MACHAKOS UNIVERSITY

University Examination 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

…….. YEAR ……. SEMESTER EXAMINATION FOR

CERTIFICATE IN ELECTRICAL AND ELECTRONIC ENGINEERING (TVET)

VEHICLE TECHNOLOGY

DATE: **TIME:**

INSTRUCTIONS:

Answer question one and any other two question in section b

SECTION A

QUESTION ONE (30 MARKS)

a) Draw an internal tangent to two circles of diameters 60 mm and 40 mm with centres 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

QUESTION TWO (20 MARKS)

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 pein 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)

QUESTION THREE (20 MARKS)

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

QUESTION FOUR (20 MARKS)

Figure 2 shows an orthographic view draw its isometric view

QUESTION FIVE (20 MARKS)

Figure 3 shows a pictorial view of a block. Draw full size the following views in third angle projection:

a) Plan in direction of arrow P

b) Font elevation in the direction of arrow F

c) End elevation in direction of arrow E

d) Insert any Six major dimensions