

**APPLIED BIOLOGY LEVEL 6**

**SBT 2152**

**PLANT HUSBANDRY**

**MARCH/APRIL 2024**

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**WRITTEN ASSESSMENT**

**TIME: 3 HOURS**

**INSTRUCTIONS TO CANDIDATES**

1. This paper has two sections **A** and **B**.
2. You are provided with separate answer booklet.
3. Marks for each question are indicated.
4. Do not write on the question paper.

## SECTION A

Answer all the questions in this section

1. Highlight **four** environmental factors that influence the germination of the seeds. (4 marks)
2. Explain any **two** method of scarification as a way of breaking seed dormancy. (4 marks)
3. Explain any **two** ways in which the yields of the crops can be lost. (4 marks)
4. Explain the term plant hardening and state how it can be accomplished. (4 marks)
5. Leaf cutting is a method that can be used to asexually propagate plants. Explain any **two** types of this method available. (4 marks)
6. Summarize the most common necrotic symptoms on plants caused by fungi. (4 marks)
7. Outline the qualities of a good germinating media. (4 marks)
8. Highlight the management practices of bacterial diseases of plants. (4 marks)
9. Green houses can be of different types based on specific needs they are required to meet. Explain the **two** types of green houses available based on their utility. (4 marks)
10. Outline **four** reasons why garden soil cannot be used to initiate the germination of the seeds. (4 marks)

## SECTION B (60 MARKS)

Answer any **three** questions in this section

11. a) Highlight **four** conditions that must be met for grafting to be successful. (4 marks)  
b) Describe the various techniques that one can choose from to propagate plants by grafting. (6 marks)  
c) Analyze the methods for plant propagation by layering. (10 marks)
12. a) You want to carry out a tissue culture of a plant that cannot be initiated using other available propagation techniques. Enumerate the materials that you need for the whole process of tissue culture to be successful. (10 marks)  
b) Explain the procedure involved during the transfer of plant materials to tissue culture media. (10 marks)
13. a) Describe how ferns are propagated by spores. (10 marks)  
b) Plants can be asexually propagated by cutting the stems. Explain **five** techniques that can be employed during stem cutting. (10 marks)
14. a) Discuss the various types of green house available based on their shapes. (10 marks)

b) Green house management involves monitoring of environmental parameters in a green house. Describe the equipments/instruments with the parameters they measure in a green house and the influence of these parameters on the crops. (10 marks)