

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

155/2

FOOD AND HUMAN NUTRITION 2

(For Both School and Private Candidates)

Time : 3 Hours

ANSWERS

Year : 2007

Instructions

1. This paper consists of sections **A** and **B**.
2. Answer all questions in section **A** and only **two (2)** 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 (60 Marks)

Answer all questions in this section

1. Assess five challenges encountered when conducting dietary surveys in rural communities.

One challenge is illiteracy. Many rural dwellers cannot read or write, making it difficult to complete food recall forms or keep food diaries accurately.

Another challenge is cultural beliefs. Some communities may hide their true eating habits due to fear of judgment or taboos, leading to inaccurate data.

A third challenge is recall bias. Respondents may forget what they ate or underreport certain foods like alcohol or snacks, which lowers reliability.

A fourth challenge is seasonal variation. Food availability changes depending on harvest cycles, so a single survey may not reflect long-term dietary patterns.

A fifth challenge is logistical constraints. Poor infrastructure and remote locations make it hard for researchers to reach households and conduct consistent surveys.

2. State six ways in which nutrition education contributes to sustainable community development.

Nutrition education reduces malnutrition by teaching communities to use local resources to prepare balanced diets, which lowers child mortality and improves health.

It enhances agricultural practices by linking food production with nutritional needs, encouraging communities to grow diverse crops.

It improves productivity because healthy people are more energetic, leading to stronger workforces in farming, trade, and education.

It reduces healthcare costs by preventing nutrition-related diseases, allowing governments to channel funds into development projects.

It empowers women with knowledge on child feeding and household food management, contributing to gender equality and family well-being.

It supports long-term behaviour change, ensuring that communities sustain healthy eating practices beyond the lifespan of aid programmes.

3. Give five conditions under which microorganisms in food may be destroyed or inactivated.

Microorganisms are destroyed by high temperatures, such as boiling or pasteurization, which denatures their proteins and enzymes.

They are also inactivated by freezing, which halts metabolic activities and prevents reproduction, though some survive until thawing.

Acidic environments, such as vinegar or lemon juice, can destroy microorganisms by interfering with their cellular processes.

Chemical disinfectants like chlorine or alcohol destroy microbes when used in food processing environments.

Radiation, such as ultraviolet or gamma rays, can kill microorganisms by damaging their DNA and preventing reproduction.

4. Explain four roles of catering services in promoting tourism and economic development in Tanzania.

Catering services attract tourists by providing quality meals that enhance their travel experience, making Tanzania a more appealing destination.

They create employment opportunities in hotels, restaurants, and event services, which boosts local incomes.

Catering supports the agricultural sector by purchasing local produce, thereby strengthening the rural economy.

It earns foreign exchange as tourists spend on food and hospitality, contributing to national economic growth.

5. State six roles of food handlers in ensuring food safety during preparation and storage.

Food handlers must wash their hands thoroughly before handling food to prevent contamination.

They should wear clean protective clothing such as aprons, gloves, and caps to maintain hygiene.

They must separate raw and cooked foods to prevent cross-contamination.

Food handlers should store foods at safe temperatures, such as refrigerating perishables promptly.

They must ensure cooking equipment and surfaces are cleaned and sanitized regularly.

They should report illnesses and avoid handling food when sick, to prevent spreading pathogens.

6. Explain five functions of immunization in disease prevention and community health improvement.

Immunization prevents specific infectious diseases by preparing the body's immune system to fight pathogens effectively.

It reduces child mortality rates by protecting children against diseases such as measles, polio, and diphtheria.

It creates herd immunity, lowering the spread of infections in entire communities.

Immunization reduces healthcare costs by preventing outbreaks that would otherwise require expensive treatment.

It promotes economic productivity by keeping communities healthy, reducing absenteeism from school and work.

SECTION B (40 Marks)

Answer only two questions from this section

7. Undernutrition is a persistent problem in Tanzania. Critically discuss immediate, underlying, and basic causes of undernutrition among under-five children using the conceptual framework of malnutrition.

Immediate causes include inadequate dietary intake, where children do not get enough food or nutrients, and frequent infections such as diarrhoea that reduce nutrient absorption.

Underlying causes include household food insecurity, where families lack access to sufficient nutritious food, and poor child care practices such as early weaning or lack of breastfeeding.

Another underlying cause is poor health services, where children do not get access to immunization or treatment for infections.

Basic causes include poverty, which limits families' ability to buy food and access healthcare.

They also include lack of education, particularly among mothers, which prevents adoption of healthy feeding practices.

Weak policies and governance can also be a basic cause, as inadequate investment in nutrition and healthcare leaves children vulnerable to malnutrition.

8. Community nutrition programmes often fail to achieve their intended goals. Propose six solutions that can strengthen their effectiveness in rural districts.

Programmes should ensure community participation, involving local leaders and families to improve ownership and acceptance.

They should be culturally sensitive by integrating local food habits and respecting traditions in their interventions.

Strong monitoring and evaluation systems should be established to track progress and make adjustments.

Sufficient funding and resource allocation are required to ensure long-term sustainability.

Programmes should integrate sectors such as health, agriculture, and education to address nutrition holistically.

Capacity building of local staff through training ensures effective delivery of nutrition education and services.

9. Discuss the relevance of controlling resources in catering operations, outlining six benefits of resource control in service delivery.

Resource control ensures cost efficiency, allowing catering establishments to maximize profits by reducing waste.

It improves service consistency, as standardized use of ingredients results in uniform quality of meals.

It enhances customer satisfaction by ensuring reliable availability of menu items.

It increases accountability by tracking how resources are used, reducing theft or misuse.

It supports sustainability by minimizing food wastage and using resources wisely.

It ensures competitiveness in the market, as efficient operations lead to affordable prices and higher customer loyalty.

10. Breastfeeding is vital in child survival. Examine five challenges facing breastfeeding promotion and propose five solutions to overcome them.

One challenge is workplace constraints, as many employers do not provide time or space for breastfeeding mothers. A solution is implementing workplace policies that allow breastfeeding breaks and lactation rooms.

Another challenge is cultural beliefs that discourage exclusive breastfeeding. This can be solved through community education campaigns to change perceptions.

A third challenge is aggressive marketing of infant formula, which misleads mothers. A solution is enforcing laws that regulate formula advertising.

A fourth challenge is lack of maternal knowledge on breastfeeding techniques. Health workers can address this through antenatal and postnatal education.

The fifth challenge is maternal illness or malnutrition. Providing nutritional support and medical care for mothers ensures they can breastfeed effectively.