

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

**FACULTY OF APPLIED SCIENCES
DEPARTMENT OF FOREST RESOURCES AND WILDLIFE MANAGEMENT
BACHELOR OF SCIENCE HONOURS DEGREE
MAIN EXAMINATION**

SOIL CHEMISTRY AND FERTILITY: EFW 4204

May 2013

Time Allowed: 3 Hours

Total Marks: 100

INSTRUCTIONS TO CANDIDATES:

Answer **QUESTION ONE** and any **THREE** others. Each question carries **25 marks**.

1. Critically review why an understanding of the soil system is important to the success and environmental harmony of most landuse practices.
2. Describe ways in which soil texture and structure affect other important physical characteristics of soil.
3. Describe the nature of irrigable soils and discuss soil problems that may arise due to irrigation.
4. Show how humus and clay play an important role in the provision of nutrients to plants.
5. With nitrogen as an example, describe nutrient cycling in the soil.
6. (a) Identify some causes of nutrient deficiencies in forest soils. **[5 marks]**
(b) Discuss nutrient deficiency diagnosis and maintenance of soil fertility in forest plantations and indigenous forests. **[20 marks]**

*****END OF PAPER*****

