Student's Assessment Number .....

THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

FORM TWO NATIONAL ASSESSMENT

091 **ENGINEERING DRAWING**

Time: 2:30 Hours. **Year: 2024**

Instructions

1. This paper consists of sections **A** and **B** with a total of **seven (7)** questions.
2. Answer **all** questions.
3. Section A carries **15** marks; section B carries **70** marks and section C carries **15** marks.
4. All writing must be in **black** or **blue** ink and drawings must be in **pencil**.
5. Cellular phones and unauthorized materials are **not allowed** in the examination room.
6. Write your **Assessment Number** at the top-right hand corner of every page.

FOR EXAMINER'S USE ONLY		
QUESTION NUMBER	**SCORE**	**EXAMINER'S INITIIALS**
1		
2		
3		
4		
5		
6		
7		
TOTAL		
CHECKER'S INITIALS		

Student's Assessment Number .....

SECTION A (40 Marks)

Answer **all** questions from this section

1. Construct an irregular polygon on a given base similar to that of polygon in Figure 1, whereby line AB=40mm, AE=BC=30, CD=DE=40mm. Enlarge the figure with the ratio of 2:1.

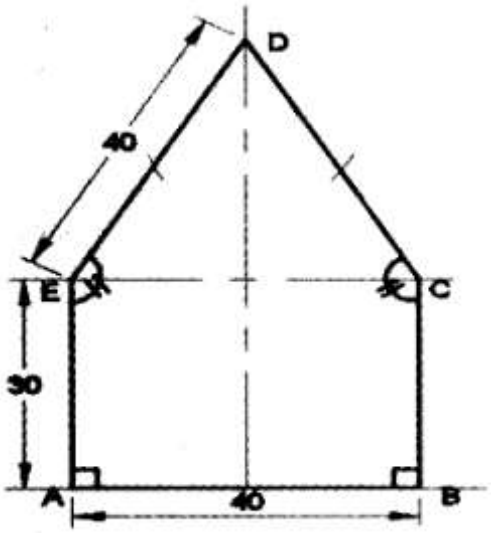


Figure 1

2. (a) National museum has decided to build Msonge house which the shape of the base is cylindrical. If the plot available is triangle in shape and marked ABC with the dimensions of AB=60mm, BC=CA=75mm, construct an inscribed circle which fit the plot.

(b) A school has a plot of quadrilateral shape as shown in Figure 2 having dimensions AB=60 mm, BC=50 mm, CD=40, AD=65 and angle B=90°. If the school management decided to make a garden with triangle shape having the same area as that of quadrilateral, design the required garden.

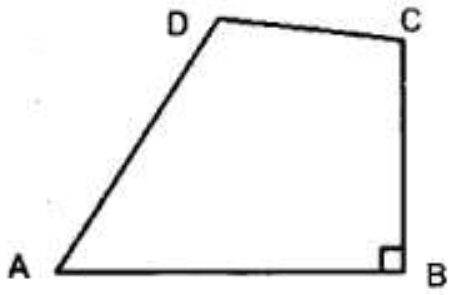


Figure 2

3. (a) Make a sketch of an A3 size drawing sheet, which shows border lines, margin lines, drawing area and title block.

   (b) You have been assigned to draw a certain geometrical triangle ABD into a circle. Draw a circumscribed circle to a triangle ABD where line AB=70mm, BD=65mm, and AD=45mm.

4. Suppose you are a workshop foreman and you need to buy a twist drill for the shop which is 145mm long and a diameter of 20mm; Draw a freehand sketch of the twist drill so that a shopkeeper will be aware of the tool you requested

SECTION B (60 Marks)

