

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD

UNIVERSITY OF MALTA, MSIDA

MATRICULATION EXAMINATION
ADVANCED LEVEL
SEPTEMBER 2015

SUBJECT:	HOME ECONOMICS AND HUMAN ECOLOGY
PAPER NUMBER:	I
DATE:	1 st September 2015
TIME:	9.00 a.m. to 12.00 noon

ANSWER ANY FIVE QUESTIONS (20 marks each)**Question 1**

After a day at school, an eight-year-old returned home concerned about global warming. She approached both parents, her grandmother and her two other siblings aged 18 and 14 and emphasised their responsibility of taking care of the environment.

- i) Define *global warming* and explain how this occurs. (3 marks)
- ii) List and describe **ONE** strategy **EACH** family member can perform to help reduce global warming. (6 marks)
- iii) Highlight **TWO** advantages and **TWO** disadvantages of the following alternative forms of energy:
 - a. Solar water heater;
 - b. Photovoltaic panels;
 - c. Domestic wind turbines. (2, 2, 2 marks)
- iv) Identify and explain **TWO** government schemes which are offered to family households to assist in the national alternative energy production programme. (1, 2, 2 marks)

Question 2

It is widely recognized that children with special needs generate heightened concern, stress and tension within their families. Parents of children with developmental disorders (such as autism) encounter a variety of difficulties in caring for these children.

- i) List **FOUR** emotional and **FOUR** psychological responses that parents may experience in such situations. (2, 2 marks)
- ii) Describe **FOUR** positive effects living with a disabled child can have on the entire family. (4 marks)
- iii) The local government is providing educational support to autistic children and their families.
 - a. Describe **FOUR** support systems that are being offered in state schools. (4 marks)
 - b. Highlight **TWO** benefits of **TWO** initiatives taken by the state to assist parents of autistic children. (2, 2 marks)
- iv) Assistance and support are also given by a number of non-governmental organisations. Describe the support provided by **TWO** such entities. (2, 2 marks)

Question 3

A young couple are searching for a suitable residence to live in after getting married. However, they still need to decide upon an area and type of accommodation suitable for their lifestyle.

- i) List and explain **FIVE** factors which may influence their choice of residential area. (5 marks)
- ii) Describe in detail **FOUR** types of accommodation which the couple may be interested in acquiring. (4 marks)
- iii) Highlight **ONE** advantage and **ONE** disadvantage for **EACH** of the accommodation mentioned in (ii). (4 marks)
- iv) The couple are also considering whether they should rent or buy a residence. Explain **TWO** main differences between renting and buying a residence. Suggest with a reason what the couple should do. (1, 1 mark)
- v) Identify **TWO** sources of information the couple could make use of to help them reach a decision. Highlight **TWO** advantages and **TWO** disadvantages for **EACH** source of information. (1, 2, 2 marks)

Question 4

A middle-aged couple has two children; a newly graduate son and a secondary-school daughter. From a very young age, the parents have taught their children to budget and save money even from their pocket money.

- i) Outline **FOUR** reasons why budgeting is important and give **TWO** reasons why it is crucial to instil the value of prioritising as from a young age. (4, 2 marks)
- ii) Describe **FOUR** different ways how the school-aged girl can make optimal use of her weekly pocket money, to be able to put some aside as savings. (4 marks)
- iii) Describe **TWO** different investment methods suitable for the newly graduate. For **EACH** investment method, outline **ONE** advantage and **ONE** disadvantage. (1, 1, 1 mark)
- iv) Name and describe **TWO** different investments that the girl's parents can consider investing in for the future of their daughter. Outline **ONE** advantage and **ONE** disadvantage for **EACH** investment. (1, 1, 1 mark)
- v) The middle-aged couple are considering different investing options for their retirement. Explain **FOUR** benefits of investing for their retirement and describe **TWO** different investing options available locally. (2, 2 marks)

Question 5

A brand new shop has just opened for business in a popular shopping area and is trying to compete with other shops for its share of business.

