

2506/104

2507/104

ENGINEERING DRAWING

Oct./Nov. 2016

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

**DIPLOMA IN AERONAUTICAL ENGINEERING
(AIRFRAMES AND ENGINES OPTION)
(AVIONICS OPTION)**

MODULE I

ENGINEERING DRAWING

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:

Drawing papers size A2;

Drawing instruments;

A non-programmable scientific calculator;

Drawing table/Board.

This paper consists of TWO sections; A and B.

Answer question ONE in Section A (compulsory) and THREE questions from Section B in the drawing papers provided.

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

All dimensions are in millimeters.

Candidates should answer the questions in English.

This paper consists of 6 printed pages.

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

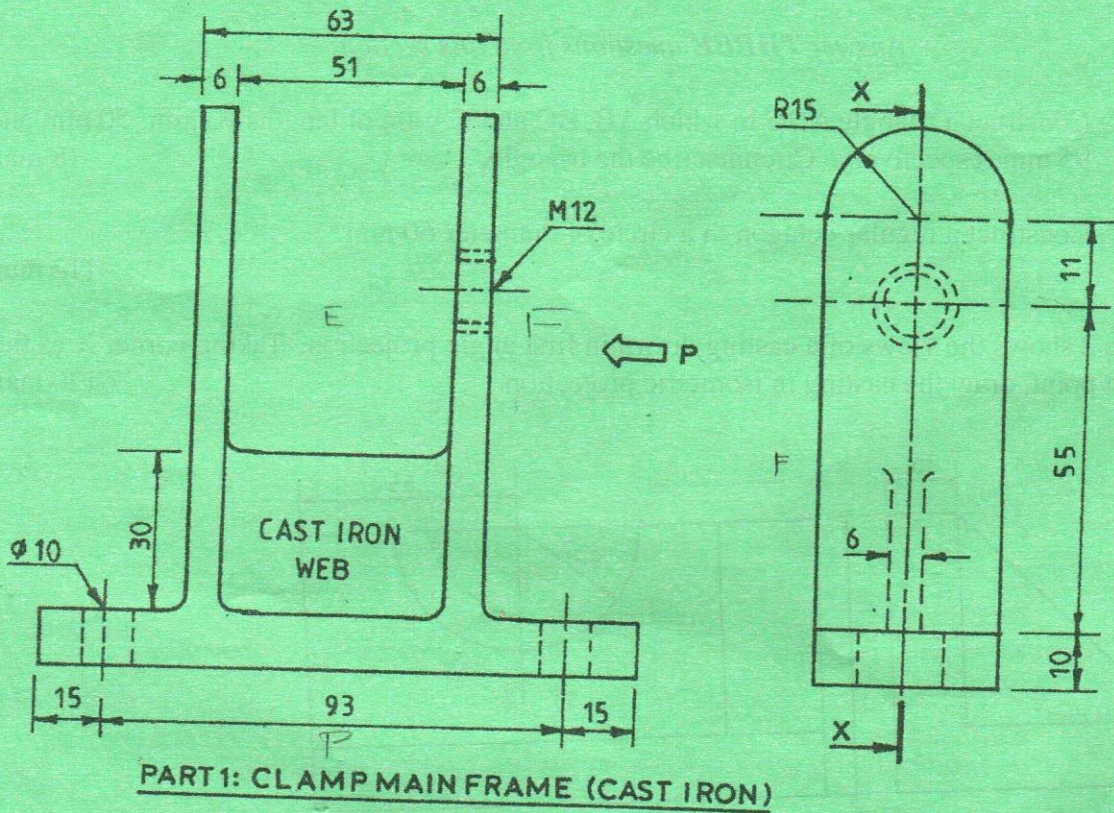
SECTION A

Answer question ONE (compulsory)

1. Figure 1 shows parts of an aeroplane clamp drawn in first angle projection. Assemble the parts and draw full size in third angle projection the following views:
- (a) a sectional front elevation along the cutting plane X-X;
 - (b) the end elevation in the direction of arrow P;
 - (c) the plan.

Include **five** leading dimensions and a parts list.

(40 marks)



