

1601/104
1602/104
TECHNICAL DRAWING
June/July 2021
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;*
- Computer installed with AutoCAD, electronic CAD software;*
- Printer;*
- Printing paper.*

Answer any FIVE of the EIGHT questions in the answer booklet and drawing papers 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 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 an object. Draw the following views in first angle orthographic projection:

- (a) front elevation in the direction of arrow X;
- (b) end elevation.

(20 marks)

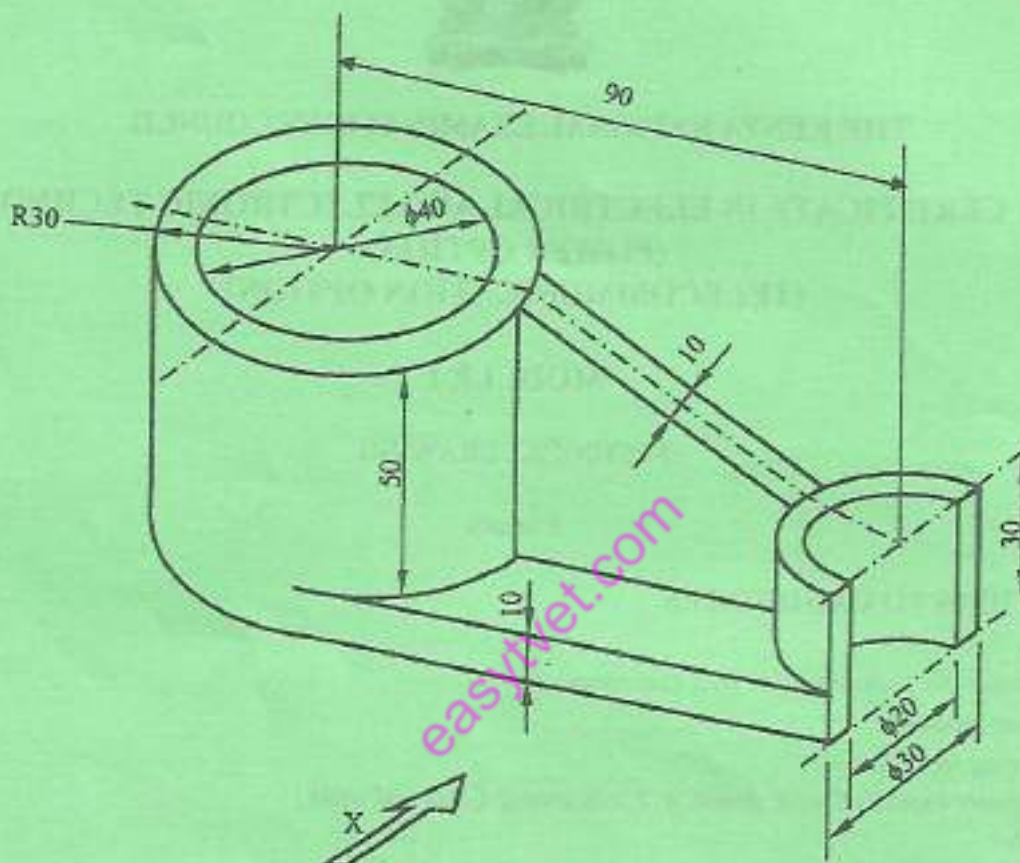


Fig. 1

2.

(a) Figure 2 shows two views of an object drawn in third angle projection. Draw the isometric view of the object, taking corner N as the lowest point. (20 marks)

