



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2016/2017

**THIRD YEAR SECOND SEMESTER EXAMINATION FOR THE
DEGREE OF BACHELOR OF SCIENCE IN SOIL SCIENCE AND
PLANT NUTRITION WITH INFORMATION TECHNOLOGY**

MAIN CAMPUS

ASS 303: SOIL AND PLANT TESTING

Date: 12th June, 2017

Time: 12.00 - 3.00pm

INSTRUCTIONS:

- Answer ALL Questions in section A and any other TWO in section B.



SECTION A: Answer ALL QUESTIONS in this section.

QUESTION 1:

- (a) Define the following terms as used in soil and plant testing (6 marks)
- (i) Accuracy
 - (ii) Precision
 - (iii) Quality control

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- (b) Give four (4) types of reference samples as used in soil and plant testing (4 marks)

QUESTION 2:

- Explain the five (5) major factors to consider during soil sampling (10 marks)

QUESTION 3:

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- (a) Explain two (2) types of plant analyses (4 marks)
- (b) Explain with reasons the relevance of conducting the following analyses: (6 marks)
- (i) Soil analysis
 - (ii) Plant tissue analysis

SECTION B: Answer any TWO QUESTIONS in this Section

QUESTION 4:

[20 Marks]

Soil sampling is conducted to get a representative sample of the whole plot. With the help of diagrams describe five (5) methods of soil sampling.

QUESTION 5:

[20 Marks]

Discuss the necessary steps in the establishment of a functional soil and plant analysis laboratory.

QUESTION 6:

[20 Marks]

- (a) Outline the principles involved in the development and use of quality control charts for validation of data in an analytical laboratory
- (b) Discuss the main limitations in the use of plant tissue analysis in the diagnosis of nutritional disorders