

**THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL
ADVANCED CERTIFICATE OF SECONDARY EDUCATION
EXAMINATION**

155/1

FOOD AND HUMAN NUTRITION 1

(For Both School and Private Candidates)

Time : 3 Hours

Year: 2013

Instructions

1. This paper consists of sections **A** and **B**.
2. Answer all questions in section **A** and only **three (3)** question from section **B**.
3. Non-programmable calculators may be used.
4. Communication devices and any unauthorised materials are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

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SECTION A (40 Marks)

Answer all questions in this section

1. Define food composition and mention three main nutrients present in foods.
2. Explain the difference between saturated and unsaturated fats and give one food source for each.
3. (a) Define food security.
(b) List two national measures to improve food security.
4. State two roles of salt in bread making.
5. Describe three factors that influence energy expenditure in humans.
6. Explain two natural compounds used to protect grains from pests.
7. Differentiate between food safety and food quality.
8. Describe the effect of wet milling on food quality.
9. Explain two measures to reduce post-harvest food losses.
10. State two challenges of storing food in tropical climates.

SECTION B (60 Marks)

Answer only three questions from this section

11. A farmer mixes 8 liters of milk with 5% fat and 12 liters of milk with 2% fat. Calculate the fat content of the mixture and discuss its importance in diet planning.
12. Discuss the bioavailability of vitamins and minerals in foods. Explain the effect of antivitamins and antinutrients on nutrient absorption.
13. Describe traditional and modern methods of storing grains and fish. Discuss post-harvest losses and suggest measures to minimize them.

14. Prepare a one-day meal plan for an elder, considering energy, protein, and micronutrient requirements. Explain your selections.
15. Discuss methods of food fortification and preservation. Explain the role of chemical preservatives and suggest one natural alternative.