P720/2
TECHNICAL DRAWING
BUILDING DRAWING
Paper 2
July/August 2018

3 hours

WAKISSHA JOINT MOCK EXAMINATIONS.

Uganda Advanced Certificate of Education.

BUILDING DRAWING

Paper 2

3 hours

INSTRUCTIONS TO CANDIDATES:

This paper consists of six questions.

Answer all the questions.

A sheet of drawing paper, size A2 is provided. Use both sides of the drawing paper.

Where specifications are not given, use your own discretion to determine suitable ones.

SECTION A

You're given a line diagram plan in fig.2 together with its roof plan in fig.1. Using the given figures and the specifications draw in good proportion a free hand pictorial sketch of the building with corner B in the fore ground. *20marks*

SECTION B

Using the given specifications and the ground plan draw to a scale 1:50

a) The front elevation *15marks*

b) The complete plan *20marks*

c) The section end cut through cutting A-A and name all the parts *25marks*

d) To a scale of 1;10 draw the plan of course one, course two and isometric of the wall encircled P *12 marks*

e) To a scale of 1:10 draw a section though the eave of tiled roof. Name all parts. *8 marks*

FOUNDATION : 230mm thick plinth wall on 600 by 230 concrete strip 1000mm below ground level.

WALLS : All super structure walls are one brick thick built in English bond, 3000mm high from floor level to underside of the wall plate.

APRON : Splash apron is 600mm wide

ROOF : Pitched 45^0 and covered with roofing tiles with a reinforced concrete slab of 150mm thick at 2400mm height measured from finished floor, Batterns 50mm by 50mm, Rafters 100mm by 50mm, Tie beams 150mm by 50mm, Struts 100mm by 50mm, Under Purlins75mm by 50mm, Fascia and barge boards 200mm by 25mm, 100 by 75mm wall plates

DOORS :
D1 : 2100 x 900 framed ledged braced and battened door
D3 : 2100 x 1800 casement metallic door with glass panes
D4 : 2100 x 2500 wooden framed door

WINDOWS :
W1 : 1200x1200 metal casement
W2 : 600 x 600 metallic casement
W3 : 1500 x 1200 louvered
W4 : 1200 x 600 Pompeii

FLOOR : 25mm cement and sand screed laid on 150mm thick floor concrete slab on 200mm thick hardcore on well compacted murram

