

2502/104

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ENGINEERING DRAWING

June/July 2018

Time: 3 hours



THE KENYA NATIONAL EXAMINATIONS COUNCIL

DIPLOMA IN MECHANICAL ENGINEERING
(PLANT OPTION)

DIPLOMA IN AUTOMOTIVE ENGINEERING

DIPLOMA IN MECHANICAL ENGINEERING
(CONSTRUCTION PLANT OPTION)

MODULE I

ENGINEERING DRAWING

3 hours

INSTRUCTIONS TO CANDIDATES

The candidate should have the following for this examination:

Answer booklet;

Drawing instruments;

A3 Drawing papers.

This paper consists of TWO sections; A and B.

Answer all the questions from section A and any TWO questions from section B.

Maximum marks to each part of a question are 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.

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Turn over

SECTION A

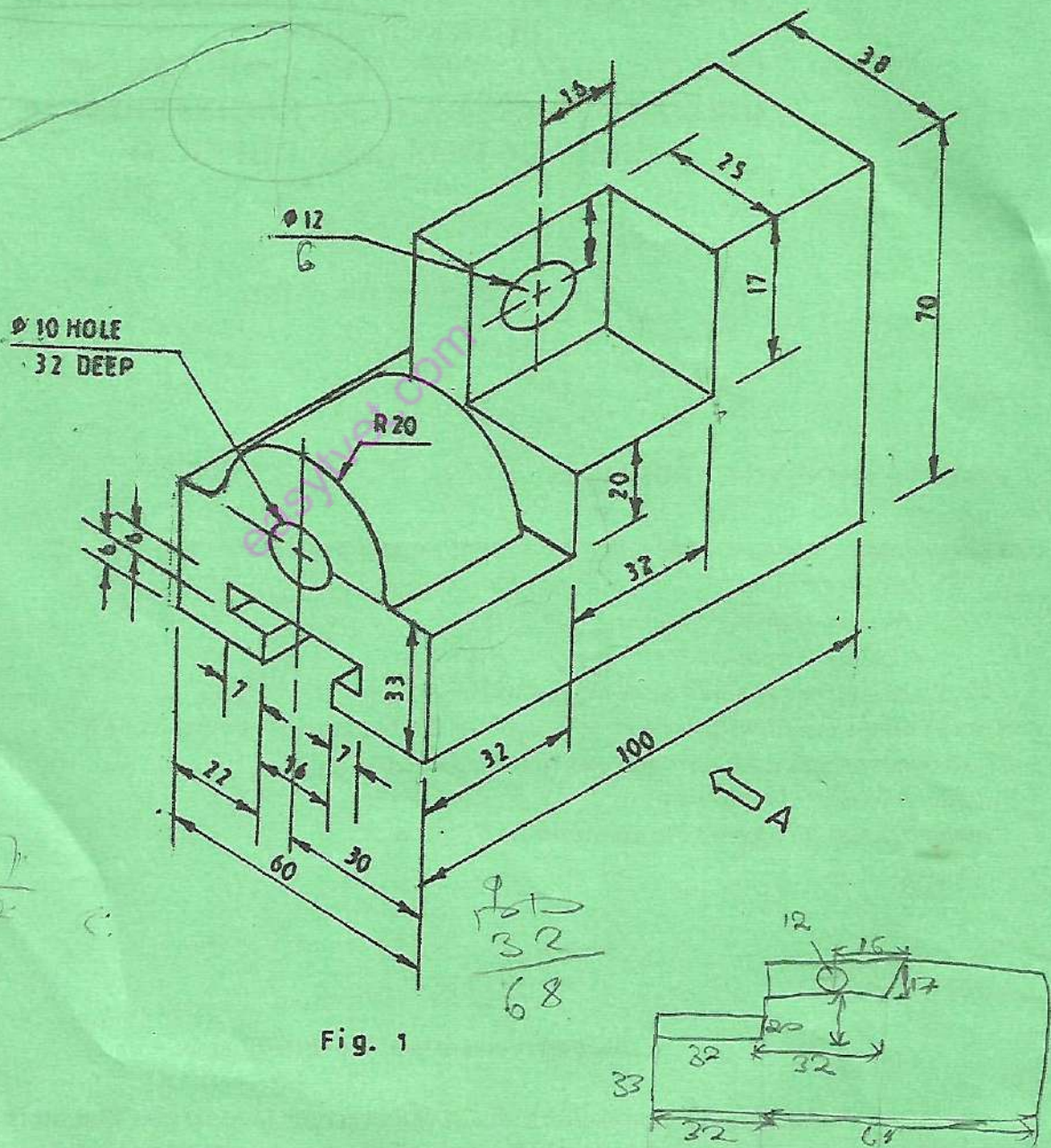
Answer ALL the questions from this section.

