



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

**SECOND YEAR SECOND SEMESTER UNIVERSITY EXAMINATION FOR THE
DEGREE OF BACHELOR OF SCIENCE IN FOOD SECURITY**

2023/2024 ACADEMIC YEAR

REGULAR

COURSE CODE: APB 2201 -PLANT GENETIC RESOURCES

COURSE TITLE: Plant Genetic Resources and Conservation

EXAM VENUE:

STREAM: Food Security

DATE:

EXAM SESSION:

TIME: 2 HOURS

Instructions:

- 1. Answer ALL the questions in section A and any TWO in section B.**
 - 2. Candidates are advised not to write on question paper.**
 - 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**
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SECTION A [30 MARKS]

Answer ALL questions from this Section.

- 1 a. Define Plant Genetic Resource (PGR). (1 mark)**
 - b. State the principal of plant genetic resources or germplasm (3 marks)**
 - c. State three objectives of the Global Strategy for Plant Conservation (3 marks)**
 - d. Highlight International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) (3 marks)**

2. a. State major seed banks for agricultural plants and the five categories of plant genetic resources **(5 marks)**
- b. State four broad categories of services provided by ecosystems **(5 marks)**
3. a. Sustainable use of Plant Genetic Resource for Food and Agriculture (PGRFA) can only be realized through full coordination between crop research and effective seed systems. State clearly what needs to be done to realize this? **(5 marks)**
- b. State importance of plant and plant communities to humans and their environment. **(5 marks)**

SECTION B [40 MARKS]

Answer any TWO QUESTIONS from this Section.

- Q3. Discuss the main methods and techniques of plant genetic resource conservation **(20 marks)**.
- Q4. Discuss Strategic role of plant genetic resources in achieving global food security and sustainable agriculture. **(20 marks)**
- Q5. Discuss constraints to development of policy and legislative measures and emerging policy and institution recommendations on plant genetic resource conservation and utilization in Africa **(20 marks)**