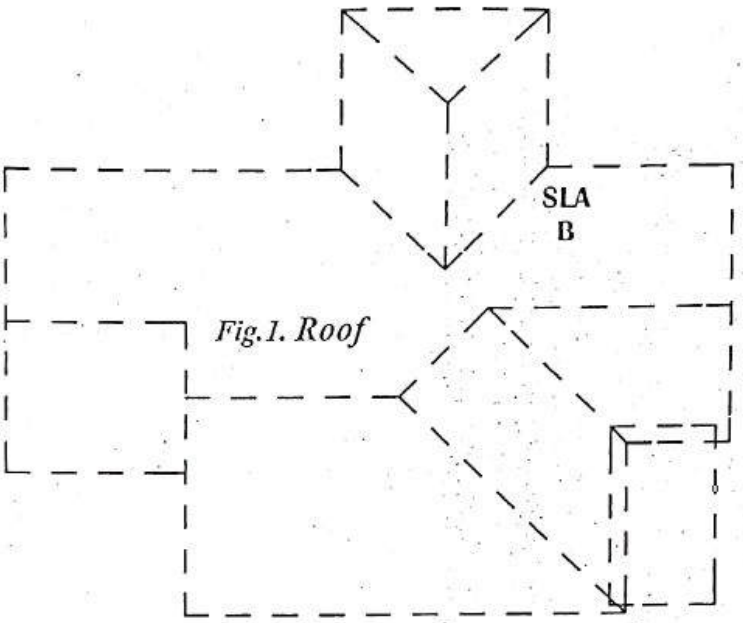
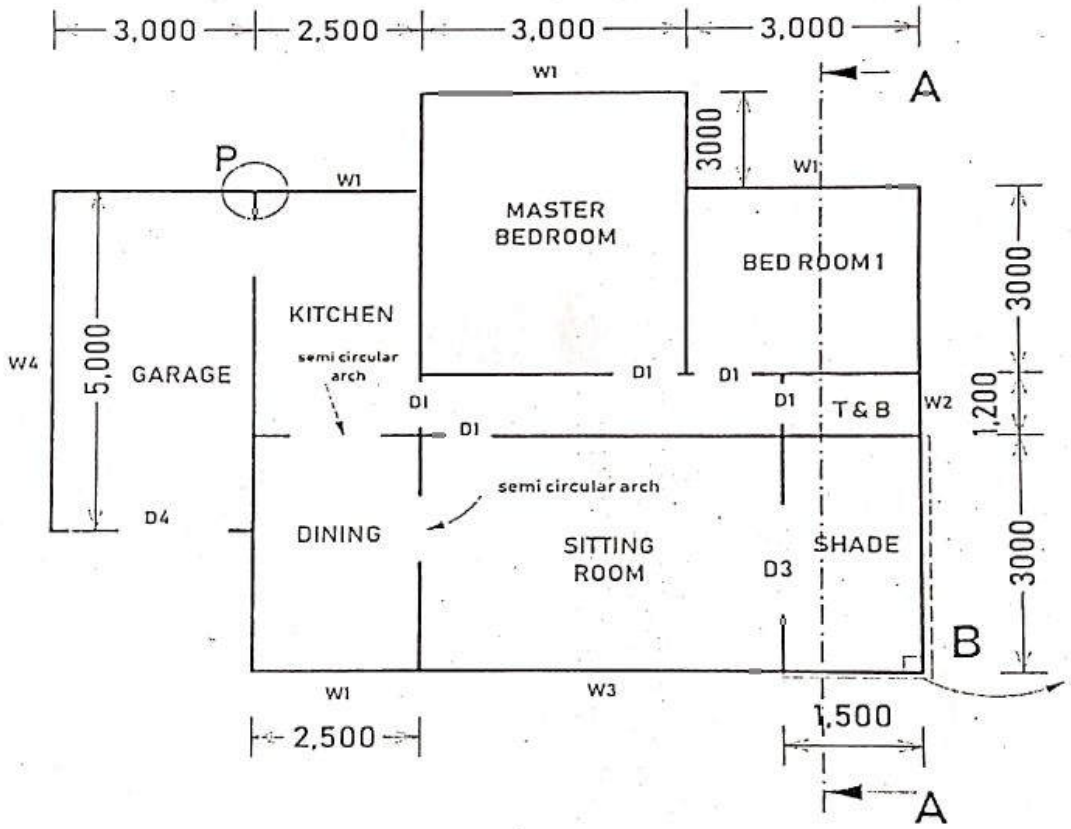


Fig.1. Roof



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This paper consists of six questions.

Answer all the questions.

A sheet of drawing paper, size A2 is provided. Use both sides of the drawing paper.

Where specifications are not given, use your own discretion to determine suitable ones.

The specifications and a drawing of a residential building are given in fig.1. read them carefully and make good interpretations to assist you answer the subsequent questions.

SPECIFICATIONS

ROOF: The roof comprises of gable ended and hipped roofs pitched at 30^0 covered with **galvanized iron sheets and SLABS AT THE SHADES**
Using purlins of 50 x50, Rafters of 100 X 50, with struts of 100 X 50 and Tie beams are 200 X 50 and fascia and barge boards of are 200 X 25.

