1301/312
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1305/312
TECHNICAL DRAWING
November 2018
Time: 3 hours

THE KENYA NATIONAL EXAMINATIONS COUNCIL

CRAFT CERTIFICATE IN CARPENTRY AND JOINERY
CRAFT CERTIFICATE IN MASONRY
CRAFT CERTIFICATE IN PLUMBING

TECHNICAL DRAWING

3 hours

INSTRUCTIONS TO CANDIDATES

You should have the following for this examination:
   Answer booklet;
   Drawing papers size A2;
   Drawing instruments.
Answer FIVE of the following EIGHT questions.
All questions carry equal marks.
Maximum marks for each part of a question are indicated.
ALL dimensions are in millimeters.
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.

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Turn over

1.   (a)   Construct each of the following angles:

   (i)   30°;
   (ii)   135°;
   (iii) 15°.   (9 marks)

   (b)   Print each of the following statements in capital letters.

   (i)   "Come to college tomorrow by 2:00"   -   inclined
   (ii)   "You got a chance to travel"   -   straight   (6 marks)

   (c)   Circumscribe a triangle of sides 60 mm, 50 mm and 70 mm.   (5 marks)

2.   (a)   **Figure 1** shows a link mechanism of a machine part. Draw the locus of a point K
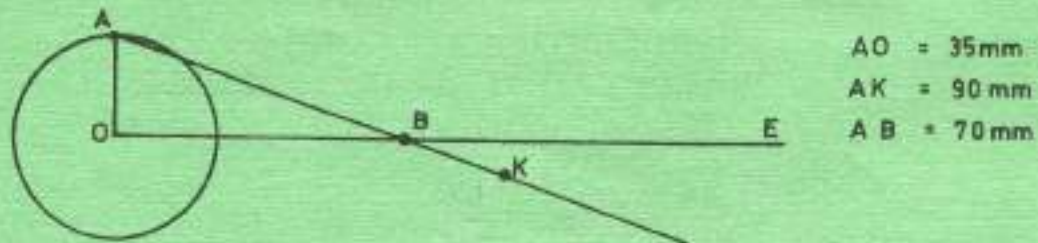   along the slide AB.   (14 marks)

AO = 35mm
AK = 90 mm
AB = 70mm

Fig. 1

   (b)   **Figure 2** shows 3rd angle orthographic projection of a block. Sketch the isometric view
         of the object taking point X as the lowest point.   (6 marks)
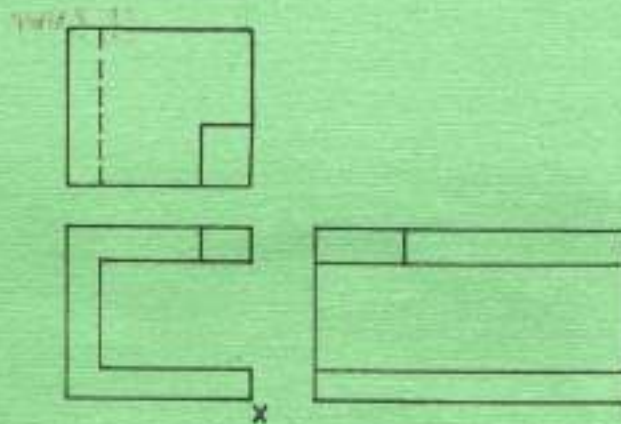

Fig. 2

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3. **Figure 3** shows a line sketch of a house plan. Using the data given:

   (i) Redraw the plan to scale of 1:100
   (ii) Draw section X-X to scale 1:50

   (20 marks)

