JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF AGRICULTURAL AND FOOD SCIENCES

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

2016/2017 ACADEMIC YEAR

REGULAR

COURSE CODE: AFB 3111

COURSE TITLE: Introduction to Food Security

EXAM VENUE: **STREAM: BSc. (Food Security)**

DATE: **EXAM SESSION:**

TIME: 2 HOURS

Instructions:

1. **Answer ALL questions in section A and ANY other 2 Questions 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.**

SECTION A [30 MARKS]

Answer ALL questions from this Section.

1. State the four components of food security according to FAO and adopted by Kenya. (4marks)
2. a). State the four levels of food security. (4 marks)

   b). Briefly explain the possible changes in human health related to climate change. (4marks)
3. Distinguish between food self- sufficiency and food self-reliance. (3marks)
4. Briefly explain the hurdle technology. (3marks)
5. Give three reasons for low agricultural productivity in Kenya. (3marks)
6. Explain the three ways in which agriculture supports the livelihoods of Kenyans. (3marks)
7. Briefly explain how social and cultural factors affect people's nutrition. (3marks)
8. Name three areas in which food habits change can influence good nutrition practices. (3marks)

SECTION B [40 MARKS]

Answer ANY TWO questions from this Section.

9. a i) Explain the meaning of the term Net Protein Utilization (NPU). (6marks)

   ii).What are the NPU's of egg and mother's milk? (6marks)

   b) Change these into megajoules (MJ)

   i). A child of two needs 5,300 kilojoules a day (2marks)

   ii) There are 10,000 kilojoules in 270 gm of oil (2marks)

   c) Change these into Kilojoules (kJ)

   i) There are 0.00418 megajoules in a Calorie (2marks)

   ii) The recommended rate of 2,250 Kcal/day per active African adult male equivalent. (note: 4.18 joules=1 calorie) (2marks)

10. a). Discuss the greenhouse effect and the phenomenon of global warming.(9marks)

    b). Name two most important human activities that lead to gradual rise of CO_2 levels in the atmosphere. (2marks)

    c). Using examples in each case, discuss the five levels of nutritional problems. (9marks)

11. a). Name four greenhouse gases and their anthropogenic sources. (4marks)

    b). Discuss the impacts of global warming on agriculture. (8marks)

c). Explain the following:

i). the causes, symptoms and preventive measures for kwashiorkor.(4marks)

ii). the causes, symptoms and preventive measures for marasmus. (4marks)