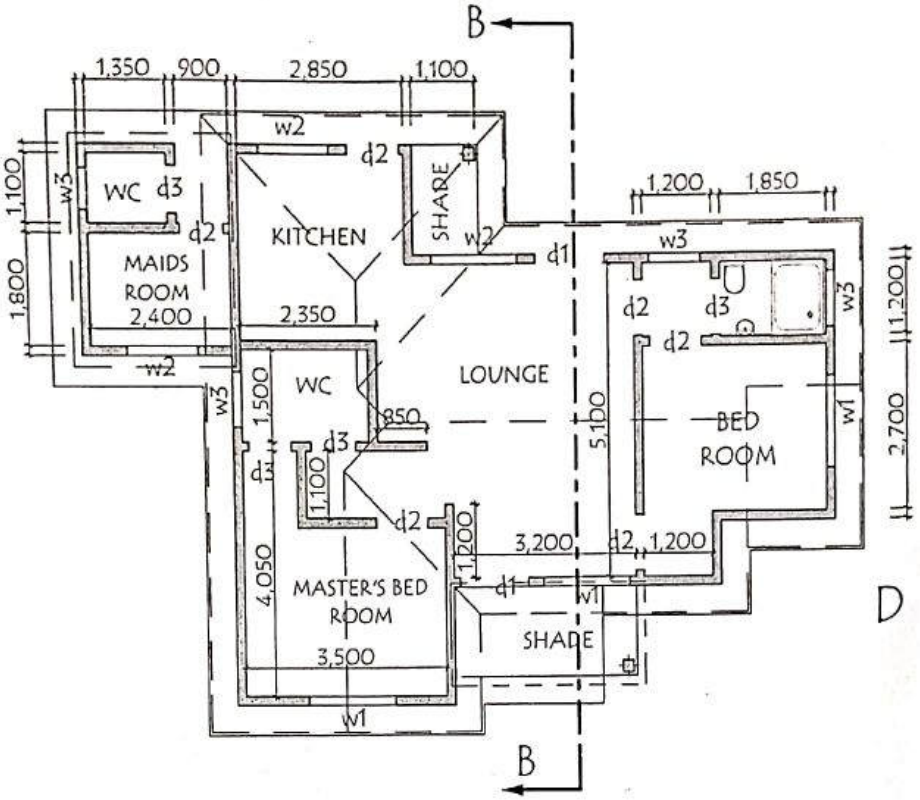
WALLS: All are 250mm thick, plastered and rendered.

DOORS: D1 is made of hard wood **two** panels and measuring 2100 X 1200
D2 is of **two** panels made in hard wood – measuring 900mm X 2100mm
D3 is of **two** panels made in hard wood – measuring – 750mm X 2100mm

WINDOWS: All windows are of steel casement with glass panes and Permanent Ventilators On
W1 – 1500mm X 1500 mm
W2 -- 1200mm X 1500 mm
W3 – 600mm X 900 mm

FLOOR: The ground floor is made of 25mm of cement sand screed placed on 200mm of site concrete, on 250mm of well compacted hard core, all rested on well Compacted marrum.

FOUNDATION: Made of a strip of concrete of 250mm X 750mm, placed 1000mm below the ground level.



FLOOR PLAN fig.1

Using the above specifications and the drawing in the figure, answer questions from 1 to 6

1. Draw a proportional free hand isometric sketch of the building with corner **D** in the fore ground. (use of the drawing instruments will be penalized) *(25 marks)*

2. To a scale of 1:100 draw a complete floor plan of the building. Using standard symbols show doors, windows and other fitments in their correct positions. *(20 marks)*

3. To a scale of 1:100 draw a vertical cross section through **B-B** from foundation to roof and name its parts *(24 marks)*

4. a) To a scale of 1:100 draw elevation 1 *(12 marks)*
   b) To a scale of 1:100 draw the back elevation. *(08 marks)*

5. Make an exploded view of a vertical and horizontal section of a two-paneled door. *(8marks)*

6. Draw a boundary and title bock and in it give the necessary details. *(3marks)*

END

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INSTRUCTIONS TO CANDIDATES:

- *This paper consists of four questions.*
- *Answer all the questions.*
- *A sheet of drawing paper, size A2 is provided. Use both sides of the drawing paper.*
- *Where dimensions are not given, use your own discretion to determine suitable specifications.*
- *Use both sides of the paper if necessary.*

Figure 1 shows a floor plan of a **school ADMINISTRATION BLOCK** not drawn to scale.

SPECIFICATIONS

ROOF: The roof is gable ended pitched at 30^0 covered with galvanized iron sheets. The verandah infront of the staff room is covered with a slab (200mm thick), where as the verandah infront of the reception and the staff room is gable ended and the other is hipped as shown on the floor plan. Using purlins of 50 X75, Rafters of 100 X 50, with struts of 100 X 50 and Tie beams are 150 X 50 and fascia and barge boards are 200 X 25.

