



*(Knowledge for Development)*

# **KIBABII UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**2017/2018 ACADEMIC YEAR**

**FOURTH YEAR FIRST SEMESTER**

**SPECIAL/SUPPLEMENTARY EXAMINATION**

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

**COURSE CODE: SAB 411**

**COURSE TITLE: AGRICULTURAL SYSTEM NUTRIENT MANAGEMENT**

**DATE: 2<sup>ND</sup> OCTOBER 2018**

**TIME: 3 – 5 PM**

---

## **INSTRUCTIONS TO CANDIDATES**

Answer Question One and Any other TWO (2) Questions

TIME: 2 Hours

This Paper Consists of 2 Printed Pages. Please Turn Over. 

KIBU observes ZERO tolerance to examination cheating

### QUESTION ONE

- a. Discuss the following nutrient elements under the following topics;
- i. Copper  
Forms available for plant uptake (2 MKS)  
Functions (2 MKS)  
Deficiency symptoms (3 MKS)
  - ii. Molybdenum  
Forms available for plant uptake (2 MKS)  
Functions (2 MKS)  
Deficiency symptoms (3 MKS)
- b. Classify agroforestry systems using Socio-Economic Classification criteria (6 MKS)
- c. List any four factors that affect the availability of Potassium to the growing plants (4 MKS)
- d. Describe Manganese nutrient element cycle (6 MKS)

### QUESTION TWO

- a. Describe any THREE characteristics of Small-Scale farming system (12 MKS)
- b. Describe Calcium nutrient element cycle (8 MKS)

### QUESTION THREE

- a. Describe any three factors affecting BORON availability for plant uptake (6 MKS)
- b. Explain any four factors that affect the availability of Nitrogen to the growing plants (4 MKS)
- c. Outline any five Farm Production Practices that can improve economic Sustainability of any farm systems (10 MKS)

### QUESTION FOUR

- a. Describe any five factors to be considered during Land-Use planning in farming system in Kenya (10 MKS).
- b. Discuss any Five pressures that affect Agroforestry Ecosystem (10 MKS)