



MACHAKOS UNIVERSITY
MECHANICAL ENGINEERING DEPARTMENT
WORKSHOP TECHNOLOGY AND PRACTICE
Class: electrical craft I TIVET

INSTRUCTIONS

TIME: 2hrs

Answer all the questions

Q1. (a) Briefly describe any five metals used in sheet metal work (10 marks)

(b) Differentiate between the following operations;

- i. Measuring and marking
- ii. Cutting and shearing

(6 marks)

(c) Describe the pickling process (4marks)

Q2. (a) Name at least six sheet metal machines (3 marks)

(b) With aid of neat sketches, differentiate between a single hem and a double hem in sheet metal joining (4 marks)

(c) Define the term laying out as used in sheet metal work (3 marks)

(b)describe the five electric hazards that can be experienced in the workplace (10marks)

Q3. (a) Highlight any **Six** precautions to be observed in prevention of electric shock (6marks)

(b) Differentiate the following by use of neat sketches;

- i) Dot punch
- ii) Centre punch

(4 marks)

(c) Highlight any twelve causes of accidents in workshops. (6marks)

(d) Sketch and label a bench vice. (4 marks)

Q4. (a) Describe **three** classes of fires stating the extinguishing medium recommended for it.

(6marks)

(b) Describe any **five** toxic substances in a workshop. (5marks)

(c) Explain the **four** safety colors' giving an example of where they can be used. (4 marks)

(b) Describe the hacksawing process (5marks)

Q 5 (a) sketch the following hand tools

i) Divider

ii) Angle plate

iii) Hacksaw

iv) Cross pein hammer

v) Half round file

(10 marks)

(b) Highlight the similarities between the hacksawing process and the filing (10marks)