MURANG'A UNIVERSITY OF TECHNOLOGY

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

UNIVERSITY ORDINARY EXAMINATION

2024/2025 ACADEMIC YEAR

SECOND YEAR **FIRST** SEMESTER EXAMINATION FOR BACHELOR

OF EDUCATION TECHNOLOGY ELECTRICAL AND CIVIL ENGINEERING

TEC 200 ENGINEERING DRAWING

DURATION: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

1. Answer question ONE and any other two questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

SECTION A – ANSWER ALL QUESTIONS IN THIS SECTION

QUESTION ONE (30 MARKS)

Fig 1 attached shows a bearing block. Draw full size in first angle projection for the following

a) Front elevation in the direction of the arrow

b) A plan

c) Insert a suitable title block

d) Insert all major dimensions   (30 marks)

SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION

QUESTION TWO (20 MARKS)

a) Divide a line 119 mm long into 13 parts.   (3 marks)

b) Construct a transverse tangent to two equal circles given diameter of circles as 50mm, and the distance between their centres as 90 mm.   (5 marks)

c) Construct the involute of a circle given circle diameter to be 55mm.   (6 marks)

d) A ball thrown up unto air reaches a maximum height of 70 mm and travels a horizontal distance of 130 mm. Trace the path of the ball assuming it to be parabolic.   (6 marks)

QUESTION THREE (20 MARKS)

(a) With the aid of neat sketch illustrate the following symbols and convections:
   i. Series motor
   ii. Compound would motor
   iii. Fuse with alarm contact
   iv. Double door
   v. Fixed window
   vi. Vertical Sliding Window   (12 marks)

(b) A roller 50mm diameter rolls along a straight without slipping. Draw the curved traced by a point on the circumference for one revolution.   (8 marks)

QUESTION FOUR (20 MARKS)

Fig 2. Attached shows a Rocker bearing. Draw in full size the isometric drawing showing all the construction work.   (20 marks)