



(Knowledge for Development)

KIBABII UNIVERSITY
UNIVERSITY EXAMINATIONS
2020/2021 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: 5TH OCTOBER 2021

TIME: 2 – 4 PM

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) State the significance of C: N ratio in organic manures. (2 Mark)
- b) Differentiate between a blended and straight fertilizer (2 Marks)
- c) Explain why cat manures are not recommended for use on farm (2 Marks)
- e) Give the analytical grades of the following fertilizer
- i) SOP (1 Mark)
 - ii) SSP (1 Mark)
- f) Discuss three ways in which nutrient losses from FYM and slurry can be reduced. (6 Marks)
- g) In the manufacture of K fertilizers,
- i) Name the raw material. (1 Mark)
 - ii) Give the chemical reactions when the following fertilizers are manufactured
 - Muriate of Potash (MOP) (2 Marks)
 - Sulphate of Potash (SOP) (2 Marks)
 - iii) State the chemical reactions by which elemental S is oxidized to form sulfuric acid. (2 Marks)
- h) 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)
- i) Explain the disadvantages of liquid organic fertilizers (3 Marks)
2. The exclusive use of organic manures as nutrient sources for plant growth has been advocated as a logical alternative to expensive inorganic fertilizers for small-holder farmers in sub-Saharan Africa. Explain the merits and demerits of this alternative (20 Marks)

3. a) Mr. Kipruba, a large scale maize farmer in Mt. Elgon has ordered a fertilizer blend of 14:29:6. Calculate the amount of each ingredient required to make the blend. (10 Marks)
- b) Describe the CORE factors that determines the choice of ingredients to be used to make a fertilizer blend (10 Marks)
4. Describe the nitrogen fixing biofertilizers. (20 Marks)
5. Describe the reactions of TSP fertilizers in the soils. (20 marks)