TECHNICAL UNIVERSITY OF MOMBASA

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

BACHELOR OF TECHNOLOGY IN CIVIL ENGINEERING
TCV 4111 : ENGINEERING DRAWING I

END OF SEMESTER EXAMINATION
SERIES: JANUARY 2025
TIME: 3 HOURS

Instructions to Candidates

You should have the following for this examination

-Drawing paper, examination pass and student ID
-Drawing instruments

This paper consists of **five** questions.
Attempt question ONE (Compulsory) and any other TWO questions
Do not write on the question paper.

QUESTION ONE (COMPULSORY) 20 Marks

Draw the isometric projection of the casting shown in Figure 1. Clearly indicate the dimensions. Use a scale of 2:1

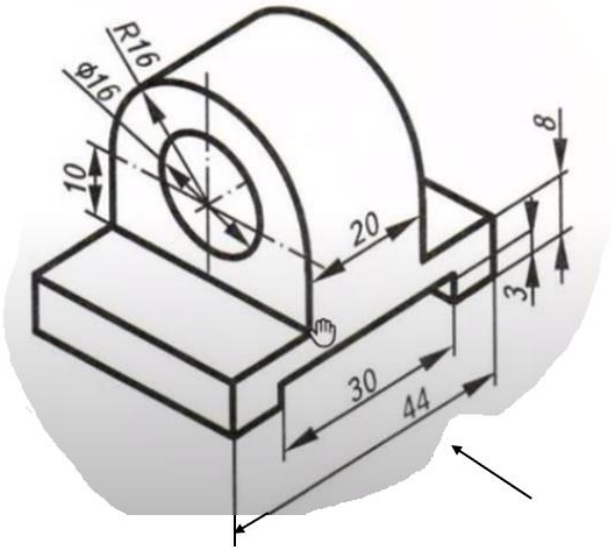

Figure 1

ANSWER ANY TWO QUESTIONS FROM THIS SECTION
QUESTION TWO (20 Marks)

Draw the Third Angle Orthographic Projection of the casting shown in Figure 1. Clearly indicate the dimensions and the appropriate symbol. The arrow points in the direction of the front elevation.

QUESTION THREE (20 Marks)
Construct the following plane figures:

a) Regular pentagon with sides 35mm long (5 Marks)
b) Regular hexagon circumscribed in a circle of diameter 62mm (5 Marks)
c) Regular heptagon with sides 35mm long (5 Marks)
d) Regular octagon inscribed in a circle of diameter 58mm (5 Marks)

QUESTION FOUR (20 Marks)
A circle of 60mm diameter rolls on the circumference of another circle of 185mm diameter and outside it. Trace the locus of a point on the circumference of the rolling circle for one complete revolution. Name the curve. Draw a tangent and a normal to the curve at a point 135mm from the centre of the directing circle.

QUESTION FIVE (20 Marks)
A square prism 30 mm side and 50 mm long is lying on the ground plane on one of its rectangular faces in such a way that one of its square faces is parallel to 10mm behind the picture plane. The station point is located 50 mm in front of the picture plane and 40 mm above the ground plane. The central plane is 45mm away from the axis of the prism towards the left. Draw the perspective view of the prism.