

1601/104  
1602/104  
TECHNICAL DRAWING  
June/July 2023  
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**CRAFT CERTIFICATE IN ELECTRICAL AND ELECTRONIC TECHNOLOGY  
(POWER OPTION)  
(TELECOMMUNICATION OPTION)**

**MODULE I**

TECHNICAL DRAWING

**3 hours**

**INSTRUCTIONS TO CANDIDATES**

*You should have the following for this examination:*

- Answer booklet;*
- Drawing instruments;*
- Drawing papers;*
- Computer installed with electronic CAD software;*
- Printer;*
- Printing paper.*

*Answer any FIVE of the following EIGHT questions in the drawing papers and answer booklet provided.*

*ALL questions carry equal marks.*

*Maximum marks for each part of a question are as indicated.*

*All dimensions are in millimetres.*

*Candidates should answer the questions in English.*

**This paper consists of 8 printed pages.**

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

1. Figure 1 shows pictorial drawing of an object.

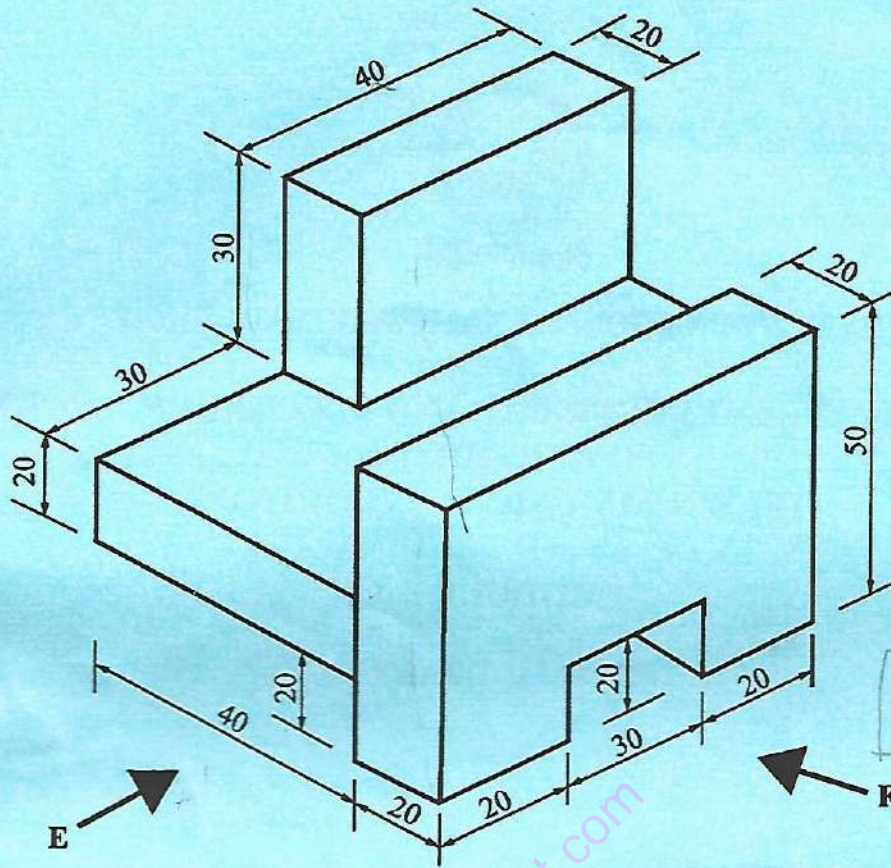


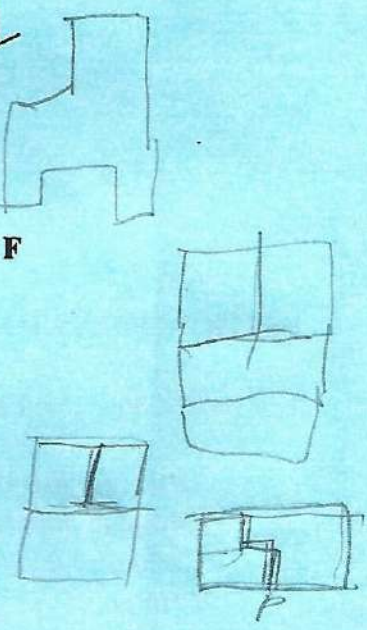
Fig. 1

Draw full size the following views in first angle projection:

- front elevation in direction of arrow F;
- end elevation in the direction of arrow E;
- plan.

