



MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MECHANICAL ENGINEERING

FIRST YEAR SEMESTER ONE EXAMINATION FOR

CERTIFICATE IN ELECTRICAL ENGINEERING

WORKSHOP TECHNOLOGY.

DATE:

TIME:

INSTRUCTIONS: ANSWER ALL QUESTIONS

1. List five safety measures in each of the following
 - I. In construction Work (5 marks)
 - II. Material handling (5 marks)
 - III. Against electric shock (5 marks)
 - IV. In fire prevention and protection (5 marks)
2.
 - (a) Define measuring out as used in workshop process (2 marks)
 - (b) using sketches illustrate the following inspection tools
 - I. Radius gauge (3 marks)
 - II. Try Square (3 marks)
 - III. Feeler gauge (3 marks)
 - (c) sketch a Vernier caliper and name 3 main parts
3.
 - (a) Explain the importance of alloying steel giving two examples. (6 marks)
 - (b) Explain the main components of the following types of metals.
 - I. Ferrous metals (3 marks)
 - II. Non- Ferrous metals (3 marks)

- (c) Explain the following mechanical properties of metals.
- I. Malleability (2 marks)
 - II. Hardness (2 marks)
 - III. Ductility (2 marks)
 - IV. Electrical conductivity (2 marks)
4. (a) Outline two characteristics why copper is popularly used among non ferrous-metal. (4 marks)
- (b) Explain four properties of copper. (8 marks)
- (c) List any four properties of brasses (8 marks)
5. In case of an accident explain how you can save a life using a mouth to mouth artificial Respiration. (20 marks)