



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 I

SPECIAL/SUPPLEMENTARY EXAMINATION

SERIES: MARCH 2025

TIME: 3 HOURS

Instructions to Candidates

You should have the following for this examination

-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

- a) Draw the following regular polygons by set square and pair of compasses:
- i. Hexagon 60mm diameter
 - ii. Octagon inside a rectangle 70mm sides
- (6 Marks)**
- b) Construct an external tangent to a circle 30mm radius.
- (3 marks)**
- c) A heptagon has sides of 30 mm. Construct the pentagon and state its diameter.
- (5 Marks)**
- d) Fig 1 shows the front view of object. Copy the object showing all dimensions and construction lines.
- (6 Marks)**

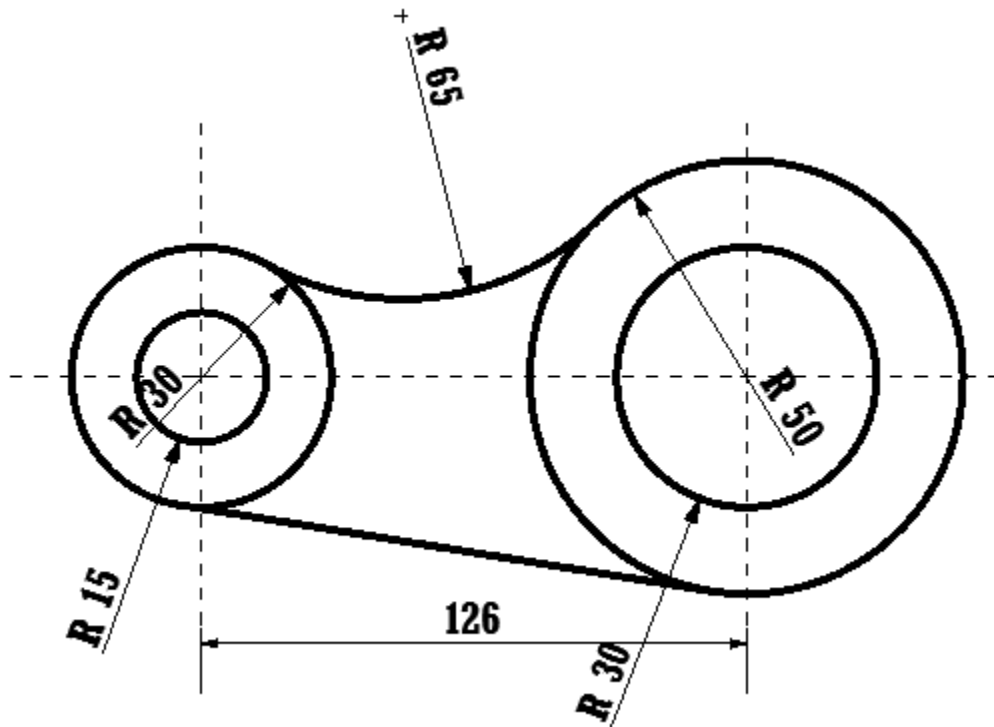


Fig 1

QUESTION TWO (20 Marks)

- Construct a triangle given the length of two sides as 45mm 56m and 65mm.
(3 Marks)
- Draw a pentagon given the diameter as 68mm. state the length of the sides of the heptagon.
(7 Marks)
- Draw a parabola inside a rectangle 120mm long by 90mm wide.
(10 Marks)

QUESTION THREE (20 Marks)

Shown in figure 2 is a pictorial drawing of a support block. Draw, to a scale of 1:1, the following views of the block in '1st Angle Projection' and. show all necessary dimensions.

- Front view in the direction shown
- Side views the direction shown
- Plan the direction shown

