

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

FIRST YEAR EXAMINATION FOR THE AWARD OF DIPLOMA IN  
ANIMAL HEALTH AND PRODUCTION

SOIL 0100: INTRODUCTION TO SOIL SCIENCE

STREAMS: DIP. ANHE (Y1S1)

TIME: 2 HOURS

DAY/DATE: FRIDAY 18/12/2020

11.30 A.M. – 1.30 P.M.

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INSTRUCTIONS:

- Answer ALL questions in section A and any TWO in section B
- Do not write anything on the question paper

SECTION A (40 MARKS)

QUESTION ONE

- (a) Describe the Ferralsol soils [6 marks]
- (b) Briefly explain any three (3) serious limitations of the major soils that hinder agricultural activity. [3 marks]
- (c) Describe how topography influences soil formation [4 marks]

QUESTION TWO

- (a) Explain the following terms as used in soil science [4 marks]
- (i) Salinization
- (ii) Gleization
- (b) Describe any two (2) recent cover deposits that are geologically young sediments [4 marks]
- (c) Explain any three (3) objectives of soil survey [6 marks]

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### QUESTION THREE

- (a) Explain any three (3) mechanisms of soil aggregation [6 marks]
- (b) Describe any four (4) properties of oxides [4 marks]
- (c) Explain any three (3) ways through which organic matter improves the soil structure [3 marks]

### SECTION B: ANSWER ANY TWO QUESTIONS (30 MARKS)

#### QUESTION FOUR

- (a) Describe the development of metamorphic rocks [7 marks]
- (b) Discuss any four (4) factors that lead to development of structure in arable soils [8 marks]

#### QUESTION FIVE

- (a) Discuss three (3) factors affecting irrigation water use efficiency [9 marks]
- (b) Describe any three (3) ways through which water is lost from soils [6 marks]

#### QUESTION SIX

- (a) Explain the typical information contained in a published county soil survey [7 marks]
  - (b) With the aid of a diagram illustrate the soil water system [8 marks]
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