1. **Figure 1** shows a pictorial view of a machine block. Draw the following views in first angle projection;

- (a) a front elevation in the direction of arrow A;
- (b) an end elevation in the direction of arrow.
- (c) a plan.

- Show all the hidden details.
- Insert six major dimensions.

(30 marks)



2. Figure 2 shows the views of a machine part drawn in first angle projection. Draw the isometric view with corner M as the lowest point.

(30 marks)

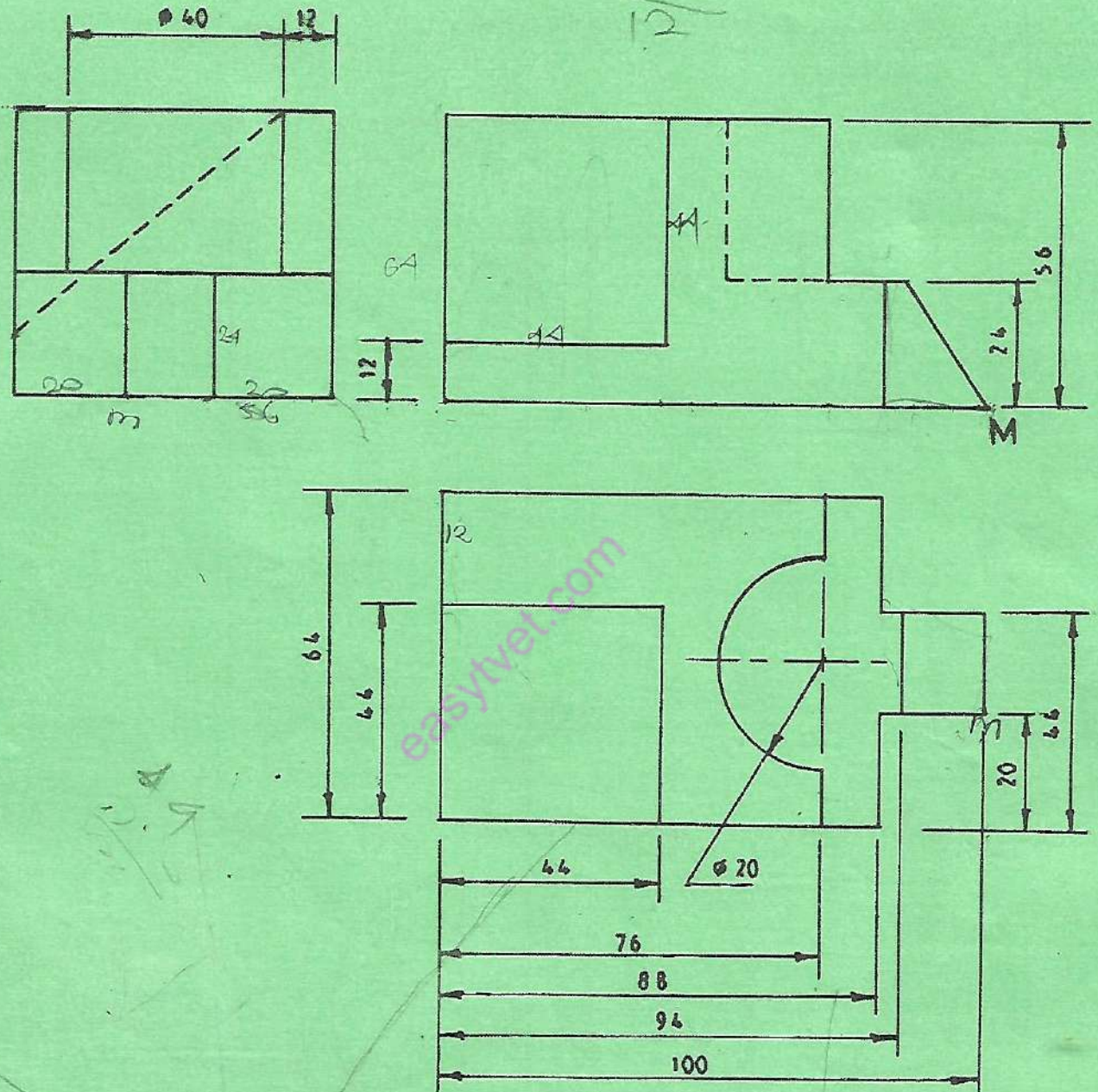


Fig. 2

SECTION B

Answer any **TWO** questions from this section.

