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(University of Choice)

**MASINDEMULIROUNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN CAMPUS

**UNIVERSITY SUPPLEMENTARY/SPECIAL EXAMINATIONS
2020/2021 ACADEMIC YEAR**

FIRST YEAR SECOND SEMESTER EXAMINATIONS

DIPLOMA IN GENERAL AGRICULTURE

COURSE CODE: DAG 064

COURSE TITLE: SOIL FERTILITY AND PLANT NUTRITION

DATE:

TIME: 3-5PM

INSTRUCTIONS TO CANDIDATES

Answer **ALL** questions in section A

Answer any **TWO** questions in section B

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over. ►

SECTION A (Answer all questions)

1. Define the following terms [10marks]
 - a) Fertilizer grade
 - b) Sustainable Agriculture
 - c) Filler material
 - d) Agroforestry
 - e) Soil Productivity.
2. Briefly explain how precipitation contributes to soil acidity [6marks]
3. Explain the at least six factors affecting nutrient availability [6marks]
4. You plan to apply 41.6kg/ha of TSP. Calculate the amount of P applied (kg/ha). Amount of nutrient (kg/ha) (TSP: 0:45:0:0) [4marks]
5. Briefly explain the three processes of nutrient mobility from the soil [4marks]
6. Explain how you will differentiate deficiency symptoms of Nitrogen to those of Potassium in plants [4marks]
7. Describe how soil temperature affects nutrient availability in the soil [6marks]

SECTION B: 40 MARKS

8. (a) Outline three the classes of fertilizer [3marks]
(b) Briefly explain the six methods of fertilizer application [12marks]
9. Explain Nitrogen cycle process and how it affects Nitrogen availability in the soil [15marks]
10. (a) What is Integrated Soil Fertility Management (ISFM) [3marks]
(b) Explain the four Key Aspects of Integrated soil fertility management [12marks]