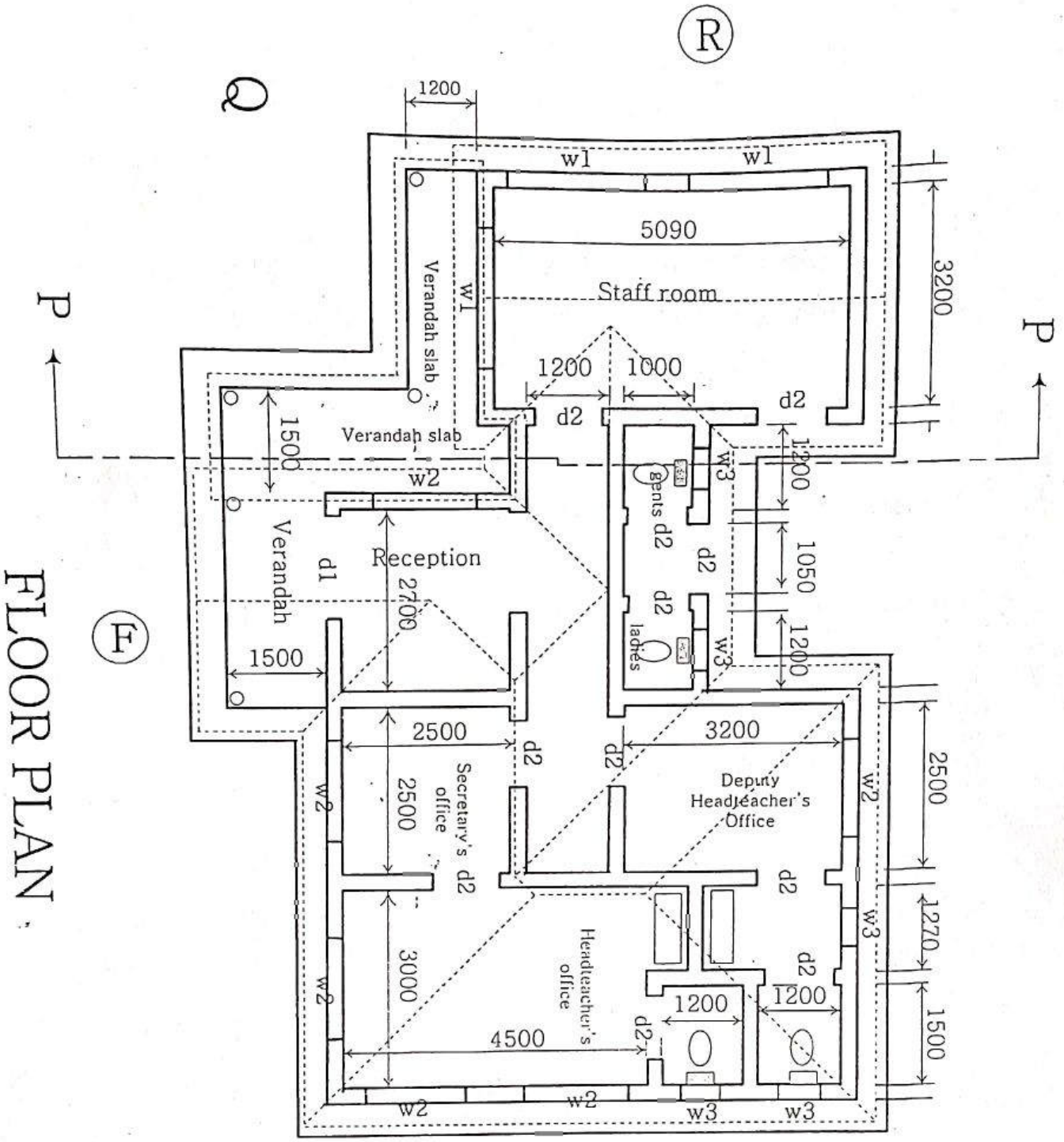
WALLS: All are 230mm thick plastered and rendered.

DOORS: D1 is double leaf metal casement measuring – 1500mm X 2100mm
D2 is of hard wood panels and measuring – 900mm X 2100mm

WINDOWS: All windows are of steel casement
W1 – 1800mm X 1200 mm
W2 – 1500mm X 1200 mm
W3 – 600mm X 600 mm

FLOOR: The floor is made of 30mm of cement sand screed placed on 200mm of site concrete, on 300mm of well compacted hard core, all rested on well Compacted marrum.

