

**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: 2012

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 carbohydrates and explain two types found in foods.
2. Explain three factors that influence basal metabolic rate (BMR).
3. State two advantages and two disadvantages of traditional grain storage.
4. Explain the difference between chronic and transitory food insecurity.
5. (a) List three methods of food preservation.
(b) State one benefit of each method.
6. Explain the role of yeast in bread making.
7. Mention two health hazards associated with improper use of pesticides.
8. Describe two stages of food processing and explain one of them.
9. Define food fortification and give one example of a fortified cereal.
10. Explain the effect of dietary fiber on human digestion.

SECTION B (60 Marks)

Answer only three questions from this section

11. A household mixes 12 liters of milk with 2.5% fat with 18 liters of milk with 4% fat. Calculate the fat percentage of the mixture and explain its nutritional importance.
12. Discuss the bioavailability of iron and calcium in foods. Explain the effect of antinutritional factors on their absorption.
13. Describe traditional preservation methods of grains and fish. Explain common post-harvest losses and ways to reduce them in tropical regions.

14. Design a one-day meal plan suitable for an elder with diabetes. Justify your food choices in terms of energy, protein, and micronutrient content.
15. Explain chemical and natural methods of controlling pests in stored foods. Discuss the advantages and disadvantages of each method.