

FIJI NATIONAL UNIVERSITY
COLLEGE OF AGRICULTURE, FISHERIES AND FORESTRY
SCHOOL OF AGRICULTURAL SCIENCES
Department of Soil Science & Agril. Chemistry

SPECIAL EXAMINATION: 2016

B.Sc Agriculture IInd year: Trimester IInd

SOIL FERTILITY AND PLANT NUTRITION (SAC 701)

TOTAL MARKS: 50

TIME ALLOWED: 3:10 HOURS

INSTRUCTIONS:

This paper consists of two (2) pages. Please check to see that your paper is complete.

Answer all questions in the answer booklet.

- Number your answers correctly in the provided answer booklet.
- Write your student ID number on all pages that you use including any additional sheet paper.
- Printed or written study materials are not allowed into the examination hall.
- Mark values appear at the end of each question or part thereof.

WRITE THE SHORT ANSWER FOR GIVEN QUESTIONS**(10 x 5 = Total 50 marks)**

1. What are the criteria's for essentiality of nutrients proposed by Arnon and Stout?. Give the classification of the important plant nutrients based on their availability in soil
2. What do you understand from photo-periodism? briefly describe. List the environmental factors which influence plant growth focusing any two of them in short.
3. What do you understand with the term cation exchange? Define cation exchange capacity of soils and describe the importance of soil colloids.
4. What are the function of nitrogen in plant growth? Explain the deficiency symptoms of nitrogen in plants.
5. What are the different forms of potassium present in soil. Write in short the deficiency symptoms of potassium in plants.
6. With suitable example, Classify the important nitrogenous fertilizers based on the forms of nitrogen present .
7. Draw a rough sketch of the nitrogen cycle and explain the nitrogen cycle with appropriate equations of nitrification and de-nitrification process of nitrogen transformation.
8. What are the role of phosphorus in plant growth. explain the different forms of phosphorus present in soil.
9. What are the important fertilizers supplying calcium and magnesium. Write the name of indicator plants used for magnesium deficiency.
10. Classify the important microorganism (with suitable example) helps in fixation of atmospheric nitrogen. Briefly explain the management of trace elements in Agriculture.