   DATA
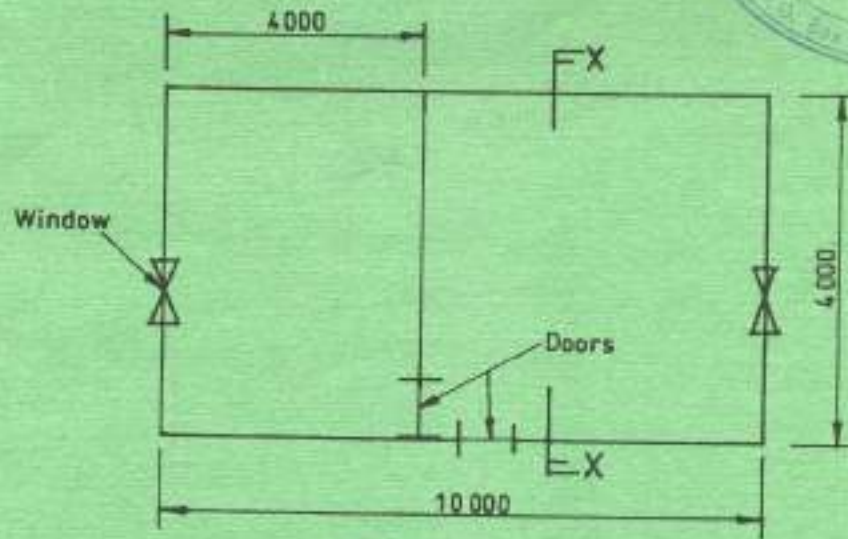 | | | |
   |---|---|---|
   | Floor slab thickness | - | 200 mm |
   | Murram blinding | - | 100 mm |
   | Hardcore | - | 200 mm |
   | D.P.M | - | 500 gauge polythene |
   | Wall thickness | - | 200 mm |
   | Openings | - | 900 mm |
   | Strip footing | - | 600 x 200 mm |
   | Depth of foundation | - | 1000 mm |

   Dimensions on figure 3 are internal

Fig. 3

4. (a) Draw a parabola in a rectangle measuring 80 mm by 120 m. (10 marks)

   (b) Draw a hexagon given that one of its sides is 40 mm. (5 marks)

   (c) Construct a plain scale of 50 mm represent 1 metre and indicate 1.5 m and 2.1 readings on it.

   (5 marks)

5. (a) **Figure 4** shows a pictorial view f a block. Draw the orthographic views in third angle taking the front elevation in the direction of arrow F. E. (20 marks)
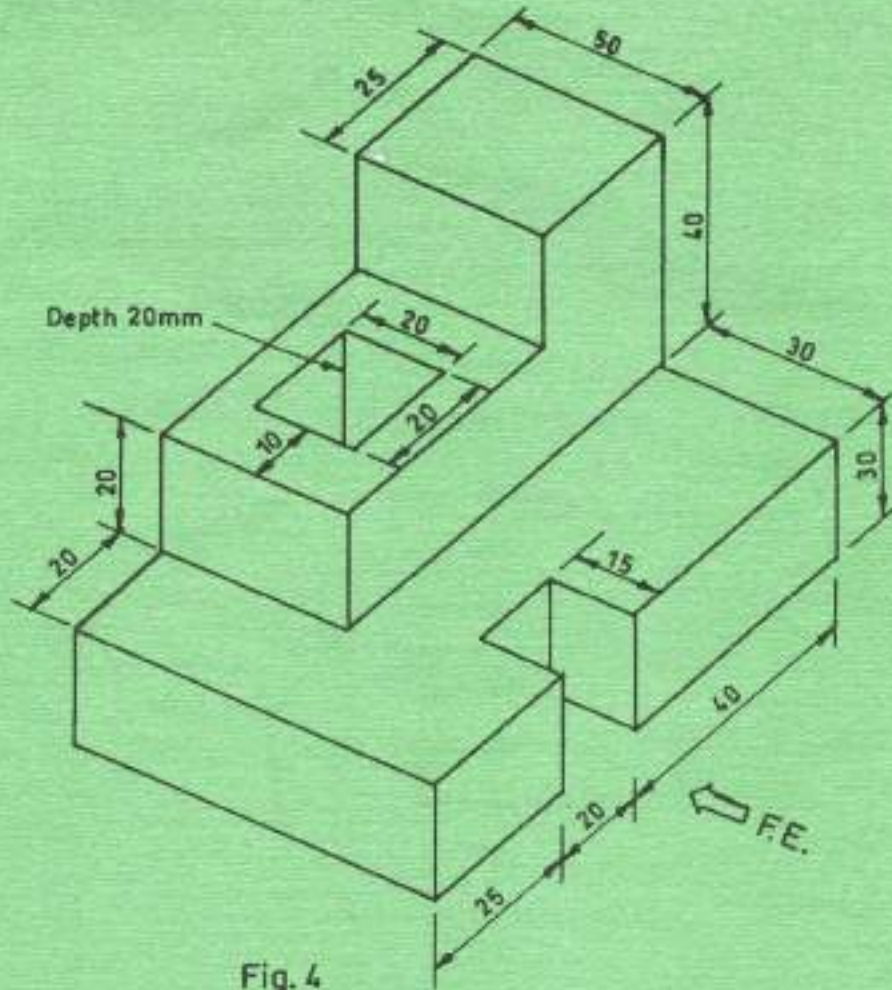

