

073204T3PLM

PLUMBER LEVEL 3

CON/OS/PL/CM/02/3

INTERPRET ARCHITECTURAL AND ENGINEERING DRAWINGS

July /August 2024



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

2 hours

INSTRUCTIONS TO CANDIDATES

1. This paper has **TWO** sections **A** and **B**. Attempt questions in each section as per instructions given in the section.
2. You are provided with a separate answer booklet.
3. Marks for each question are indicated in the brackets.
4. Do not write on the question paper.
5. Answer your questions in English.

This paper consists of SEVEN (7) 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 (20 MARKS)

Answer all questions in this section. Each question carries 1 mark.

Select if the following statements are TRUE or FALSE:

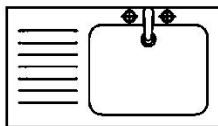
1. Knowledge on units of measurement is important in the engineering industry. Inch is the commonly used unit for most metric engineering drawings.
A. True
B. False
2. The accuracy of a sketch shows proportionality for correct interpretation of a drawing. The degree of precision of a given sketch depends on its use.
A. True
B. False
3. Making an object requires size measurements for correct size for production. Dimensioning lines should be bold and continuous
A. True
B. False
4. Architectural building plans can be designed to different shapes. A pentagon is a six-sided figure
A. True
B. False
5. Correct interpretation of the architectural plan requires that detailed information is provided. The letters and numbers on a drawing or a sketch are as important as the lines.
A. True
B. False

Match the following types of lines with their correct uses.

	Types of lines	uses
6.	Thick continuous line 	For dimensioning lines

7.	Thin continuous lines 	For visible outlines
8.	Thin long chain line 	For cutting lines
9.	Thin short dashes 	For short breaks
10.	Thick continuous wavy line 	For hidden details

11. Basic Sanitary appliance is fitted in the kitchen to get water for use. Give the meaning of the symbol below as used in floor plan drawings



- A. Shower
 - B. Sink
 - C. Handwashing area
 - D. Bath
12. When producing detailed drawings various views of the building show true picture of the building. All the following views are used in orthographic drawings EXCEPT?
- A. Front View
 - B. Side View
 - C. Dimensional Views
 - D. Sectional Views
13. Shapes for the house plan are selected depending on the desire of the client. Which statement is INCORRECT about quadrilaterals
- A. They have four sides
 - B. They have four vertices
 - C. They have four angles.

D. Adjacent angles are equal.

14. Drawing straight lines require various drawing instruments. Give the appropriate name for the drawing instrument shown below.



- A. T-square
 - B. Square ruler
 - C. Setting ruler
 - D. T- ruler
15. Draftsman should always ensure cleanliness and tidiness in the drawing room. Which of the following activities is NOT carried out before starting a drawing?
- A. Cleaning tools and equipment
 - B. Setting the paper
 - C. Securing the paper
 - D. Cutting out the drawing paper
16. To be able to draw a house plan, flat smooth surface is required. Name the drawing tool below.



- A. Drawing board
- B. Drawing table

C. Marking out table

D. Setting table

17. Proper maintenance of drawing instruments improves lifespan of the drawing instruments.

Which of the following is a maintenance practice for drawing equipment?

A. Store them in their cases

B. Clean with soapy water to remove all dirt

C. File after use

D. Keep within reach of everyone at home

18. Give the use for the type of line below.



A. Show that a part has been shortened to reduce its size on the drawing

B. Show both hidden details and centerlines

C. Show hidden details

D. Show missing details in drawings

19. Which one of the following is NOT a feature of quadrilaterals?

A. They are four sided

B. They have four interior angles

C. Sum of their interior angles is 540°

D. All quadrilaterals are plane figures

20. Which pencil is used for drawing margins?

A. 3H

B. 4H

C. 2H

D. HB

SECTION B (30 MARKS)*Answer all questions in this section*

21. Copy and complete the table below by giving an example of each type of scale

(2 Marks)

Type of scale	Example
Reducing scale	
Enlarging g scale	

22. Sketch the symbols of the following plumbing fittings as used in plumbing drawings

- a. Straight Tee. (1 Mark)
- b. Elbow. (1 Mark)
- c. Sanitary tee. (1 Mark)

