



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

**UNIVERSITY EXAMINATION FOR THE DEGREE OF DOCTOR OF PHILOSOPHY
IN FOOD SECURITY AND SUSTAINABLE AGRICULTURE**

1st YEAR 1st SEMESTER 2019/2020 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: AFB 6113

**COURSE TITLE: SUSTAINABLE NATURAL RESOURCE MANAGEMENT AND
FOOD SECURITY**

EXAM VENUE: STREAM: PhD Food security Sustainable Agriculture

DATE: 4/09/19

EXAM SESSION: 9.00 – 12.00NOON

TIME: 3 HOURS

Instructions:

- 1. Answer questions ONE and ANY TWO questions**
- 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**

Q1

- a) Explain the concept of weak sustainability and its validity in natural resources management. **(4 marks)**
- b) Describe four pertinent causes of natural resources degradation in sub-Saharan Africa **(6 marks)**
- c) Explain why food availability doesn't guarantee food access to the entire population. **(4 marks)**
- d) List four challenges to global food supply and demands. **(2 marks)**
- e) Briefly describe sustainable use and conflicts of agro ecosystems in Sub-Saharan Africa. **(4 marks)**

Q2

Discuss your understanding by the term "Climate change" and delineate the contribution of Agriculture to global warming. **(20 marks)**

Q3

While attending a conference on Food security, one of the key note speakers said, "Even if we took all the food produced in 2019 and distributed it evenly amongst the global population, the world will still need to produce 974 more calories per person per day by the year 2050." Discuss this statement. **(20 marks)**

Q4

With regard to food consumption, certain cultures do not allow eating specific foods in general or at particular periods of life. These cultural food consumption practices may compromise nutrition security and maybe against basic human rights. Describe your understanding of the above statement in relation to novel crops and livestock. **(20 marks)**

Q5

You have been hired as an African envoy in food and nutritional security by the United Nations and posted to one of the member country in Sub-Saharan Africa. Your task is to ensure all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. Discuss the approach you will use to achieve your task. **(20 marks)**