Depth 20mm

F.E.

Fig. 4

6. **Figure 5** shows the front elevation of two interpenetrating cylinders. Cylinder B is interpenetrating cylinder A centrally on plan.

    (a)   Redraw the front elevation.

    (b)   Draw the plan.

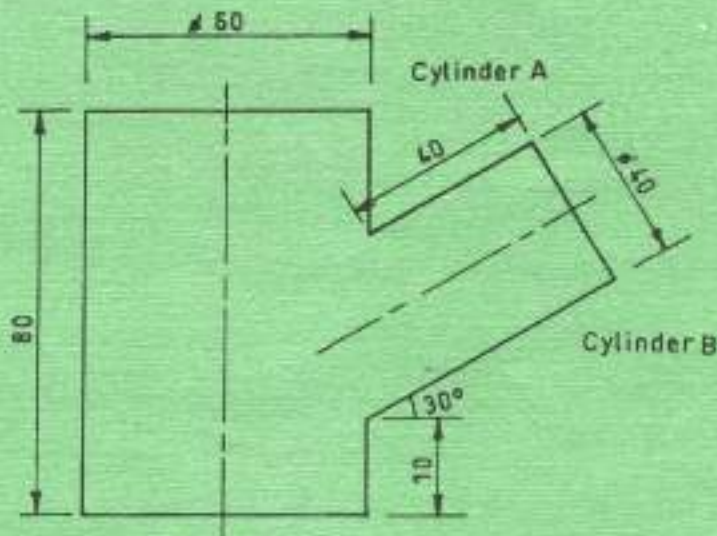   (c)   Show the points of interpenetration.   (20 marks)

Fig. 5

7.   (a)   Given that the radius of the circle in **Figure 6** is 40 mm draw a one and a half revolution of point P. Using a pitch of 100 mm.   (10 marks)
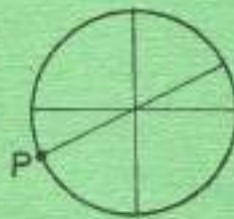

