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**CAG 009**



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**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)  
SCHOOL OF AGRICULTURE, VETERINARY SCIENCES AND  
TECHNOLOGY (SAVET)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2022/2023 ACADEMIC YEAR**

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**MAIN EXAMS  
OF  
CERTIFICATE IN GENERAL AGRICULTURE**

**COURSE CODE: CAG 009**

**COURSE TITLE: FUNDAMENTALS OF SOIL SCIENCE**

**DATE: 21.12.23**

**TIME: 3-5PM**

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**INSTRUCTIONS TO CANDIDATES**

This paper is divided into two sections, **A and B**. Answer ALL Questions in SECTION A and any Two in SECTION B

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over

**CAG 009**

**SECTION A: ANSWER ALL QUESTIONS (40 MARKS)**

Q1. Differentiate between the following terms (10marks)

- i) Chemical and physical weathering
- ii) Eluviation and Illuviation zones
- iii) Solum and Saprolite horizons
- iv) Soil porosity and soil bulk density
- v) Sodic and Saline soils

Q2. State and explain the different characteristics of a soil (10marks)

Q3. With the use of illustrations, discuss the three methods of soil sampling (6 marks)

Q4. Highlights the various precautions that should be taken into considerations before carrying out soil sampling (5marks)

Q5. Outline the different types of soils (5marks)

Q6. Outline the advantages of adding the organic manures to our soils (4marks)

**SECTION B**

Q7. a) State and explain the factors that affects soil formation (10marks)

b) outline the various functions of soil in Agriculture (5marks)

Q8. State and explain the different characteristics between surface and sub-surface soils (15marks)

**CAG 009**

Q9. a) what is soil salinity (2marks)

b) state and explain the three categories of salt-affected soils (6marks)

c) Discuss the causes of soil salinity (7marks)

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