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1301/312
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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.

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)

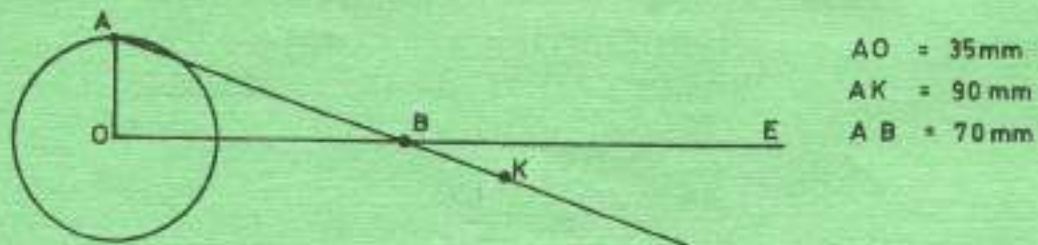


Fig. 1

- (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)

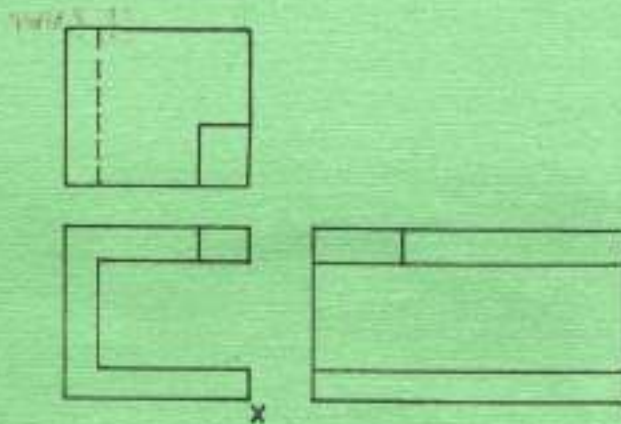


Fig. 2



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

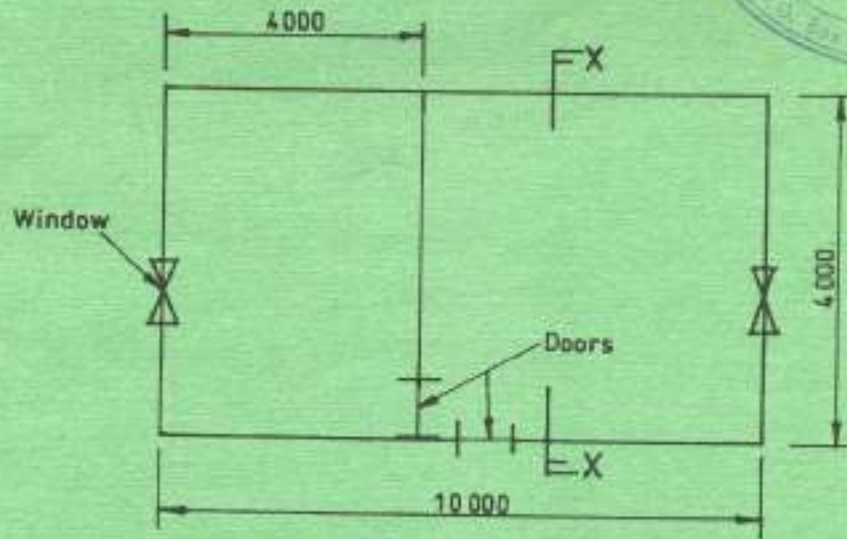


Fig. 3

- 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)

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)

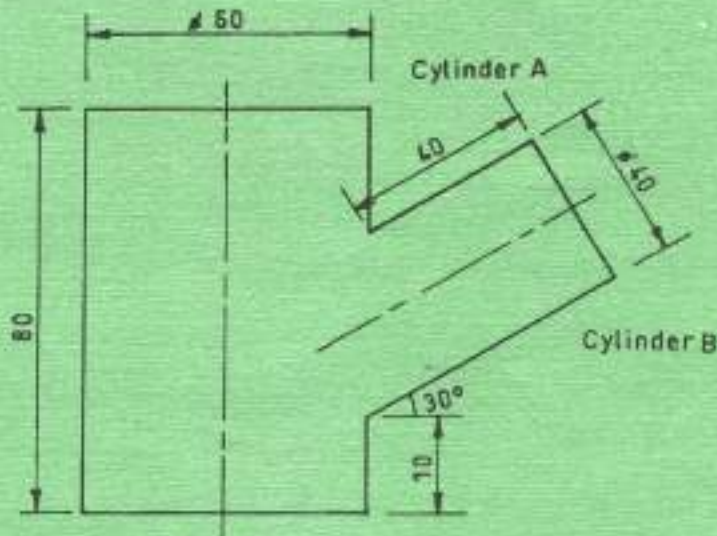


Fig. 5

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)