Fig. 6

(b) **Figure 7** shows orthographic views of a block a layout. Draw a two point perspective of the block by redrawing layout given. (10 marks)
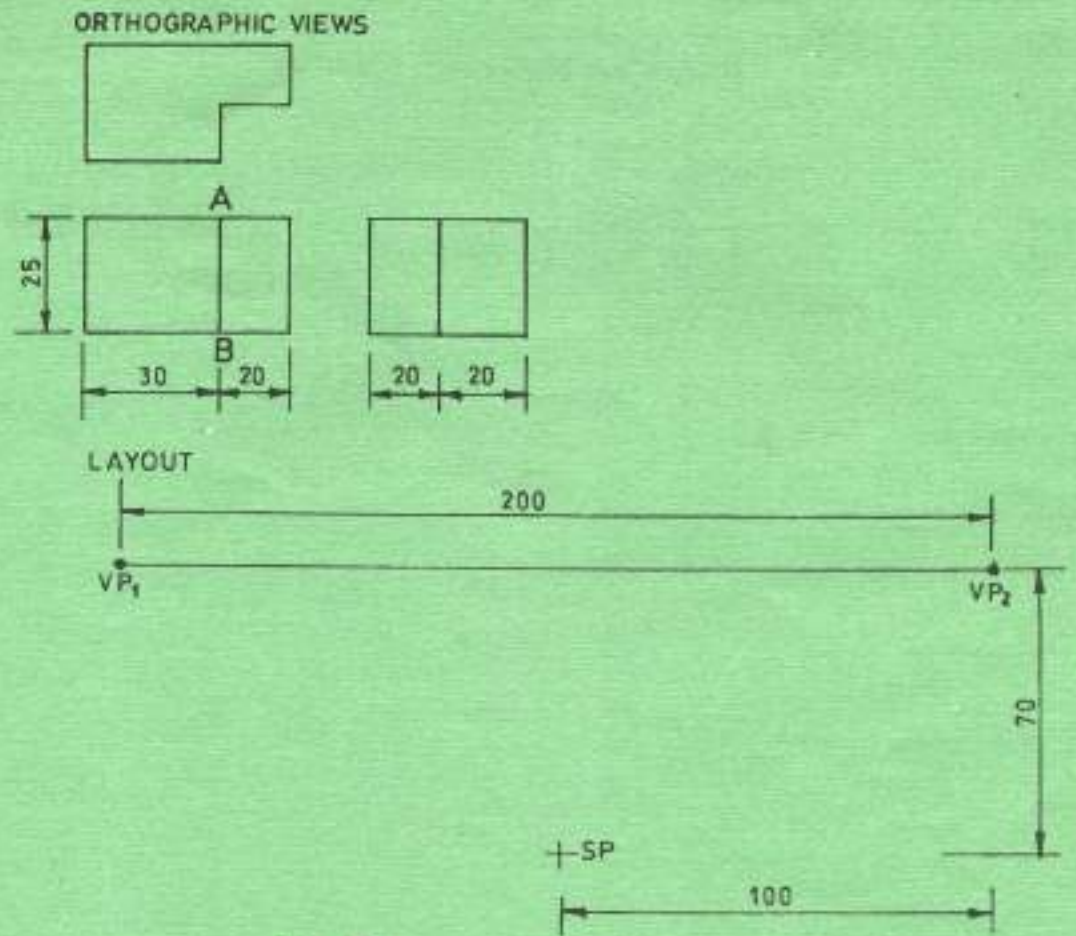
ORTHOGRAPHIC VIEWS

LAYOUT

Fig. 7

8.   **Figure 8** shows the front elevation of a cone.

    (i)   Redraw the elevation.
    (ii)   Draw a complete plan.
    (iii)   Draw the end elevation in the direction of arrow P.
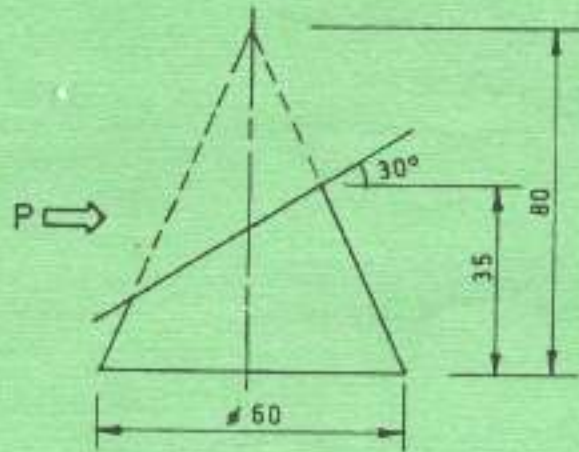   (iv)   Draw the surface development.   (20 marks)

Fig. 8

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