



SUBJECT:	Home Economics and Human Ecology
PAPER NUMBER:	I
DATE:	3 rd September 2018
TIME:	9:00 a.m. to 12:05 p.m.

Answer any FIVE questions (20 marks each)

1. a. A recent government initiative offered tax-free incentives to private property owners when leasing their properties for a period of ten years to the Housing Authority for social housing purposes.
 - i. Define social housing and identify **FOUR** groups of people who can apply for this type of housing. (1, 2)
 - ii. List **THREE** advantages and **ONE** disadvantage for the private owners to take part in the initiative mentioned above. (3, 1)

- b. A mother with two school-aged children left her family home due to domestic violence and is living in a shelter home.
 - i. Explain the difference between family home and shelter home. (2)
 - ii. Describe **FOUR** ways how the mother can improve her financial situation while staying at the shelter home. (4)
 - iii. Outline **THREE** ways how the school administration can help these children who might show signs of financial deprivation when at school. (3)
 - iv. The mother would like to engage her children in various activities to develop their physical, educational, social and cultural development. List **TWO** different, free leisure activities for each development. (4)

(Total: 20 marks)

2. A couple with a teenage daughter have always budgeted their money wisely and invested in various financial products, including shares and bonds. Recently their daughter was diagnosed with a medical condition and needs an operation. The parents have opted for private surgery.
 - a. Justify the importance of budgeting wisely. (2)
 - b. Outline **FOUR** factors to be considered when planning a budget. (4)
 - c. Define the terms shares and bonds, and give **ONE** advantage and **ONE** disadvantage of investing in each. (3, 3)
 - d. The family has no health insurance. Indicate **TWO** strategies the family can use to raise the money to pay for their daughter's surgery in a private hospital, without borrowing from friends and relatives. Give **ONE** advantage and **ONE** disadvantage for each strategy indicated. (1, 2, 2)
 - e. The couple is considering seeking financial advice for their future investments. List **TWO** sources of financial advice available for the couple and describe **ONE** service that each source of financial advice can offer the couple. (1, 2)

(Total: 20 marks)

3. An elderly man will be undergoing a total hip replacement operation. He lives in a two-storey home with his wife, who is still active and does voluntary work.
- a. Outline **TWO** benefits of the wife doing voluntary work for:
 - i. herself; (2)
 - ii. the community. (2)
 - b. State **TWO** sustainable modes of travel the wife can use to visit her husband in hospital. Give **TWO** advantages and **TWO** disadvantages for each mode of travel. (1, 2, 2)
 - c. During the post-operation phase, a hospital multi-disciplinary team usually conducts a visit to the patient's home to check that it is comfortable and safe. Describe how the following recommendations that may be made by the physiotherapist to the couple can be implemented:
 - i. The bed should be raised to a satisfactory height; (1)
 - ii. The patient should not go up and down the stairs more than once; (2)
 - iii. The bathroom should be fall-proofed and safe to use; (2)
 - iv. Good lighting in the home is essential. (2)
 - d. Outline **FOUR** ways how the elderly man can keep intellectually active while recovering from his surgery. (4)
- (Total: 20 marks)**
4. Consumer buying behaviour has drastically changed during this past decade.
- a. Outline **THREE** factors that influence teenagers' buying behaviour. (3)
 - b. Describe **TWO** ways how teenagers can practice each of the 3Rs when planning their shopping and after purchasing several items of convenience foods from a supermarket. (2, 2, 2)
 - c. A teenager wants to purchase some items of clothing for a party. Discuss **SIX** actions the teenager could take when shopping so as to create the least impact on the environment. (6)
 - d. Retailers use various strategies to market their products or services with the intention of increasing their revenue. Describe **TWO** of the following strategies and list **TWO** examples of each chosen strategy as used by retailers.
 - i. direct mail;
 - ii. in-store promotion;
 - iii. e-marketing.(3, 2)
- (Total: 20 marks)**

