



SUBJECT:	Home Economics and Human Ecology
PAPER NUMBER:	I
DATE:	2 nd May 2022
TIME:	9:00 a.m. to 12:05 p.m.

ANSWER ANY FIVE QUESTIONS (20 marks each)

1. Healthy development in early years sets the foundation for good health, behaviour and learning throughout one's whole life.

a. Identify the **FOUR** key areas of development in early years. (2)

b. Identify **TWO** ways how care givers can promote **each** of these different key areas of development so that children can reach the maximum of their potential. (8)

With more mothers joining the working force, young children are now being taken care of by relatives or by carers in childcare centres.

c. Give **ONE** advantage and **ONE** disadvantage of children being taken care of:
i. by relatives; (2)

ii. by child carers. (2)

d. Give **TWO** reasons to explain, why immunisation is very important for the child's well-being. (2)

e. A basic need for infants is safety. Identify **TWO** safety measures that should be taken in consideration when children are:

i. in the car; (2)

ii. in a playground area. (2)

(Total: 20 marks)

Questions continue on next page.

2. The World Health Organization (WHO) developed a definition of 'healthy ageing'. It is the process of developing and maintaining the functional ability that enables wellbeing in older age.

(The World Health Organization (WHO) approach to healthy ageing, May 2020)

- a. Identify **TWO** ways how an elderly can remain active in the local community and within the country. (4)
- b. Explain, by giving **TWO** benefits, how active ageing is important for the elderly. (2)
- c. Grandparents help to improve the quality of life of their grandchildren. Outline **TWO** positive influences that grandparents can have on their grandchildren. (2)
- d. Suggest **TWO** ways how adults can plan to remain financially self-sufficient once they reach retirement age. (2)
- e. One housing option for the elderly is to live with a relative.
 - i. Identify **THREE** ways how the elderly can give their share of help when living with a relative. (3)
 - ii. Give **SIX** changes that the family might have to consider to make the home safer for an elderly relative. (3)
 - iii. Outline **TWO** advantages and **TWO** disadvantages that the elderly might experience when living with relatives. (4)

(Total: 20 marks)

3. Patrick and Julia are a young couple with two children, aged 1 and 4. They are currently looking for a suitable plot of land to build their new house.

- a. Outline **THREE** factors that they should keep in mind when choosing the location of their new house. (3)
- b. Identify **THREE** housing needs that this family of four would be looking for. (3)
- c. Describe **TWO** strategies Patrick and Julia can devise to make the best possible use of space in the house. (2)
- d. Suggest **THREE** structural strategies that ensures that security in their new home is maximised. (3)
- e. Give **TWO** examples of security equipment the couple can install in their new home. (2)

Patrick and Julia would still need a bank loan to be able to complete all the work needed to make the place suitable to live in.

- f. Identify **TWO** advantages and **TWO** disadvantages when taking a bank loan. (4)
- g. Evaluate **THREE** short-term implications that taking a bank loan can cause to this family. (3)

(Total: 20 marks)

4. a. Define the term global warming. (1)
- b. Outline **THREE** home activities that contribute to global warming. For **each** activity, suggest how it can be less harmful for the environment. (6)
- c. What does this environmental symbol mean? (1)



- d. Identify **TWO** products that can carry this symbol. (2)

The difference in emissions between meat and plant production is stark – to produce 1 kg of wheat, 2.5 kg of greenhouse gases are emitted. A single kilo of beef, meanwhile, creates 70 kg of emissions.

(The Guardian graphic. Source: Xu, et al., 2021, "Global greenhouse gas emissions from animal-based foods are twice those of plant-based foods".)

- e. Name **TWO** greenhouse gases. (1)
- f. Suggest **FOUR** food consumption practices one can follow to reduce global warming. (4)
- g. Identify **THREE** alternative sources of energy viable locally to fight global warming. (3)
- h. Explain, giving **TWO** reasons, how the use of alternative sources of energy have an impact on a national level. (2)

(Total: 20 marks)

Please turn the page.

