THE KENYA NATIONAL EXAMINATIONS COUNCIL

CRAFT CERTIFICATE IN AUTOMOTIVE ENGINEERING
CRAFT CERTIFICATE IN CONSTRUCTION PLANT ENGINEERING

MODULE I

TECHNICAL DRAWING

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:
   Answer booklet;
   Drawing instruments;
   Drawing papers.
This paper consists of THREE sections; A, B and C.
*Answer Question 1 (**compulsory**) and then answer TWO questions from section B and TWO questions from section C.*
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.

Turn over

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

    (a)   A sectional front elevation X -X;
    (b)   An end elevation in the direction of arrow E;
    (c)   A plan from arrow P.

    -       Include **six** major dimensions;
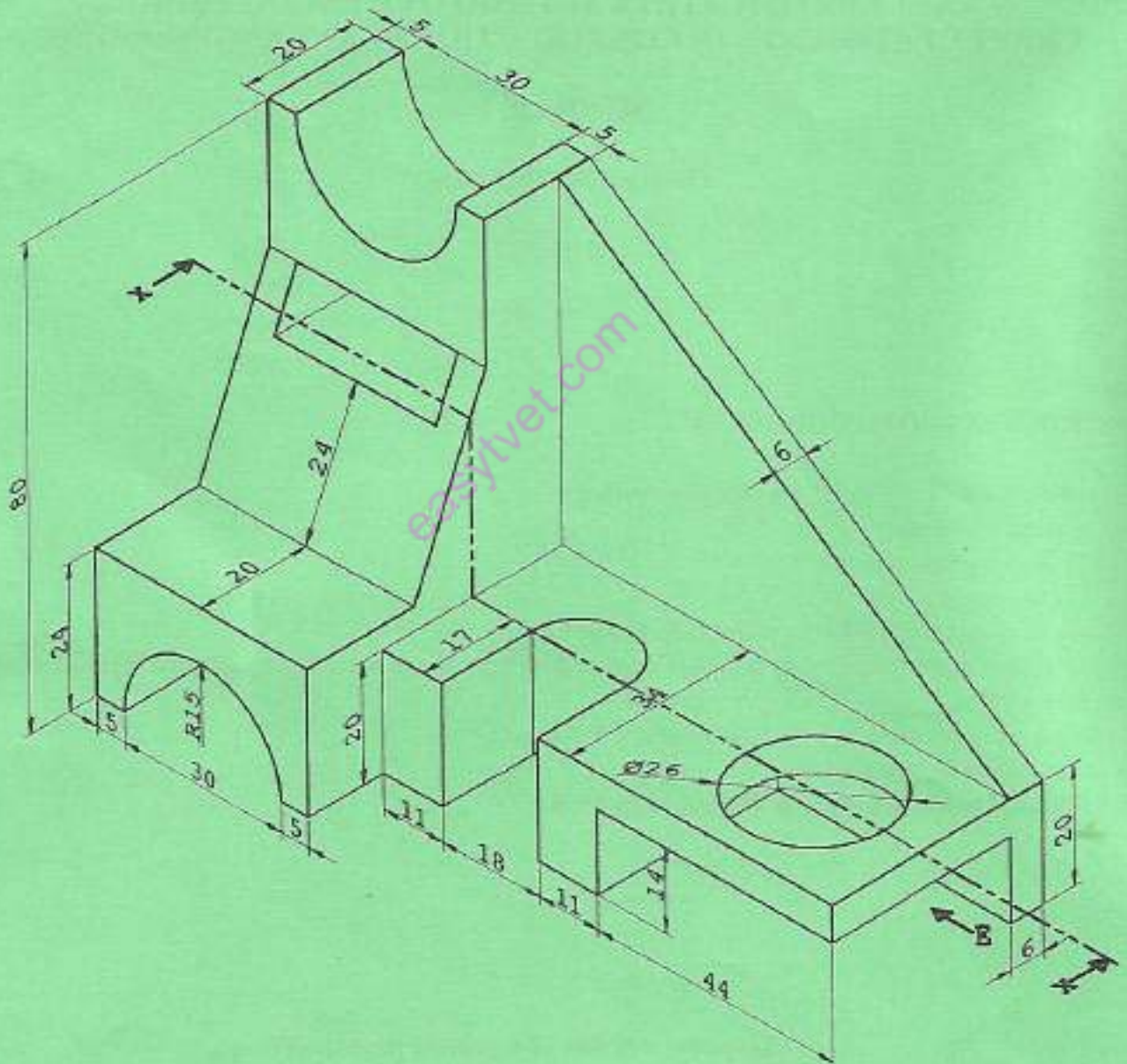   -   Show hidden details.   (40 marks)

