



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS  
2018/2019 ACADEMIC YEAR**

**THIRD YEAR FIRST SEMESTER  
SCHOOL OF SCIENCE  
BACHELOR OF EDUCATION (SCIENCE)**

**COURSE CODE: BOT 310**

**COURSE TITLE: MORPHOGENESIS AND  
DEVELOPMENTAL ANATOMY**

**DATE: 7<sup>TH</sup> DECEMBER 2018**

**TIME: 0830 – 1030 HRS**

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**INSTRUCTIONS TO CANDIDATES**

- (a) Answer ALL the Questions in Section A**
- (b) Answer ANY TWO Questions in Section B**

*This paper consists of 2 printed pages. Please turn over.*

**SECTION A: Short answer questions (3 marks each)**

1. Define the following terms;
  - a. Organogenesis (1 mark)
  - b. Differentiation (1 mark)
  - c. Phyllotaxy (1 mark)
  
2. Explain different types of leaf margins. (3 Marks)
3. With an aid of a diagram, illustrate various regions of tissue differentiation in a monocot root. (3 Marks)
4. Illustrate a transverse section of a dicot stem. (3 Marks)
5. Differentiate between stems and roots. (3Marks)
6. Illustrate the structure of a dicot seed, stating the function of each part. (3Marks)
7. Explain the economic importance of angiosperms. (3Marks)
8. Describe three circumstances that may hinder seed germination. (3Marks)
9. Identify and describe measures that plants employ to reduce transpiration rates through leaves during dry spells. (3Marks)
10. Highlight the advantages of tissue culture over use of intact plants (3Marks)

**SECTION B: ESSAY (20 Marks each)**

11. Discuss fertilization in angiosperms. (20 Marks)
12. Write an essay on the classification of fruits according to the fruit wall. (20 Marks)
13. Explain how hydrophytes have developed characteristics for survival. (20 Marks)
14. Discuss different types of tissue culture. (20 Marks)

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