5. a. Play is crucial for a child's holistic development and choosing age-appropriate toys or play activities is also extremely important. Identify **FOUR** factors that parents should consider when purchasing toys or choosing play activities for their children.(4)
- b. Define the **THREE** terms social, emotional and intellectual development of children, and for each development describe **TWO** ways how play can help. (2, 2, 2)
- c. Outline **FOUR** activities that parents can organise at home to help their child interact with other family members, explaining how each activity would contribute to the child's development. (2, 4)
- d. Identify **ONE** advantage and **ONE** disadvantage of immunising a child against childhood diseases. (2)
- e. The Primary Child and Youth Health and Immunisation Unit has a national immunisation schedule/programme for babies and children from 0-16 years of age. Name and describe **TWO** of the diseases against which babies and young children are immunised in this programme. (2)

(Total: 20 marks)

6. Water is a valuable natural source and it should be safeguarded by all generations.
- a. Identify **TWO** sources of water available locally and for each source, discuss **ONE** different advantage and **ONE** different disadvantage. (1, 2, 2)
- b. Water can be a source of pollution and a breeding place for micro-organisms, therefore water safety and cleanliness are of utmost importance.
- i. Outline the basic national regulation regarding water safety provision. (3)
- ii. Identify **TWO** functions of a water treatment plant. (2)
- c. List **THREE** strategies that may be adopted in the conservation of water by:
- i. households; (3)
- ii. the hospitality industry. (3)
- d. Outline, with reasons, an advice that you would give to a single-parent of young schoolchildren on energy-saving features that one should look for when purchasing an automatic washing machine. (2, 2)

(Total: 20 marks)



SUBJECT:	Home Economics and Human Ecology
PAPER NUMBER:	II
DATE:	4 th September 2018
TIME:	9:00 a.m. to 12:05 p.m.

Answer any FIVE questions (20 marks each)

1. The process of hydrogenation destroys essential fatty acids.
 - a. Name the **TWO** essential fatty acids and draw a labelled diagram of the chemical structure of **ONE** of them. (1, 2)
 - b. Explain the health value of essential fatty acids and state **ONE** food source of each essential fatty acid. (2, 1)
 - c.
 - i. Give a basic description of hydrogenated oils and the process of hydrogenation. (1)
 - ii. Describe **ONE** advantage of hydrogenation in food production and **TWO** disadvantages of this process for health. (1, 2)
 - d. Outline the scientific principles underlining each of the following statements related to lipid consumption:
 - i. A high ratio of high density lipoprotein to low density lipoprotein in the bloodstream is desirable. (2)
 - ii. The consumption of salmon and tuna is beneficial to health in relation to blood composition. (1)
 - iii. Fat spreads with added plant sterols can assist in lowering blood cholesterol. (2)
 - e. Describe in detail the chemical processes involved in the digestion of lipids. (5)
(Total: 20 marks)

2. Food poisoning can occur in every household. Precautions need to be taken by every food handler to avoid such occurrences.
 - a. List **THREE** classes of micro-organisms that can cause food poisoning and give **TWO** examples of the plant-like micro-organisms. (2)
 - b. Highlight precautions that a food handler needs to take when buying, storing, preparing and cooking, and serving food to avoid food poisoning. (2, 2, 3, 2)
 - c. Salmonella and Escherichia Coli (E. Coli) are two of the most common causes of food-borne illness. For each of these food poisoning organisms:
 - i. name **TWO** common sources of contamination; (2)
 - ii. explain how the food poisoning develops; (2)
 - iii. list **TWO** symptoms common for these **TWO** types of food poisoning. (1)
 - d. Describe **FOUR** high-risk situations where food poisoning outbreaks may occur and state **TWO** reasons why food poisoning in such situations should be reported immediately to the health authorities. (2, 2)
(Total: 20 marks)