Fig. 1

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

2. (a) Construct an ellipse with a minor diameter of 60 mm and a major diameter of 100 mm.

   (7 marks)

   (b) Construct the locus of a point on a circle of radius 25 mm when the circle rolls on a flat surface for one revolution without slipping. Name the locus.

   (8 marks)

3. (a) Copy the template shown in figure 2 and enlarge it to a scale of 8/5 using P as the centre of similitude.
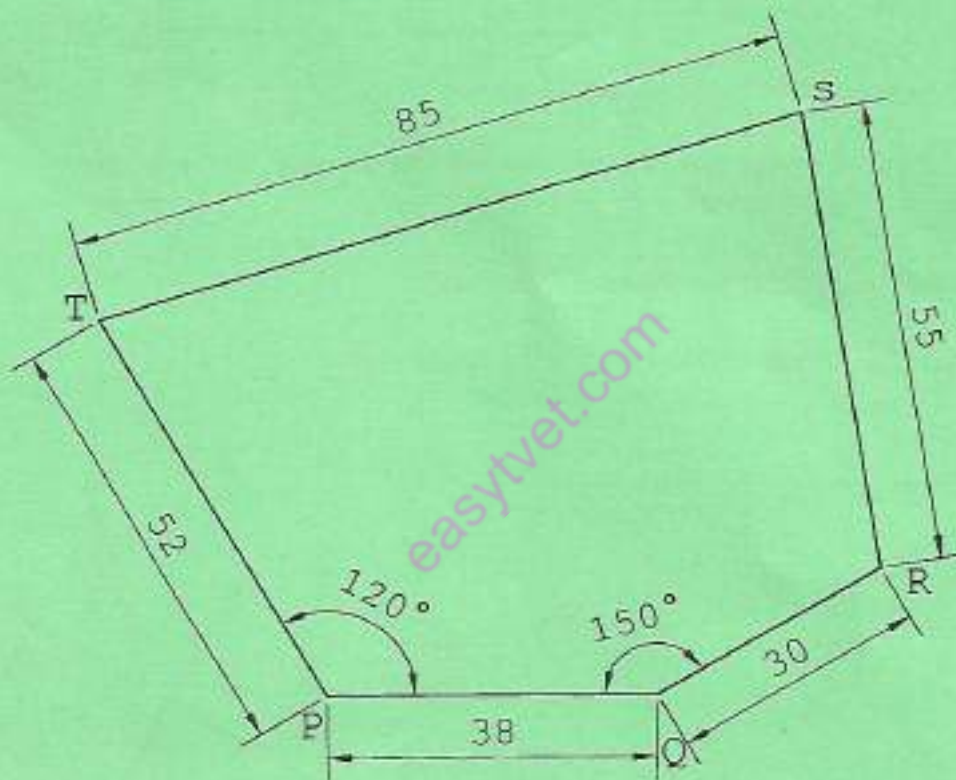
   (8 marks)

Fig 2.

