



MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

DIPLOMA IN ELECTRICAL INSTALLATION (TVET)

2601/104/D: ENGINEERING DRAWING

DATE: 17/04/2019

TIME: 8.30-11.30 AM

INSTRUCTIONS:

Answer question one and any other two questions

QUESTION ONE (30 MARKS)

- a) An isometric view of a block is shown in fig 1. Draw full size the following views of the block in first angle projection
- The F.E from A
 - The E.E from B
 - The plan
 - Insert six major dimensions (20 marks)
- b) construct an ellipse using the using the concentric circles method given the major and minor axes as 85mm and 55mm respectively
- c) draw two circles 30mm and 75mm diameter respectively with their centers 100mm apart.
- Construct
- An internal tangent to the two circles
 - An external tangent to the two circles

QUESTION TWO (20 MARKS)

Convert the following orthographic projections in figure 2 into an isometric drawing making corner F the lowest point (20 marks)

QUESTION THREE (20 MARKS)

A pictorial drawing of a block structure is shown in figure 3

Draw the following views in 3rd angle projection

- a) Front elevation in the direction of arrow
- b) Plan
- c) Left end elevation

QUESTION FOUR (20 MARKS)

Draw the following electronics symbols as per bs 3939

- a) PNP transistor
- b) Electric motor
- c) Transformer
- d) LED diode
- e) Earth
- f) Fan
- g) Resistor
- h) Light
- i) Normally open switch
- j) Three conductors

QUESTION FIVE (20 MARKS)

- a) Using free hand sketch the following hands tools

- i. Cold chisel
- ii. Cutting plier
- iii. Flat screw driver
- iv. Ball pein hammer
- v. Spirit level
- vi. Electric tester
- vii. Star screw driver

(14 marks)

- b) draw the following symbols

1st angle projection symbol

3rd angle projection symbol

(6 marks)