



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

SECOND YEAR SECOND TERM EXAMINATION FOR

DIPLOMA IN ELECTRICAL AND ELECTRONICS ENGINEERING

ENGINEERING DRAWING

DATE: 7/6/2021

TIME: 2.30-5.30 PM

INSTRUCTIONS

Answer question one and any other two question in section b

SECTION A

1.
 - a) Draw an internal tangent to two circles of diameters 60 mm and 40 mm with centers spaced at 110mm (10 marks)
 - b) Draw the isometric projection of a circular plane of diameter 60mm (10 marks)
 - c) Draw an isometric box of 50mm sides (10 marks)

SECTION B

2.
 - a) State any three types of sectioning (3 marks)
 - b) Define the following term
 - i. Cutting plane
 - ii. Sectioning (4 marks)
 - c) using free hand sketch the following hand tools
 - i. Ball peen hammer
 - ii. Tin snips
 - iii. Cold chisel
 - iv. flat screw driver

- v. spirit level (10 marks)
- d) Draw the following electronics symbols as per BS 3939
 - i. Variable resistor
 - ii. NPN transistor
 - iii. Loud speaker (3 marks)
- 3. Figure 1 shows a pictorial view of a block. Draw full size the following views in first angle projection
 - a) Plan in the direction of arrow p
 - b) Front elevation in the direction of arrow F
 - c) End elevation in the direction of arrow E
 - d) Insert any six major dimensions
- 4. Draw a well labeled diagram of a star delta motor control system (20 marks)
- 5. Draw a well a labeled diagram of a direct on line motor control system (20 marks)