

---

SUBJECT: **Home Economics & Human Ecology**  
 DATE: 27<sup>th</sup> April 2018  
 TIME: 4:00 p.m. to 7:05 p.m.

---

**SECTION A**
**Answer ALL questions**

1. Give the chemical name of Vitamin K. Outline its role in the body and give **FOUR** food sources of this vitamin. (1, 1, 2)
2. Identify **THREE** measures that can be taken to save water when washing the clothes. (3)
3. Explain the purpose of the chip and PIN on a credit card. Outline **THREE** strategies that should be observed when using the credit card to ensure that the transaction is secure. (2, 3)
4. List **TWO** advantages and **TWO** disadvantages of websites as a source of information for consumer purchases. (2, 2)
5. Calcium and iron are two minerals that are essential for the body. Explain **ONE** function and **ONE** deficiency disease of each mineral. (2, 2)
6. Water consumption is vital for health. Outline **THREE** roles of water in the body, and identify **TWO** population groups who could require a higher intake of water. (3, 1)
7. Suggest **THREE** ways how food contamination can be prevented when handling poultry for a summer seaside barbecue. (3)
8. State the difference between dispensable and indispensable amino acids, and give **TWO** examples of **EACH** type of amino acid. (2, 2)
9. The 'Dietary Guidelines for Maltese Adults' recommend an increase in the consumption of fish. List **TWO** factors that could affect consumers on whether:
  - i. to include fish in their diet; (2)
  - ii. to avoid fish in their diet. (2)
10. List **FIVE** factors that a university student has to consider when planning the monthly budget. (5)

**(Total: 40 marks)**

**SECTION B**

**Answer any THREE questions.**

1. a) Outline the difference between macronutrients and micronutrients and state whether carbohydrates are classified as macronutrients or micronutrients. (1, ½)
- b) Give the main function of carbohydrates. (1)
- c) Name the chemical elements of carbohydrates. (1½)
- d) Define the terms monosaccharides and disaccharides. Describe how disaccharides are formed. (2, 2)
- e) Carbohydrates are classified into sugars, starches and fibre.
  - i. Explain the impact of a high or a low intake of sugars and starches on health. (2)
  - ii. Discuss the health-related implications of an adequate intake of soluble and insoluble fibre. (2)
- f) Nutritionists and health experts encourage the consumption of unrefined carbohydrate foods. Explain **THREE** benefits of consuming unrefined foods for each of the following persons who:
  - i. want to reduce weight; (1½)
  - ii. suffer from Diabetes Type 2. (1½)
- g) *Timpana*, a traditional Maltese dish, consists of baked pasta in a pastry case. The main ingredients are penne or macaroni, canned tomatoes, tomato purée, minced beef and pork, bacon, chicken livers, eggs, grated cheese and shortcrust pastry. Suggest **ONE** way how this recipe can be modified to:
  - i. reduce its sodium content; (1)
  - ii. reduce its saturated fat content; (1)
  - iii. increase its fibre content; (1)
  - iv. make it suitable for a lacto-ovo vegetarian; (1)
  - v. make it suitable for a person with coeliac disease. (1)

**(Total: 20 marks)**

2. Parents have the responsibility to ensure that a child reaches optimum physical, social, emotional and intellectual development. Governmental entities offer support for families that need assistance in raising their child(ren).
  - a) Define the term parental responsibilities. Describe **FOUR** activities that parents could do in order to fulfil their responsibilities towards their child(ren). (1, 4)
  - b) Name and explain the benefit of **ONE** different play activity that caregivers could organise for three-year old children that contributes towards the children's physical, social, emotional and intellectual development. (2, 2, 2, 2)
  - c) Describe **TWO** support services provided by Aġenzija Appoġġ for parents/caregivers and children. Name **ONE** other state agency that offers support to families in need.

- d) Suggest **TWO** strategies that families with school-aged children could adopt to minimise stress when:
- i. coping with work and family related responsibilities; (2)
  - ii. managing housework and doing errands. (2)

**(Total: 20 marks)**

3. Energy balance, Body Mass Index (BMI), nutrient goals and dietary guidelines are common issues addressed by health and nutrition professionals.

- a) Define the terms energy balance and BMI. (2)
- b) Give the BMI reading for a 20-year old adult to be considered:
  - i. as having a healthy weight; (½)
  - ii. as being overweight. (½)
- c) Outline what happens to the body of a teenager who experiences:
  - i. negative energy balance; (1)
  - ii. positive energy balance. (1)
- d) For each energy imbalance mentioned in part (c), describe **TWO** long-term implications on a teenager's health. (1, 1)
- e) Identify **TWO** population groups who are likely to change their energy intake during a stage in the lifecycle. Give **ONE** reason to justify your choice. (1, 2)
- f) Outline **TWO** dietary and **TWO** non-dietary strategies that could be adopted by an adolescent to maintain a healthy weight. (2, 2)
- g) Explain the difference between nutrient goals and dietary guidelines. (2)
- h) One of the dietary guidelines for Maltese adults states: Eat vegetables and fruit of different colours everyday. *Source: Dietary Guidelines for Maltese Adults (Pace, 2016)*  
Give **FOUR** reasons why adults should include these nutrient dense products in their diet to be healthy and maintain a healthy weight. (4)

**(Total: 20 marks)**

***Please turn the page.***

4. Individual and family practices can contribute towards promoting sustainable use of resources.
- a) Define the term sustainability. (1)
  - b) Organic fruits and vegetables are derived from a sustainable system of agriculture. Give **TWO** advantages of choosing organic over conventionally farmed produce on the natural environment. (2)
  - c) Malta has adopted various waste management services and facilities to encourage citizens to act sustainably, such as, bring-in sites, civic amenity sites and the door-to-door collection of bulky refuse.
    - i. Describe the **THREE** waste management services and facilities mentioned above, and identify **ONE** different type of waste material for each. (3, 3)
    - ii. Explain what happens to the waste after being collected at the bring-in sites, civic amenity sites and door-to-door collection of bulky refuse. (3)
    - iii. Explain **TWO** environment benefits of following the principles of separating waste at source. (2)
  - d) Outline **TWO** factors that could be considered by green consumers when choosing products, such as the following:
    - i. convenience foods; (2)
    - ii. appliances; (2)
    - iii. lighting devices. (2)

**(Total: 20 marks)**