FOUNDATION: Made of a strip of concrete of 230mm X 690mm, placed 1000mm below the ground level.



FLOOR PLAN

Fig. 1

Using the above specifications and the drawing in figure, answer questions from 1 to 4

1. Draw a proportional isometric free hand sketch of the building with corner Q in the fore ground. (use of drawing instruments will be penalized)

   (22 marks)

2. To a scale of 1:100 draw

   a) A complete floor plan of the building. Using standard symbols show doors, windows and other fitments in their correct positions.

   (20 marks)

   b) A vertical cross section through **P-P** showing all constructional details.

   (23 marks)

   c) a front elevation as seen from **F**' *(10 marks)*

   d) an end elevation as seen from *R* *(10marks)*

3. Draw sketches of the following roof joints

   a) Butt joint *(03 marks)*

   b) Splayed scarf joint *(04 marks)*

   c) Birds mouth joint *(03 marks)*

4. At the bottom right hand corner of the paper draw a title block and in it print your name, index number, paper code, scales used and date *(5marks)*

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INSTRUCTIONS TO CANDIDATES:

*This paper consists of **two** sections, I and II*

*Answer **all** the **questions.***

A sheet of drawing paper, size A2 is provided. Use both sides of the drawing paper.

*Where dimensions are **not** given, suitable dimensions are to be chosen.*

Accuracy and good draughtsman ship are essential.

Print your name and examination number at the bottom right hand corner of your drawing paper.

Turn Over

You have been given specifications and a drawing of a storey structure in fig.1. read them carefully and make good interpretations to assist you answer the subsequent questions.

SPECIFICATIONS

ROOF: The roof is gable ended pitched at 30^0 covered with galvanized iron Sheets.

Using purlins of 50 x75, Rafters of 100 X 50, with struts of 100 X 50 and Tie beams are 150 X 50 and fascia and barge boards are 200 X 25.

The verandah is to be covered by the same roof throughout

WALLS: All are 1 brick thick (200mm), made in English bond plastered and rendered.

