

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE

BOTA 312: PLANT GENETIC RESOURCE MANAGEMENT

STREAMS:

TIME:2 HOURS

DAY/DATE: THURSDAY 13/04/2023

8.30 A.M. –10.30 A.M.

INSTRUCTIONS

Answer all questions in section A and any two in section B

1. a. Define the following terms with regards to plant genetic resources
 - i. Breeders lines (1 mark)
 - ii. Primitive varieties (1 mark)
 - iii. Cultivars (1 mark)
- b. State the importance of conserving plant genetic resources (3 marks)
2. a. Using a potato tuber as an example, explain why it is considered as a genetic resource (2 marks)
- b. Describe two classes of plant genetic stocks (3 marks)
3. a. Describe three germplasm storage technologies (3 marks)
- b. Giving appropriate examples, describe the strategies for conservation of plant genetic resources (4 marks)
4. a. Describe the levels at which biological diversity of plant genetic resources is determined (3 marks)
- b. Describe three forms in which plant genetic resources can be stored (3 marks)

5. Describe three international institutions that are involved in the conservation of plant genetic resources (6 marks)

SECTION B (40 MARKS) ANSWER ANY TWO QUESTIONS

6. Discuss four biotechnology applications that are used in the conservation of plant genetic resources (20 marks)

7. a. Discuss the factors that influence the genetic diversity of plant genetic resources (10 marks)

b. Discuss DNA databases used in the management of plant genetic resources (10 marks)

8. Discuss the key activities that are carried out by germplasm curators during management of plant genetic resources (20 marks)
