

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD
UNIVERSITY OF MALTA, MSIDA

MATRICULATION CERTIFICATE EXAMINATION
ADVANCED LEVEL
MAY 2012

SUBJECT:	HOME ECONOMICS AND HUMAN ECOLOGY
PAPER NUMBER:	I
DATE:	30 th April 2012
TIME:	9.00 a.m. to 12.00 noon

ANSWER ANY FIVE QUESTIONS (20 marks each)

Question 1

Parental preparation for the arrival of a newborn is beneficial to both the parents and the newborn. Private and governmental entities offer various provisions for the care of children spanning from the prenatal stage I throughout childhood.

- i) For **EACH** of the following family periods, outline **TWO** reasons why parents ought to follow parental courses.
- a) Before the birth of a child.
 - b) When the child is following the last year of primary schooling.
- (2, 2 marks)
- ii) Play is an essential factor in the emotional, social, physical and cognitive development of a child. For **EACH** of the aforementioned areas of development:
- a) list **TWO** benefits play offers;
 - b) describe **TWO** play activities suitable for a three-year-old.
- (4, 4 marks)
- iii) Many mothers return to work after their parental leave is over. Unless family support is offered, this entails finding suitable child care facilities for their children. Identify **SIX** factors that parents should consider when choosing the child care centre for their children.
- (3 marks)
- iv) Some young families have the possibility of having their children looked after by relatives and friends. Outline **THREE** advantages and **TWO** disadvantages of this situation.
- (5 marks)

Question 2

The ingredients of an individual's quality of life are no different to those of a family. However the focus is different.

- i) Explain the above statement and list **TWO** indicators of good and **TWO** indicators of bad family quality of life. (1, 2 marks)
- ii) Unfortunately poverty and *social exclusion* are increasing even though great efforts are being done to alleviate this situation.
 - a) Define the italicised term.
 - b) Identify **TWO** groups of people who are at most risk of social exclusion.
 - c) Explain **ONE** main type of social exclusion.
 - d) Highlight **THREE** causes that contribute towards the increase in poverty and social exclusion. (1, 1, 1, 3 marks)
- iii) Explain how the local government is working towards the eradication of poverty and the achievement of an inclusive society. Highlight **TWO** aims of the national plan. (1, 2 marks)
- iv) Over the years, Maltese individuals and families experienced an increase in social and cultural influences. Define the term *social influence*. Highlight **TWO** implications of **EACH** influence on:
 - a) individuals and
 - b) families. (1, 2, 2 marks)
- v) Suggest **THREE** ways how management of resources and economic influences can be tackled to reduce stress and conflict within a family and its members. (3 marks)

Question 3

High humidity and *lack of ventilation* in a house can be detrimental to human health as well as to the house structure and its contents.

- i) Define the **TWO** italicised terms and identify **TWO** indicators for **EACH** of these unpleasant conditions in a dwelling. (2, 2 marks)
- ii) Outline **THREE** negative impacts caused by these undesirable housing conditions on:
 - a) human health;
 - b) the home structure and its contents. (3, 3 marks)
- iii) When planning, constructing and furnishing a home, measures can be taken to lessen the humidity level and ensure adequate ventilation. Outline **TWO** strategies that can be implemented in **EACH** of the above-mentioned phases. (2, 2, 2 marks)
- iv) A family, living in a house with a high level of dampness is in the process of buying a dehumidifier.
 - a) Give **FOUR** recommendations as to what this family should look for when buying the dehumidifier.
 - b) List **FOUR** steps how the humidifier should be cared for once in use. (2, 2 marks)

Question 4

Sustainability and the conservation of natural resources and energy are topics widely discussed worldwide.

