



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF AGRICULTURAL AND FOOD SCIENCES**

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

**2019/2020 ACADEMIC YEAR**

**SPECIAL/RESIT**

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COURSE CODE: APT 3214/AHT 3211

COURSE TITLE: Plant Genetic Resources and Conservation

EXAM VENUE:

STREAM: BSc. Hort. & Food Security

DATE:

EXAM SESSION:

TIME: 2 HOURS

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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 Biological Conservation ( 1 mark)  
  
b. Highlight the three objectives of United Nations Convention on Biological Conservation (3 marks)

- c. The United Nations Convention on Biological Diversity (UNCBD) is a legally binding treaty, state three of every country obligations under UNCBD (3 marks)
- d. What are the changes that have occurred in increasing use of Plant Genetic Resource for Food and Agriculture in order to meet the needs of a population that is projected to grow by some 40% over the period from 2005 to 2050? (3 marks)
2. a. State major seed banks for agricultural plants and the five categories of plant genetic resources (5 marks)
- b. State major seed banks for agricultural plants and the five categories of plant genetic resources (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. As with many other crop plants, the genetic resources can be divided into five categories: state and briefly explain them (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. The causes to plant genetic resources loss in Africa are many and complex. Discuss (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)