

071305T4EIN

ELECTRICAL INSTALLATION LEVEL 5

ENG/OS/EI/CC/04/5

Prepare and Interpret Technical Drawing

July/August 2024

Time: 3 Hours



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

WRITTEN ASSESSMENT

3 HOURS

INSTRUCTIONS TO CANDIDATE:

1. This paper consists of TWO sections: **A** and **B**
2. Answer **ALL** questions in sections **A** and any **THREE** questions in section **B** on the answer booklet provided.
3. Marks for each question are indicated in the brackets.
4. Do not write on the question paper
5. Answer all questions in **English**.

This paper consists SIX (6) printed pages.

Candidate 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. On the drawing paper provided, draw the border line, a title block and on it ,hand –print the following;
 - i. Your name;
 - ii. Index number;
 - iii. Centre name;
 - iv. Paper name. [4 marks]
2. Hand- print in bold form and in capital each of the following;
 - i. Letters A to K;
 - ii. Numbers 0-9 [6 marks]
3. Draw an involute to a square of sides 20mm. [4 marks]
4. Make a free-hand sketches of the following tools and accessories;
 - i. Cartridge fuse
 - ii. Ball pein hammer
 - iii. Pliers [6 marks]
5. Fig. 1 shows a front elevation and a plan of a shaped block in first angle projection. Copy the given views and draw the end elevation. [5 marks]

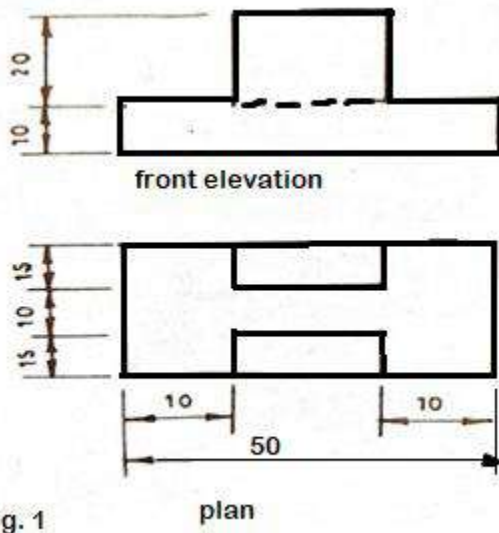


Fig. 1

plan

6. Draw the Electrical symbols for the following electrical components:
 - i. Loud speaker
 - ii. Triode valve
 - iii. Lighting point [3 marks]
7. Construct a rectangle whose diagonal is 56mm and one side is 35mm. [5 marks]
8. State **three** properties that are modified by the dimension style manager. [3 marks]
9. Make a free hand sketch of a T-Square [2 marks]
10. Outline **two** rules as used in Technical drawing [2 marks]

easytvvet.com

SECTION B [60 MARKS]

Answer any **three** questions in this section

11. Fig. 1 shows a model jet plane aerial view. Reproduce and print the figure as indicated using computer aided drafting program (CAD). Attach the print out to your answer booklet. [20 marks]

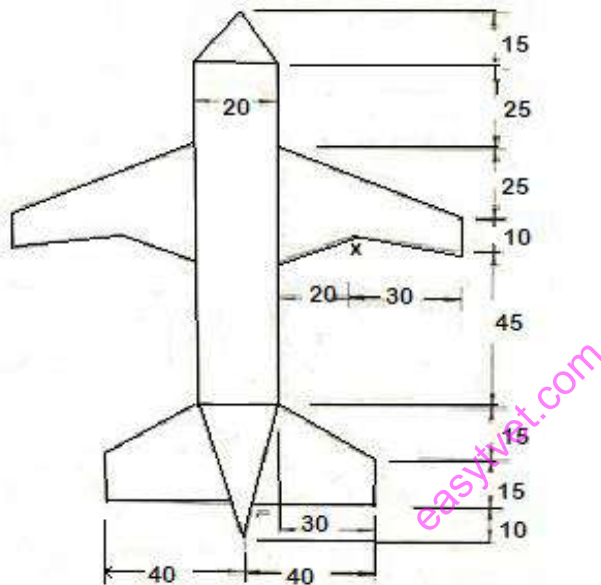


Fig. 2

12. Fig 3 shows orthographic views of an object in third angle projection. Draw the full-scale isometric view and insert all the dimension. (20 marks)

