

1601/104
1602/104
TECHNICAL DRAWING I
Oct./Nov. 2016
Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

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

TECHNICAL DRAWING I

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Drawing instruments; and

Drawing papers.

*Answer any **FIVE** of the **EIGHT** questions.*

Maximum marks for each part of a question are as shown.

All dimensions are in millimeters.

Candidates should answer the questions in English.

This paper consists of 7 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 a pictorial view of a block. Draw full size the following views in first angle projection:

- (a) plan in the direction of arrow P;
- (b) front elevation in the direction of arrow F;
- (c) end elevation in the direction of arrow E.

Insert **six** major dimensions.

(20 marks)

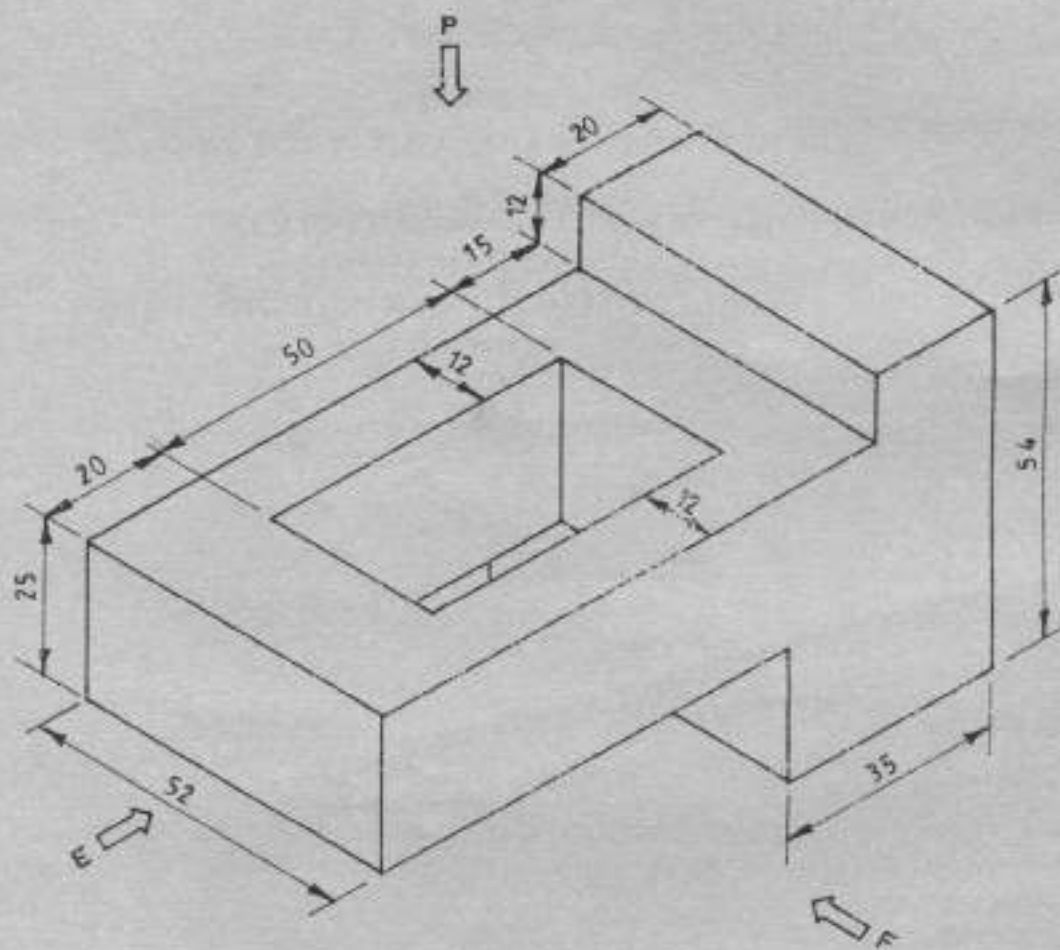


Fig. 1

2. Figure 2 shows two views of a casting drawn in first angle projection. Draw full size an oblique cabinet projection taking corner N as the lowest point. (20 marks)

