



MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

THIRD YEAR SECOND SEMESTER

BACHELOR OF EDUCATION (SCIENCE)

COURSE CODE: BOT 3108

**CODE TITLE: PLANT GROWTH AND
DEVELOPMENT**

DATE: 01/04/2022

TIME: 0830-1030

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 mk)
 - b. Megaphyllous leaf and Microphyllous leaf (1 mk)
 - c. Phyllotaxis and Plastochnon (1 mk)
2. Describe the primary root system. (3 mks)
3. Describe the three types of shoot apices. (3 mks)
4. Describe the process of initiation of leaf primordium. (3 mks)
5. List six physiological changes of senescence. (3 mks)
6. State the critical factors required for germination. (3 mks)
7. Give three types of fruits. (3 mks)
8. Give the significance of Abscission. (3 mks)
9. Differentiate between Hypogeal and Epigeal germination processes. (3 mks)
10. Distinguish between Phototropism, Thigmotropism and Gravitropism. (3 mks)

SECTION B (40 MARKS): ANSWER ANY TWO QUESTIONS

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

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