All fillets (4) = R14

All chamfers are 45°/15mm by 15mm

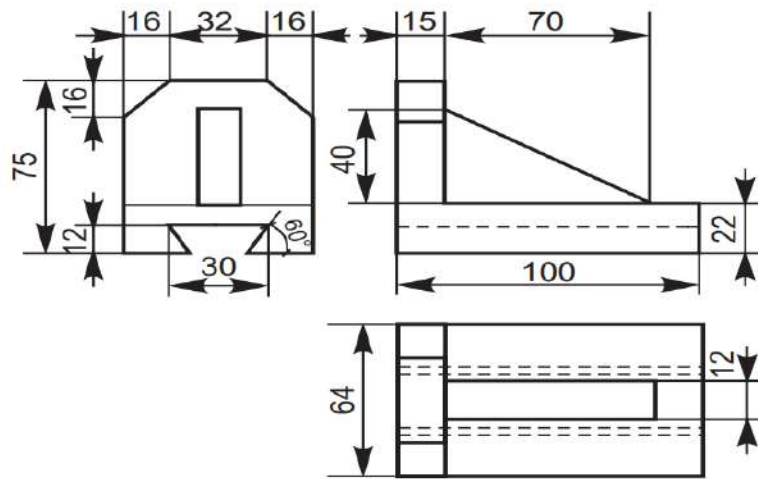


Figure 3

13. Fig 4 shows a pictorial view of an object;

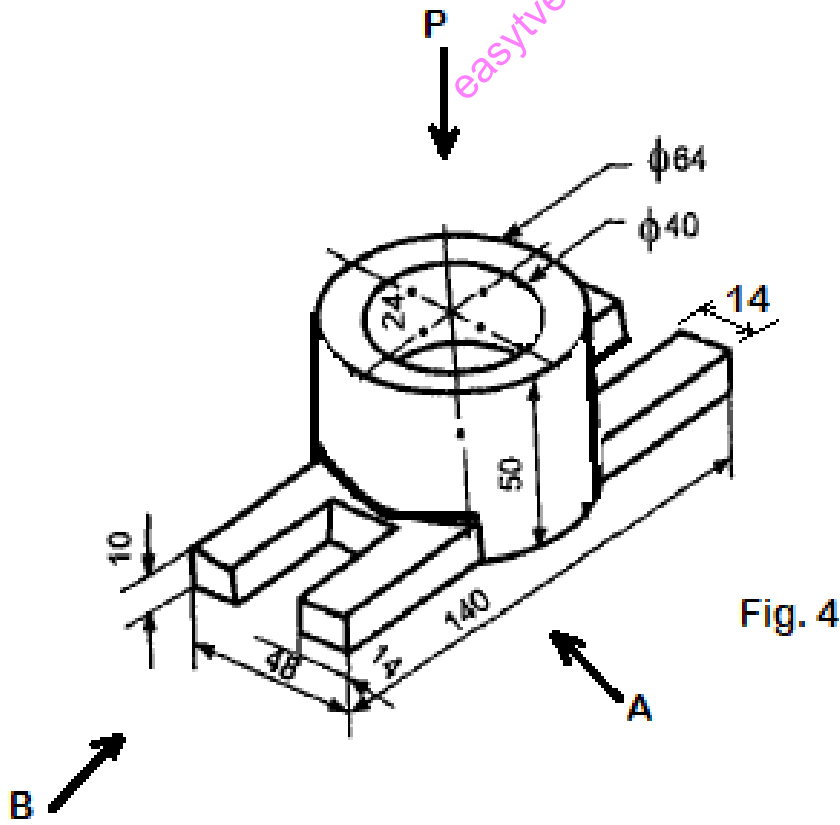


Fig. 4

Draw the following views in First angle projection;

- a) Front elevation in the direction of arrow A;
- b) End elevation in the direction of arrow B
- c) The plan p.

Insert any **six** major dimensions.

[20 marks]

14. (a) Fig. 5 shows a wheel, 50mm diameter with a point on its periphery. If the wheel rolls without slipping along a straight line while remaining in the same plane, plot the path of P for one complete revolution of the wheel. [12 marks]

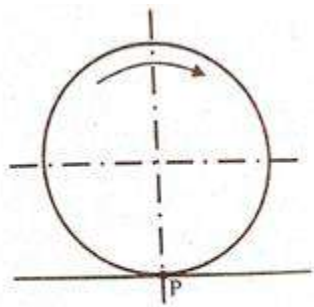


Fig. 5

easyvet.com

- (b) Construct a common tangent to two circles of diameters 70mm and 50mm respectively and centers 90mm apart. [8 marks]

THIS IS THE LAST PRINTED PAGE