



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF ENGINEERING AND TECHNOLOGY

**UNIVERSITY EXAMINATION FOR THE DEGREE IN SCIENCE IN RENEWABLE
ENERGY TECHNOLOGY AND MANAGEMENT**

2ND YEAR 1ST SEMESTER 2024/2025 ACADEMIC YEAR

CENTRE: MAIN CAMPUS

COURSE CODE: TEB 1209

COURSE TITLE: WORKSHOP PROCESS AND PRACTICE I

EXAM VENUE:

STREAM: BSc. REN ENGY TEC & MGT

DATE: 10/1/2025

EXAM SESSION: 9-11.00 AM

DURATION: 2 HOURS

Instructions

- 1. Answer question 1 (Compulsory) and ANY other two questions**
- 2. Candidates are advised not to write on question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

Question One (Compulsory)

- a) Briefly describe **TWO** costs are associated with accidents in workshop. **(4 Marks)**
- b) Describe **TWO** types of hacksaw blade are available in a workshop. **(2 Marks)**
- c) To avoid damage to the surface of finished work by the hardened jaw pieces of a bench vice, clamps (or clams) are usually used. Outline **FOUR** materials used to make the clamps of a bench vice. **(2 Marks)**
- d) With the help of illustrations show how a steel rule can be used to measure the following. **(3 Marks)**
- i. Two scribed lines.
 - ii. Two faces using a hook rule.
 - iii. Two faces using a steel rule and a tool bit as an adjustment.
- e) Using a well labelled diagram illustrate how a steel rule can be used in marking a straight line on a work piece. **(3 Marks)**
- f) State **THREE** essential requirements of a soldering flux. **(3 Marks)**
- g) Outline **THREE** types of fire extinguishers that can be found in a workshop. **(3 Marks)**

QUESTION TWO

- a) Electrical equipments are mostly used in a workshop. Discuss **FIVE** major hazards arising from the use of electrical equipment. **(10 Marks)**
- b) Enumerate **FIVE** precautions should be taken to prevent fire breaking out in workshop. **(5 Marks)**

QUESTION THREE

- a) Each hammer is designed for specific tasks. Describe **FIVE** common types of hammers commonly found in a workshop and state their uses. **(10 Marks)**
- b) Using a well labeled diagram Sketch and label and state the functions of the main parts of a Vernier caliper. **(5 Marks)**

QUESTION FOUR

- a) Marking out is very key during workshop processes. Using well labeled illustrations discuss **FOUR** types of datum used when marking out measurements on a work piece in a work shop. **(8 Marks)**
- b) With the aid of a sketch list the **FOUR** types of screw drivers found in a workshop **(2 Marks)**
- c) With the aid of a sketch show how
- i. A steel tape may be used to construct a right-angle. **(3 Marks)**

QUESTION FIVE

- a) Outline **FIVE** rules should be observed when using calipers. **(5 Marks)**
- b) Using at least three well labelled illustrations discuss **THREE** various types of signs that are commonly used in workshops. **(10 Marks)**