- i) Apart from advertising, list and describe **FIVE** promotional strategies the shop can adopt to increase its sales. (5 marks)
- ii) *Social* and *personal* influences are factors which impact consumer behaviour when buying goods and/or services. Define the terms in italics and explain how the consumers in the following situations may be influenced **BOTH** personally and socially:
- A sixteen-year-old female teenager who wants to buy a new jacket;
 - An elderly citizen who would like to buy a new electric oven;
 - A mother who is planning to buy a toy for her three-year-old daughter;
 - A nine-year-old boy who is asking his parents to buy him a new electronic game for his birthday;
 - A twenty four-year-old man who wants to buy new music equipment.
- (1, 5, 5 marks)
- iii) The nature of retailing has undergone major changes over the past 15 years. Outline **FOUR** of these changes. (4 marks)

Question 6

An environmentally conscious couple have bought a penthouse on plan. The project manager is allowing them to carry out any structural changes before building works commence. The couple aim to conserve non-renewable natural resources as much as possible.

- i) Explain in detail the difference between renewable and non-renewable natural resources, and outline **TWO** reasons for this conservation. (2, 2 marks)
- ii) Describe **SIX** structural features that the couple could ask for in their new penthouse to contribute towards the conservation of natural non-renewable resources. (6 marks)
- iii) The couple is planning to install the following eco-friendly systems in their penthouse. Explain how these systems work and give **TWO** advantages (other than being eco-friendly and the economic return) and **TWO** disadvantages for **EACH** system/feature.
- Wind turbine to generate electricity;
 - Solartube tubular daylighting device (Sunlight pipes);
 - Sensory lighting in rooms;
 - Photovoltaic panels.
- (2, 4, 4 marks)

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MATRICULATION EXAMINATION

ADVANCED LEVEL

SEPTEMBER 2015

SUBJECT:	HOME ECONOMICS AND HUMAN ECOLOGY
PAPER NUMBER:	II
DATE:	2 nd September 2015
TIME:	9.00 a.m. to 12.00 noon

ANSWER ANY FIVE QUESTIONS (20 marks each)

Question 1

Game and poultry have been served on family tables since olden times. Poultry rearing methods have changed and have often been a health news highlight.

- i) Highlight the difference between *game* and *poultry*, giving **TWO** examples of each. (1, 1, 1 mark)
- ii) Outline the nutritive content of poultry. (4 marks)
- iii) Explain the difference between *free range* and *battery* chickens. Give **TWO** reasons why consumers prefer free range chicken meat. (1, 2 marks)
- iv) Evaluate the following statements, giving the scientific principles underlying each statement.
 - a. Thorough cooking of chicken meat is essential.
 - b. Always keep chicken meat chilled to at least 4°C.
 - c. Marinades used for marinating poultry should not be reused on cooked foods.
 - d. The consumption of poultry meat of birds implanted with steroid hormone pellets can be detrimental to human health. (4 marks)
- v) Describe **THREE** different ways how poultry meat can be prepared for a children's party. Give a detailed explanation of the nutrient content of these dishes. (3, 3 marks)

Question 2

The development of some chronic diseases is directly related to the diet people around the world consume on a daily basis.

- i) Explain in detail the nutritional scientific implication of **EACH** of the following statements:
- Scientists warn against consumption of hydrogenated fats.
 - It is recommended that adults especially elderly increase their intake of omega-3 and omega-6 fatty acids.
 - Dieticians recommend the use of raw pure virgin olive oil rather than raw mixed vegetable oil.
 - It is recommended that the reading of the blood lipid profile of individuals though within the range should still be high in High Density Lipoprotein.
 - Diets high in trans-fats and low in cis-fats increase the risk of various diet-related disorders.
- (2, 2, 2, 2, 2 marks)
- ii) Diabetes Mellitus ranks sixth among leading causes of death worldwide. Give the aetiology of Type 2 Diabetes. Explain **TWO** dietary and **TWO** non-dietary recommendations for diabetic people.
- (4, 2 marks)
- iii) Outline **FOUR** complications that may arise due to type 2 Diabetes.
- (4 marks)

Question 3

A university student is sharing a flat with two other students whilst studying away from home. They own a fridge-freezer but have little knowledge as how to store food properly in it.

