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**TECHNICAL DRAWING**
June/July 2011
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:*

*Drawing paper size A2;*
*Drawing instruments.*

*Answer any **five** of the following **eight** questions.*
*All questions carry equal marks.*
*Maximum marks for each part of a question are as shown.*
*All dimensions are in millimetres.*

This paper consists of 8 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.  (a)   Construct an ellipse whose major axis is 100 mm and minor axis is 60 mm using the rectangular method.
                                                                                                    (5 marks)

    (b)   Using the universal method, construct a regular pentagon with the length of one side equal to 30 mm.
                                                                                                    (5 marks)

    (d)   Construct a diagonal scale of 1:100 to read up to 14 metres to an accuracy of 0.05 metres, indicate the following readings on the scale:
          (i)   8.25 m;
          (ii)  6.55 m.
                                                                                                    (10 marks)

2.  Figure 1 shows the front view of a truncated hexagonal prism. Using first angle projection draw the following views:

    (a)   end elevation;
    (b)   plan;
    (c)   development of the truncated prism with the base only;
    (d)   true shape of the cut portion.



Fig. 1

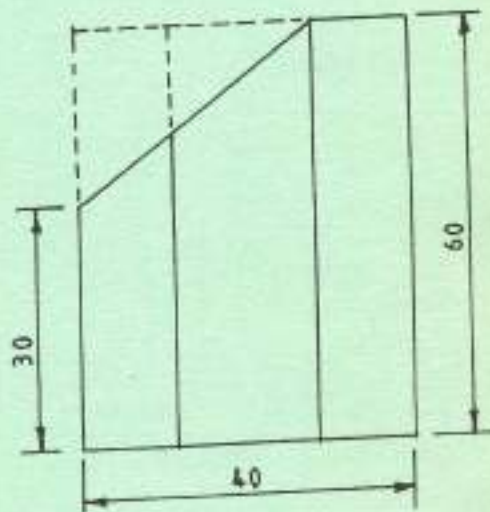                                                                                                    (20 marks)