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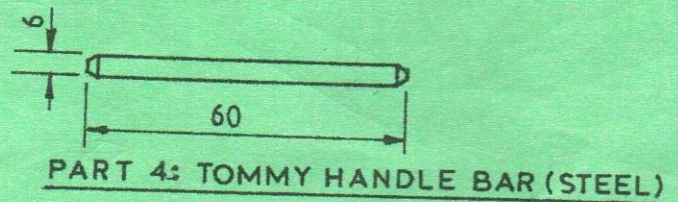
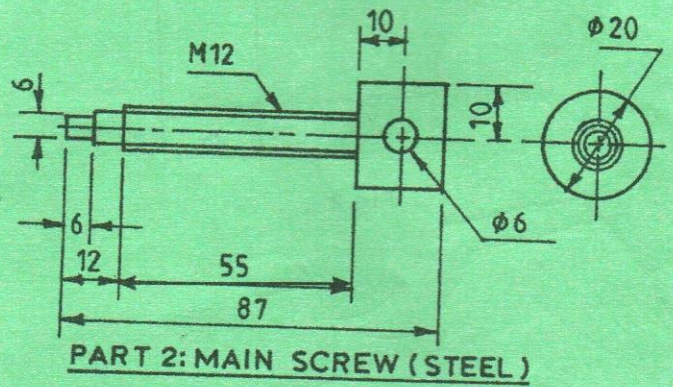
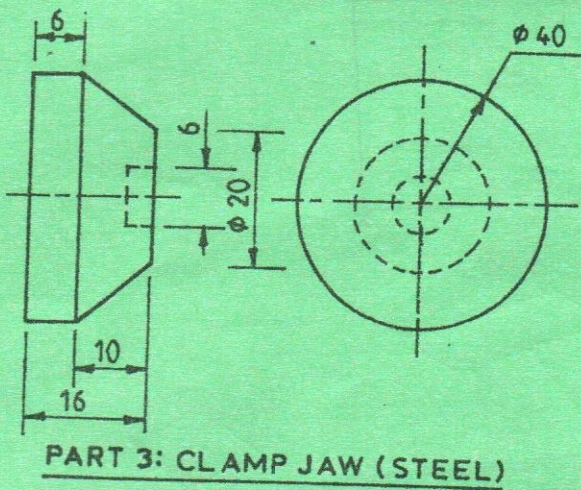
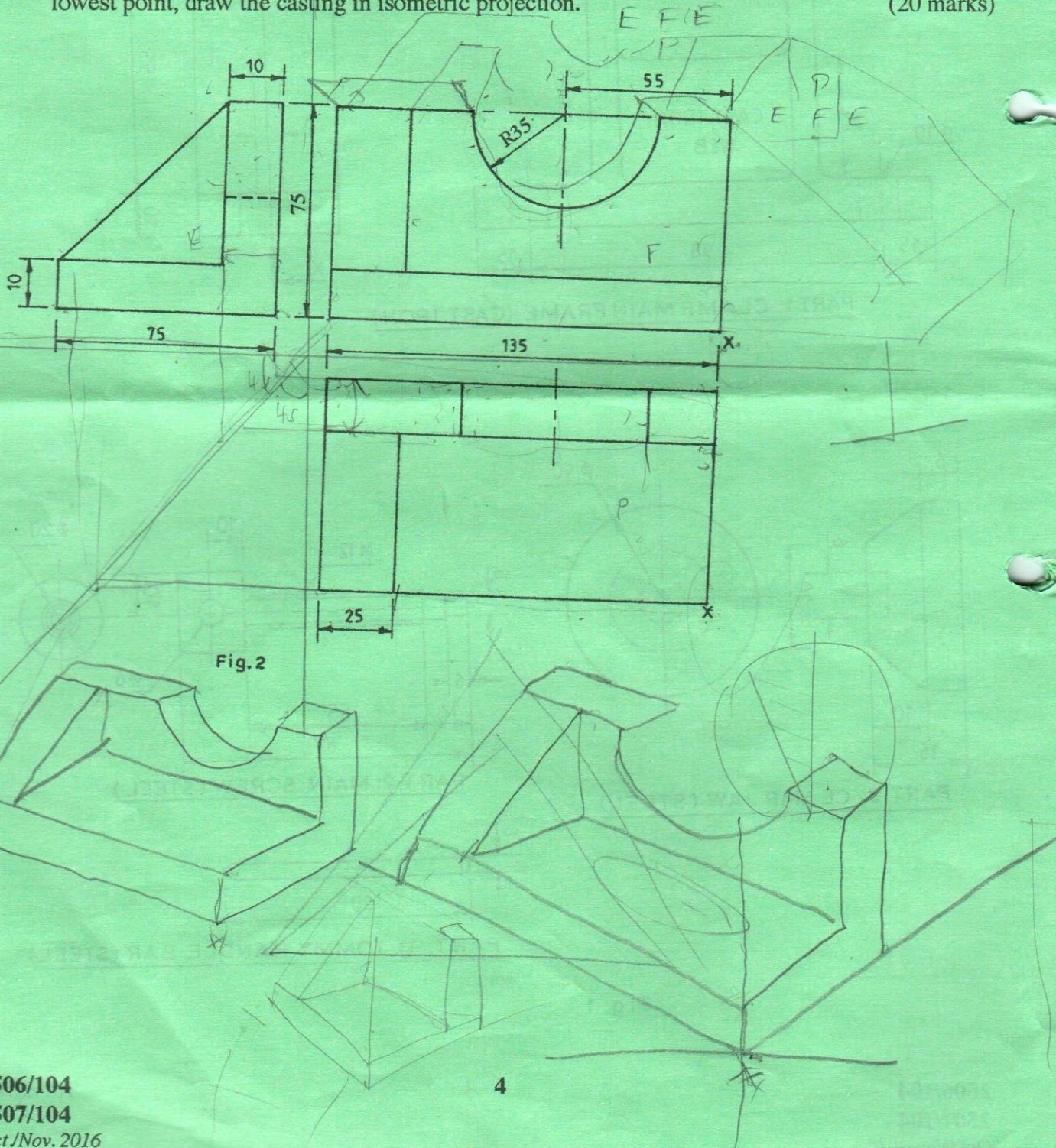


Fig. 1

SECTION B

Answer THREE questions from this section.

