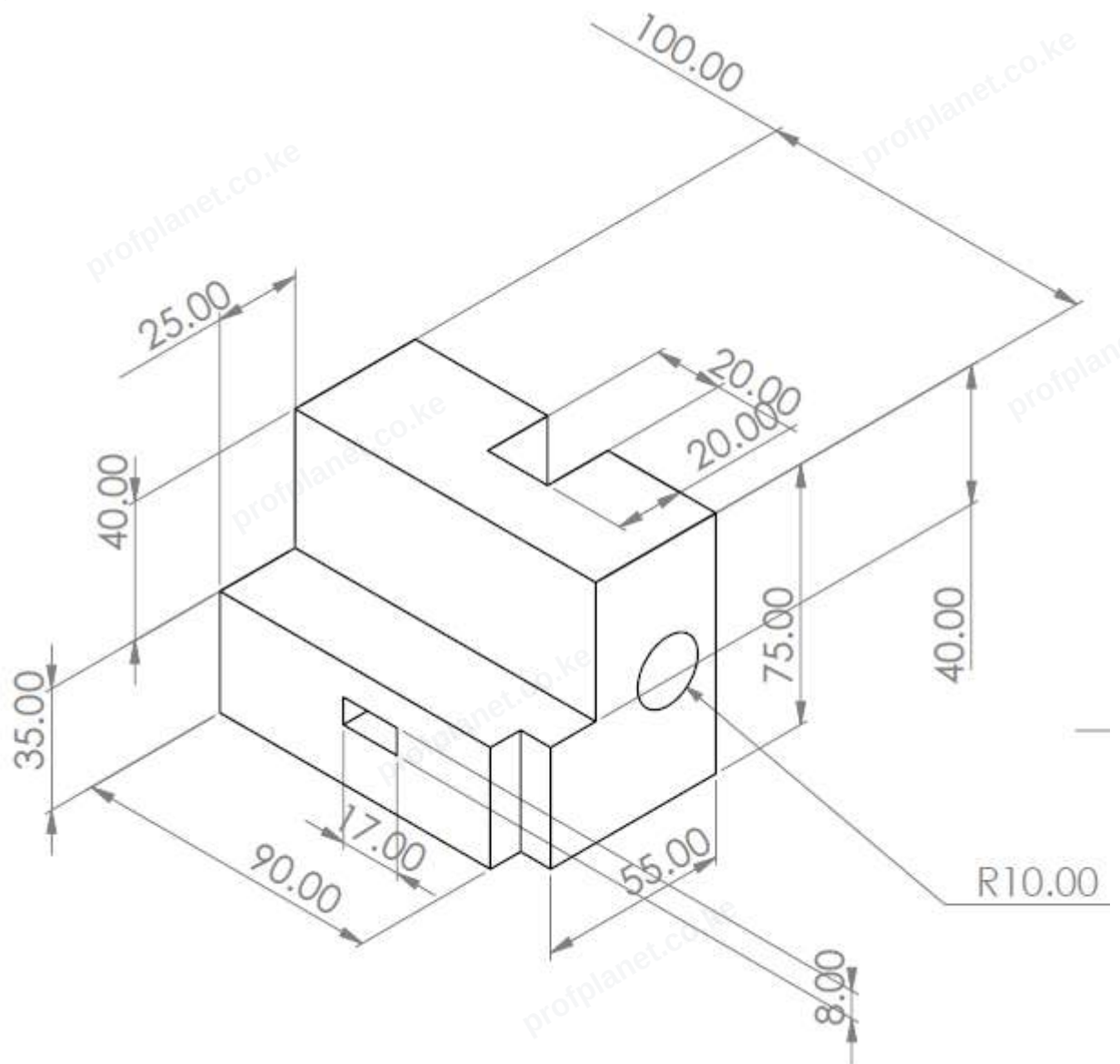


Figure 2

16. The figure 3 below shows a pictorial view of an object. Draw the front elevation, end elevation and the plan views in first angle projection. Indicate at least six major dimensions. (20 Marks)

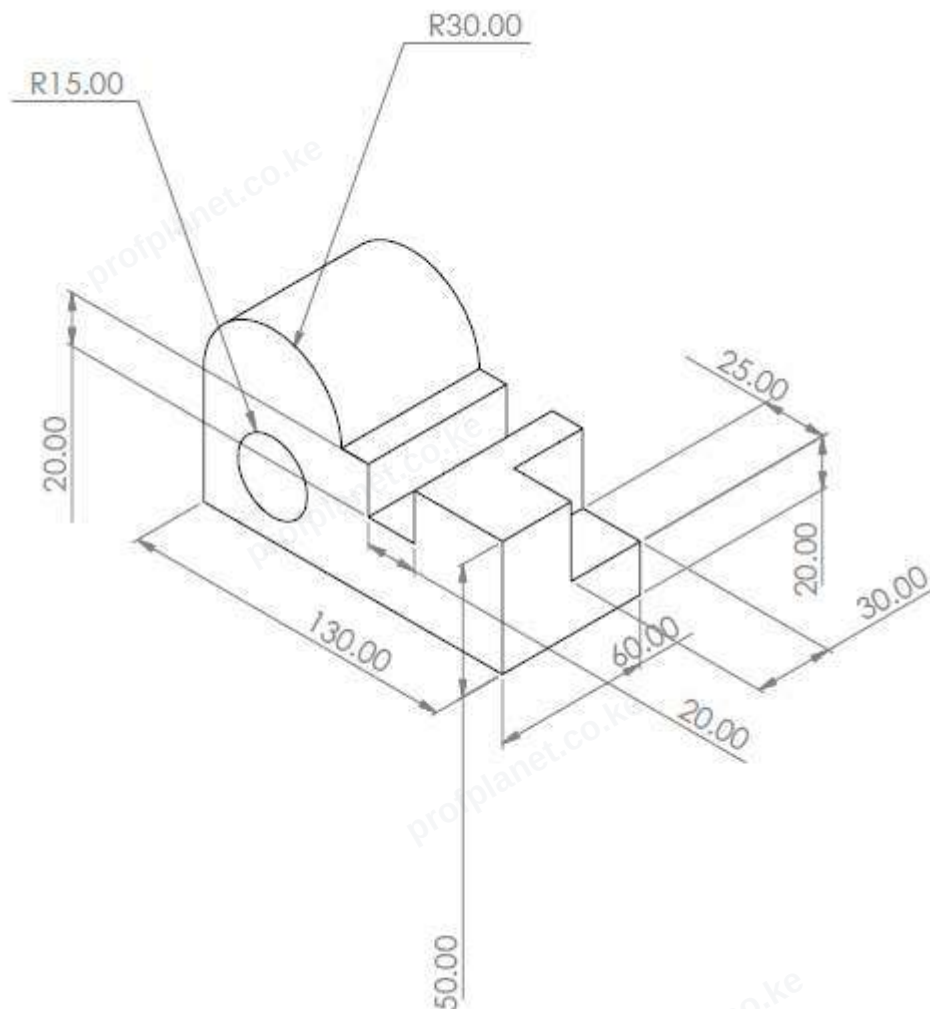


Figure 3