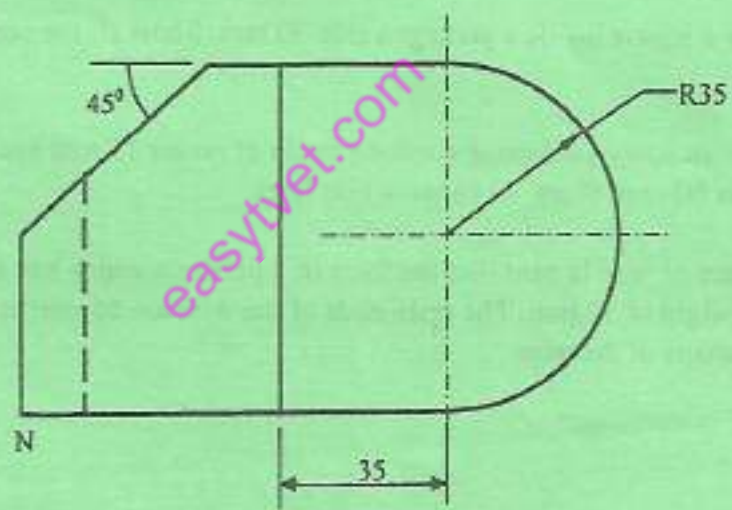
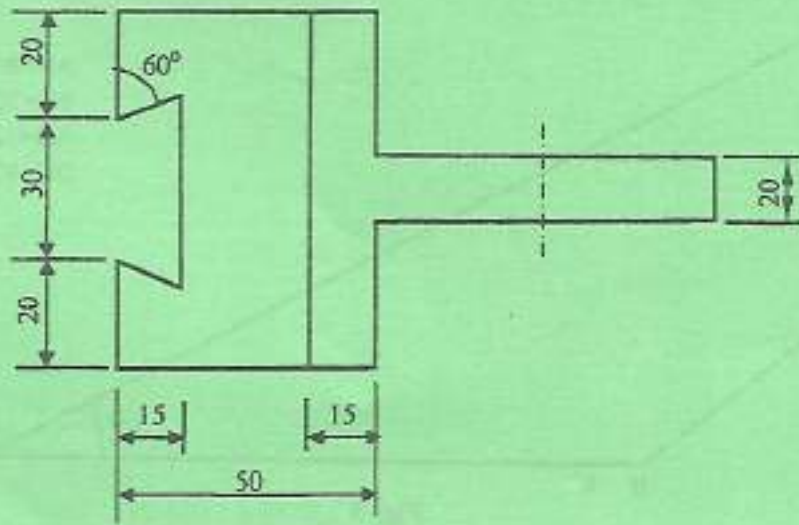


Fig. 2

3. (a) Enlarge the plane ABCD shown in Figure 3 to a similar figure double the area. (8 marks)



Fig. 3

- (b) Draw a square inside a pentagon side 30 mm. Show all the construction lines. (12 marks)
4. (a) Draw an epicycloid using a rolling circle of radius 15 mm and a fixed base circle of radius 60 mm. Show all construction lines. (10 marks)
- (b) A piece of wire is bent into the form of a parabola which has a base length of 65 mm and height of 50 mm. The open ends of the wire are 65 mm apart. Show by drawing the true shape of the wire. (10 marks)

5. Figure 4 shows an incomplete elevation of a cylinder joined by a square prism at an angle of 30° . Copy the elevation and draw the following:

- the curve of intersection;
- the plan;
- development of the prism branch B.

(20 marks)

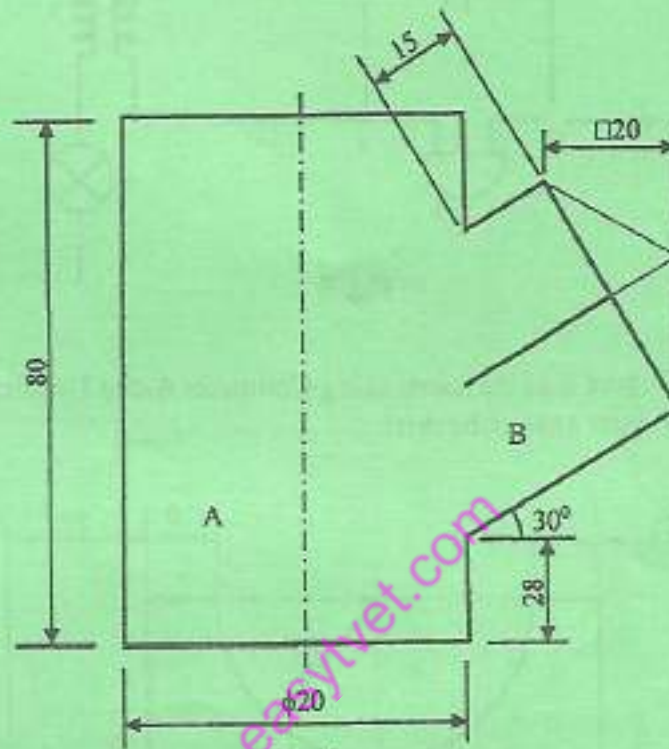


Fig. 4

6. (a) Sketch each of the following tools:

- bench vice;
- flat chisel;
- hand file.

