



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2022/2023

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY, BACHELOR OF EDUCATION SCIENCE (BIOLOGY/CHEMISTRY), (BIOLOGY/MATHS), (BIOLOGY/AGRICULTURE), BACHELOR OF SCIENCE IN AGRICULTURE AND BACHELOR OF SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION

SBA 3150: PLANT MORPHOLOGY AND ANATOMY

DATE: APRIL 2023

TIME: 2 HOURS

INSTRUCTIONS: Answer question *one* and any other *two* questions

QUESTION ONE (30 MARKS)

- a) Distinguish between the following using illustrations
- (i) Monoecious, dioecious and synoecious plants (6 marks)
 - (ii) Apoplastic, symplastic and transcellular transport paths (6 marks)
- b) Illustrate the general structural organization of plants into systems organs and tissues (6 marks)
- c) Explain the following in relation to plant cells
- (i) Totipotency (2 marks)
 - (ii) Plasticity (2 marks)
- d) Outline any four modifications of seeds for their function (4 marks)

- e) Illustrate the anatomical differences between the cross-section of a primary dicot stem and primary monocot root (4 marks)

QUESTION TWO (20 MARKS)

Discuss the adaptations of leaves to their functions (20 marks)

QUESTION THREE (20 MARKS)

Discuss the various types of roots found in plants and their modifications for different functions (20 marks)

QUESTION FOUR (20 MARKS)

Describe the different types of flowers on influroscent found in plants (20 marks)