(20 marks)

1st  
F E  
P  
3.  
P E  
F



2. Figure 2 shows orthographic views of an object. Draw oblique view taking corner X as the lowest point. (20 marks)

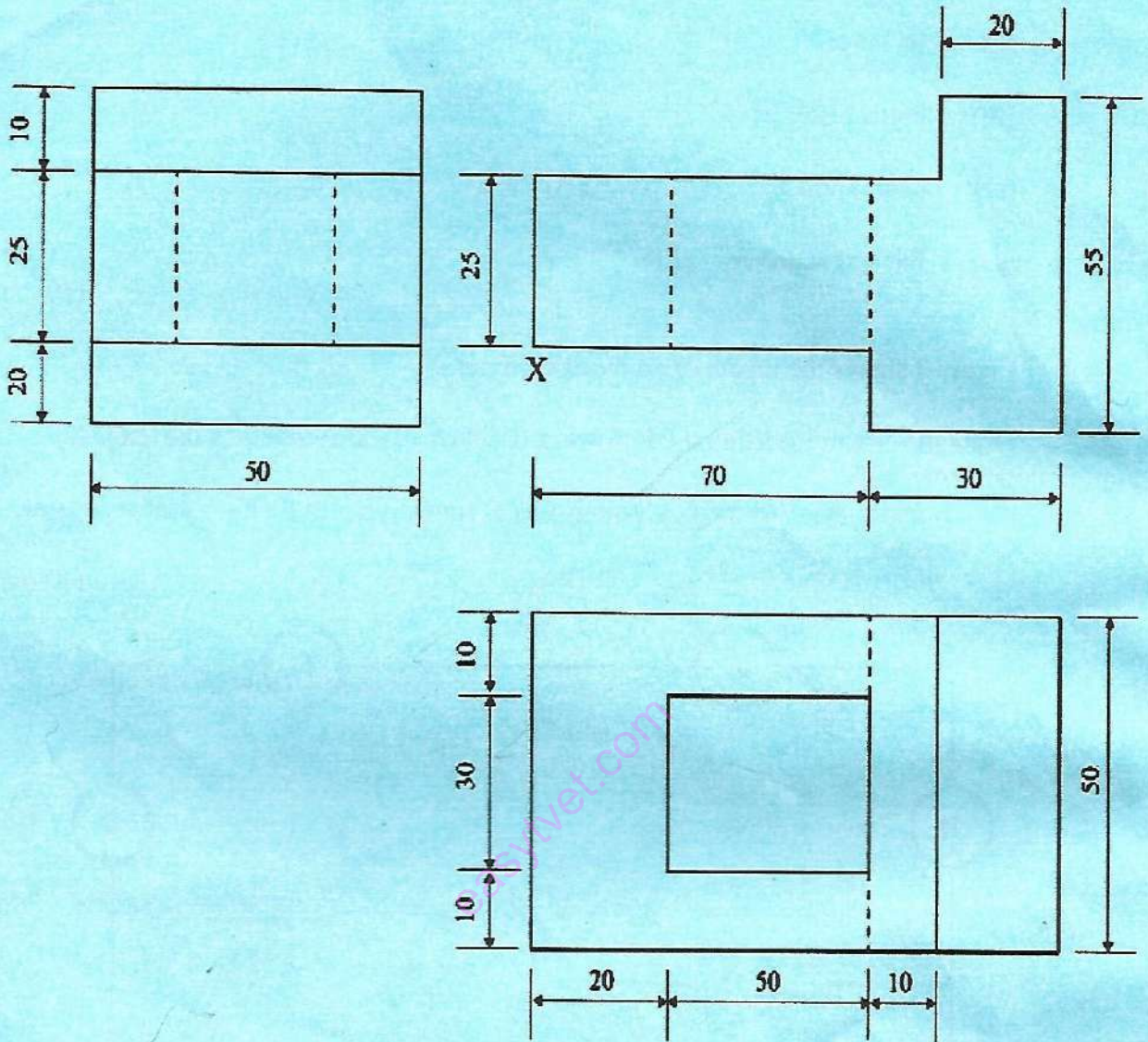


Fig. 2

3. (a) Draw an internal tangent to two equal circles each of radius 25 mm and distance between centres as 75 mm. (6 marks)
- (b) Construct a regular octagon given the length of one side as 40 mm. (6 marks)
- (c) Construct an ellipse given the major axis as 140 mm and minor axis as 100 mm using concentric circle method. (8 marks)

4. (a) Make free hand sketches of the following hand tools:

- (i) ball pein hammer;
- (ii) tin snips;
- (iii) cold chisel;
- (iv) centre punch;
- (v) flat screw driver.

(10 marks)

(b) Figure 3 shows the layout of an electric circuit.

Draw the circuit inserting the following listed electrical symbols in the lettered positions A-G:

A - Ammeter, B - Battery, C - Switch, D - Voltmeter, E - Bulb, F - Variable resistor, G - Resistor

(10 marks)