(10 marks)

(b) Identify each of the electrical symbols numbered 1 to 10 in Figure 5.

(10 marks)

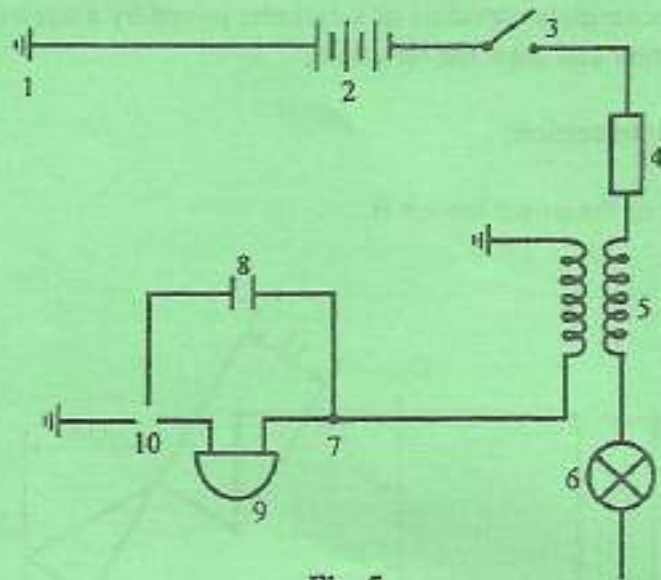


Fig. 5

7. Reproduce and print Figure 6 as indicated using Computer Aided Drafting programme (CAD). Attach the print out to your answer booklet. (20 marks)

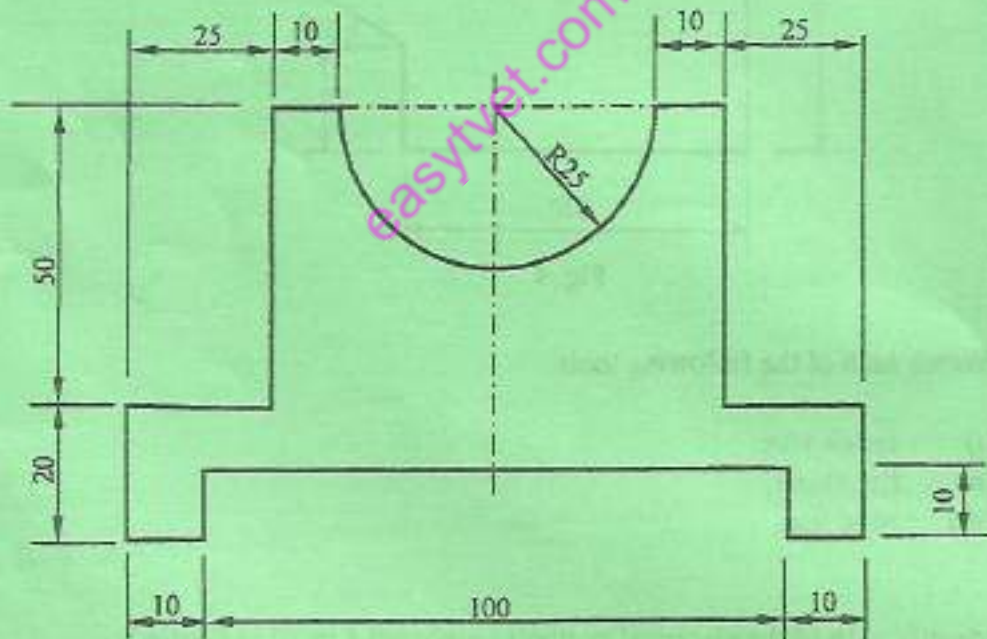


Fig. 6

8. Figure 7 shows two views of an object drawn in first angle orthographic projection. Draw for each of the following:

- (i) the plan as it is;
 - (ii) sectional front elevation along cutting plane X-X;
 - (iii) an end elevation.
- Insert six major dimensions.

