



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY**

**MAIN CAMPUS
MAIN EXAMINATIONS**

**UNIVERSITY EXAMINATIONS (REGULAR)
2021/2022 ACADEMIC YEAR**

**FOURTH YEAR SECOND SEMESTER EXAMINATIONS FOR THE
DEGREE OF B.Sc. IN: AGRICULTURE & BIOTECHNOLOGY**

COURSE CODE: IEM 404

COURSE TITLE: BUILDING AND FARM STRUCTURES

DATE: 25TH APRIL, 2022

TIME: 3-5 PM

INSTRUCTIONS TO CANDIDATES

Answer ALL questions in section A and ANY TWO questions in section B

TIME: 2 Hours

Total marks=70

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over.

SECTION A (30 MARKS)

QUESTION ONE (10 MARKS)

- a) Neatly, sketch a fence and label all the posts used (5 marks)
- b) State 5 (FIVE) fences commonly used on farms indicating the commonly used materials on each (5 marks)

QUESTION TWO (10 MARKS)

- a) Define the following terminologies as used in building of farm structures (4 marks)
- i. Farm structure
 - ii. Concrete
 - iii. Fence
 - iv. Batching
- b) List any 6 (SIX) types of farm structures (6 marks)

QUESTION THREE (10 MARKS)

- a) Define the term mortar and state the 3 (THREE) types of mortar giving the components/materials used in each. (7 marks)
- b) Differentiate between the following; (3 marks)
- i. Plastering and rendering
 - ii. Curing of concrete and setting of concrete
 - iii. Adobe and stabilized soil blocks

SECTION B (40 MARKS)

QUESTION FOUR (20 MARKS)

- a) Describe the structural requirements of either a cattle plunge dip or a zero grazing unit for 3 cows, 2 heifers and one calf. (10 marks)
- b) List any 5 (FIVE) types of nails, giving the use for each type (7½ marks)
- c) What is the importance of curing concrete? (2½ marks)

QUESTION FIVE (20 MARKS)

- a) State **8 (EIGHT)** factors considered in the selection of building materials **(8 marks)**
- b) Basing on the formation process, classify natural stone products **(6 marks)**
- c) Write down any **6 (SIX)** principles of site selection for construction of farm structures **(6 marks)**

QUESTION SIX (20 MARKS)

- a) List any **5 (FIVE)** products used in construction of farm structures under the following categories; **(10 marks)**
 - i. Products of wood
 - ii. Products of Steel
- b) Systematically but briefly describe the process of hand mixing of concrete. **(5 Marks)**
- c) Outline the composition of cement in percentages of its elements **(5 Marks)**

END