easytvet.com

3.  Figure 2 shows three views of a machine block drawn in third angle projection.
    Draw an isometric projection of the block making corner "x" the lowest point. Include the
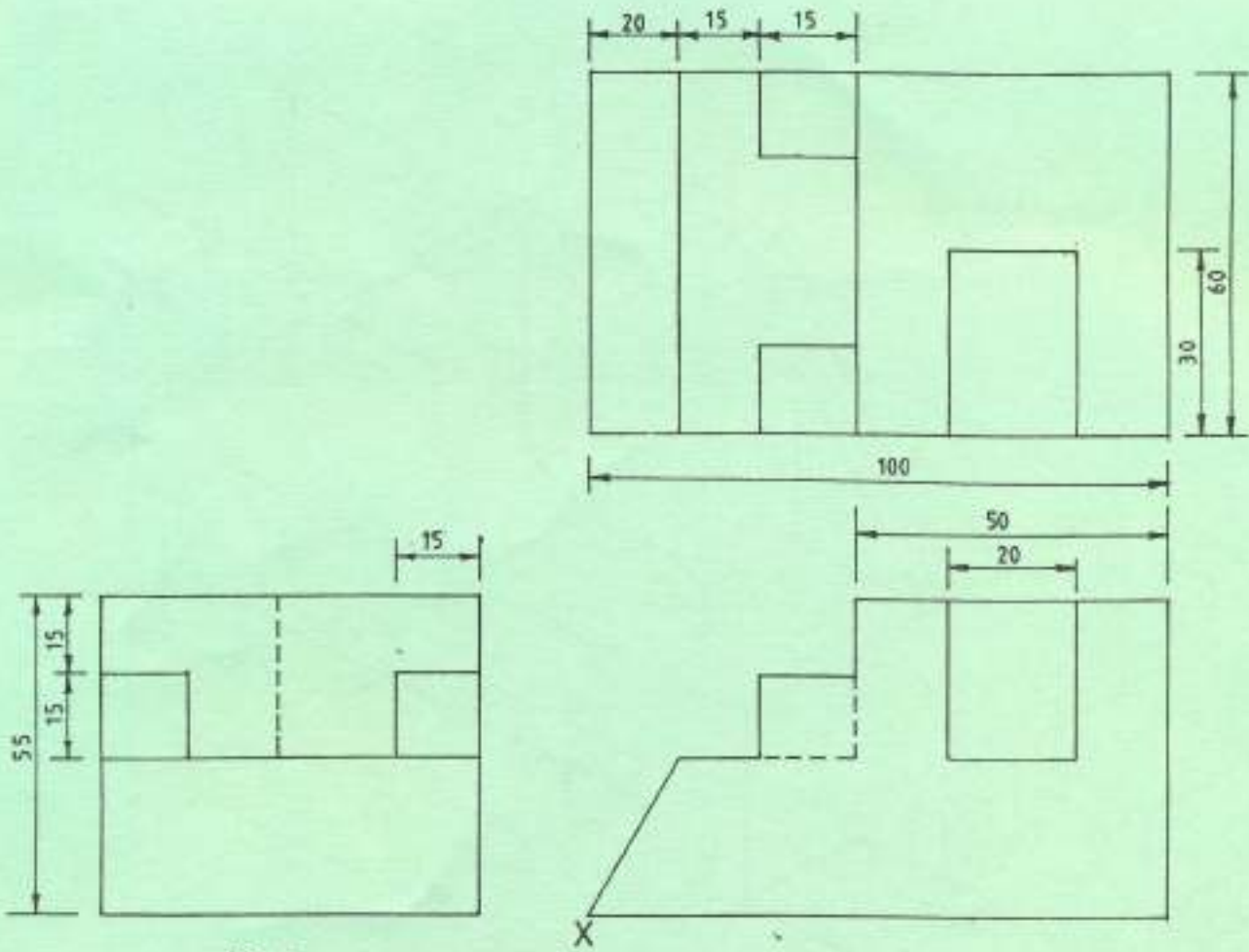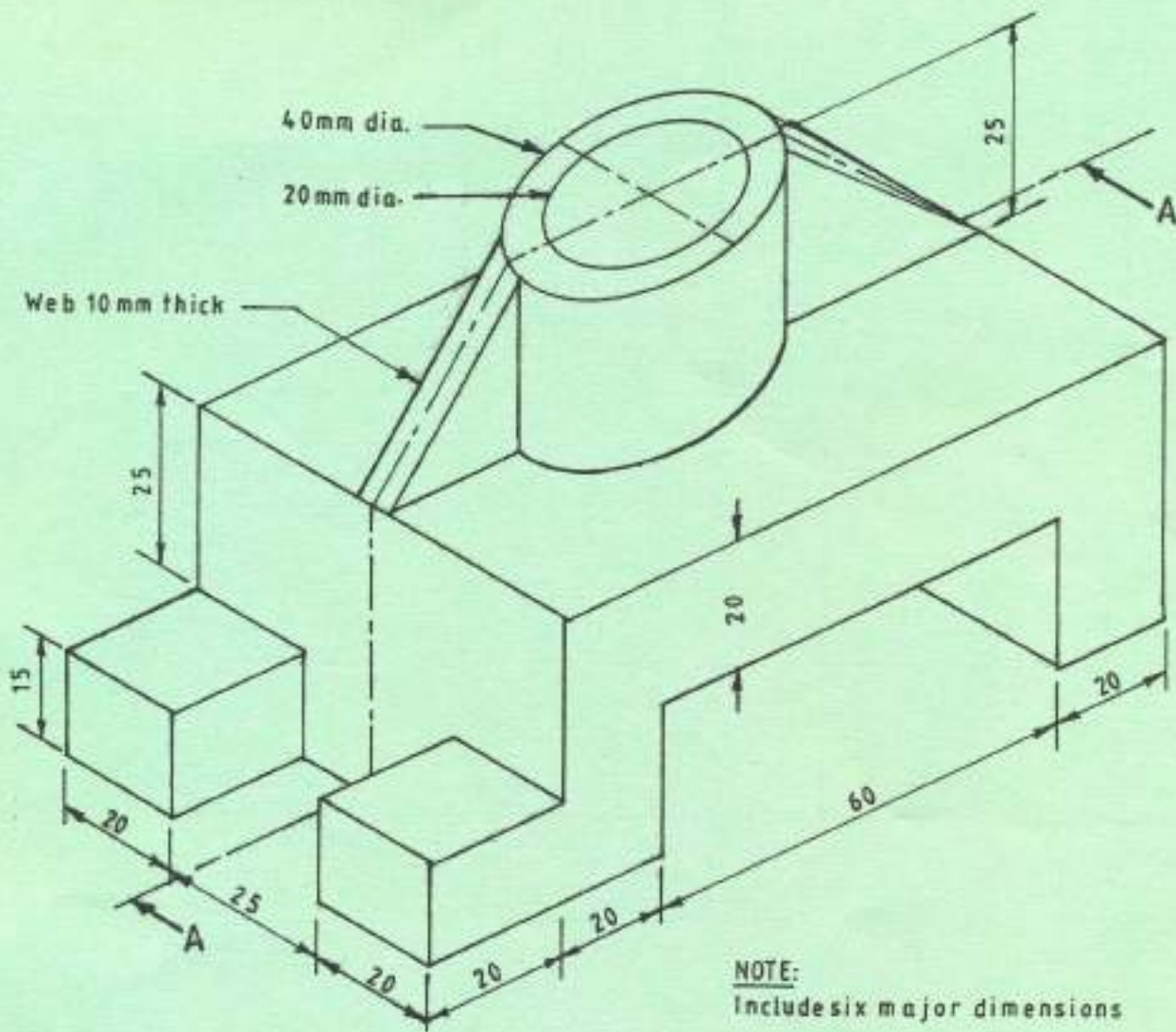    major dimensions.