- i) Define the italicised term and provide **TWO** examples to support your explanation. (1, 2 marks)
- ii) Highlight **THREE** individual or family practices that contribute towards the sustainability of the local and global environment. Give **ONE** reason for **EACH** practice. (3, 3 marks)
- iii) Explain the term *sustainable homes* and describe **THREE** features of such homes. (1, 3 marks)
- iv) Some experts argue that the net economic and environmental benefits of recycling may not be as high as one thinks. Highlight the difference between *reuse* and *recycle*. Explain **ONE** problem attributed to recycling. (2, 1 marks)
- v) The role of farmers in the conservation of natural resources is of utmost importance in order to preserve the global environment. Highlight **TWO** benefits of such conservation and illustrate **TWO** ways how farmers can be sustainable when carrying out farming practices. (2, 2 marks)

Question 5

Consumers are constantly exposed to advertisements via various media, and many times complain about the perceived overabundance of advertising in their daily life. Nonetheless, advertising serves some very important purposes.

- i) Give **TWO** advantages of advertising for:
 - a) the consumer:
 - b) the producer or service provider. (2, 2 marks)
- ii) Legislation outlines that advertising cannot be misleading. Explain, giving examples, how advertisements can be misleading. (3 marks)
- iii) Outline what action a consumer can take if an advertisement is found to be misleading. Describe the role of the local authority involved in such a situation. (1, 1 mark)
- iv) A busy homemaker has seen television advertisements of rotary mops and is interested in purchasing one. Outline **TWO** other ways how one can obtain more information about these mops. For **EACH** mode of information, list **TWO** advantages and **TWO** disadvantages. (1, 2, 2 marks)
- v) A green-computing conscious student is saving up for a laptop and a printer for personal use. Identify and explain **THREE** eco-related labels that may be found on the packaging and list **SIX** other eco-related features that the student should look out for. (3, 3 marks)

Please turn the page.

Question 6

Consumer experts constantly stress the importance for consumers and sellers to know their *rights* and *responsibilities* in order to make informed choices with regards to buying and selling.

- i) Define **EACH** of the above italicised terms and highlight the impact of **EACH** on the:
 - a) consumer;
 - b) seller/service provider. (2, 2 marks)
- ii) Apart from the right of redress, list **THREE** rights and **THREE** responsibilities of a consumer giving an explanation for **EACH**. (3, 3 marks)
- iii) The right of redress is a highly discussed issue in the media. Explain this right, and highlight **THREE** methods of redress a consumer can opt for. (1, 3 marks)
- iv) Consumers sometimes resort to the *Consumer Claims Tribunal*, the *Consumer Association* and the *European Consumer Centre (ECC Malta)* to seek help. Define and explain the function of **EACH**. (3, 3 marks)

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ADVANCED LEVEL
MAY 2012

SUBJECT:	HOME ECONOMICS AND HUMAN ECOLOGY
PAPER NUMBER:	II
DATE:	30 th April 2012
TIME:	4.00 p.m. to 7.00 p.m.

ANSWER ANY FIVE QUESTIONS (20 marks each)

Question 1

Carbohydrates are considered to be a vital macronutrient. However, when consumed inappropriately, they may result in having negative implications on the health of an individual.

- i) Outline the **THREE** chemical elements common in all carbohydrates, and give their ratio to one another. (2 marks)
- ii) Explain how disaccharides are formed, and substantiate your explanation by providing **THREE** specific examples. Name the enzymes responsible for **TWO** of these disaccharides' chemical breakdown. (1, 3, 1 marks)
- iii) Explain the following statements from a nutritional scientific perspective, giving detailed biological functions.
 - a) Younger teenagers require a higher intake of carbohydrates than those reaching adulthood.
 - b) Athletes need to consume a good amount of carbohydrate before a marathon.
 - c) The consumption of dietary fibre can reduce constipation and avoid other diet-related diseases.
 - d) Diabetic individuals should consume carbohydrates foods that have a low glycaemic index. (8 marks)
- iv) Describe in detail the digestion and absorption of carbohydrates present in a cereal bar. (5 marks)

Question 2

Some vitamins are known to act as *antioxidants* in the body.

