



MAASAI MARA UNIVERSITY

**REGULAR UNIVERSITY EXAMINATIONS
2023/2024 ACADEMIC YEAR**

THIRD YEAR FIRST SEMESTER

BACHELOR OF EDUCATION (SCIENCE)

COURSE CODE: BOT 3108

**COURSE TITLE: PLANT GROWTH AND
DEVELOPMENT**

DATE: 15/12/2023

TIME: 1430-1630 HRS

Instructions

Answer **ALL** questions in section **A** and any other **TWO** selected from section **B**.

Illustrate your answers with diagrams and give examples where appropriate.

SECTION A (30 MARKS): ANSWER ALL QUESTIONS

1. Distinguish between the following terms;
 - a) Growth and Development (1 Mark)
 - b) Hypogeal and Epigeal (1 Mark)
 - c) Phyllotaxis and Plastochron (1 Mark)
2. Give a detailed profile of the primary root system. (3 Marks)
3. With illustrations, describe the three types of shoot apices. (3 Marks)
4. Account for the stages in the initiation of leaf primordium. (3 Marks)
5. List six physiological changes seen in a plant undergoing senescence. (3 Marks)
6. Give the crucial factors that are required for successful germination. (3 Marks)
7. Write short notes on the classification of fruits. (3 Marks)
8. Give the significance of Abscission. (3 Marks)
9. Differentiate between anatomical and morphological adaptations in xerophytes. (3 Marks)
10. Describe the response of plants to touch, light and gravity. (3 Marks)

SECTION B (40 MARKS): ANSWER ANY TWO QUESTIONS

11. Discuss the reason why fertilization in plants is considered as 'double'. (20 Marks)
12. Outline a laboratory procedure for the study of meristematic tissues. (20 Marks)
13. Discuss Plant Growth Hormones and their applications in Tissue Culture. (20 Marks)
14. Provide a detailed report on the types and factors influencing seed dormancy. (20 Marks)

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