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(b)   Construct a square equal in area to the given triangle ABC shown in figure 3
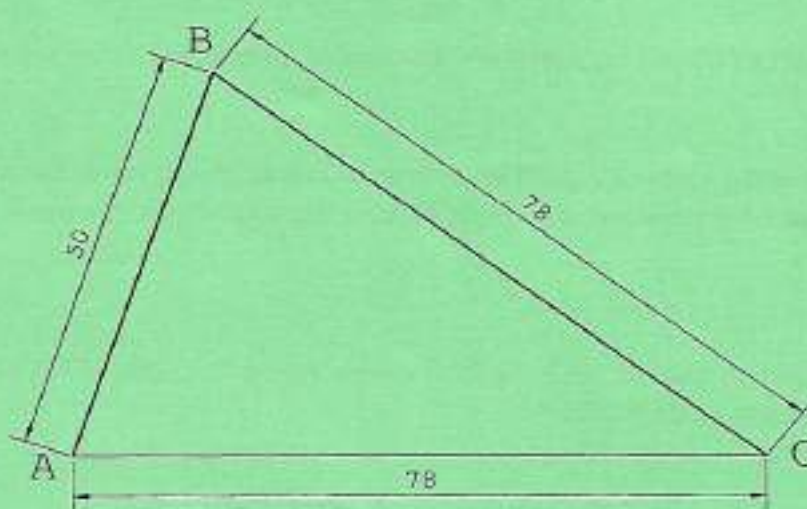
(7 marks)

Fig 3.

4.   Figure 4 shows the intersection of a cylinder and a square pipe. Copy the given views and:

(a)   Complete the front and the plan elevations.   (10 marks)

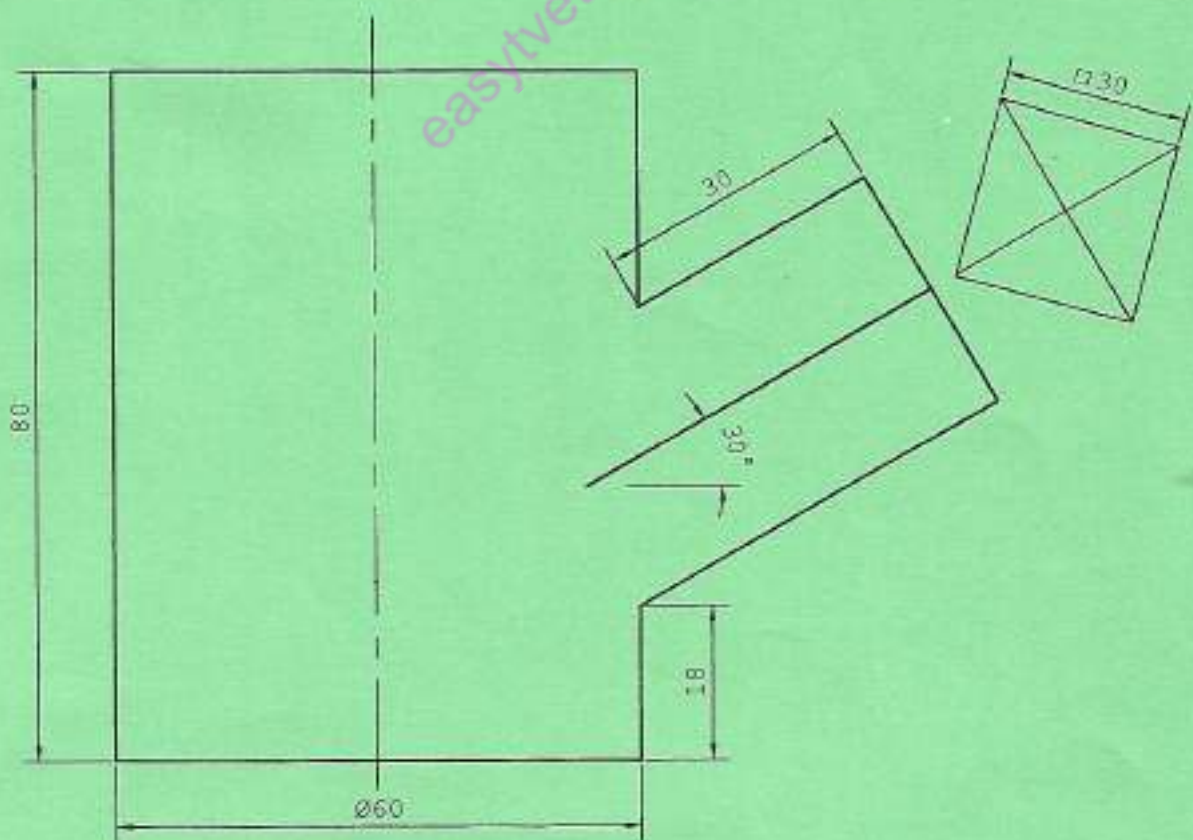(b)   Draw the surface development of the square pipe.   (5 marks)

