



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY EXAMINATIONS  
2019/2020 ACADEMIC YEAR**

**SECOND YEAR FIRST SEMESTER  
EXAMINATION FOR THE DEGREES OF  
BACHELOR OF SCIENCE AND BACHELOR OF  
EDUCATION (SCIENCE)**

**COURSE CODE: BOT 2107**

**COURSE TITLE: INTRODUCTION TO PLANT  
BIOLOGY**

**DATE: 2<sup>ND</sup> DECEMBER, 2019**

**TIME: 0830 – 1030HRS**

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## **INSTRUCTIONS TO CANDIDATES**

- (a) Select ONLY TEN Questions (7 marks each)**
- (b) Illustrate your answers with well labeled diagrams where appropriate**

**ANSWER ANY TEN QUESTIONS (7 MARKS EACH)**

1. a) State any three functions of plant roots. (3marks)  
b) Briefly describe the root cap. (4marks)
2. Briefly describe any seven specialized roots. (7marks)
3. Enumerate any seven specialized leaves with their functions. (7marks)
4. Briefly describe the Histogen theory in root development. (7marks)
5. a) Briefly describe the three modes of fruit development. (3marks)  
b) Distinguish between sapwood and heartwood. (4marks)
6. a) Describe the functions of the quiescent centre in the root. (3marks)  
b) Outline any four features of the anatomy of a monocot stem. (4marks)
7. a) Name the two products of double fertilization. (2marks)  
b) Briefly describe the development of a dicot embryo. (5marks)
8. a) Briefly describe ovule formation in the ovary. (3marks)  
b) Distinguish between orthotropous and anatropous ovule. (4marks)
9. Briefly describe secondary growth in a dicot stem. (7marks)
10. a) Illustrate the zones of an actively growing root-tip. (3marks)  
b) Describe the structure of the anther. (5marks)
11. Briefly describe development of the embryo sac in a flower. (7marks)
12. Explain any seven features that enhance mature seed/fruit dispersal. (7marks)
13. a) Explain the three types of endosperm development (3marks)  
b) Distinguish between the two types of agamospermy. (4marks)
14. State any seven differences between a monocot and a dicot stem. (7marks)
15. a) Distinguish between an aggregate fruit and accessory fruit. (3marks)  
b) Describe the nature of spores produced by ferns. (4marks)

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