



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

**UNIVERSITY EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN
AGRICULTURAL EDUCATION AND EXTENSION**

FIRST YEAR SECOND SEMESTER 2017/2018 ACADEMIC YEAR

REGULAR

COURSE CODE: AFB 3221

COURSE TITLE: NUTRITIONAL DEFICIENCIES AND RELATED DISEASES

EXAM VENUE:

STREAM: BSc. Food Security

DATE:

EXAM SESSION:

TIME: 2.00 HOURS

Instructions:

- 1. Answer ALL questions in Section A (compulsory) and ANY other TWO 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 [30 MARKS]
Answer All Questions in this Section

1. Define the following concepts as used in this course.
 - i. Nutritional deficiency [3 Marks]
 - ii. Nutritional status [3 Marks]
 - iii. Atherosclerosis [3 Marks]
2. List any four nutrients whose deficiencies are known to compromise the functioning of the immune system. [4 Marks]
3. Differentiate between:
 - i. Osteomalacia and Osteoporosis [4 Marks]
 - ii. Over-nutrition and under-nutrition [4 Marks]
 - iii. Micro-nutrient and macronutrient [4 Marks]
4. Pica is a common behavior during pregnancy. Discuss and give TWO ways of managing pica at household level. [5 marks]

SECTION B [40 Marks]

Answer TWO Questions in this Section

5. a). Anaemia is a common nutrient deficiency problem in developing countries. Explain five determinants of the condition in Kenya. [10 Marks]

b). Briefly discuss any four factors contributing to food insecurity in marginal rainfall areas among the pastoralist communities of Kenya and the food deficiency coping strategies undertaken. 10 marks]
6. a). Briefly explain two different signs/symptoms that would be evident in each of the following tissues as evidence of nutritional deficiencies. [15 Marks]
 - i. Hair
 - ii. Skin
 - iii. Eyes
b). Enumerate any 3 Government interventions addressing micro-nutrients deficiency in Kenya. [5 Marks]
7. a.) Define protein-calorie malnutrition. [5 Marks]
b). Discuss in details the main causes of PCM/PEM in Kenya. [15 Marks]
8. a) Discuss the consequences of wasting among people living with HIV/AIDS (PLWHA). [10 marks]

b.) Define Bio-fortification and give two reasons for it. [6 Marks]
 - ii). Name any two Bio-fortified foods specifying the nutrients [4 Marks]