Fig. 2

(20 marks)

4. Figure 3 shows an isometric drawing of a machine block. Draw the following views full size in first angle projection. Include six major dimensions.
   (i) sectional elevation along the cutting plane "A-A";
   (ii) plan;
   (iii) left end elevation.



40mm dia.
20mm dia.
Web 10 mm thick
25
25
15
20
25
A
20
20
20
20
A
20
60
20
20

NOTE:
Include six major dimensions

Fig. 3

(20 marks)

5. Figure 4 shows two views of a triangular prism and its perspective layout. Copy the layout and draw the prism in two point perspective.
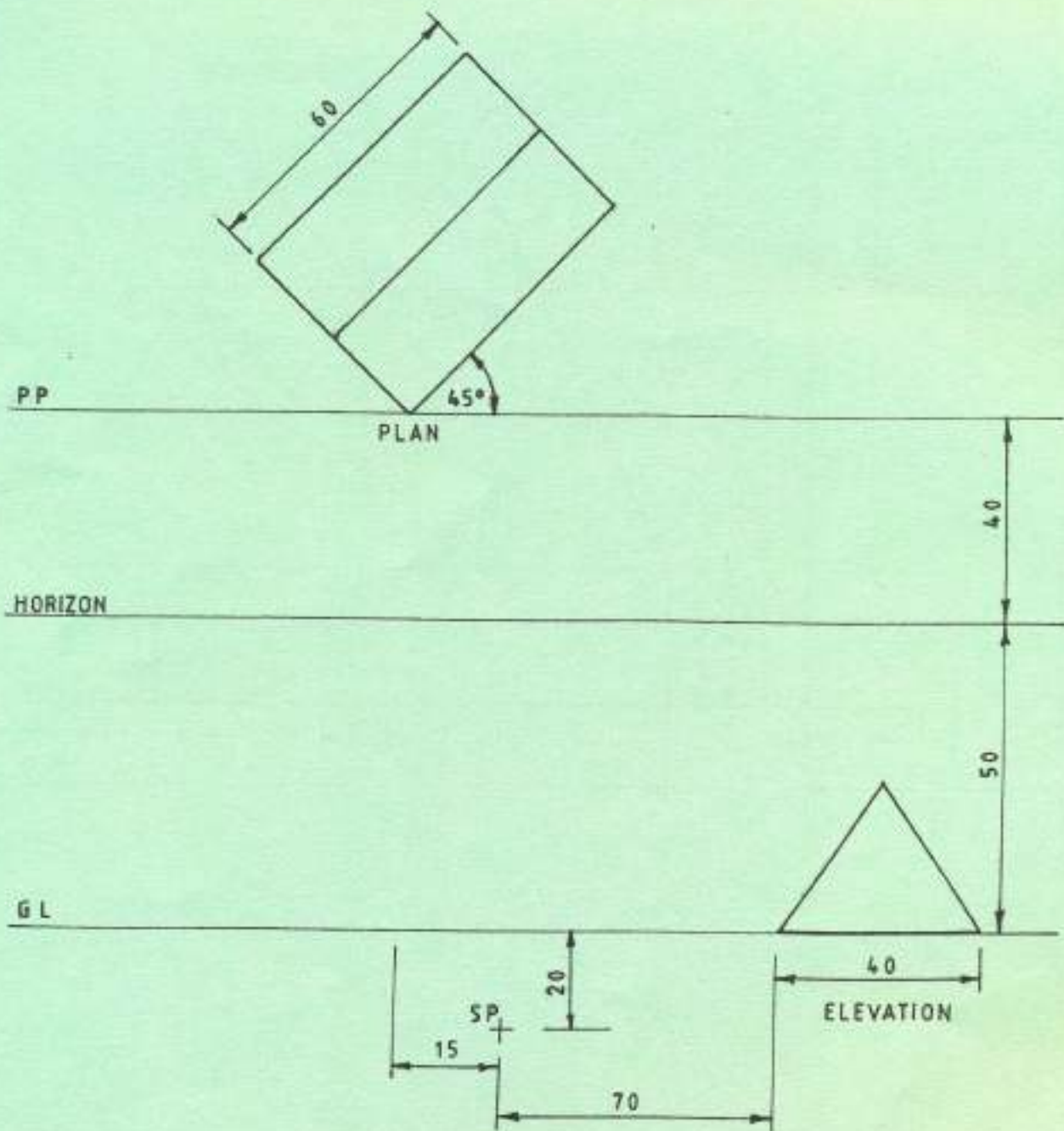


Fig. 4

(20 marks)

