THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA
DIPLOMA IN TECHNICAL EDUCATION EXAMINATION

782 **ARCHITECTURAL DRAWING**

Time: 3 Hours **Thursday, 09th May 2019 a.m.**

Instructions

1. This paper consists of sections A and B with a total of **six (6)** questions.
2. Answer question number **one (1)** in section A and **four (4)** other questions from section B.
3. Question 1 carries **forty (40)** marks and the rest carries **fifteen (15)** marks each.
4. All drawings should be in pencil and drawings in section A should be prepared in **A3 Standard Paper** format.
5. Non - programmable calculators may be used.
6. Communication devices and any unauthorized materials are **not** allowed in the examination room.
7. Write your **Examination Number** on every page of your answer booklet(s).

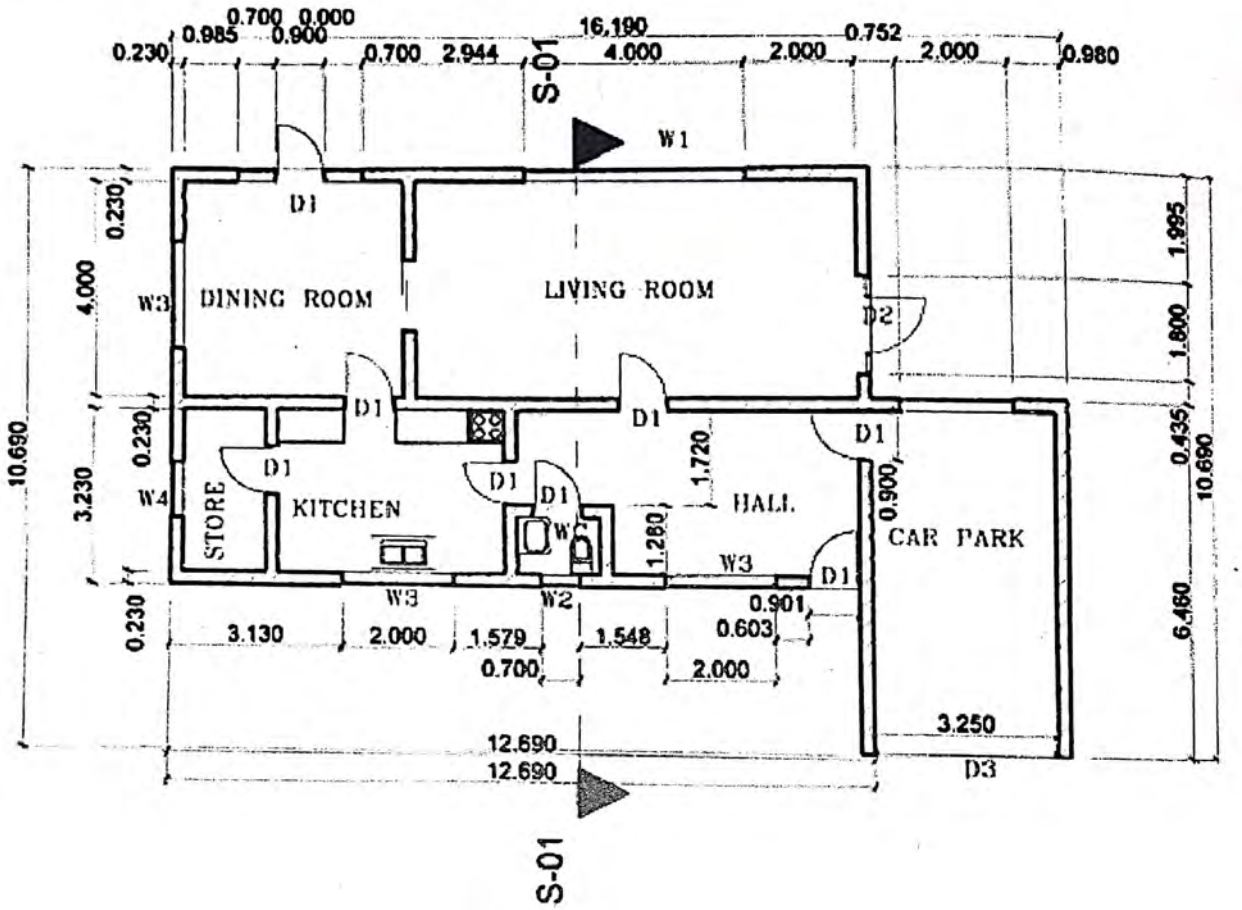
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SECTION A (40 Marks)

Answer question **number 1** in this section.

1. Figure 1 shows the ground floor plan of a residential building which is to be built at Kibaha - Pwani. Draw to a scale of 1:100 the cross section S-01 – S-01 of the floor to show its construction details. The specifications are as follows:



FLOOR PLAN

Figure 1

All measurements are in metres.

Foundations:

Raft type.

300 mm thick, mass concrete covering the whole base area of the building.

Foundation depth – 300 mm deep from the ground level.

Walls

Height of wall = 3,000 mm. (Inclusive the ring beam 300 mm x 200 mm)

Wall thickness = 230 mm.

Doors

Door 1 (D1) = 900 mm x 2,100 mm.

Door 2 (D2) = 1,800 mm x 2,100 mm.

Door 3 (D3) = 3,250 mm x 3,000 mm.

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Windows

Height of window from the finished floor level (Living and Dining rooms) = 900 mm.
Height of window from the finished floor level (Toilet room) = 2,100 mm.
Window 1 (W1) = 4,000 mm x 1,500 mm.
Window 2 (W2) = 700 mm x 600 mm.
Window 3 (W3) = 2000 mm x 1,500 mm.

