



# **MURANG'A UNIVERSITY OF TECHNOLOGY**

## **SCHOOL OF BUSINESS AND ECONOMICS**

**UNIVERSITY ORDINARY EXAMINATION**

**2020/2021 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR, BACHELOR OF  
SCIENCE IN AGRICULTURAL EDUCATION AND EXTENSION**

**ABT 203– PLANT STRUCTURE AND FUNCTION**

**DURATION: 2 HOURS**

**Instructions to candidates:**

1. Answer question One and Any Other Two questions.
2. Mobile phones are not allowed in the examination room.
3. You are not allowed to write on this examination question paper.

**SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION**

**QUESTION ONE (30 MARKS)**

- a) Differentiate between osmosis and diffusion (4marks)
- b) Compare and contrast prokaryotic and eukaryotic (4marks)
- c) Using illustrations, describe the structural adaptations of a plant root cell to enhance water absorption (6marks)
- d) Explain the following phrases (2marks)
  - i. Seed germination
  - ii. Seed dormancy
- e) Discuss factors that affect evapotranspiration in plants (6marks)
- f) Discuss the three types of phyllotaxy (6marks)

**SECTION B – ANSWER ANY TWO QUESTIONS IN THIS SECTION**

**QUESTION TWO (20 MARKS)**

The stem is one of the two main structural axes of a plant, the other being the root.

- i. Discuss the main functions of the stem (6marks)
- ii. Discuss different stem modifications that aid it in its key function (14marks)

**QUESTION THREE (20 MARKS)**

Discuss adaptations of xerophytes that contribute to their success in arid environments (20marks)

**QUESTION FOUR (20 MARKS)**

Discuss the following:

- i. Primary growth and secondary growth (8marks)
- ii. Factors affecting plant growth, development and productivity (12marks)