



MACHAKOS UNIVERSITY
SCHOOL OF ENGINEERING AND TECHNOLOGY
MECHANICAL ENGINEERING DEPARTMENT
SEMESTER II EXAMINATIONS – 2019
CERTIFICATE IN MECHANICAL/AUTOMOTIVE ENGINEERING
TECHNICAL DRAWING

INSTRUCTIONS TO CANDIDATES

This paper consists of TWO sections; A and B . Answer section A (COMPULSORY) and any THREE questions from section B.

SECTION A (COMPULSORY)

1. Shown in figure 1 is a machined block drawn in isometric projection. Draw the following in first angle projection:
 - (i) A sectional front elevation along cutting plane X-X.
 - (ii) End elevation in the direction arrow E.
 - (iii) A plan.

- Include SIX major dimensions. (40 marks)

SECTION B

2. Construct the following:
 - (a) Archimedean spiral whose radius will increase from zero to 90 mm.

(b) Epicycloid of rolling circle of radius of 30mm on a curved surface of radius 100mm.
(20 marks)

3. Draw the isometric block shown in figure 2. (20 marks)

4. Figure 3 shows orthographic views of a machine block. Draw the block with corner X at the lowest point. (20 marks)

5. Draw:

(a) An ellipse with major and minor diameters of 110 mm and 70 mm respectively using any method.

(b) A parabola whose focus to directrix distance is 50 mm. (20 marks)