KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

SECOND YEAR SECOND SEMESTER
MAIN EXAMINATIONS

FOR THE DEGREE OF BACHELOR OF SCIENCE IN RENEWABLE ENERGY AND BIO FUELS TECHNOLOGY

COURSE CODE: REN 113
COURSE TITLE: WORKSHOP TECHNOLOGY AND PRACTICE

DURATION: 2 HOURS

DATE: 03/02/2022 **TIME: 2-4PM**

INSTRUCTIONS TO CANDIDATES

- Answer **QUESTION ONE** (Compulsory) and any other two (2) Questions.
- Indicate **answered questions** on the front cover.
- Start every question on a new page and make sure question's number is written on each page.

This paper consists of **4** printed pages. Please Turn Over

SECTION A: COMPULSORY

QUESTION ONE (30 MARKS)

(a) (i) State Three employee's responsibilities in the workplace according to OSHA

(ii) State Three employer's responsibilities in the workplace according to OSHA

(6marks)

(b)Sketch the following bench tools

(i) Cross-cut chisel

(ii)Ball-pein hammer

(6 marks)

c(i) Highlight THREE safety precautions that should be observe d for workshop gauges

(ii)State THREE materials used in gauge manufacture

(6marks)

(d)Sketch the following tools and label THREE parts

(i) Hand file

(ii) Soldering Iron

(6 marks)

(e) Sketch the following work holding tools

(i) Machine vise

(ii)Adjustable spanner

(6 marks)

SECTION B: ATTEMP ANY TWO QUESTIONS

QUESTION TWO (20 MARKS)

(a) Illustrate the following drilling processes:

(i)Counter-sinking

(ii)reaming

(iii)counter- boring

(9 marks)

(b) (i) Draw and lable six parts of a metric Vernier gauge

(ii)Illustrate a reading of 7.75 mm on a metric micrometer

(iii)State FIVE precautions to be observed in storage and use of a micrometer gauge

(11 marks)

QUESTION THREE (20 MARKS)

With the aid of a sketches describe the steps in accomplishing one snap head rivet for a riveted joint

QUESTION FOUR (20 MARKS)

Illustrate the application of the following types of gauges

(i) Depth gauge

(ii) Hole Gauge

(iii)Gauge blocks

(iv)Ring gauge