



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF BUILDING & CIVIL ENGINEERING
UNIVERSITY EXAMINATION FOR:

CERTIFICATE IN BUILDING AND CIVIL ENGINEERING
EME 1101: ENGINEERING DRAWING

SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: MARCH 2025
TIME: 3 HOURS

Instructions to Candidates

You should have the following for this examination

-Drawing paper size A₂, drawing instruments and student ID.

This paper consists of **five** questions. Attempt any **THREE** questions.

Keep the drawing neat.

QUESTION ONE (20 Marks)

Fig 1 shows truncated circular cone. Draw the following

- | | | |
|-------|----------------------------------|-----------|
| (i) | Plan | (6 Marks) |
| (ii) | Side Elevation | (6 Marks) |
| (iii) | True shape of the truncated part | (8 Marks) |

QUESTION TWO (20 Marks)

a) Draw a hexagon given one side as 40mm by the following methods.

- | | |
|--------------------------|-----------|
| i, 60° Set-Square | (5 Marks) |
| ii, By a pair of Compass | (5 Marks) |

b) Draw a triangle give the three sides as 70mm, 65mm and 60mm by the following methods:

- | | |
|---------------------|-----------|
| (i) Pair of Compass | (5 Marks) |
| (ii) Set-Squares | (5 Marks) |

QUESTION THREE (20 Marks)

Fig 2 shows a support block. Draw the block under 1st Angle Projection as follows:

- | | | |
|------|----------------------------------|------------|
| (i) | Orthographic views | (10 Marks) |
| (ii) | Isometric showing all dimensions | (10 Mar |

QUESTION FOUR (20 Marks)

Draw a cycloid for one complete revolution of a circle having a diameter of 60 mm and Draw a tangent and normal to the curve at a point 40mm above the baseline

QUESTION FIVE (20 Marks)

A crank of 25mm long is connected a piston at one end ha allows free movement and the rod of 110 sliding on a fixed bar the outer ring of the piston.

- (i) Draw the complete system of the crank, piston and the rod sliding on the bar. (4 Marks)
- (ii) Locate the movement of the locus at a point 50mm from the end of the sliding rod (8 Marks)
- (14 marks)
- a) By use of free hand sketch the following
- (i) Mason hammer (3 Marks)
- (ii) plumb bob (3Marks)

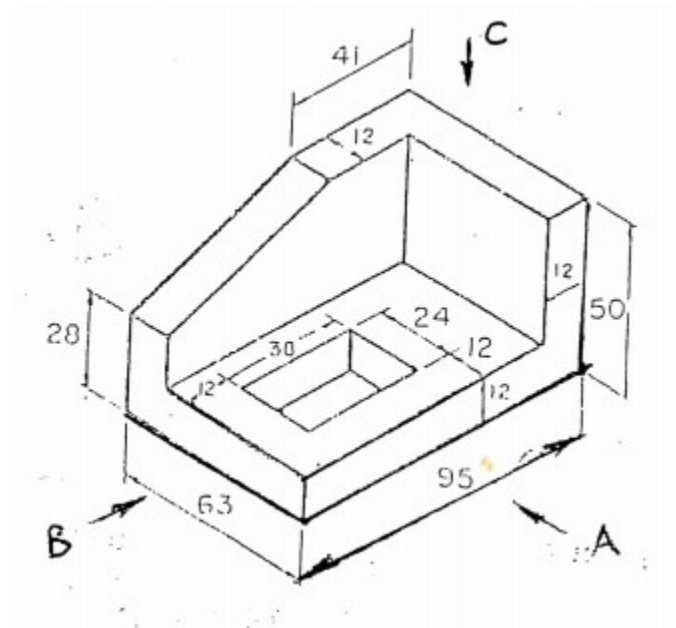


Fig 2

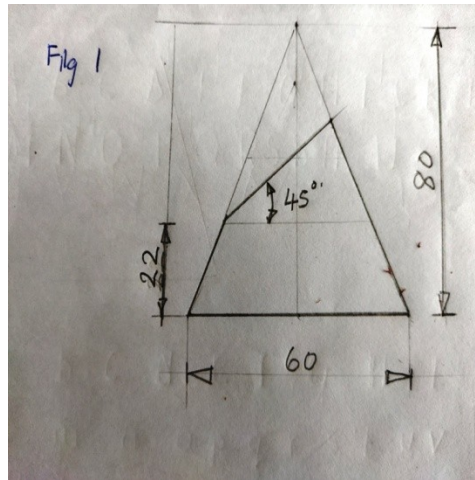


Fig 1