THE KENYA NATIONAL EXAMINATIONS COUNCIL

CRAFT CERTIFICATE IN AUTOMOTIVE ENGINEERING

MODULE I

TECHNICAL DRAWING

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:
 Drawing paper(s);
 Drawing instruments.
This paper consists of THREE sections; A, B and C.
Answer a total of FIVE questions as follows:
 *Question ONE (**compulsory**);*
 TWO questions from section B;
 TWO question from section C.
Maximum marks for each part of a question are indicated..
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

1.   Figure 1 shows a pictorial view of a bearing bracket. Draw the following views in first angle
      projection:

      (a)   A front elevation in the direction of arrow X.

      (b)   A sectional end elevation on P – P

      (c)   A plan.

      Include:

      -      Six major dimensions.
      -      Projection symbols.

(40 marks)

Fig.1

Answer TWO question from this section.

2. Figure 2 shows a circular pipe and a prism intersecting as shown. Copy the given views and:

   (a) Complete the views.

   (b) Draw the surface development of the circular pipe slit along the edge S – S.

   (15 marks)
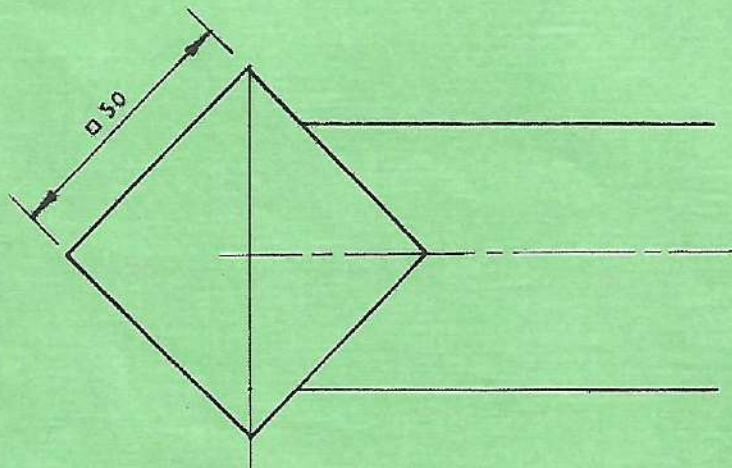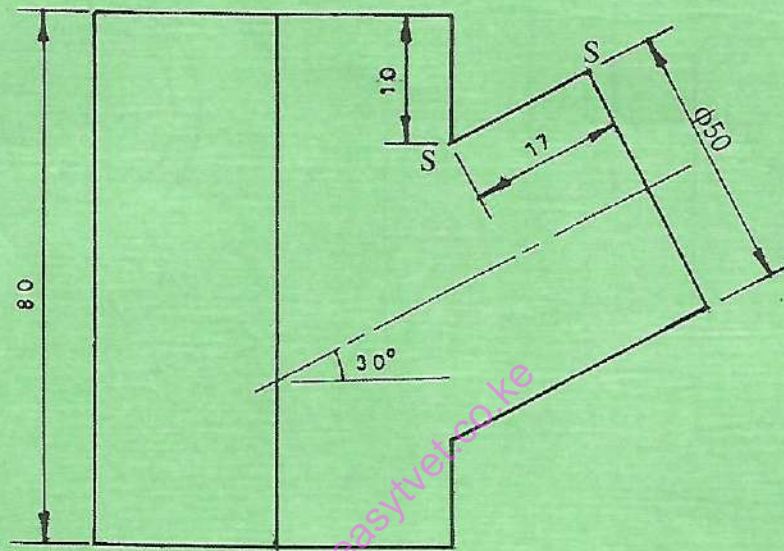
Fig. 2

3. (a) Two circles of radii 20 mm and 40 mm have their centres 70 mm apart. Draw the circles and construct an arc of radius 100 mm that blends with both circles internally.