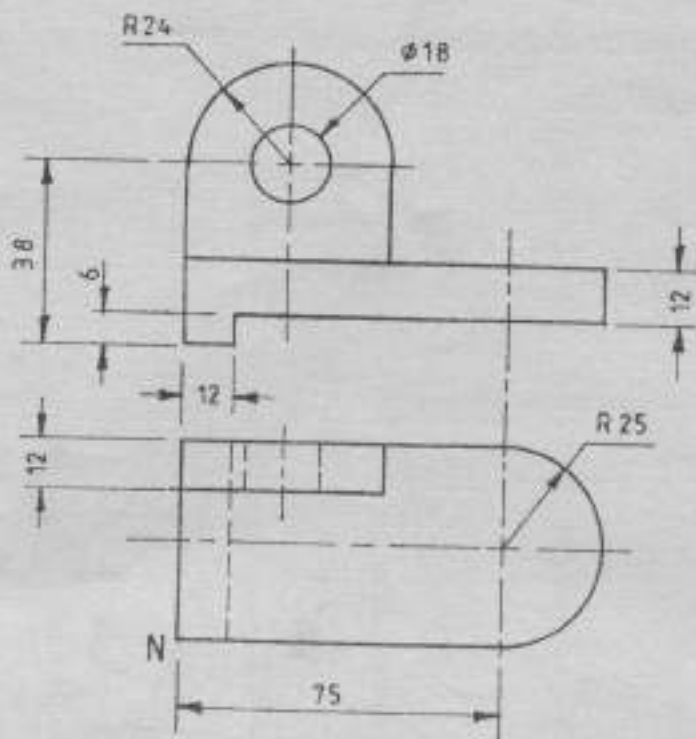


Fig 2

3. Figure 3 shows a truncated hexagonal pyramid. Using first angle projection, draw the given view and complete the:

- (a) plan;
- (b) end elevation in the direction of arrow E;
- (c) true shape of the cut surface;
- (d) surface development of the frustum.

(20 marks)

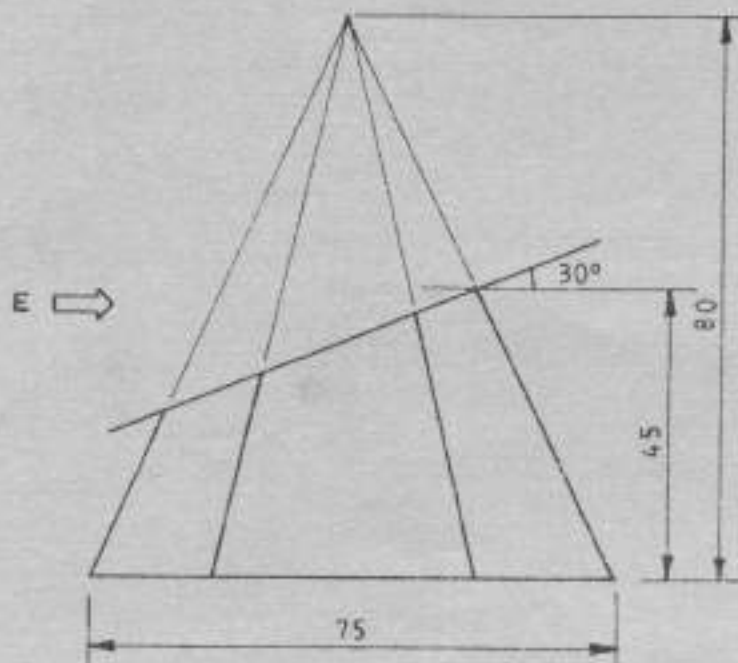


Fig. 3

4. (a) Draw the preferred symbols for the following:

- (i) photodiode;
- (ii) PNP transistor;
- (iii) ammeter;
- (iv) variable resistor;
- (v) generator;
- (vi) AND gate;
- (vii) A.C. voltage source;
- (viii) microphone;
- (ix) light emitting diode;
- (x) potentiometer.

(10 marks)

(b) Sketch the following accessories and hand tools:

- (i) switched socket outlet;
- (ii) straight batten lamp holder;
- (iii) Tee-box;
- (iv) star screw driver;
- (v) bradawl.

(10 marks)

5. Draw a circuit diagram of a direct on-line starter for a three phase induction motor.

(20 marks)

6. Figure 4 shows the front elevation of two intersecting cylinders. Copy the given view and draw in third angle the:

- (a) plan;
- (b) line of intersection;
- (c) development of cylinder B.

(20 marks)