5. One way to take better care of the environment is to be more sustainable.

- a. Define the term sustainability. (1)
- b. Identify **TWO** ways how a household can conserve:
 - i. water; (2)
 - ii. energy; (2)
 - iii. soil. (2)
- c. Name and describe these three symbols which are commonly found on different products. (6)

 <p>Sources: https://fsc.org/en</p>	 <p>Sources: https://www.vectorstock.com</p>	 <p>Sources: https://www.en.wikipedia.org/</p>
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- d. Briefly explain the term carbon footprint. (1)
- e. Suggest **THREE** ways how a teenager can reduce the carbon footprint. (3)
- f. Discuss **THREE** ways how local citizens can become green consumers when buying or making use of a service. (3)

(Total: 20 marks)

6. Throughout one's working life, one earns money. Some individuals make a budget of the money earned and/or received, some individuals save some of the money and some also plan for when one is in retirement.

- a. Define the terms:
 - i. gross income; (1)
 - ii. disposable income; (1)
 - iii. non-wage income. (1)
- b. Explain the importance of making a budget, giving **FOUR** reasons why. (4)
- c. Identify **THREE** institutions where one should seek advice when interested in saving money. (3)
- d. When having extra money, individuals might invest in bonds, shares and/or funds. Explain these **THREE** investment methods. (3)
- e. Name **ONE** advantage and **ONE** limitation of bonds and of shares. (4)
- f. Another way to invest extra money during one's working life is to open a private pension scheme. Discuss the purpose and **TWO** benefits of this scheme. (3)

(Total: 20 marks)



SUBJECT:	Home Economics and Human Ecology
PAPER NUMBER:	II
DATE:	3 rd May 2022
TIME:	9:00 a.m. to 12:05 p.m.

ANSWER ANY FIVE QUESTIONS (20 marks each)

1. Food preservation is one of the oldest technologies which humans have developed and that is equally important today as it was thousands of years ago.
 - a. Define the term food preservation and explain **ONE** effect of preservation on food. (1, 1)
 - b. Justify **TWO** arguments in favour and **TWO** arguments against food preservation. (4)
 - c. Strawberries are a very popular fruit grown in Malta. However they are only in season for a limited period. Luckily, they can be successfully preserved and enjoyed during the rest of the year.
 - i. Suggest **FOUR** healthy recipes where strawberries may be used when they are in season. (2)
 - ii. Determine which **TWO** home preservation methods are suitable for strawberries, and for **each** preservation method outline **FOUR** main steps involved. (4, 4)
 - iii. Irradiation is a modern way of preserving fresh strawberries. Outline the term irradiation, by giving **THREE** basic scientific principles involved in this technique. Include **TWO** food items, other than strawberries, which can be irradiated. (3, 1)

(Total: 20 marks)***Questions continue on next page.***

2. Jack and Martha will be getting married in a couple of weeks and need to finalise their wedding reception menu. A number of guests informed them that they suffer from various diet-related conditions, including coeliac disease.
- a. Give the scientific explanation of what happens when one suffers from coeliac disease and list **TWO** symptoms in the body. (2, 1)
 - b. Suggest **FOUR** wedding reception food items, suitable for all guests, including those suffering from coeliac disease. (2)
 - c. Outline **THREE** factors which the caterer should keep in mind in order to accommodate for the special dietary needs of these guests. (3)
 - d. Wedding caterers also have to ensure that food prepared for these events are free from pathogenic micro-organisms, so as to prevent food-borne illnesses.
 - i. Explain the term food-borne illness. (1)
 - ii. Identify **FOUR** micro-organisms which could cause a food poisoning outbreak when food is not cooked or stored properly. For **each** of the identified micro-organisms, state the incubation period and list **ONE** symptom that can be experienced. (2, 2, 2)
 - iii. Justify the vital role of a HACCP system in the food catering industry to safeguard consumers' health. (1)
 - iv. Outline what the abbreviation HACCP stands for and list **THREE** of the principles involved in this system. (1, 3)

(Total: 20 marks)

