



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

SECOND YEAR SECOND SEMESTER EXAMINATIONS

**FOR THE BACHELOR OF SCIENCE
IN
RENEWABLE ENERGY TECHNOLOGY**

COURSE CODE: RET 282 MAIN EXAMS

COURSE TITLE: WORKSHOP TECHNOLOGY

DATE: 28-04-2022

TIME: 08:00-10:00

**INSTRUCTIONS TO CANDIDATES
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Question ONE (1) is compulsory
Answer Any Other TWO (2) questions

TIME: 2 Hours

MMUST observes Zero tolerance to examination cheating

THIS PAPER CONSISTS OF (3) PRINTED PAGES

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QUESTION 1**(30 Marks)**

- i. Why is workshop safety important? 2mks
- ii. State any five personal safety measures in the workshop 5mks
- iii. Describe housekeeping. What are the benefits of a good housekeeping program?
6mks
- iv. Explain the use of the following tools and instruments:- a) Scribers b). Vernier calipers c). Trammel points d). Scribing block e). Marking out fluid 5mks
- v. Explain the basic concept of soldering; hence distinguish between soft and hard soldering 4mks
- vi. Highlight the step by step procedure for soldering 4mks
- vii. State four operations that can be carried out with a drilling machine 4mks

QUESTION 2**(20 Marks)**

- i. What is machine guarding 2mks
- ii. Discuss four methods of work part holding on a drilling machine 6mks
- iii. Name and explain the types of metals used in sheet metal work 6mks
- iv. What is your understanding of the following brazing methods?:- a) Torch brazing b). Furnace brazing c). Induction brazing d). Resistance brazing 6mks

QUESTION 3**(20 Marks)**

- i. What is welding? What are the three broad classifications of welding processes?
4mks
- ii. Define flux as used in thermal joining processes. Give the factors considered in the selection of an appropriate flux. 5mks
- iii. Using appropriate sketches, distinguish the different types of flames as used in gas welding 6mks
- iv. With the help of a sketch describe the various parts of a drilling machine 5mks

QUESTION 4**(20 Marks)**

- i. Describe the basic working principle and at least four important parts of a centre lathe machine 6mks
- ii. Give any four functions of cutting fluids in machining operations 4mks
- iii. State the factors that affect the cutting speed of machining in a drilling machine 4mks
- iv. a). What is a seam as used in sheet metal joining? 2mks
b). Name and explain four types of seams 4mks