Roof:

The pitch of the roof = Concrete flat roof 150 mm.
The eaves projection = Flush eave.

Note: Any other assumptions should be clearly shown.

SECTION B (60 Marks)

Answer **four (4)** questions from this section.

2. (a) Explain the use of the following drawing tools:
   (i) Templates
   (ii) French curves
   (iii) Sand paper block
   (iv) Tracing paper.

   (b) With the aid of sketch illustrations, briefly explain the following two basic systems of dimensions.
   (i) Size dimensions
   (ii) Location dimensions.

3. The drawing in Figure 2 shows the plan of a metal template. Draw the given figure and construct a similar one whose sides have been enlarged by ¾ by radial method from point A.

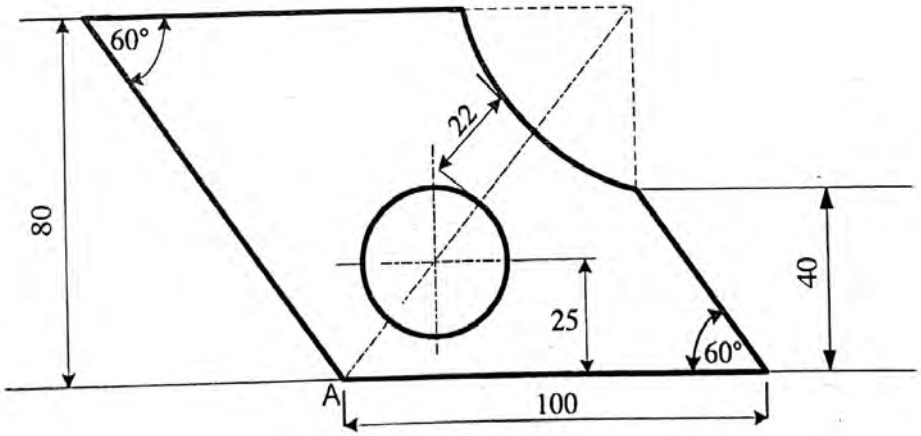


Figure 2
All measurements are in millimetres

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4. Figure 3 shows the orthographic projections of an object. Draw to a scale of 1:1 the isometric view by using box method.

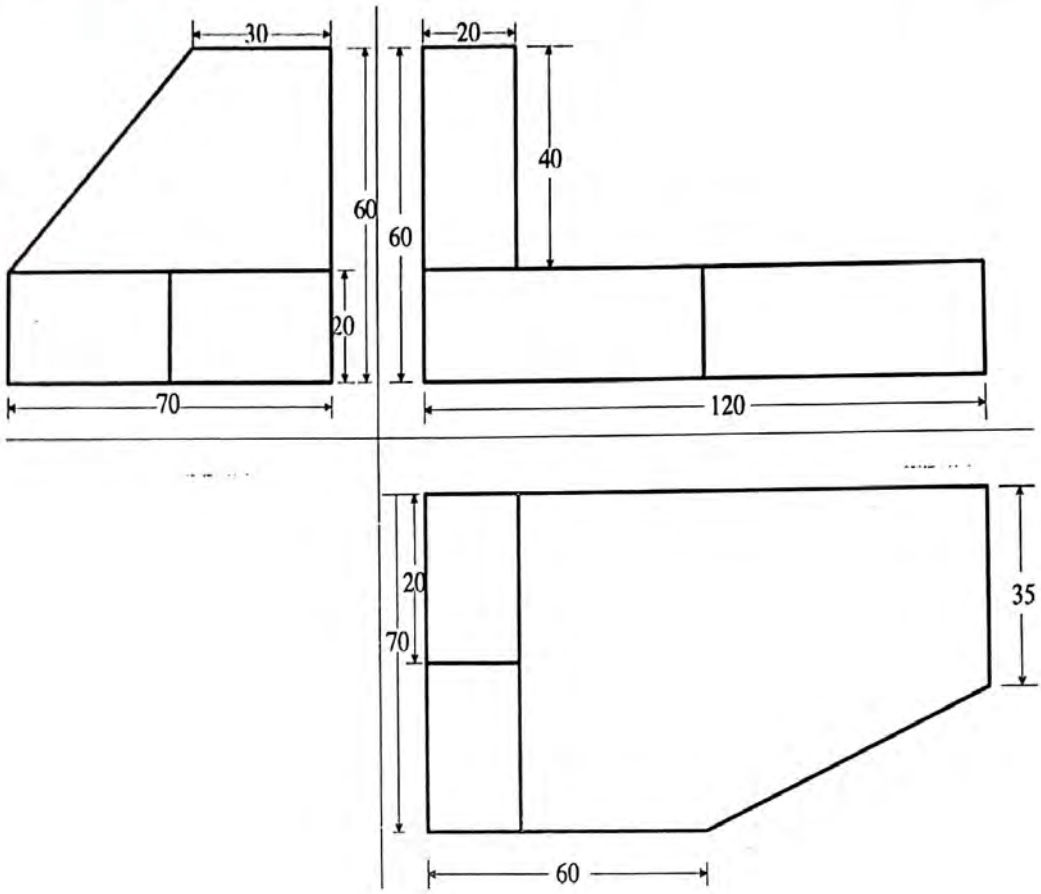


Figure 3

All measurements are in millimetres

5. (a) What does the term proportionality of letters mean?

   (b) Draw and briefly describe the characteristics of the following basic letter classifications:
   (i) Roman
   (ii) Gothic
   (iii) Script.

6. (a) List ten drawing instruments which are required to carry out drawing work smoothly including its inking works.

   (b) A circle with centre O has a radius of 2 cm. Determine the approximate circumference of that circle through geometrical construction.

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