3. Vitamins are essential micronutrients which our body needs to grow and develop normally. Some of these vitamins act as antioxidants.
- a. Differentiate between micro and macro nutrients. (1)
 - b. Give the scientific names of **TWO** vitamins which are considered as antioxidants and for **each** highlight **THREE** rich food sources and **TWO** deficiency symptoms. (2, 3, 2)
 - c. Outline **FOUR** ways how antioxidant vitamins actively defend the human body. (2)
 - d. Some people tend to make use of supplements to ensure that their daily recommended vitamin intake is met.
 - i. Discuss **THREE** arguments in favour and **THREE** arguments against making use of supplements. (6)
 - ii. Suggest **FOUR** groups of people who may need to use supplements in their diet. Justify your answer. (4)

(Total: 20 marks)

4. Over 60 per cent of our body is made up of water and therefore we cannot survive without adequate amounts of fluids.
- a. Identify **TWO** minerals found in drinking water. State **TWO** roles and **TWO** deficiency symptoms for **each** identified mineral. (1, 2, 2)
 - b. Give the recommended daily intake of water for a young adult and suggest **THREE** ways how this recommendation can be followed. (2)
 - c. Outline **FOUR** health impacts resulting from lack of water in the diet, highlighting **FOUR** main symptoms that may be experienced by the body. (2, 2)
 - d. Give a scientific justification to the following statements:
 - i. water helps maintaining blood volume and blood pressure; (2)
 - ii. water helps regulating body temperature and cools the body when necessary; (2)
 - iii. water helps cleansing the body. (2)
 - e. Explain **ONE** reason why the following people need a higher intake of fluid:
 - i. athletes on a high-protein diet; (1)
 - ii. a person with fever; (1)
 - iii. a person suffering from hypertension. (1)

(Total: 20 marks)

5. Two common types of lipids which are found in our body are known as stearic acid and oleic acid, with the key difference being that stearic acid is a saturated compound, while oleic acid is an unsaturated compound.
- a. Outline the chemical composition of a fatty acid and draw the structure of a stearic and of an oleic fatty acid. (1, 2)
 - b. Outline **TWO** other differences between the chemical and/or physical structure of a stearic and of an oleic fatty acid, other than that given above. (2)
 - c. Lipids also include triglycerides, phospholipids and sterols. Define these **THREE** types of lipids. (3)
 - d. Give a scientific justification to the following statements:
 - i. our body might require more fats to be consumed when exposed to very cold weather; (1)
 - ii. a diet which lacks dietary fats may result in some vitamin deficiencies; (1)
 - iii. replacing red meat with fish, seed and nuts may reduce the risk of heart disease; (1)
 - iv. a vegan block of margarine may still increase the risk of cardiovascular disease. (1)
 - e. Describe in detail the physical and chemical processes involved in the digestion of lipids. (5)
 - f. Outline **THREE** health implications which could develop when consuming excess amounts of lipids on a regular basis. (3)

(Total: 20 marks)

Please turn the page.

6. Cereal foods are one of the most common staple foods around the world.
- a. Describe the **FOUR** main steps in the production of white, polished rice. (4)
 - b. List **FOUR** nutrients which deteriorate during the polishing of rice. (2)
 - c. Identify **THREE** diet-related conditions that can be prevented by consuming unrefined, brown rice. Include a reference to the component which prevents the identified diet-related condition. (3)
 - d. The traditional Maltese Pumpkin Pie is a popular meal, served as lunch or dinner, especially in autumn.
 - i. Suggest **SIX** modifications that can be made to this traditional recipe to bring it in line with the Dietary Guidelines for Maltese Adults. Justify **each** modification suggested. (6)

Maltese pumpkin Pie	
For the pastry	For the filling
400 g plain flour	300 g boiled white rice
200 g butter	1 onion
200 ml water	1 can tuna in brine
Pinch of salt	20 pitted black olives
	5 salted anchovies
	2 tbs. capers in brine
	Small bunches of fresh mint, parsley, oregano and basil
	Margarine for frying

- ii. Suggest **TWO** desserts, suitable for a 30-year-old pregnant woman, to accompany the pumpkin pie. Outline the nutritive value of **each** dessert suggested. (1, 2)
- iii. Apart from modifying the diet, a pregnant woman would also need to make certain lifestyle changes. Identify **FOUR** non-dietary lifestyle changes she might need to make to ensure a healthy pregnancy. (2)

(Total: 20 marks)