- i) Explain the difference between a *refrigerator* and a *freezer*, and describe the star rating that can be found on both.
- (1, 2 marks)
- ii) Suggest ways how the students should store the following foodstuffs in the refrigerator, validating your advice:
- a carton of eggs;
 - raw meat;
 - a prepared vegetable salad;
 - fruit.
- (4 marks)
- iii) Owing to the dry climate inside a freezer, foods placed in this appliance must be properly packaged to protect their flavour, colour, moisture content and nutritive value.
- Give the students **FOUR** instructions on how to package food for freezing. (2 marks)
 - Describe **FOUR** qualities of good packaging material for freezing. (2 marks)
 - Choose **TWO** materials suitable for freezer containers and outline **TWO** reasons for their suitability. (1, 2 marks)
 - List **THREE** points of information that should be included on the label of an opaque container. Explain why such information is important. (3 marks)
- iv) Outline **THREE** measures that these students should take to ensure maximum vitamin retention of refrigerated and frozen foods.
- (3 marks)

Question 4

A financially-constrained family of five consisting of an elderly uncle, a mother and father in their forties, a thirteen-year-old son and a four-year-old daughter feel that it is very important to eat economical yet healthy meals.

- i) Apart from nutrition and budget, outline **FOUR** factors that have to be considered when planning meals for such a family. (2 marks)
- ii) Explain in detail the nutritional needs of **EACH** family member. (10 marks)
- iii) List **FOUR** suitable labour saving appliances this family could use when preparing meals. Describe how **EACH** of the appliance mentioned can help in the preparation of the meal to retain micronutrients. (4 marks)
- iv) Suggest with a reason for **EACH, TWO** meals and **TWO** desserts that are suitable for this family. (4 marks)

Question 5

The choice of the cooking method for the preparation of food depends on various factors, but all cooking methods involve the transmission of heat and the application of either dry or moist cooking.

- i) Explain how the transmission of heat occurs when cooking food and explain the difference between *dry* and *moist* methods of cooking, giving **TWO** examples for **EACH**. (3, 1, 2 marks)
- ii) Outline the effects of the two cooking methods on the appearance, taste, smell and texture of cooked food. (4 marks)
- iii) Describe **FOUR** factors that determine the choice of cooking methods used in the preparation of meals. (4 marks)
- iv) Traditionally, slow-cooking was the norm in Maltese household kitchens. Recently, slow-cookers have experienced a comeback in today's modern busy life.
 - a. Explain the process of *slow-cooking* and account for the recent popularity of this method of cooking. (1, 1 mark)
 - b. Outline the **TWO** advantages and **TWO** disadvantages of this method of cooking. (2, 2 marks)

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Question 6

Apart from specific vitamins, dietary antioxidants include non-nutrients such as *phytochemicals*.

- i) Define the term in italics. Give **THREE** food sources which contain abundant phytochemicals, excluding beverages. (2 marks)
- ii) Outline **FOUR** ways how vitamins and phytochemicals with antioxidant activity defend the human body. (2 marks)
- iii) Explain the nutritional scientific implication of the following statements:
 - a. Research shows that the heart benefits from drinking tea and red wine in moderate amounts.
 - b. Many scientific studies have reported low rates of cancer in people whose diets include foods rich in anti-oxidant vitamins. (2 marks)
- iv) Some people tend to make use of supplements in order to ensure their daily recommended nutrient intake. Discuss **THREE** arguments in favour and **THREE** arguments against making use of supplements. Suggest giving a reason for **EACH, FOUR** groups of people who may require supplementation. (6, 4 marks)
- v) For **EACH** of the following situations, suggest **TWO** nutrients that should be taken together giving a reason why the nutrients mentioned are needed:
 - a. An adult recuperating from a car accident which left him bleeding profusely.
 - b. A six-year-old child who is growing taller and started changing the milk teeth to permanent teeth. (2, 2 marks)