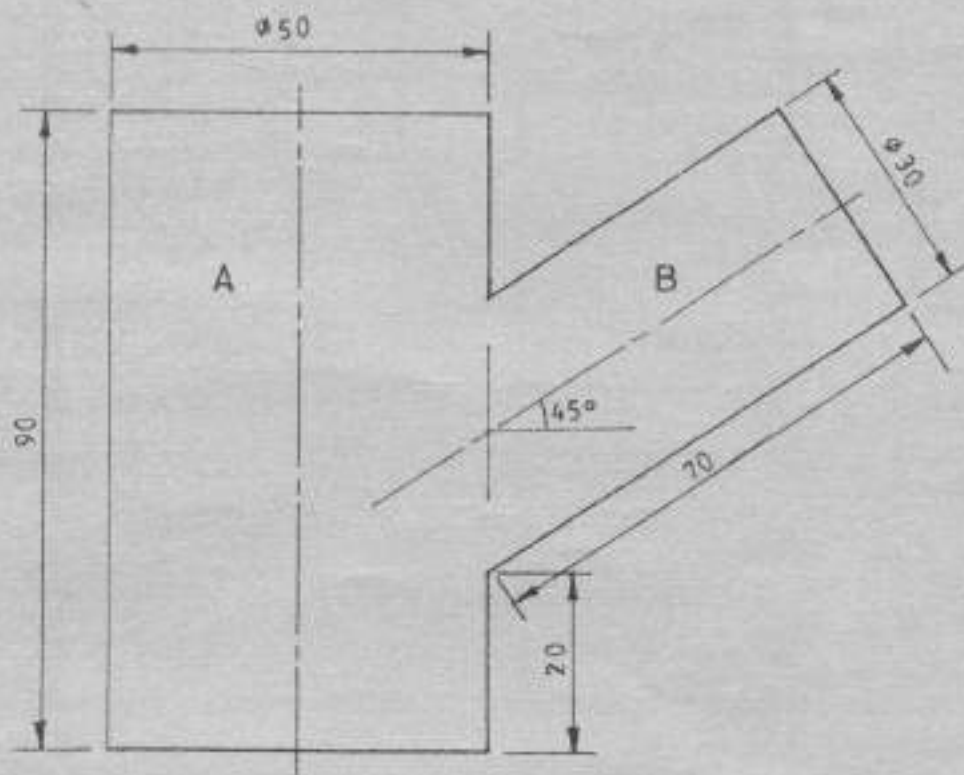


Fig. 4

7. Figure 5 shows the plan of a four bedroomed house. On the plan provided, design suitable electrical power and lighting points for the installation. (20 marks)