2. (a) Construct a triangle ABC in which AB, BC and CA are of lengths 90 mm, 50 mm and 95 mm respectively. Circumscribe the triangle. (8 marks)
- (b) Construct a regular octagon in a circle of diameter 60 mm. (12 marks)
3. Figure 2 shows the views of a casting drawn in first angle projection. Taking corner X as the lowest point, draw the casting in isometric projection. (20 marks)



4. Figure 3 shows the intersection of an octagonal prism. Copy the given view and:

- (i) complete the plan;
- (ii) draw the line of intersection;
- (iii) construct the development of the octagonal prism.

(20 marks)

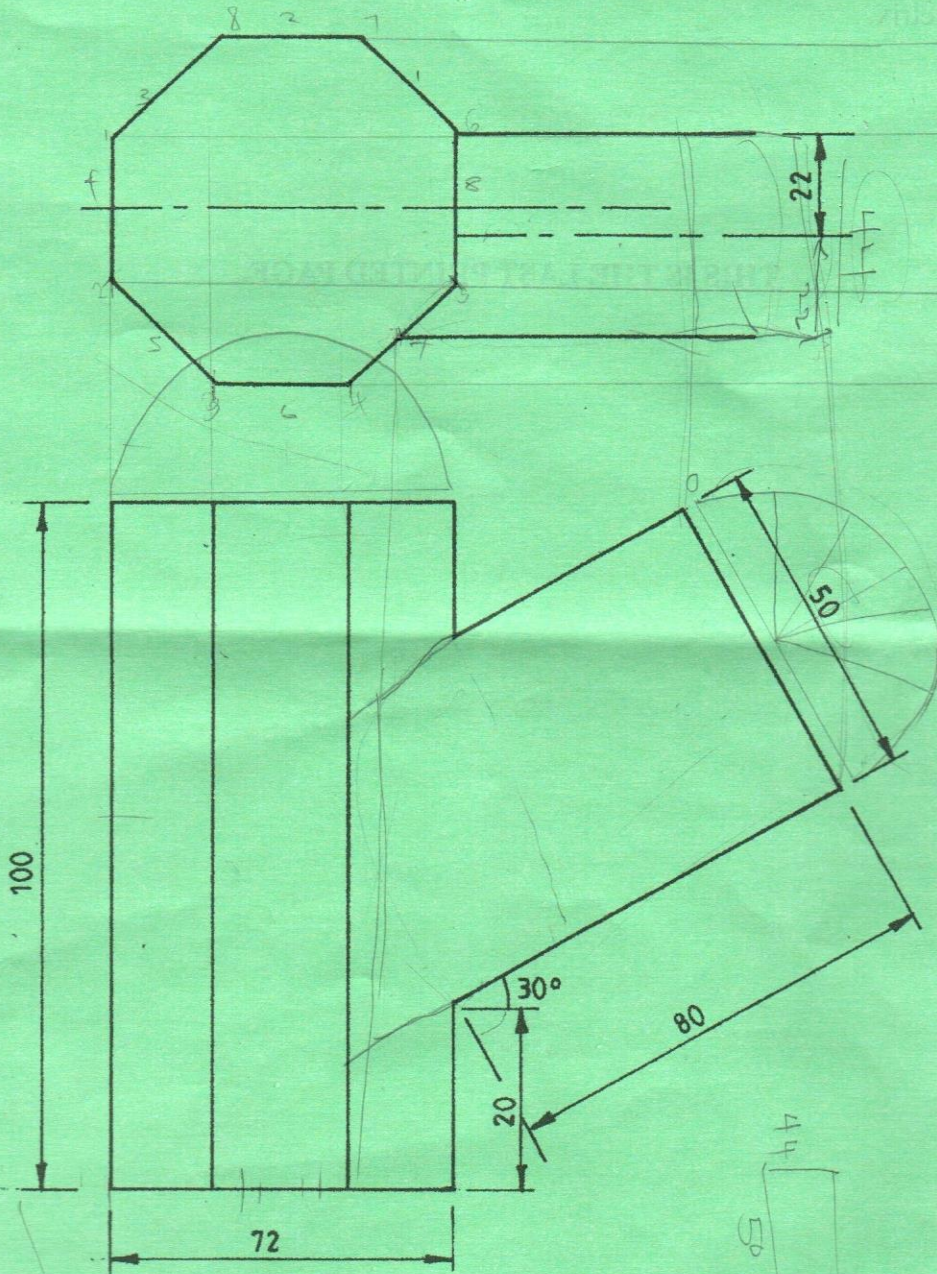


Fig. 3

5. (a) Construct a diagonal scale in which 40 mm represent 1 mm, 3 mm long to read 0.01 mm. On the scale, mark a distance of:

(i) 1.26 mm;

(ii) 2.73 mm.

(8 marks)

(b) Construct a hyperbola having an eccentricity of $\frac{3}{2}$ and a focus of 20 mm from the directrix.

(12 marks)

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