



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND  
TECHNOLOGY**

**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**FIRST YEAR FIRST SEMESTER UNIVERSITY EXAMINATION FOR THE  
DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL AND  
EXTENSION EDUCATION, BACHELOR OF SCIENCE IN ANIMAL  
SCIENCE AND BACHELOR OF SCIENCE IN SOIL SCIENCE**

**2022/2023 ACADEMIC YEAR**

**REGULAR**

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**COURSE CODE: APB 9103**

**COURSE TITLE: Agricultural Botany**

**EXAM VENUE:**

**STREAMS: BSc. AGED, BSc. Animal  
Science & BSc. Soil Science**

**DATE:**

**EXAM SESSION:**

**TIME: 2 HOURS**

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**Instructions:**

- 1. Answer ALL questions in section A and ANY other 2 Questions in section B.**
- 2. Candidates are advised not to write on question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

## SECTION A [30 MARKS]

**Answer ALL questions from this Section.**

1.
  - a) What is plant Morphology? **(2 Marks)**
  - b) Explain the FOUR major areas of investigation in plant morphology. **(4 Marks)**
2. Define the following terms as used in plant botany; **(4 Marks)**
  - a) Ecosystem
  - b) Tissue system
  - c) Eukaryotes
  - d) Prokaryotes
3. Explain the functions of each of the following cell organelles; **(6 Marks)**
  - a) Leucoplast
  - b) Plasmodesmata
  - c) Dictyosomes
4. Define each of the following terms as used in cell division; **(5 Marks)**
  - a) Chiasmata
  - b) Ploidy
  - c) Karyokinesis
  - d) Hyperplasia
  - e) Bi-parental inheritance
5. Give THREE functions of the dermal tissue in plants. **(3 Marks)**
5. Give TWO functions and TWO examples of each of the following plant cells; **(6 Marks)**
  - a) Parenchyma cells
  - b) Sclerenchyma cells

## SECTION B [40 MARKS]

**Answer ANY TWO questions from this Section.**

6. Discuss the structure, function, and ecological adaptation of each of the following categories of plants;
  - a) Hydrophytes **(5 Marks)**
  - b) Halophytes **(5 Marks)**
  - c) Parasites **(5 Marks)**
  - d) Epiphytes **(5 Marks)**
7.
  - a) Using well-labeled diagrams, Outline the main differences between the cross-section of a herbaceous monocot root and a dicot root. **(14 Marks)**
  - b) Discuss THREE main causes of morphological variation in plants. **(6 Marks)**
8. Using an appropriate diagram, discuss the process of secondary growth in the dicot stem. **(20 Marks)**