

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DIPLOMA IN AGRICULTURE

AGEN 0112: INTRODUCTION TO WORKSHOP TECHNOLOGY

STREAMS: DIP. AGRI

TIME: 2 HOURS

DAY/DATE: TUESDAY 09/04/2024

2.30 P.M. – 4.30 P.M.

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**INSTRUCTIONS**

- Answer ALL questions in section I and any other two in section II
- Do not write on the question paper

**SECTION A**

**Questions One**

- a) Name and explain the use of four tools used in a workshop (6 marks)
- b) Explain the special precaution to take when carrying out welding process (6 marks)
- c) Explain the use of callipers (3 marks)
- d) List five rules observed when using callipers (5 marks)
- e) Explain TEN personal safety requirements in a workshop. (5 marks)
- f) Describe welding process (6 marks)
- g) Describe the hazards associated with the use of the following hand tools
- i) File (3 marks)
  - ii) Chisel (3 marks)
  - iii) Hammer (3 marks)

**SECTION B**

**Question Two**

- a) Describe a workshop (2 marks)
- b) Explain in descending order the five safe ways to work in a workshop (8 marks)

- c) Sketch in good proportion a micrometer calliper and name all the parts (5marks)

**Question Three**

- a) Describe forging. (2 marks)
- b) With aid sketches describe the following basic forging operation
- i) Drawing down (2 marks)
  - ii) Upsetting or jumping up (2 marks)
- c) Explain how a micrometer calliper should be cared for so that it remains in good conditions. (2 marks)
- d) State two major advantages in forging a component to shape rather than machining from the solid. (3 marks)
- e) Explain four advantages of gas welding (4 marks)

**Question Four**

- a) With aid of sketches describe the three types of flames used in gas welding and give their field of application. (6 marks)
- b) Describe the following as used in welding
- i Fluxes (3 marks)
  - ii brazing (3 marks)
  - iii Soldering (3 marks)
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