3. **Figure 3** shows the intersection of a cone and a cylinder. Copy the given views then:

(a) complete the front elevation;

(b) draw the surface development of the cylinder.

(20 marks)

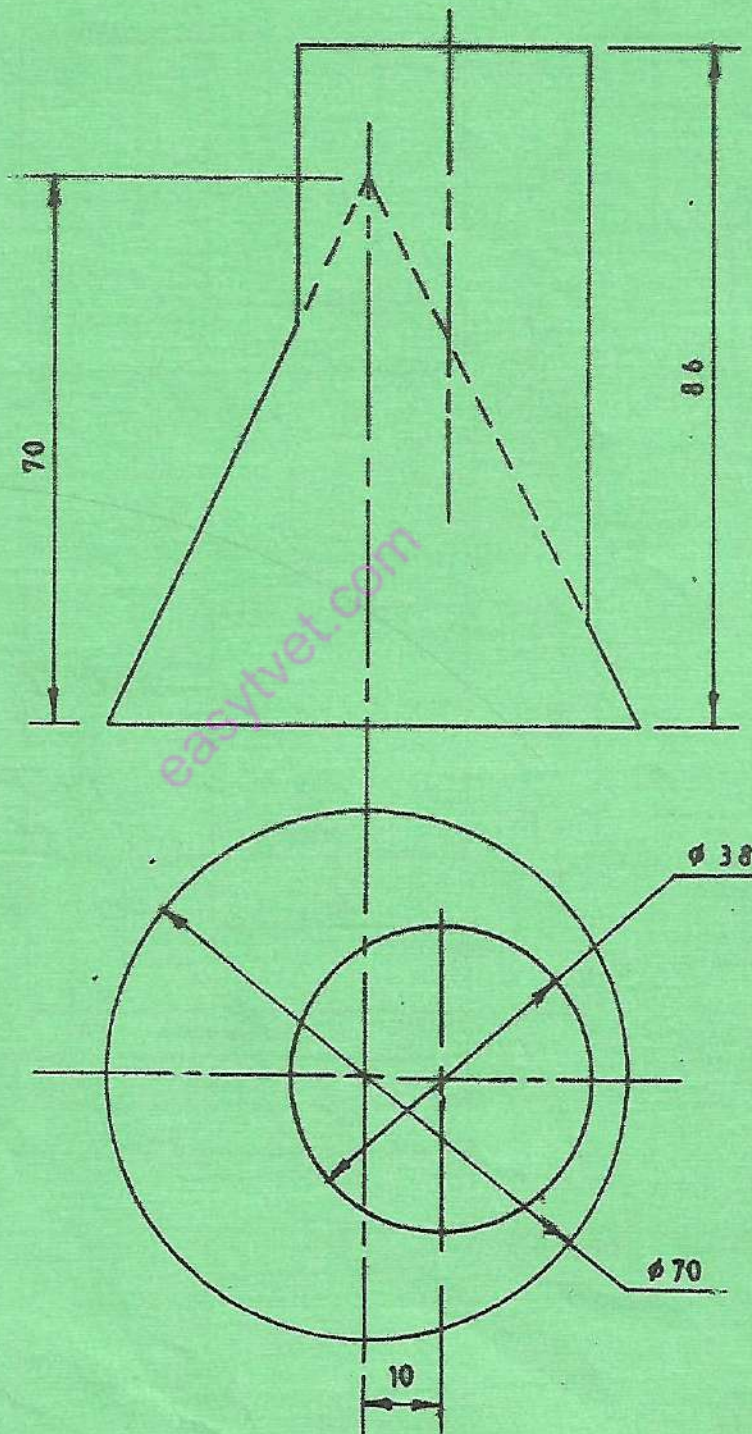


Fig. 3

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4. (a) Two circles A and B have radii of 39 mm and 11 mm respectively. If their centres are 90 mm apart, draw their common internal tangent. (6 marks)

(b) Figure 4 shows a key hole saw handle. Construct the profile. (14 marks)

