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SUPPLEMENTARY 2016/2017

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UNIVERSITY OF SWAZILAND

SUPPLEMENTARY EXAMINATION PAPER

PROGRAMME: BACHELOR OF SCIENCE IN AGRONOMY YEAR IV

COURSE CODE: CP 406

TITLE OF PAPER: SOIL MANAGEMENT

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ALL QUESTIONS

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GRANTED BY THE CHIEF INVIGILATOR**

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QUESTION 1

- a) Discuss the possible effects of a long cycle of pineapple production on soil properties and yields of preceding crops. [15]
- (b) What strategies can be recommended to increase crop yields in a piece of land previously under a long cycle of pineapple production? [10]
[25]

QUESTION 2

- (a) Distinguish between “effective cation exchange capacity” and “total cation exchange capacity” and indicate the significance of each in the context of tropical and subtropical environments. [5]
- (b) Highlight the charge characteristics of soils in tropical and subtropical environments and indicate the soil materials responsible for such charge and the implications these characteristics have on plant nutrition. [10]
- (c) Suggest possible management interventions that can be recommended to increase crop yields in these environments. [10]
[25]

QUESTION 3

Discuss the soil requirement for sugarcane production and its subsequent management requirements. [25]

QUESTION 4

Discuss the critical management requirements of soils in the Middleveld and Highveld of Swaziland. [25]