

071305T4RAC

REFRIGERATION AND AIR CONDITIONING LEVEL 5

ENG/OS/RAC/CC/05/5/B

PREPARE AND INTERPRET TECHNICAL DRAWINGS

July / August 2024



**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 THREE questions from section B
3. You are provided with the following:
 - i. A separate answer booklet,
 - ii. A2 drawing paper
4. Marks for each question are indicated.
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 from this section

1. Construct the following angles. (5 Marks)
 - a) 30°
 - b) 90°
2. Make freehand sketch of a centre punch. (2 Marks)
3. New drawing equipment have been purchased recently. Highlight FOUR proper care and maintenance procedures for the equipment. (4 Marks)
4. Using a 45° , 60° method, construct a heptagon of 40mm sides. (6 Marks)
5. Different types of lines are used in technical drawings to convey various aspects of the design. Outline THREE types of lines used in technical drawing. (3 Marks)
6. Proper disposal of waste drawing materials is essential to maintaining friendly workspace. List THREE ways in which waste drawing materials can be disposed. (3 Marks)
7. A technician working in drawing office should follow several safety procedures. Outline FOUR safety procedures that should be adhered to. (4 Marks)
8. Construct circumscribed triangle of the following dimensions AB=40mm, AC=30mm and BC=25mm. (6 Marks)
9. State THREE importance of preserving engineering information in form of drawings. (3 Marks)
10. List FOUR drawing instruments used in technical drawing. (4 Marks)

SECTION B: (60 MARKS)

Attempt *THREE* questions from this section.

11. Figure 1 shows orthographic views of a machine block in first angle (1st angle) projection. Draw the full size of the block in isometric projection. Insert dimensions.

(20 Marks)

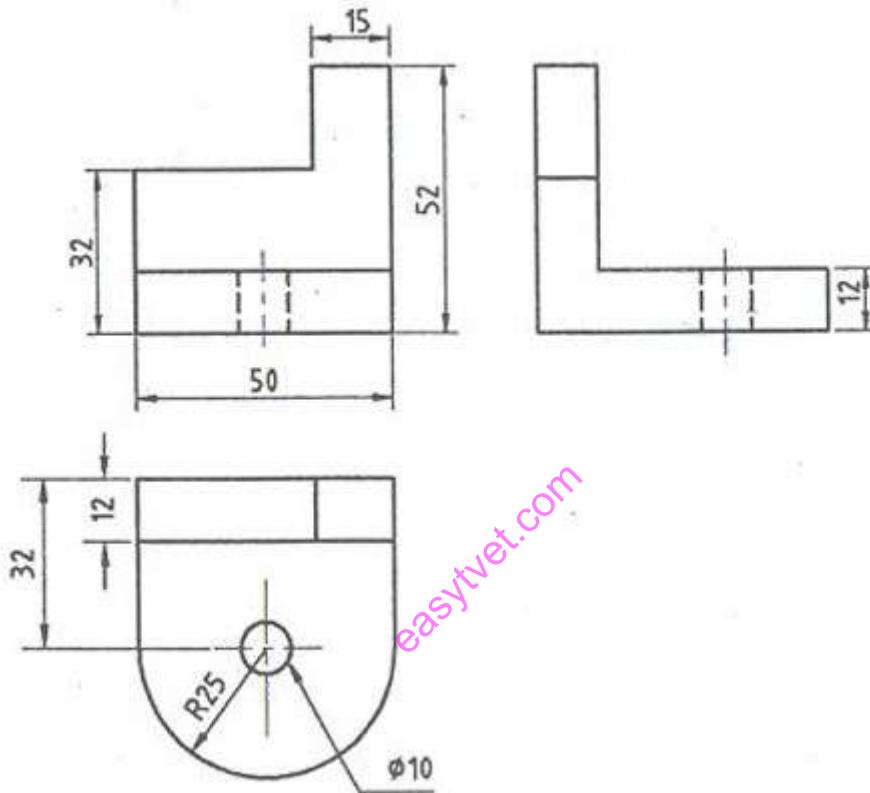


Fig 1.

12.

- a) Figure 2 shows a pictorial view of a machine block. Draw the following views in first angle projection.

- i) A front elevation in the direction of the arrow
- ii) A plan
- iii) An end elevation.

Show hidden details

Insert dimensions.

(15 Marks)

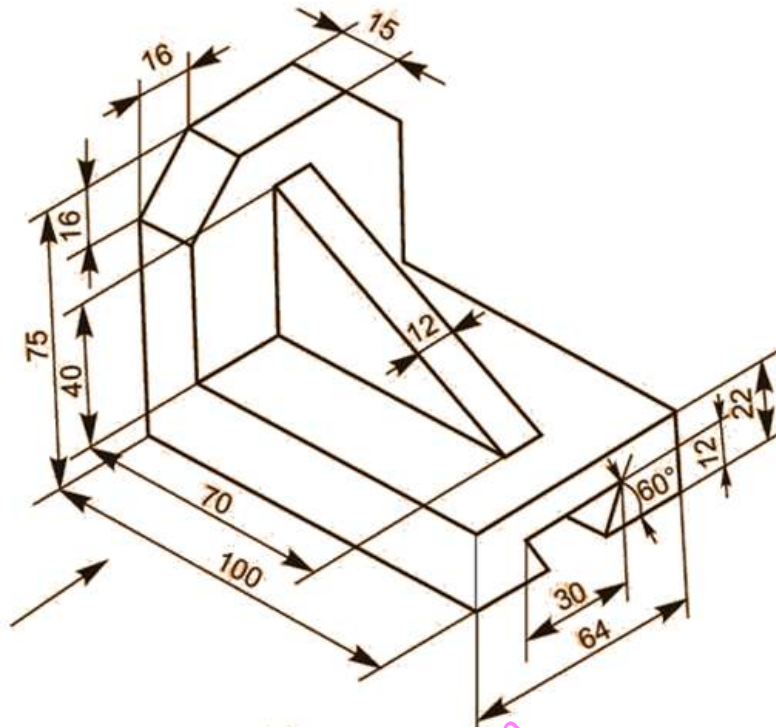


Fig 2.

b) Sketch third angle projection symbol. (5 Marks)

13. Figure 3 shows the front elevation of a truncated hexagonal pyramid. Draw the;

- i. plan;
- ii. development;
- iii. true shape of the cut section.

(20 Marks)

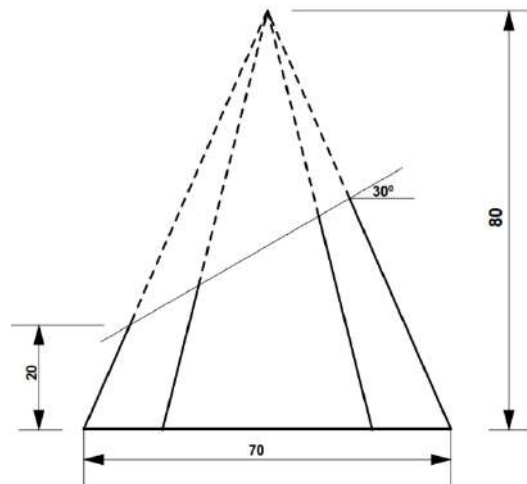


Fig. 3

14.

- a) Given a power source, light bulb, switch, and wire, sketch a circuit diagram, clearly showing the standard symbols of the components used. (5 Marks)
- b) Using parallelogram method, construct a horizontal ellipse with major and minor diameter as 80mm, 40mm respectively. (10 Marks)
- c) Construct a triangle whose perimeter is 120 mm and ratio of the sides as 4: 3: 6. (5 Marks)

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