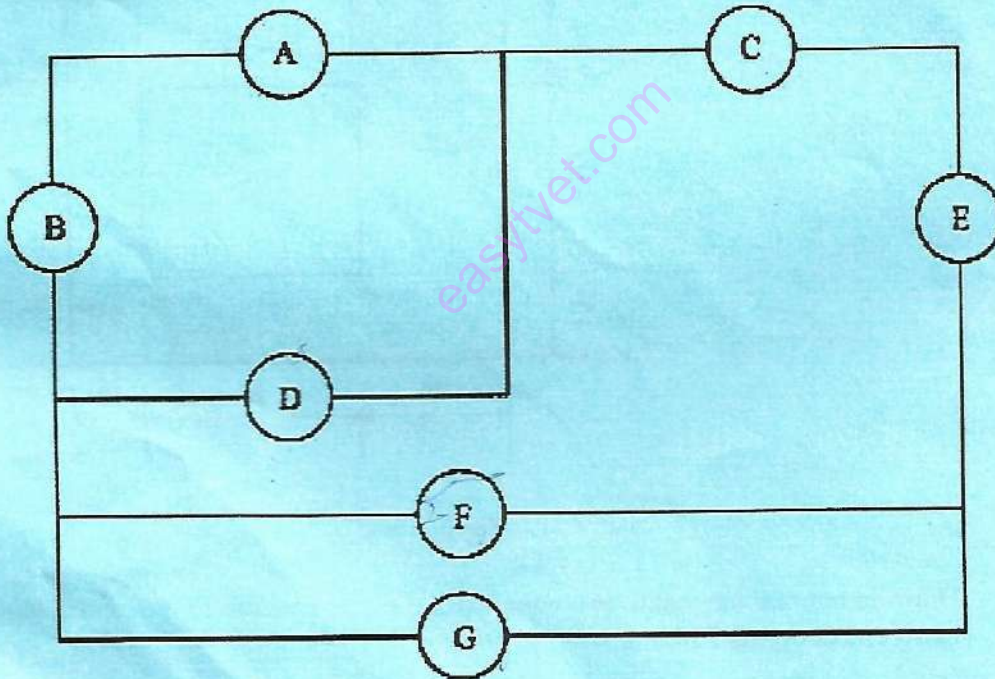


Fig. 3

5. Figure 4 shows the elevation of a truncated cone.

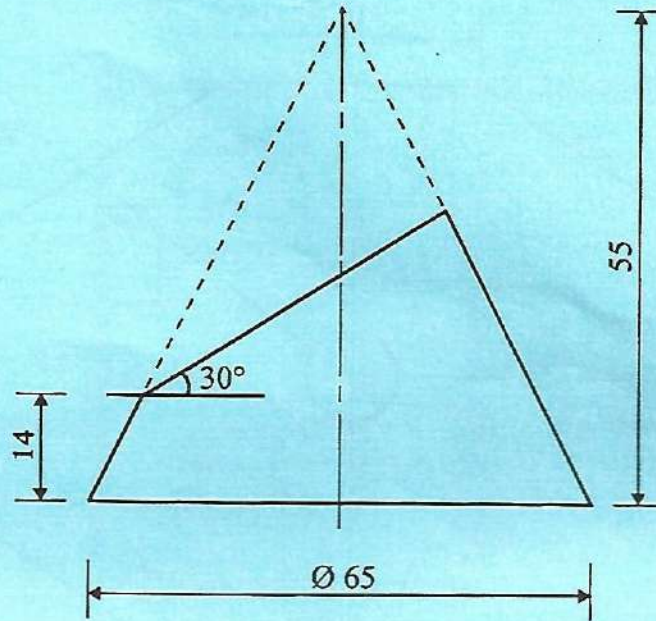


Fig. 4

Copy the given elevation and draw:

- (i) the complete plan;
- (ii) end elevation;
- (iii) true shape.

(20 marks)