Fig 4

SECTION C

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

5.   Figure 5 shows orthographic views of a bearing support bracket. Draw full size, and isometric view of the block with corner X the lowest point.   (15 marks)
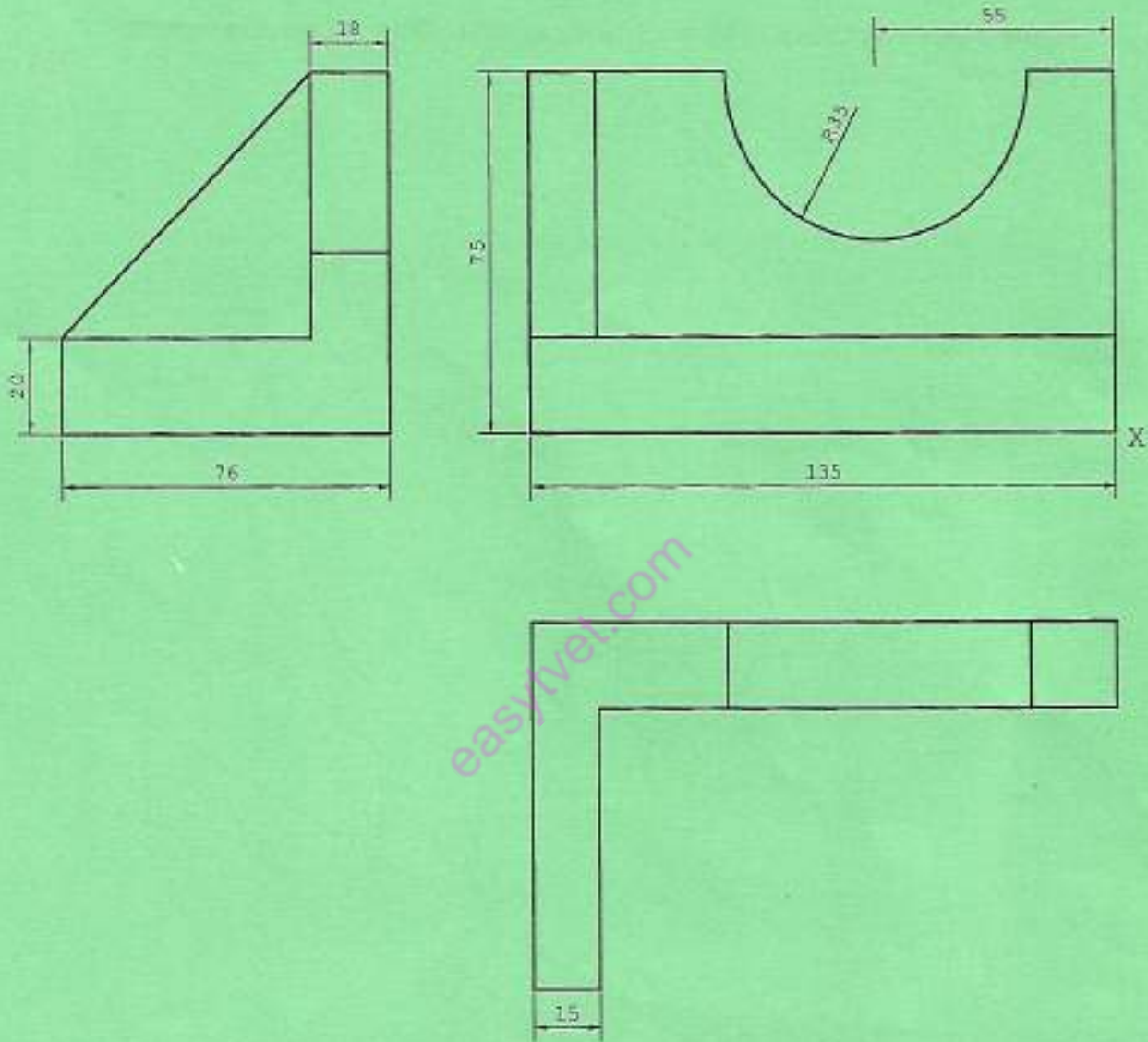