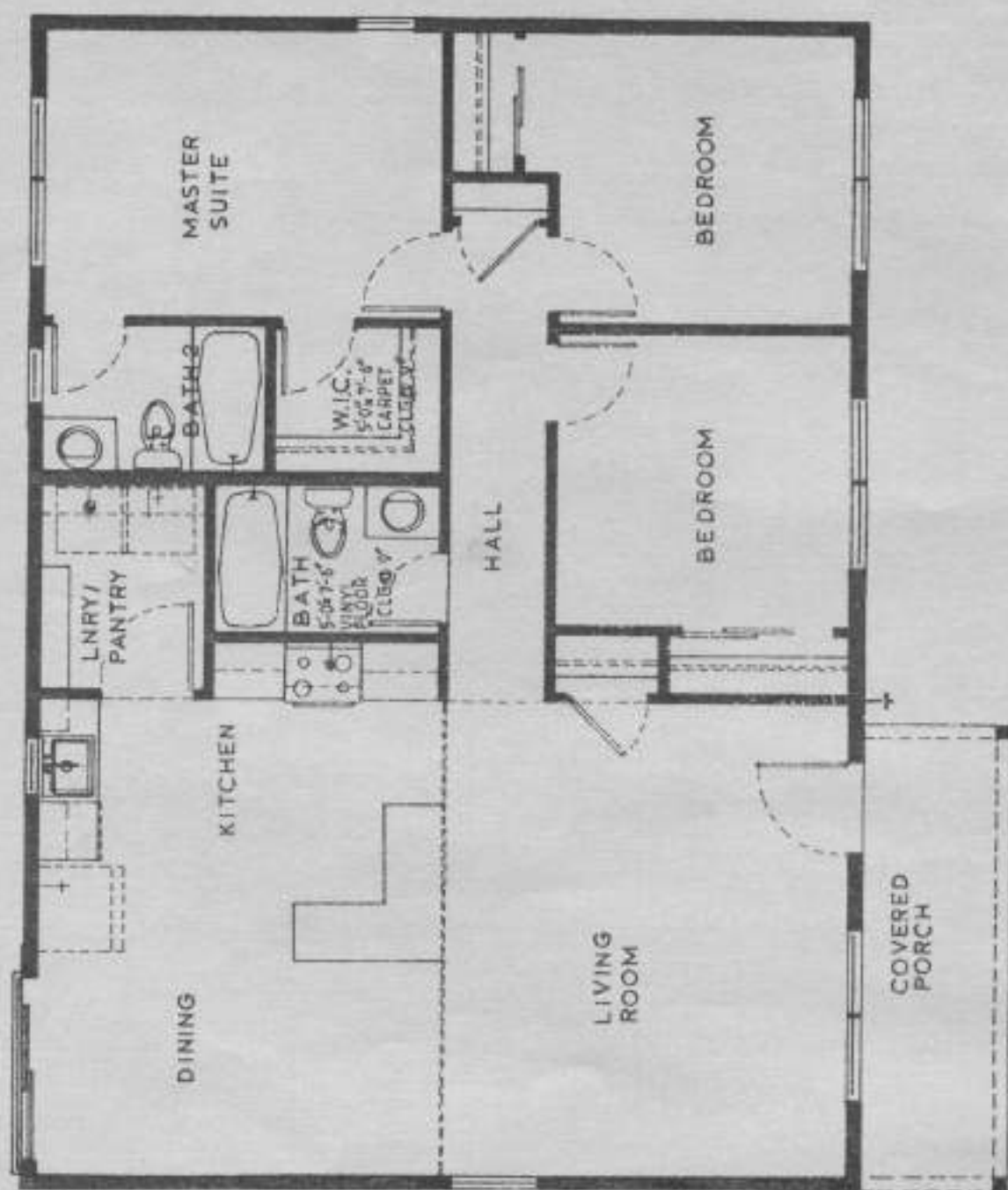


Fig. 5

8. (a) Inscribe a regular octagon in a square with sides 80 mm. (10 marks)
- (b) Using the trammel method, draw an ellipse given the major axis = 130 mm and minor axis = 100 mm. (10 marks)

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Use this plan to answer Question 7.

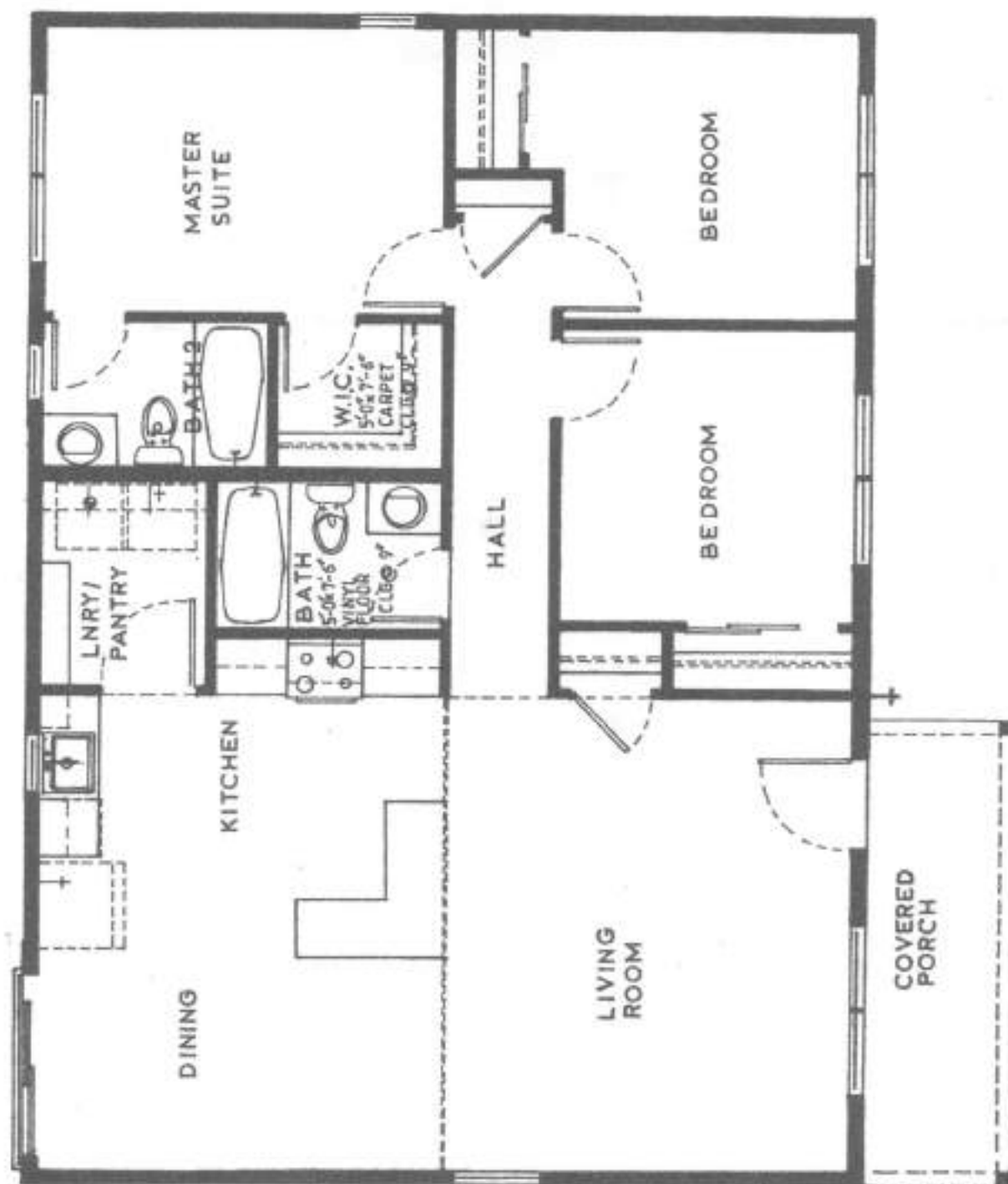


Fig. 5