



**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**UNIVERSITY EXAMINATIONS**

**2021/2022 ACADEMIC YEAR**

**MAIN EXAMINATIONS  
MAIN CAMPUS**

**THIRD YEAR SECOND SEMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
BACHELOR OF SCIENCE IN BIOLOGY**

**COURSE CODE: SBN 322**

**COURSE TITLE: PLANT EVOLUTION**

**DATE: THURSDAY, 21<sup>ST</sup> APRIL 2022**

**TIME: 8:00 – 10:00 A.M.**

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**INSTRUCTIONS TO CANDIDATES**

Answer ALL questions in section A and ANY TWO (2) questions in section B

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over. 

**SECTION A (SHORT ANSWER QUESTIONS, 40 MARKS)**

1. Describe sexual dimorphism of plants on the example of maize (*Zea mays*). (3 marks)
2. Describe Single Nucleotide Polymorphism (SNP) and discuss its outcome. (4 marks)
3. Relate the process of grafting to the term artificial selection. (4 marks)
4. List five (5) characteristics of Angiosperms. (5 marks)
5. Define aerenchyma and explain why some plants need such tissue. (4 marks)
6. List five (5) factors that can influence the rate of evolution. (5 marks)
7. Discuss why the study of Embryology brings evidences of evolution. (5 marks)
8. Describe the botanical changes that happened in the Cretaceous Period. (5 marks)
9. Describe a terrestrial scenery of the Devonian Period. (5 marks)

**SECTION B (ESSAY QUESTIONS, 30 MARKS)**

10. Write an essay about the cultivation history of potato (*Solanum tuberosum*). (15 marks)
11. Discuss several adaptations of plants to arid conditions. (15 marks)
12. Describe the flora of the Carboniferous period. Discuss how geological change and flora influenced the climatic conditions at the end of this period. (15 marks)