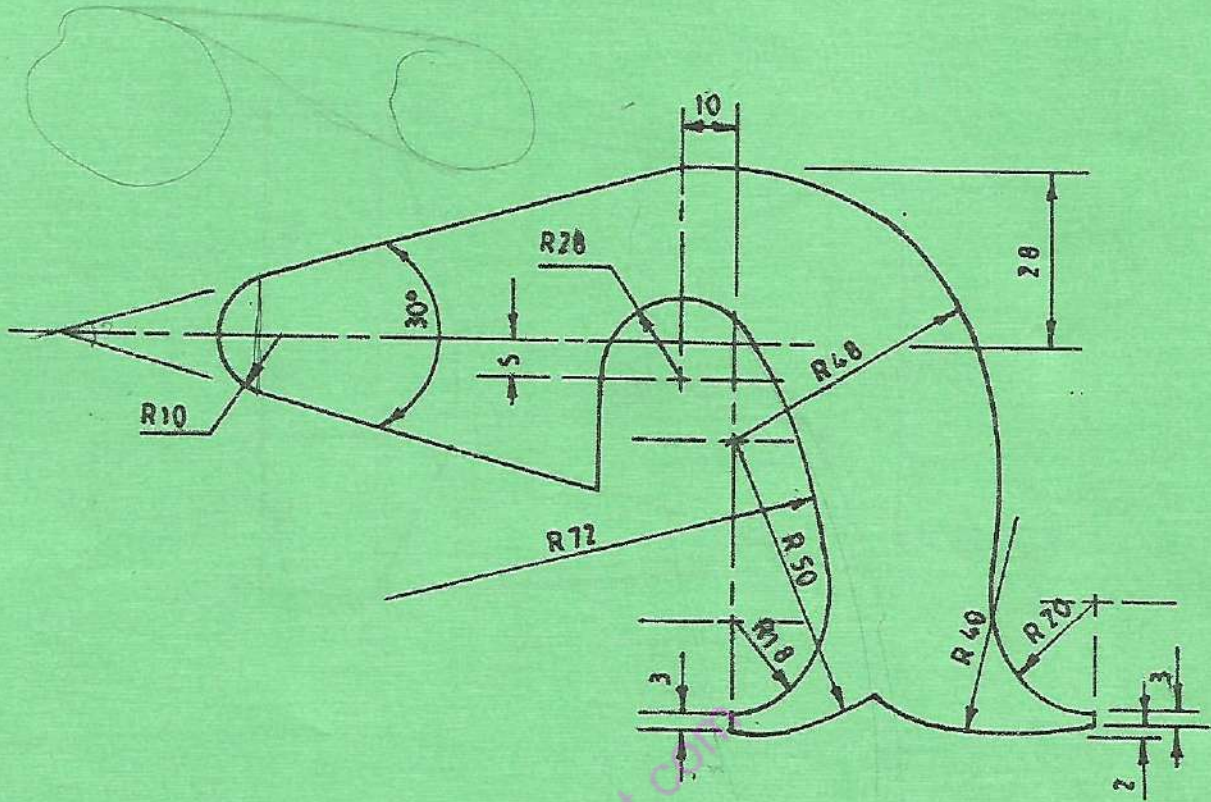


Fig. 4

5. (a) Plot the locus of point P which moves such that its distance from two fixed points R and S, 75 mm apart is always in the ratio 2:1 respectively. (10 marks)
- (b) **Figure 5** shows the front elevation and plan of a triangular lamina ABC. Construct the true shape of the lamina. (10 marks)

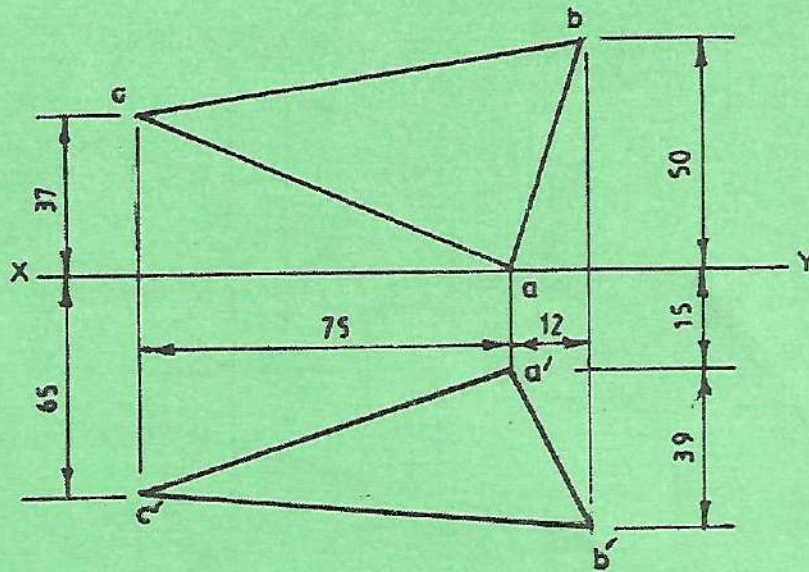


Fig. 5

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