Fig. 5

6. Sketch the following tools:

  (a) Set hammer; (5 marks)

  (b) flat chisel; (5 marks)

  (c) hatchet soldering iron. (5 marks)

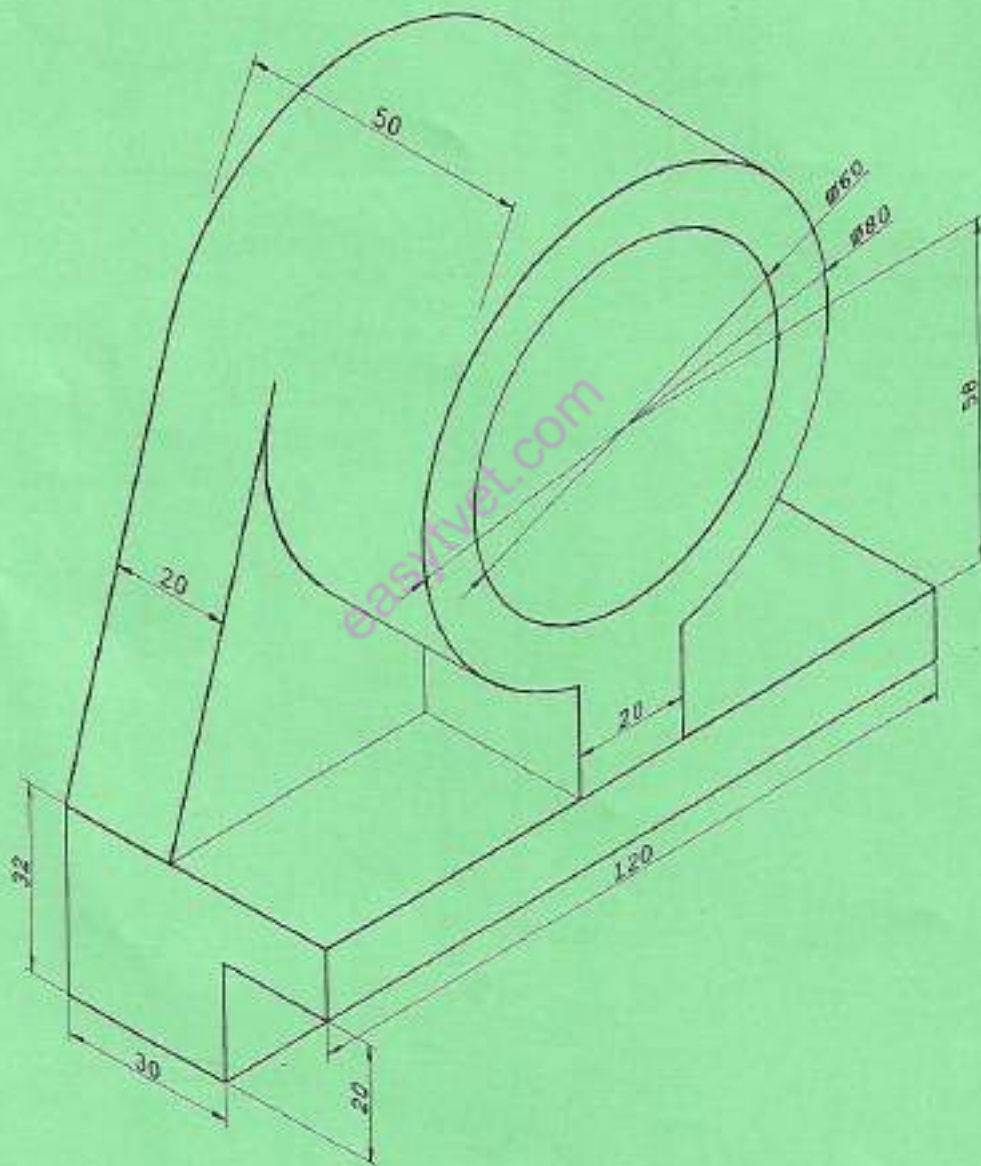7. Figure 6 shows a pictorial view of a bearing support. Draw the block in isometric projection. (15 marks)

Fig. 6

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