3. Potassium, phosphorus, fluoride, magnesium, calcium and iron are types of minerals which have very important roles in the correct functioning of the body.
- a. For each of the above mentioned minerals, identify **ONE** important function in the body and **ONE** significant food source. (6, 3)
 - b. Identify **TWO** deficiency symptoms of each of the following minerals:
 - i. potassium; (1)
 - ii. calcium; (1)
 - iii. iron. (1)
 - c. Outline **TWO** factors that hinder or interfere with the absorption of calcium. (2)
 - d. The absorption of iron and calcium is improved by consuming Vitamin C and Vitamin D rich foods, respectively. For each of these minerals, describe **TWO** meals or dishes that can be prepared to ensure better absorption of the nutrients. (1, 1)
 - e. Mineral requirements vary during the lifecycle and change according to specific circumstances. Outline **TWO** specific needs for minerals for each of the following:
 - i. an elderly person; (2)
 - ii. a person who is recovering after a surgery. (2)
- (Total: 20 marks)**
4. Eggs are cheap and very versatile. They have important functions in food production.
- a. Eggs can be bought in various forms, apart from fresh. Name **TWO** forms of processed eggs available in supermarkets. (1)
 - b. List **TWO** macronutrients and **FOUR** micronutrients found in eggs. Identify where each nutrient is found in the egg. (3)
 - c. The functions of eggs in food preparation can be classified according to their different outcomes. These are coagulation, emulsification and foaming.
 - i. Define the terms coagulation and emulsification of eggs during cooking and give **ONE** example of when each happens. (2, 2, 1)
 - ii. Explain the scientific principles of foaming. (2)
 - iii. Describe **THREE** other important functions of eggs in food preparation. (3)
 - d. Explain the following terms usually found on egg cartons:
 - i. free range; (1)
 - ii. barn; (1)
 - iii. cage; (1)
 - iv. organic. (1)
 - e. Describe briefly how consumers should store and handle eggs. (1, 1)
- (Total: 20 marks)**
5. Vegetarianism is becoming more common among teenagers.
- a. Compare and contrast veganism and lacto-ovo vegetarianism. (2)
 - b. Discuss **THREE** health benefits of opting for a vegetarian diet. (3)
 - c. If vegetarian meals are incorrectly planned, people may suffer from nutrient deficiencies. Name **TWO** nutrient deficiencies that a vegetarian may experience and for each deficiency explain **TWO** precautions one should take to reduce the risk when planning meals. (1, 2)
 - d. Explain why pulses can be a good alternative to meat in a vegetarian diet. (2)

- e. Name **TWO** soya products and outline their nutritive value. Explain how these can be incorporated in a vegetarian meal to provide the required nutrients. (1, 2, 2)
- f. Plan a day's menu for a female vegetarian teenager. Provide a nutritional analysis of the menu to explain how it meets her specific nutritional needs. (2, 3)

(Total: 20 marks)

- 6. Combi-steam ovens are an innovation on the market with respect to kitchen appliances. These combi-steamers or combination steam-convection ovens can produce both dry (convection) and moist (steam) heat.
 - a. Identify **TWO** advantages and **TWO** disadvantages of having such an appliance in the kitchen. (2, 2)
 - b. Outline **TWO** benefits of steaming food. (2)
 - c. Explain the scientific principles involved in the following cooking methods:
 - i. steaming; (2)
 - ii. baking. (3)
 - d. Describe how to prepare **THREE** of the following foods before cooking, giving a reason for the specific preparation procedure:
 - i. beef steak to be grilled;
 - ii. dried beans to be included in a soup;
 - iii. chicken thighs to be cooked on a BBQ;
 - iv. potatoes to be roasted as jacket potatoes. (1, 1, 1)
 - e. Cooking changes the physical characteristics of food. Discuss the effects of the following methods of cooking on the appearance, texture and nutritional value of food:
 - i. boiling; (3)
 - ii. stir-frying. (3)

(Total: 20 marks)