DOORS: D1 is of a metal casement with a PVO measuring – 1200mm X 2400mm

D2 is of hard wood panels and measuring – 900mm X 2100mm

D3 is of hard wood panels with a PVO and measuring – 900mm X 2400mm

WINDOWS: All windows are of steel casement with permanent ventilators on

W1 – 1500mm X 1500 mm

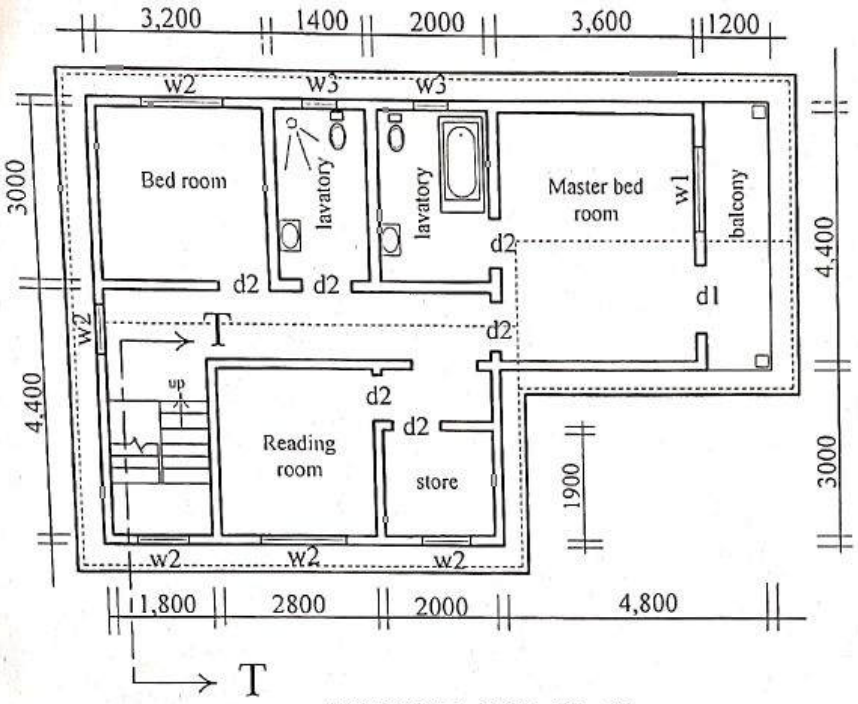
W2 – 1200mm X 1500 mm

W3 – 600mm X 900 mm

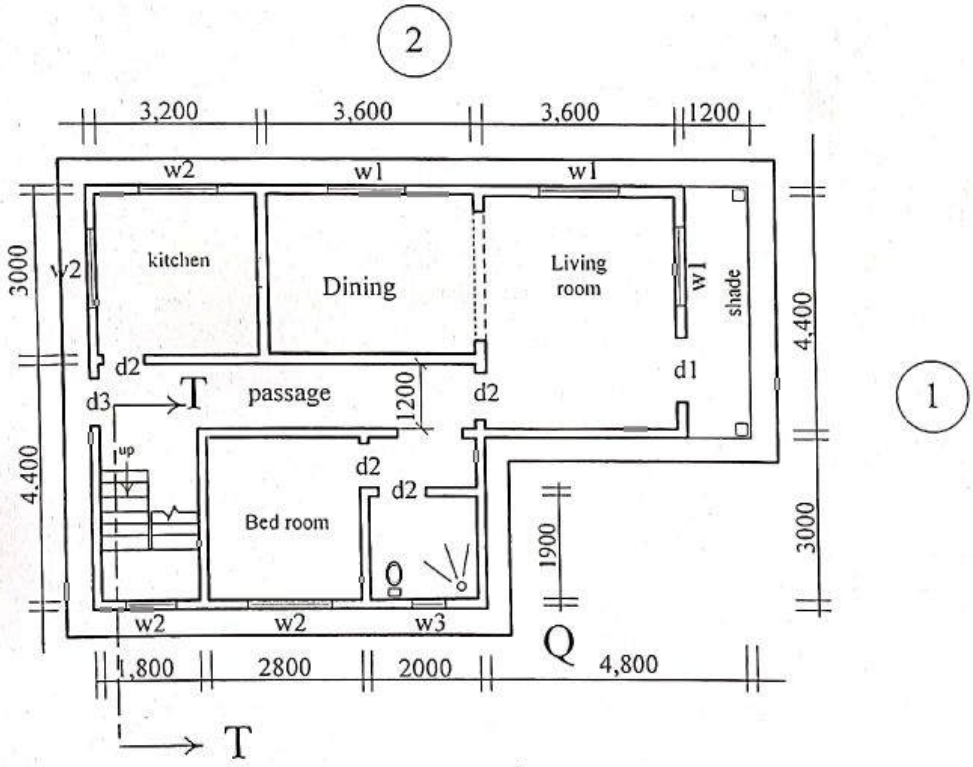
FLOOR: The ground floor is made of 25mm of cement sand screed placed on 200mm of site concrete, on 200mm of well compacted hard core, all rested on well Compacted marrum.

The upper floor is made of reinforced concrete slab of 250mm thickness and placed 3000mm above the ground floor.

FOUNDATION: Made of a strip of concrete of 230mm X 690mm, placed 1200mm below the ground level.



UPPER FLOOR PLAN



GROUND FLOOR PLAN

FIG.1

Using the above specifications and the drawing in figure 1, answer questions from 1 to 6

1. Draw a proportional free hand sketch of the building with corner Q in the fore ground. (use of the drawing instruments will be penalized) *(25 marks)*

2. To a scale of 1:50 draw a complete **ground** floor plan of the building. Using standard symbols show doors, windows and other fitments in their correct positions. *(18 marks)*

3. To a scale of 1:50 draw a vertical cross section through T-T from foundation to roof and name its parts *(24 marks)*

4. To a scale of 1:50 draw;
   a) elevation 1 *(10 marks)*
   b) Elevation 2 *(10marks)*

5. Make clearly visible sketches of alternate courses of brick courses of a corner of a wall in English bond *(09marks)*

6. At the bottom right hand corner of the paper draw a title block and in it print your name, index number, paper code, scales used and date *(4marks)*

-END-