



*(Knowledge for Development)*

# **KIBABII UNIVERSITY**

## **UNIVERSITY EXAMINATIONS 2015/2016 ACADEMIC YEAR**

### **SECOND YEAR 2ND SEMESTER MAIN EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCIENCE AGRICULTURE AND  
BIOTECHNOLOGY**

**COURSE CODE: SAB 213**  
**COURSE TITLE: SOIL CHEMISTRY**

**DATE: 4<sup>TH</sup> MAY 2016**

**TIME: 2PM – 4PM**

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#### **INSTRUCTIONS TO CANDIDATES**

Answer all Questions in section A and any other two (2) Questions in section B.

TIME: 2 Hours

This paper consists of 2 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

**SECTION A = 30ARKS**

1. a) Differentiate the following terms:
  - i) Primary and Secondary Minerals (2 Marks)
  - ii) Soil Mineral and Soil Colloid (2 Marks)
  - iii) Nesosilicates and Sorosilicates (2 Marks)
  - iv) Muscovite and Biotite (2 Marks)
  - v) Active and Residual Acidity (2 Marks)
- b) Identify and briefly explain the sources of soluble salts in saline soils. (10 Marks)
- c) Define Isomorphous Substitution (2 Marks)
- d) Describe the 1:1 type of clays. (6 Marks)
- e) Differentiate between Fulvic and Humic acids. (2 Marks)

**SECTION B = 40 MARKS**

2. State and briefly explain factors that influence Soil formation. (20 Marks)
3. Identify and briefly discuss the stages the decomposition processes of Organic Matter. (20 Marks)
4. Describe the Nutrient supply processes in Soil. (20 Marks)