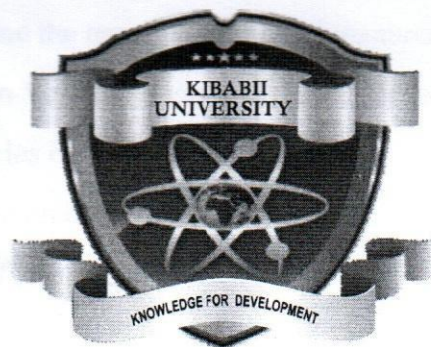


60



(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2019/2020 ACADEMIC YEAR

FOURTH YEAR 2ND SEMESTER
MAIN EXAMINATION

**FOR THE DEGREE OF BACHELOR OF SCIENCE AGRICULTURE AND
BIOTECHNOLOGY & BACHELOR OF SCIENCE AGRICULTURE
ECONOMICS AND RESOURCE MANAGEMENT**

COURSE CODE: SAB 410
**COURSE TITLE: FERTILIZER MANUFACTURE &
FORMULATION**

DATE: 11TH NOVEMBER 2020

TIME: 9AM – 11 AM

INSTRUCTIONS TO CANDIDATES

Answer Question ONE and any other TWO Questions.

TIME: 2 Hours

This paper consists of 3 printed pages. Please Turn Over



KIBU observes ZERO tolerance to examination cheating

1. a) Using Equation, define the term reinforcing in manures. (2 Mark)
 - b) Differentiate between Vermicompost and Rural Compost. (2 Marks)
 - c) Describe two categories of biofertilizers. (4 Marks)
 - d) Discuss the classification of fertilizers based on nutrient composition. (6 Marks)
 - e) In the manufacture of P fertilizers,
 - i) Name the raw materials. (2 Marks)
 - ii) Give the chemical reactions when the following fertilizers are manufactured
 - Diammonium Phosphate (DAP) (2 Marks)
 - Triple superphosphate (TSP) (4 Marks)
 - iii) State the chemical reactions by which elemental P is oxidized to form orthophosphoric acid. (2 Marks)
 - g) Give the equation of reaction when the following materials are mixed to form fertilizer mixtures and state whether or not it is advisable to mix them depending on the products formed.
 - Urea + TSP. (3 Marks)
 - DAP + SSP. (3 Marks)
2. Describe the factors affecting the phosphate fertilizer use. (20 Marks)
3. a) Grace, a large scale maize farmer in Uasin-Gishu County has ordered a fertilizer blend of NPK 20:10:10. Calculate the amount of each ingredient required to make the blend. (10 Marks)
 - b) Describe the CORE factors that determine the choice of ingredients to be used to make a fertilizer blend (10 Marks)
4. a) Using Equations, describe the Urea fertilizer manufacturing processes. (12 Marks)
 - b) Discuss the Merits and Demerits of Organic Liquid Fertilizers. (8 Marks)
5. Describe the procedure of establishing the green manure cover crops. (20 marks)