



*(University of Choice)*

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

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2021/2022 ACADEMIC YEAR  
FOURTH YEAR SECOND SEMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
BACHELOR OF SCIENCE IN MECHANICAL AND INDUSTRIAL  
ENGINEERING AND BACHELOR OF SCIENCE IN RENEWABLE  
ENERGY TECHNOLOGY**

**COURSE CODE: MIE 401**

**COURSE TITLE: INDUSTRIAL ENGINEERING**

---

**DATE:** 27/04/2022

**TIME:** 08:00 - 10:00 AM

**INSTRUCTIONS TO CANDIDATES**

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 2 Printed Pages. Please Turn Over. ►

### QUESTION ONE

- a. Describe the two types of sampling errors that are bound to occur when making inferences from control charts (8 marks)
- b. Explain the two major causes of variations in the quality of products in any manufacturing process (8 marks)
- c. State the advantages of standardisation to the manufacturing department of an industry (8 marks)
- d. Explain six ways that reliability of a system can be improved in an industrial set up (6 marks)

### QUESTION TWO

As a transformative industrial activity, production system is a very vital part of any industrial set up. Assuming that you decide to adopt mass production as the appropriate production system for your processes, justify its:

- Characteristics (10 marks)
- Advantages (5 marks)
- Limitations (5 marks)

### QUESTION THREE

Comprehensively describe the process and principle of acceptance sampling as the optimum inspection method as compared to other methods (20 Marks)

### QUESTION FOUR

Work-related welfare facilities offered at or through the workplace can be important factors. Most of these facilities are very basic, but often ignored. As the industrial engineer, advice the management on the seven basic work-related facilities that are vital for any industrial set up (20 Marks)