- i) Identify these vitamins giving their scientific name, and outline the role of anti-oxidants in the body. (1, 1 mark)
- ii) For **EACH** of these vitamins:
 - a) state **ONE** function, other than that of anti-oxidant;
 - b) highlight **ONE** deficiency disease;
 - c) list **TWO** significant food sources. (3, 3, 3 marks)
- iii) Vitamin A was the first fat-soluble vitamin to be recognised, and together with its *precursor* beta-carotene, it still intrigues researchers with its diverse roles. Define *precursor* and highlight the different forms of vitamin A. (1, 1 mark)
- iv) Explain how the different forms of vitamin A are converted and activated in the body. (3 marks)
- v) Some vitamins have absorption-enhancing factors. Explain this in the following situations.
 - a) Vitamin D and Calcium in growing children.
 - b) Vitamin C and Iron in vegans. (2, 2 marks)

Question 3

High blood pressure is a silent killer. Many individuals may have this condition without being aware of it until damage is done to vital bodily organs. Pregnancy may trigger off hypertension in susceptible individuals.

- i) Define and give the aetiology of *hypertension*. (1, 2 marks)
- ii) Outline **FOUR** symptoms that may be experienced by individuals with high blood pressure. Explain the difference between *systolic* and *diastolic* readings. (2, 1 marks)
- iii) Identify **FOUR** possible implications that can result in the body if hypertension is not identified and treated. (2 marks)
- iv) A lacto-vegetarian pregnant woman in her third trimester has been diagnosed with gestational hypertension. Outline **TWO** dietary changes and **TWO** non-dietary changes that she should make to safeguard her health and that of her unborn child. (1, 1 mark)
- v) This mother is very conscious of obtaining an adequate dietary intake of all the nutrients. Outline and explain **FIVE** of her increased nutrient needs (giving specific health-related reasons). For **EACH** nutrient, identify **TWO** different food items which the woman can consume. (5, 5 marks)

Question 4

Psychological, technological, economic and social factors all play an important role in food choice.

- i) Explain **EACH** of the above italicised factors highlighting their importance when choosing food. (4 marks)
- ii) Highlight **FOUR** causes of changing an individual's dietary pattern. Explain the main implication of **EACH**. (2, 4 marks)
- iii) Most young people tend to opt for fast food as a quick remedy to satisfy their hunger. Give a brief critical analysis of most fast foods in relation to nutrient and energy value. (4 marks)
- iv) As food choices changed over the past 50 years, the rate of cancer such as colorectal cancer, has increased dramatically. Highlight **FOUR** reasons for this new phenomenon, and suggest **TWO** dietary recommendations that assist in the reduction of such cancer risks. (4, 2 marks)

Question 5

Several new developments have emerged in the packaging, distribution and storage of food for the benefit of the food producer, the retailer and the consumer. A few examples include: *MAP, vacuum packaging and wax coating* of food items.

- i) Explain the italicised terms, giving a detailed explanation of the process involved. For each of these processes, identify **TWO** food items that can be treated as such. (3, 3 marks)
- ii) Outline **TWO** positive and **TWO** negative impacts of such processes for:
 - a) the food producer;
 - b) the consumer. (2, 2 marks)
- iii) Both food hygiene and safety are vital aspects to take into consideration during the transportation of food. Outline **FIVE** measures which need to be adopted by food transport companies, so as to ensure that maximum hygiene and safety standards are attained. (5 marks)
- iv) Food transportation, distribution and storage are all part of HACCP. Explain the abbreviation **HACCP** giving a detailed outline of the steps involved in this system. Highlight the vital role of a HACCP system in the food industry and in the safe guard of consumers' health. (5 marks)

Please turn the page.

Question 6

Conduction, convection and *radiation* are three methods of heat transfer used to cook food.

- i) Define **EACH** of the above italicised terms underlining the scientific principles. Include a suitable labelled diagram for **EACH** method. (3, 3 marks)
- ii) Suggest the most appropriate method of cooking for the following situations. Describe the effects on texture and nutrient content of the food for **EACH** of the method of cooking chosen.
 - a) Beef for a 3-year-old child recovering from influenza.
 - b) Fish for an elderly person who has problems with chewing and swallowing.
 - c) Vegetables for a lacto-vegetarian. (3, 6 marks)
- iii) Explain the scientific principles involved when cooking food in a microwave oven. Outline **TWO** precautions that a homemaker should follow to ensure safety when using a microwave oven. Give reasons for each precaution outlined. (3, 2 marks)