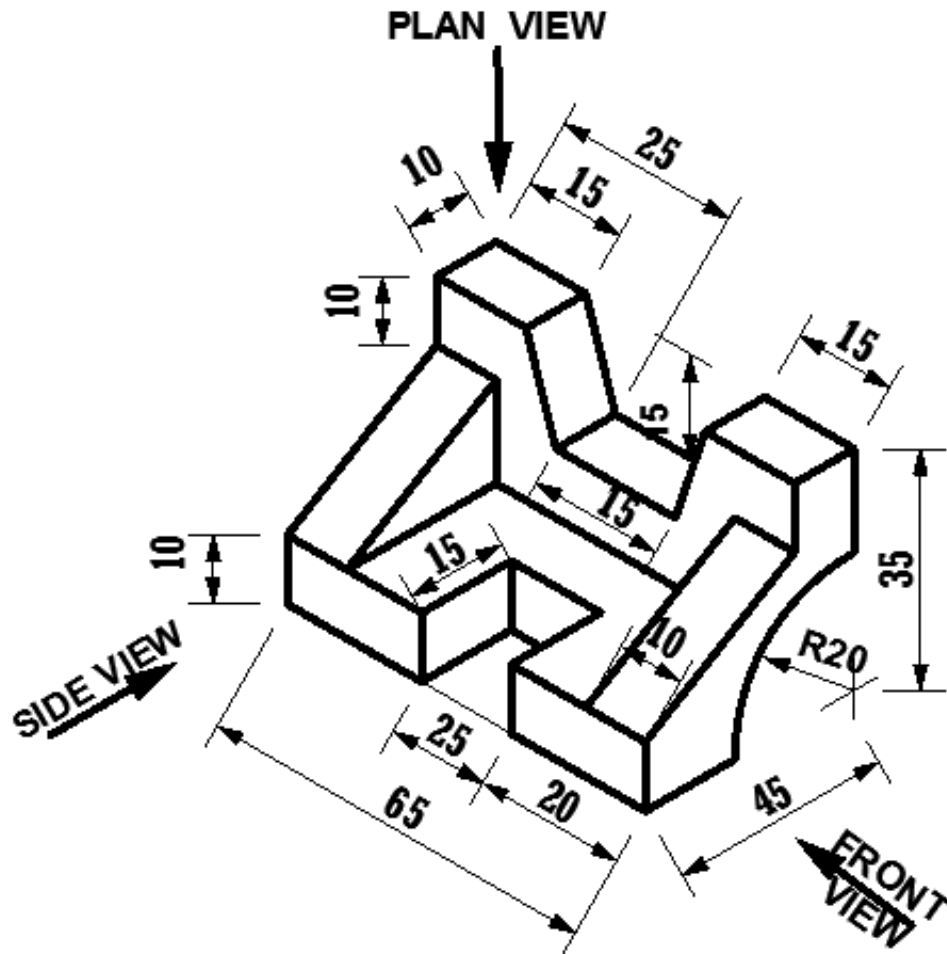


Fig 2

QUESTION FOUR (20 Marks)

- Draw an ellipse by the concentric circle's method given the major and minor axes as 100mm and 70mm respectively. (9 Marks)
- Construct a hyperbola given the eccentricity as 3:2 and the position of the directrix from the focus as 35mm.

(11 marks)

QUESTION FIVE (20 Marks)

shows in Fig 3 are the three views of support block in '1st Angle Projection'. Draw cabinet oblique drawing of the stone with 'K' as the lowest point.

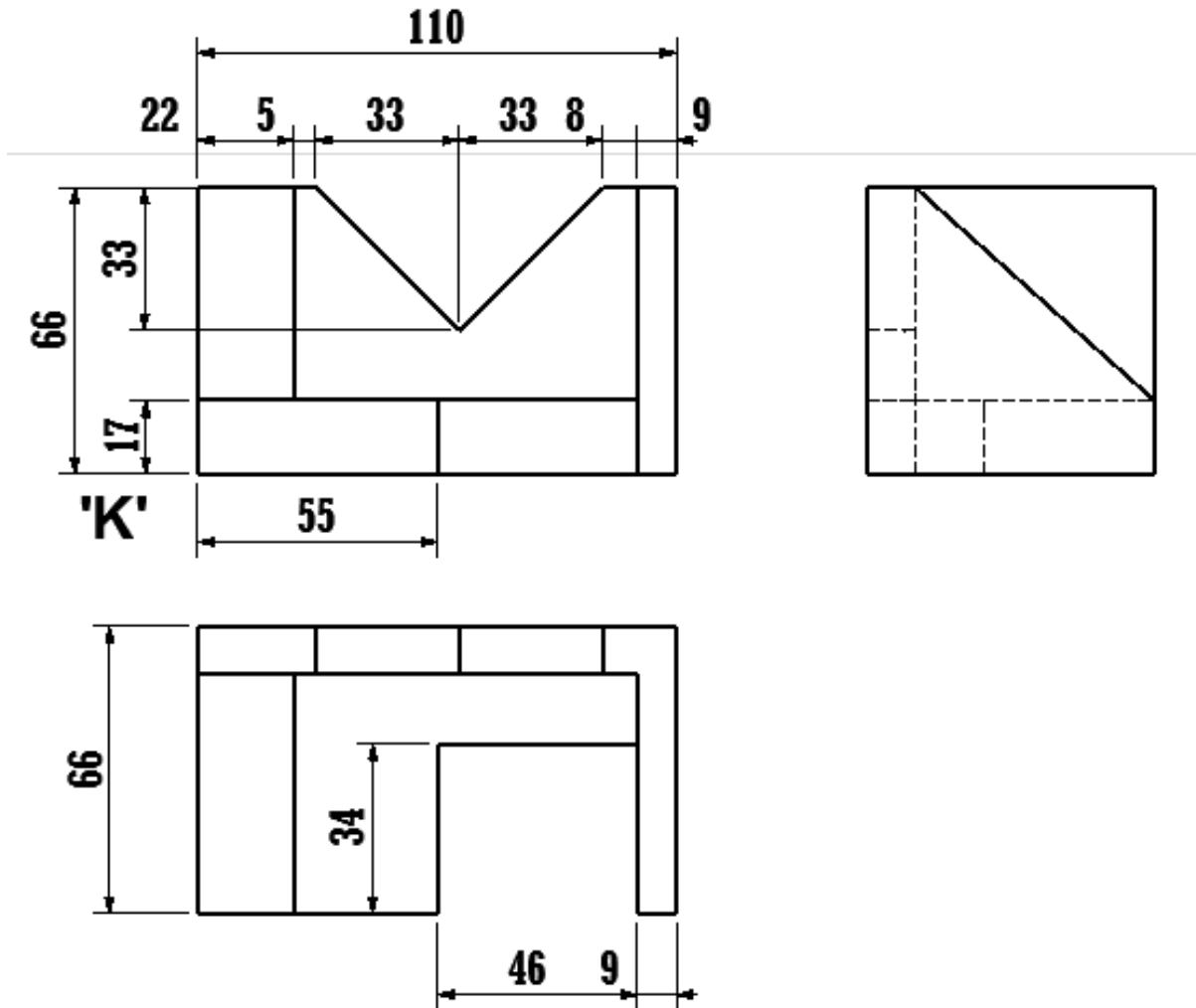


Fig 3