Answer **all** questions from this section

5. Figure 3 is a jig presented in Isometric Projection. Draw it in a full-size dimension using Oblique Projection.

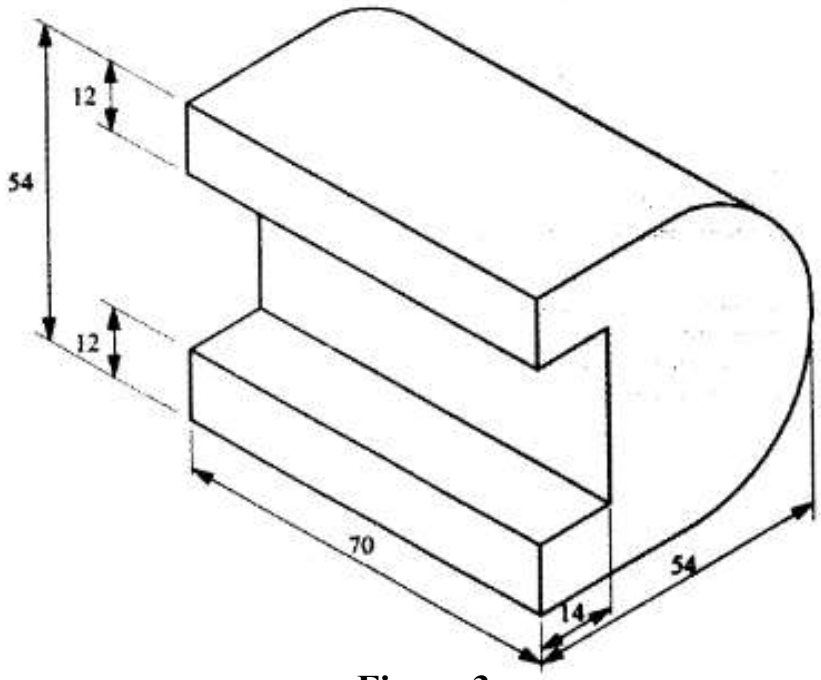


Figure 3

6. Figure 4 shows the incomplete drawing of an electrical conduit having two similar cylindrical pipes joined at the right angle. Draw the following views:
   (a) A complete plan elevation
   (b) Line of intersection

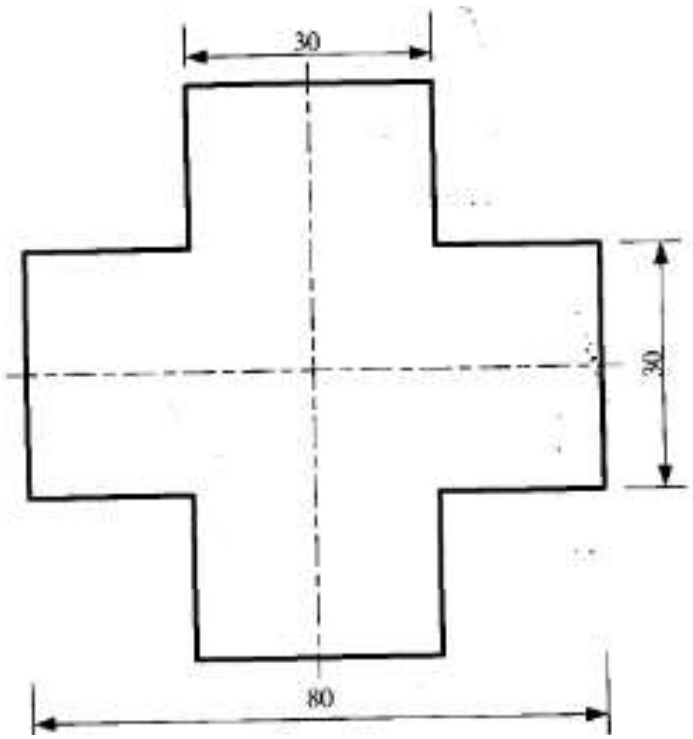


Figure 4

7. Figure 5 shows a component drawn in oblique projection. Using a full-size scale, draw the component in isometric projection.

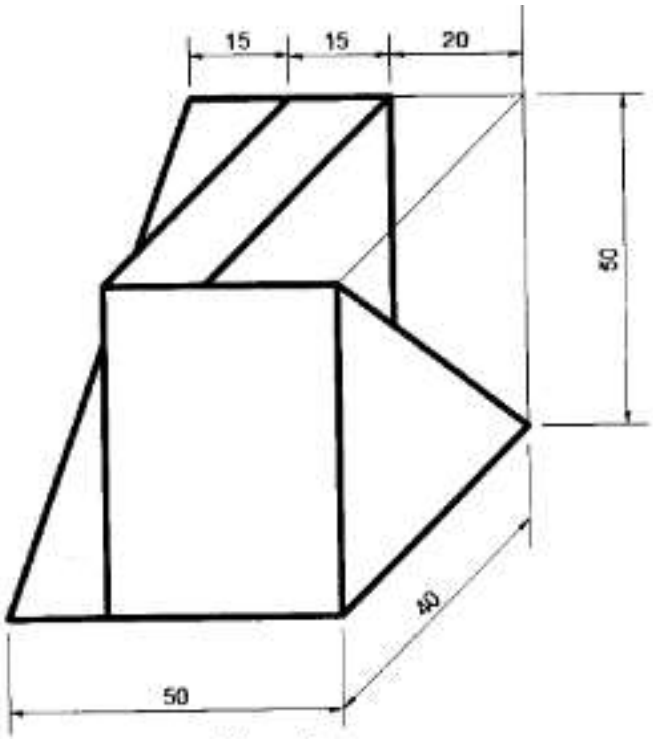


Figure 5