6. Figure 5 shows the view of a template.

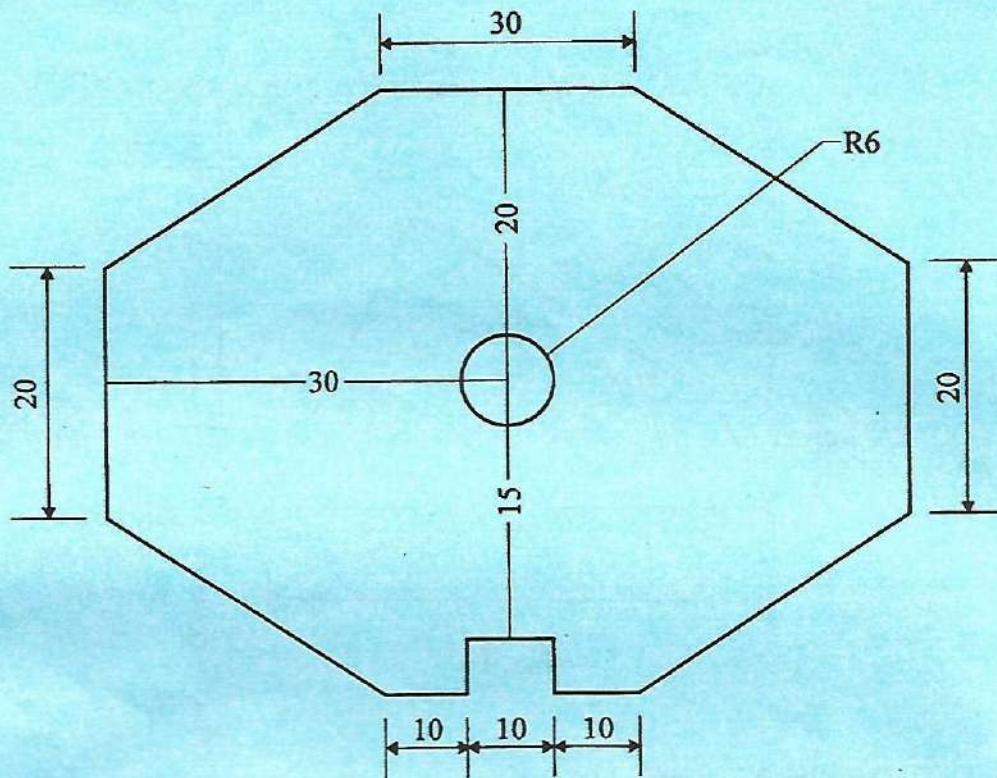


Fig. 5

- (i) draw the template using Auto-CAD software;
- (ii) on the title block, write your name and index number;
- (iii) print your work and attach the printout to your answer booklet.

