

**SUPPLEMENTARY 2014/2015**



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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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**QUESTION 1**

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

**QUESTION 2**

- (a) Explain the ways by which soil salinity and sodicity conditions are formed. [10]
- (b) Discuss the strategies that can be recommended to increase crop yields in such soil conditions. [15]  
[25]

**QUESTION 3**

- (a) Describe the genesis of acid-sulphate soils [10]
- (b) Discuss the challenges posed by acid-sulphate soils to increased crop yields and recommend strategies that can increase crop yields in such soils. [15]  
[25]

**QUESTION 4**

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