(20 marks)

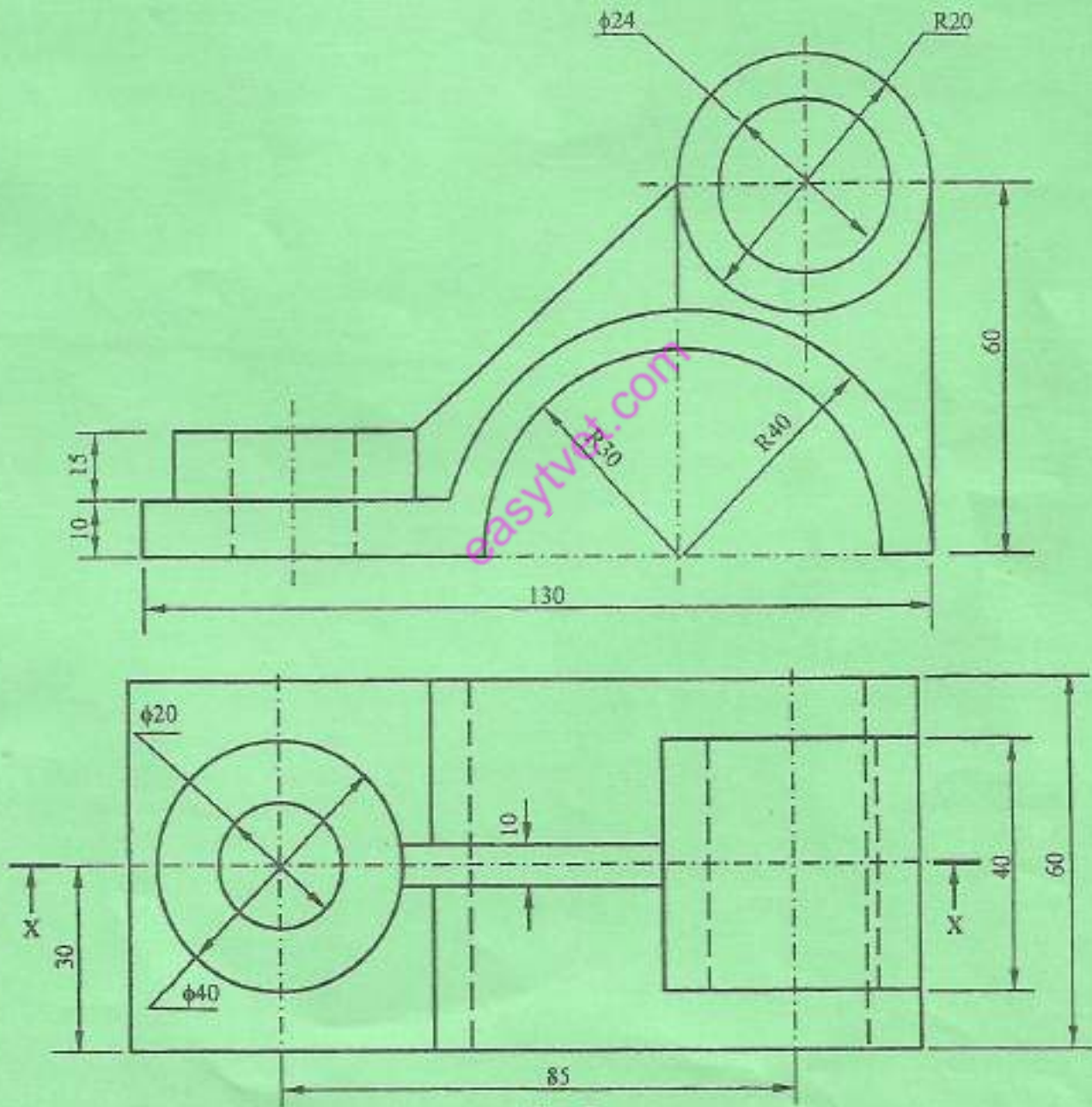


Fig. 7

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