



SUBJECT: **Home Economics & Human Ecology**
 DATE: 3rd September 2020
 TIME: 9:00 a.m. to 12:05 p.m.

SECTION A

Answer ALL questions.

1. The European Food Safety Authority (EFSA) lists specific population reference intakes for calcium and iron for different age groups. Outline **ONE** function of **EACH** mineral for young children and elderly people. (2, 2)
2. Discuss **ONE** physiological, social or economic benefit of active ageing for **EACH** of the following:
 - a) an elderly person;
 - b) relatives and/or the community;
 - c) the nation. (1, 1, 1)
3. The document 'Dietary Guidelines for Maltese Adults' (2016) gives a number of suggestions that the Maltese are recommended to adopt to lead a healthy lifestyle. List **FOUR** of these suggestions. (4)
4. Explain the following diet-related conditions:
 - a) lactose intolerance;
 - b) peanut allergy. (2, 2)
5.
 - a) List **TWO** factors that might influence an individual to adopt a vegetarian diet. (2)
 - b) Outline the difference between a vegan and a pesco-vegetarian. (1)
6. Describe **FOUR** activities that caregivers can organise to stimulate intellectual development during early childhood. (4)
7.
 - a) Identify **ONE** advantage and **TWO** disadvantages of credit cards. (1, 2)
 - b) State **TWO** advantages of debit cards. (2)
8. Discuss **ONE** socio-emotional and **ONE** economic challenge that a young person who lives alone abroad due to employment commitments could experience. (1, 1)
9. Explain the scientific principle of **FOUR** of the following statements:
 - a) probiotics are beneficial to one's digestive system;
 - b) a high intake of fat-soluble vitamins may be toxic;
 - c) the combination of certain micronutrients aids the process of absorption during digestion;
 - d) pregnant women should avoid consuming soft cheese and raw eggs;
 - e) oily fish contains healthy fats. (4)

10. Discuss **TWO** benefits and **ONE** drawback of the current system of organic waste collection. (2, 1)

11. a) Suggest **TWO** strategies how individuals and families can conserve water. (2)
b) Discuss **TWO** global environmental impacts of water conservation and/or reuse of greywater. (2)

(Total: 40 marks)

SECTION B

Answer **ANY THREE** questions.

1. A single parent father has the custody of his young children.

a) Define the following family-friendly options. For **EACH**, give **ONE** advantage and **ONE** disadvantage from the perspective of the single parent father.

i. flexi-time;

ii. teleworking;

iii. reduced hours. (3, 3, 3)

b) Suggest **THREE** ways how grandparents can help the single parent father in the provision of quality upbringing of the children. (3)

c) Outline **TWO** safety practices that the father should observe:

i. when taking the kids to play in the playground;

ii. while travelling in a car. (2, 2)

d) One of the kids has visual impairment. Suggest **TWO** measures that the family should consider to help the child lead an independent life. (2)

e) Describe **TWO** ways how Aġenzija Appoġġ supports parents and children who are in a difficult situation. (2)

(Total: 20 marks)

2. The European Food Safety Authority (2017) recommends 45-60% of total energy intake as the Reference Intake for total carbohydrates.

a) Apart from carbohydrates, name the other **TWO** energy yielding nutrients. (1)

b) Define macronutrients and micronutrients. Give the unit of measure for **EACH**. (2, 1)

c) Give **TWO** functions of carbohydrates in the body. (2)

d) Discuss **TWO** negative implications of consuming foods that are rich in their sugar content. (2)

e) Discuss **TWO** benefits of consuming unrefined cereal products. (2)

- f) Explain the underlying physiological factors of the following statements:
- i. Active teenagers require a higher intake of carbohydrates than elderly people;
 - ii. Cyclists are recommended to consume a good amount of carbohydrates an hour before cycling;
 - iii. Pregnant mothers are encouraged to consume foods rich in insoluble fibre;
 - iv. A middle-aged person is recommended to increase the soluble fibre intake;
 - v. A child with Diabetes Type 1 is asked to check the glycaemic index of foods before consuming them.

(2, 2, 2, 2, 2)

(Total: 20 marks)

3. National and international entities are working towards having more individuals who are eco-conscious.

- a) List the **THREE** R's in order of priority in relation to waste hierarchy. Identify **TWO** practical examples how individuals could implement **EACH** principle. (1, 2, 2, 2)

- b) Discuss **TWO** practices that foster sustainability that consumers can adopt when choosing:
- i. food products;
 - ii. appliances (white goods);
 - iii. furniture.

(2, 2, 2)

- c) i. Define engineered landfill. (1)
ii. Discuss **ONE** way how **EACH** of the three pillars of sustainability which are the social, environmental and economic factors, support the use of engineered landfills. (3)

- d) Explain the purpose of the following:

- i. Civic Amenity sites;
- ii. Bring-in sites;
- iii. Bulky Refuse Collection.

(3)

(Total: 20 marks)

Please turn the page.

4. Food spoilage is the cause of food waste.
- a) i. Define food spoilage.
ii. Identify **FOUR** factors that increase the chance of food spoilage. (1, 2)
 - b) Describe and explain the scientific reason of **ONE** strategy that individuals should adopt to minimise food spoilage and food waste when:
 - i. shopping for fruit at a greengrocer;
 - ii. storing dairy products at home;
 - iii. cooking poultry. (3)
 - c) i. Explain the scientific principle underlying the use of beneficial bacteria in the production of yoghurt during the fermentation stage.
ii. Explain the scientific principle underlying the use of enzymes in cheese production.
iii. Suggest **ONE** strategy that could be implemented when opening a jar of capers to prevent food spoilage by mould. (1, 1, 1)
 - d) i. List **TWO** symptoms of food poisoning. Give the chemical name of **TWO** microorganisms that cause foodborne illnesses.
ii. In case there is food poisoning, state and explain **ONE** hygiene and **TWO** dietary measures that should be taken by the affected person. (1, 1, 1, 2)
 - e) i. List **TWO** factors that determine freshness in fresh fish and outline **TWO** factors that one should keep in mind to ensure safety when transporting fish for a barbecue.
ii. List **TWO** factors that reflect freshness when choosing potatoes and identify **TWO** aspects that one should consider to ensure proper food handling when preparing a potato salad for a picnic.
iii. List **TWO** factors that should be considered when buying a frozen rabbit from a butcher and explain how one should defrost it properly to be used the following day. (2, 2, 2)

(Total: 20 marks)