6.   Figure 5 shows two views of a bracket drawn in first angle projection.  Use the scale of 1:2 to
     draw the bracket in oblique cabinet projection.
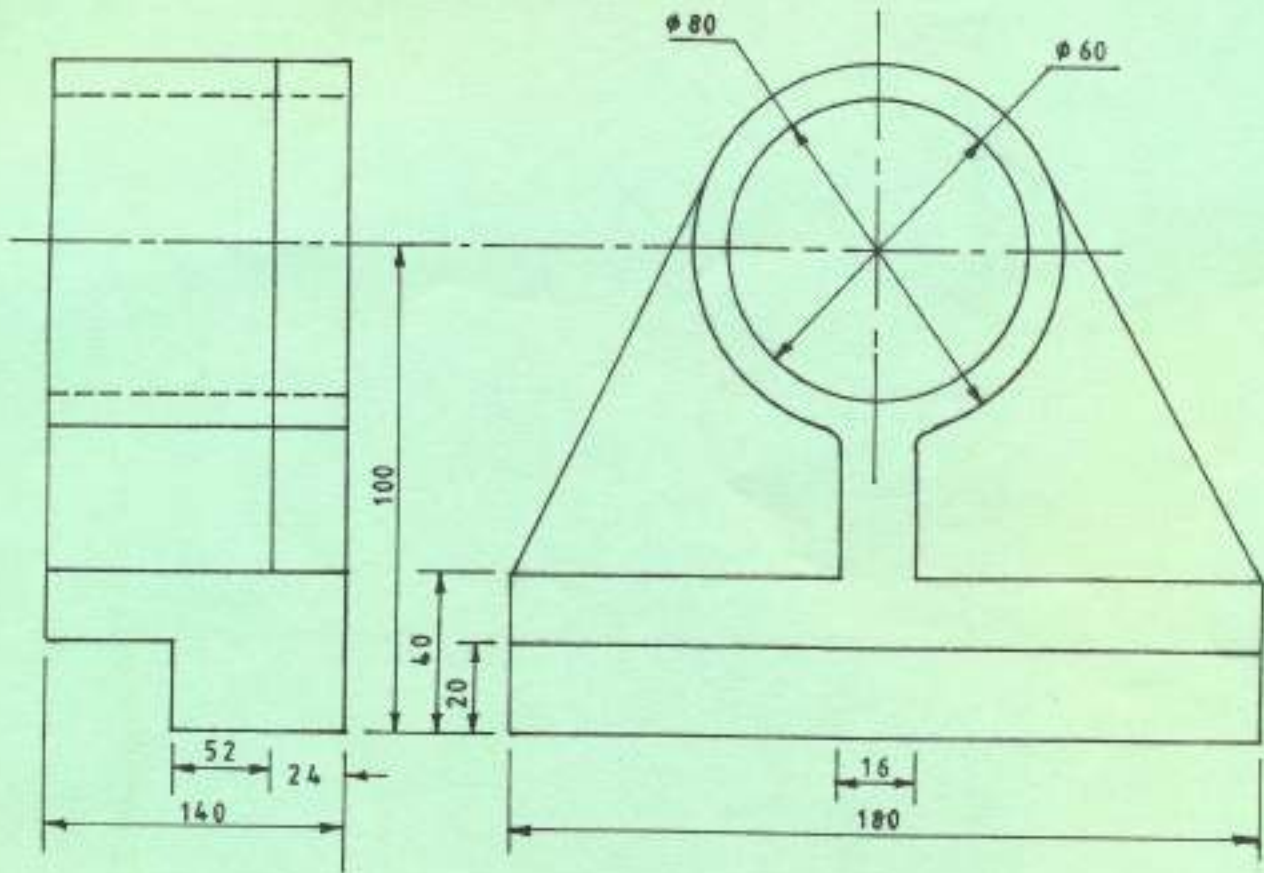     Include six major dimensions.



Fig. 5

(20 marks)

7. Figure 6 shows an incomplete front elevation of two pipes of unequal diameters intersecting at 30°. Complete the front elevation by including the line of intersection and draw the following:

(a) plan;
(b) development of pipe 'A";
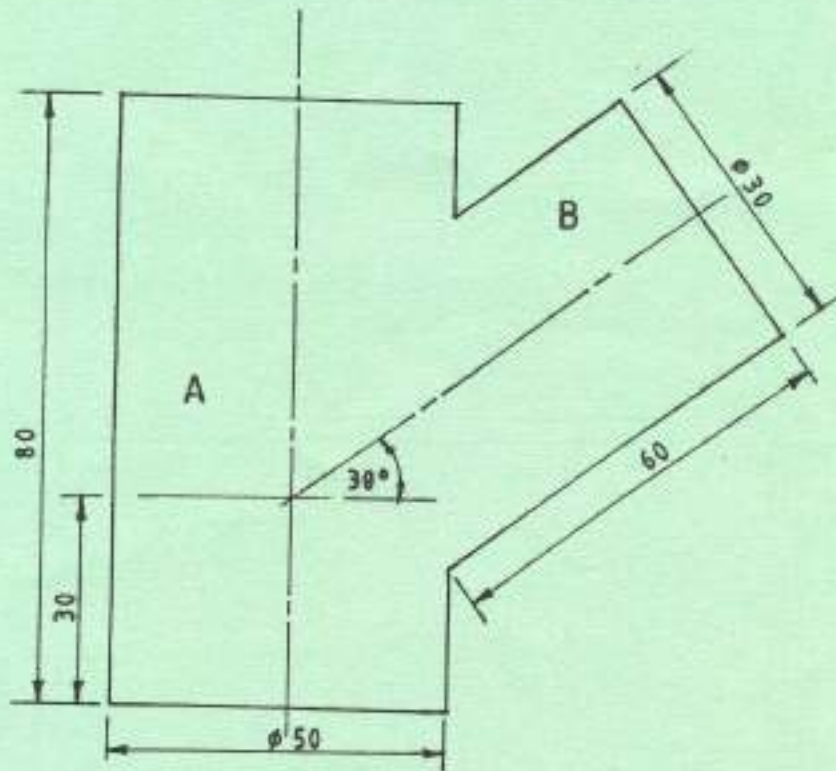(c) development of pipe 'B'.



