(Knowledge for Development)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS 2019/2020 ACADEMIC YEAR

SECOND YEAR 2ND SEMESTER MAIN EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE AGRICULTURE EDUCATION AND EXTENSION & BACHELOR OF EDUCATION SCIENCE

COURSE CODE: ASS 223 / SAB 310.
COURSE TITLE: SOIL MORPHOLOGY AND CLASSIFICATION

DATE: 03/02/2021.   **TIME:** 8 – 10 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) As an invited guest speaker in the 28th Soil Science Society of Africa (SSSA) Conference to be held in Doula, Cameroon, Describe how you will define Soil to the delegates'. (2 Marks)

   b) Differentiate between the following terms
      i)   Acidic and Neutral igneous rocks (2 Marks)
      ii) Ab and Bs soil horizons (2 Marks)
      iii) Calcaric and Follic Level 2 soil elements (2 Marks)
      iv) Arenosols and Acrisols (2 Marks)
      v)   Soil Horizon and Soil Profile (2 Marks)

   c) As a soil pedology student, describe the soil temperature regimes. (10 Marks)

   d) Describe the Mollic Fluvaquents soil type using the USDA Soil Taxonomy System (5 Marks)

   e) Explain the soil coloring system. (3 Marks)

2. Using equations, describe the various Endogenic processes in the soil. (20 Marks)

3. You have been employed by the Ministry of Agriculture as an Intern. Your main roles is to educate farmers on Strengths, Weaknesses, Opportunities and Threats of various Soil types. Describe how you will advise the farmers residing in regions with the following soil types.
   - Technosols in Dandora Nairobi Region (5 Marks)
   - Nitisols in Nandi Hills Region. (5 Marks)
   - Ferralsols in Moiben, Eldoret Region. (5 Marks)
   - Solonertz in Garrisa Region (5 Marks)

4. Explain TIME as a factor of soil formation. (20 Marks)

5. Describe the major changes that were made by in the World Reference Base (WRB) Soil Classification System. (20 Marks)