



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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University Examinations 2023/2024

FIRST YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF BIOCHEMISTRY, BACHELOR OF BIOTECHNOLOGY, BACHELOR OF BIOLOGY AND BACHELOR OF ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT

SBT 3150: PLANT FUNCTION

DATE: APRIL 2024

TIME: 2 HOURS

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

QUESTION ONE (30 MARKS)

- a) Outline the unique properties of water that are essential in supporting life (5 marks)
- b) Explain facilitated diffusion (4 marks)
- c) Explain three processes at the cellular level that account for all growth patterns in flowering plants (4 marks)
- d) Explain the water potential equation of a plant cell or tissue (3 marks)
- e) Describe the role of auxins in plant growth (4 marks)
- f) List 4 micronutrients and outline symptoms of their deficiency in plants (4marks)
- g) Distinguish between
 - Epigeal (EG) and hypogeal germination (HG)
 - Dry dehiscent and dry indehiscent fruits;
 - True and false fruits:

QUESTION TWO (20 MARKS)

Discuss the functions of mineral nutrients in plants

QUESTION THREE (20 MARKS)

Discuss conditions of the seed that lead dormancy

QUESTION FOUR (20 MARKS)

Discuss the differences between the primary tissues of a monocot and a dicot

- a) Root
- b) Stem