(7 marks)

(b) Construct a parabola with a directrix to focus distance of 40 mm and extend it up to a maximum of 100 mm from the directrix. (8 marks)

4. Figure 3 shows two views of a test gauge. Draw the gauge in isometric projection with corner R being the lowest point. (15 marks)
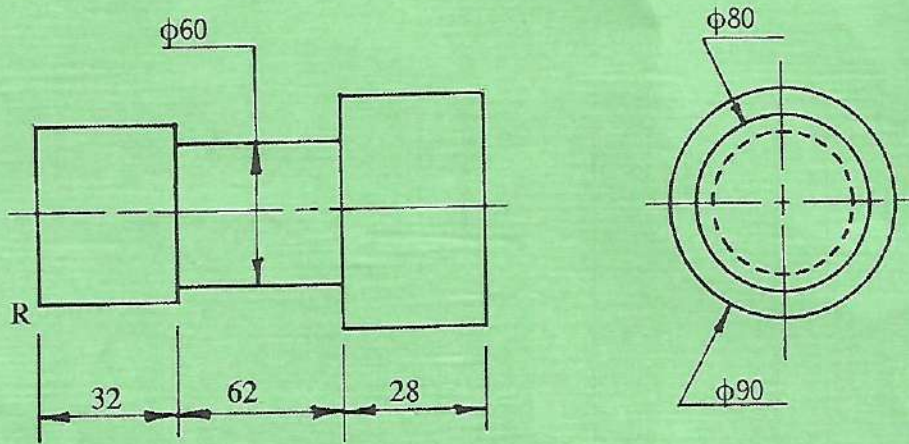

Fig. 3

Answer at least ONE question from this section.

5. Figure 4 shows a square based regular pyramid. Cut by an oblique plane Y – Y and a vertical plane Z – Z as shown. Copy the given views and:

(a) complete the elevations.

(b) draw the end elevation from the direction of arrow E.
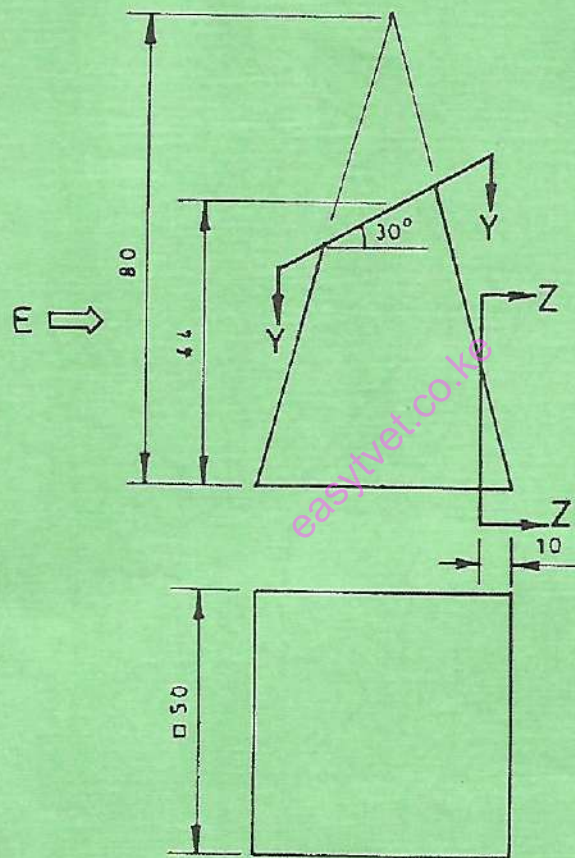
(c) draw the true shape on Y – Y.

(15 marks)

Fig. 4

6. (a) Construct a nine sided polygon given one side as 40 mm and name it. (6 marks)

   (b) Sketch the following sections:

   (i) Part section;
   (ii) scrap section;
   (iii) revolved section.

   (9 marks)

7. Figure 5 shows a pictorial view of a support bracket. Draw full size the bracket in isometric projection. (15 marks)

Fig. 5

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