(20 marks)



8. (a) Figure 7 shows the intersection of two solids.

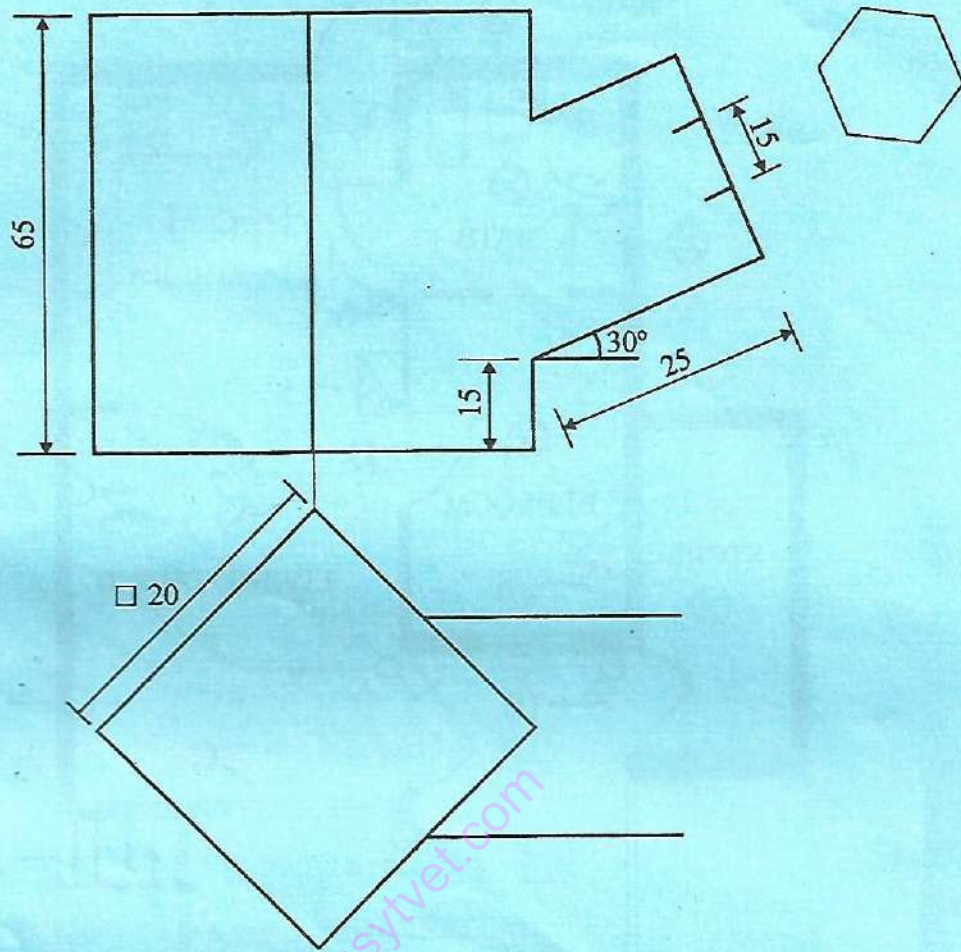


Fig. 7

Copy the given views and draw the:

- (i) line of intersection;
- (ii) plan;
- (iii) end elevation.

(20 marks)

**THIS IS THE LAST PRINTED PAGE.**