23. Orthographic projection is a method of representing three-dimensional objects in two dimensions. Draw the symbol for first angle orthographic projection. (2 Marks)

24. Building drawing often referred to as architectural drawing or construction drawing is a detailed representation of a building's design and structure. Explain the following types of building drawings:

- a. Electrical drawings. (1 Mark)
- b. Plumbing and sanitary drawings. (1 Mark)
- c. Elevation drawings. (1 Mark)

25. Print the following statements in lowercase. (4 Marks)

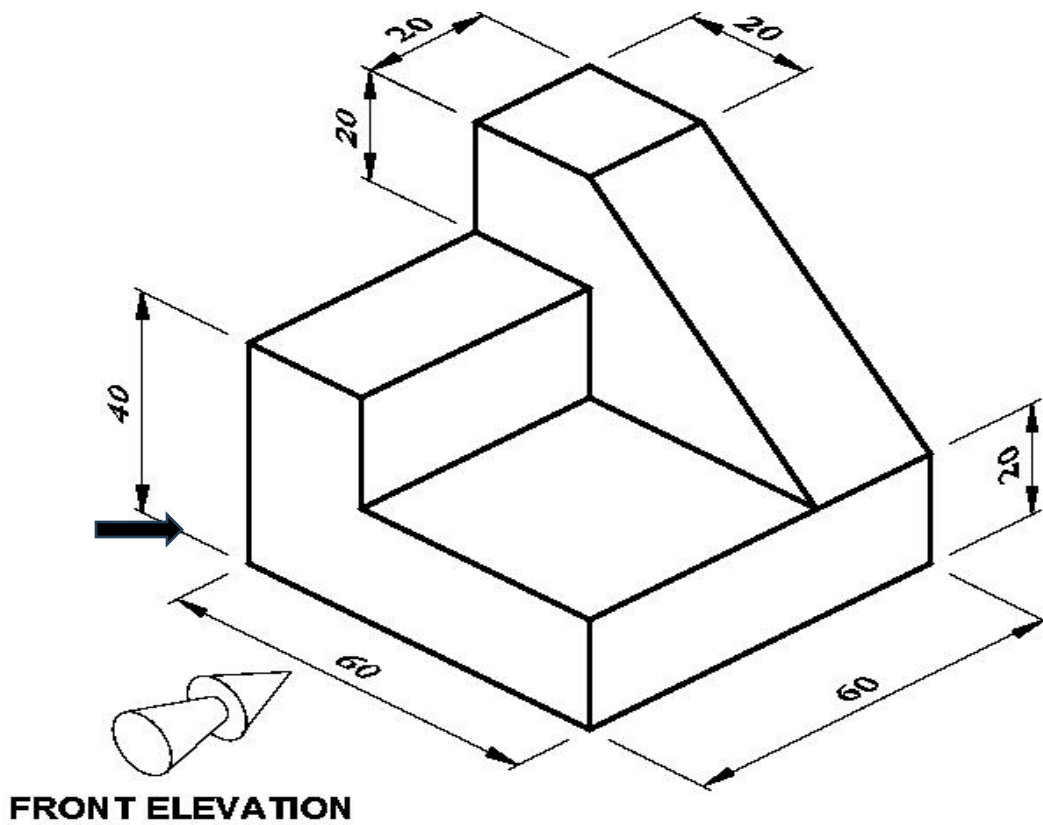
ROTATING THE PENCIL DISTRIBUTES THE WEAR ON THE GRAPHITE CORE MORE EVENLY. THIS PREVENTS ONE SIDE OF THE TIP FROM BECOMING TOO FLAT OR DULL, WHICH CAN LEAD TO UNEVEN LINES OR SMUDGING.

26. Illustrate how to construct the following

- a. Angle of 30°. (4 Marks)
- b. Dividing a line, 8cm into five equal parts. (4 Marks)

27. **Figure 1** shows a block of wood drawn in isometric projection.

(8 marks)



F

Figure 1

Draw full size, in first angle orthographic projection the following views

- Front elevation in the direction of arrow
- Plan
- End elevation

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