



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY

Department of BUILDING & Civil engineering

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN CIVIL ENGINEERING
DCE 2104: TECHNICAL DRAWING 1
END OF SEMESTER EXAMINATION

SERIES: AUGUST 2024

TIME: 3 HOURS

Instructions to Candidates

You should have the following for this examination

-Answer Booklet

-Drawing paper size A2

-A set of drawing instruments

-Marks will be awarded for:

- Accuracy, printing, dimensioning, neatness, correct projection, correct interpretation and line-work.
- At the end of the examination fold your drawing paper to size A4 for posting.

This paper consists of **five** questions.

Attempt any **THREE** questions.

Keep the drawing neat

QUESTION ONE (20 Marks)

- (a) Construct a triangle given one of the angles as 70° and two sides as 65mm and 60mm. State the length of the third side showing the construction of the given angle.

(3 Marks)

- (b) Draw a pentagon given the diameter as 60mm. State the length of the sides of the heptagon.

(5 Marks)

- (c) Draw a curve 110mm to two circles of radius 30mm and 25mm respectively, when the two circles are inside the curve.

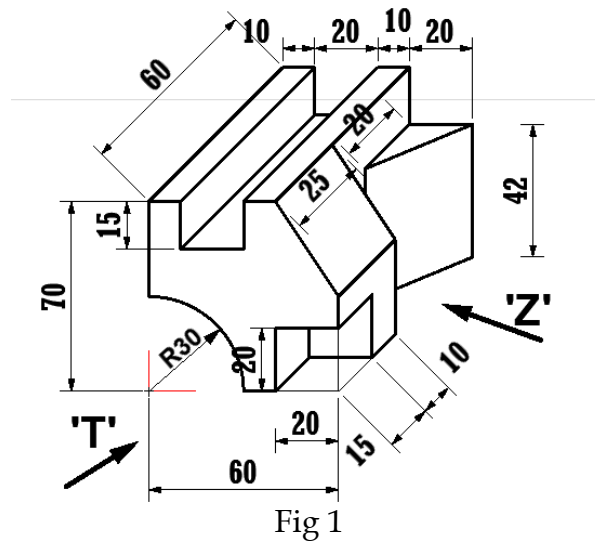
(9 Marks)

QUESTION TWO (20 Marks)

Fig 1 below is a support block. Draw, to a scale of 1:1, the following views of the block under 1st 'Angle projection and show all necessary dimensions:

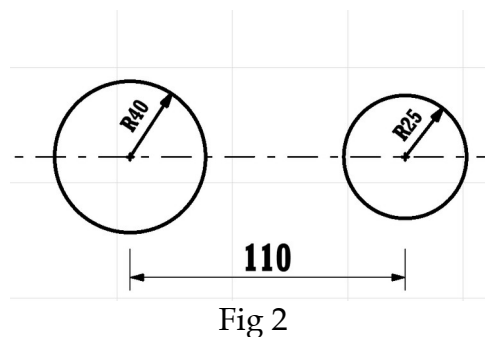
- Front view in the direction of arrow 'Z'
- Side views the direction of arrow 'T'
- Plan

(20 Marks)



QUESTION THREE (20 Marks)

- Construct an isosceles triangle of sides 60mm. (4 marks)
- Construct a pentagon with sides of 34 mm and state its diameter. (6 Marks)
- Draw an octagon inside a square 65mm sides (4 Marks)
- Fig 2 are two circles with the radius as indicated. Draw an internal and external tangent to the circles. (6 Marks)



QUESTION FOUR (20 Marks)

- a) Construct an ellipse by the intersecting lines method given the major and minor axes as 140mm and 80mm respectively.

(10 Marks)

Construct an hyperbola given the position of the directrix from the focus as 36 mm and the eccentricity as 3:2.

(marks 10)

QUESTION FIVE (20 Marks)

Fig 3 shows the Orthographic views of a support block in 'first Angle projection. Draw, to scale of 1: 1, an isometric drawing of the block.

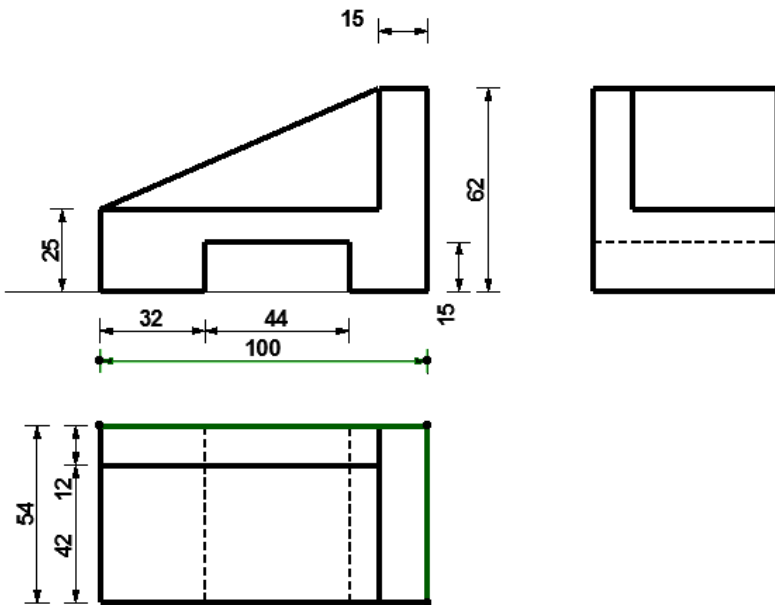


Fig 3