



**JARAMOGI OGINGA ODONGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCES**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
PUBLIC & COMMUNITY HEALTH
1ST YEAR 1ST SEMESTER 2016/2017
KISUMU CENTRE**

COURSE CODE: AFB 3111

COURSE TITLE: INTRODUCTION TO FOOD SECURITY

DATE: EXAM SESSION

TIME:

Instructions:

- 1. Answer all questions in Section A and any other 2 questions in Section B**
- 2. Candidates are advised not to write on the question paper**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room**

Section A

1. a) State the meaning of the term food security (1Mark)
b) Differentiate protein-energy malnutrition and micronutrient malnutrition (2marks)
2. a) State the distinction between poverty and hunger (1 Mark)
b) Define the following terms;
(i) income poverty
(ii) human poverty. (2 Marks)
3. Explain with three points how war and displacement affects food security (3 Marks)
4. Drought and floods are common climate threats in Kenya impacting on food security, state three adaptive measures that you would propose to farmers to cope with drought. (3 Marks)
5. a) HIV/AIDS disease is a serious public health concern in Kenya and Sub-Saharan Africa. State two ways in which it worsens food security (2 Marks)
b) Mention at least one initiative by the government to address HIV menace. (1 Mark)
6. State any two Millennium Development Goals and one Sustainable Development Goal that relate to food security. (3 Marks)
7. a) Explain the difference between dispensable amino acids and non-dispensable amino acids in human nutrition. (1 Mark)
b) Name four essential amino acids. (2 Marks)
8. a) State any two key infrastructures that affect food security (2 Mark)
b) What do you understand with the term climate change? (1mark)
9. a) Mention two greenhouse gases that contribute to climate change (2mks)
b) State how urbanization affects food security? (1mark)
10. a) Mention two major challenges facing livestock rearing in the Arid and Semi-Arid Lands (ASAL) of Kenya. (2 Marks)
b) Mention one strategy/measure taken by Kenya Government to address the above challenges. (1mark)

SECTION B. Answer any two questions

1. a) Discuss 3 main causes of climate change (10 marks).
 b) Explain 2 broad types of adjustments to help in coping with and adapting to climate variability/change (10 marks).

2. a) Discuss three causes of hunger; poverty trap, lack of investment in agriculture and climate and weather as proposed by Food and Agriculture Organization (FAO) (15 marks)
 b) State your understanding of the term GM crops. (5 Marks)

3. a) Vitamins are organic substances which the human body requires in small amounts and yet cannot make for itself and have to be provided by the diet. Discuss Vitamin A (Retinol), Vitamin D₃ (Cholecalciferol) and Vitamin C (Ascorbic acid) with respect to dietary sources, and disease condition due to their deficiency. (10 marks)
 b) Explain how plant breeding has contributed to food security in Kenya. (5 Marks)

4. a) Discuss four factors that influence food quality (10 Marks)
 b) Discuss the importance of the agriculture sector to Kenya's economy (10Marks)