Fig. 6

(20 marks)

8. Figure 8 shows the plan of a garage attached to the main house. Draw section "A - A" from the foundation to eaves. Use the scale of 1:20 given the following information:

   (i)    foundation strip 900 mm below ground level size 675 x 225 mm;
   (ii)   block wall 225mm thick below ground level;
   (iii)  oversite concrete floor with cement/sand screed;
   (iv)  casement steel window 750 mm deep;
   (v)   roof-lean to towards window, pitch 30° and timber frame covered with plain tiles;
   (vi)  floor to ceiling height 2500 mm;
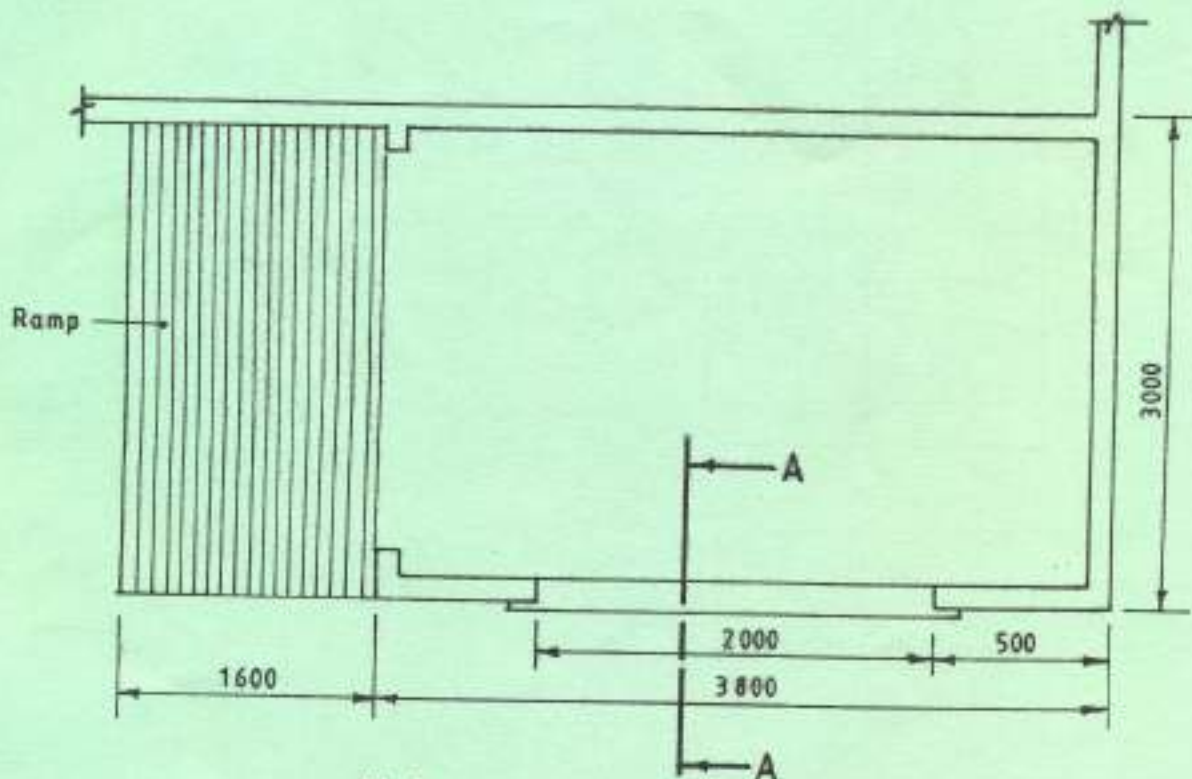   (vii) wall finish is 15 mm thick plaster.

Assume any information not given.


Fig.8

(20 marks)