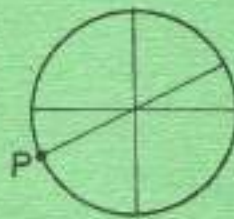


Fig. 6



- (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)

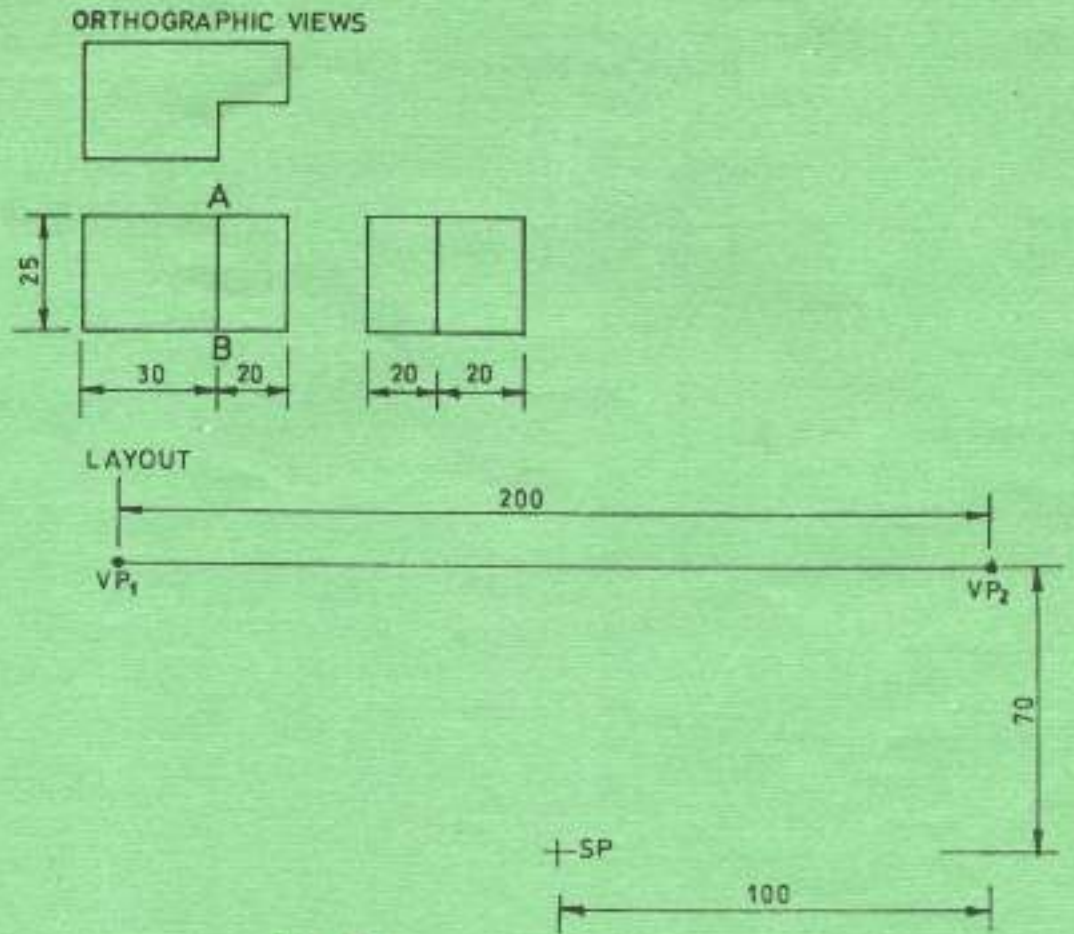


Fig.7



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)

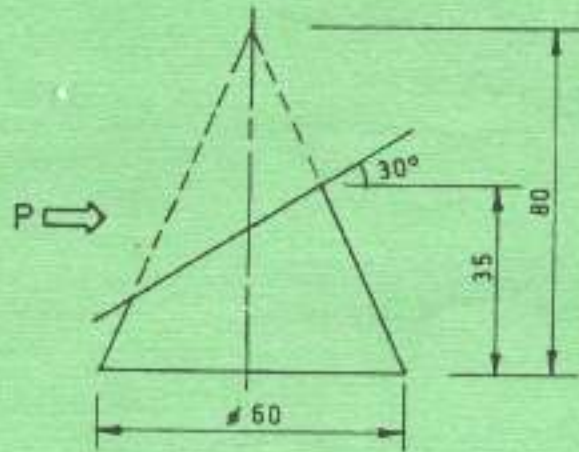


Fig. 8

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