



L-Università
ta' Malta

MATSEC
Examinations Board



Marking Scheme

AM HOME ECONOMICS

First Session 2023

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In the case of marking schemes that include model solutions or answers, it should be noted that these are not intended to be exhaustive. Variations and alternatives may also be acceptable. Examiners must consider all answers on their merits, and will have consulted with the MATSEC Examinations Board when in doubt.

PAPER I

Question		Suggested Answer	Marks Distribution	Marks						
1	a	The basic family unit consists of one or more adults and children, if any, related by blood, marriage, or adoption and residing in the same household.		1						
	b	<ul style="list-style-type: none"> • Separation and divorce are generally more accepted. • More adults are forgoing or delaying marriages. • Lower fertility rate. • Society accepting same sex marriages. 	1 mark each for any two	2						
	c	<table border="1"> <thead> <tr> <th>Positive implications</th> <th>Negative implications</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> • Influence children's caregiving environments. </td> <td> <ul style="list-style-type: none"> • More stressful situations for single parents as they must solve problems alone. </td> </tr> <tr> <td> <ul style="list-style-type: none"> • Income used between less people so economic factors might be better. </td> <td> <ul style="list-style-type: none"> • Childbearing at an older age may pose a greater risk for complications. </td> </tr> </tbody> </table>	Positive implications	Negative implications	<ul style="list-style-type: none"> • Influence children's caregiving environments. 	<ul style="list-style-type: none"> • More stressful situations for single parents as they must solve problems alone. 	<ul style="list-style-type: none"> • Income used between less people so economic factors might be better. 	<ul style="list-style-type: none"> • Childbearing at an older age may pose a greater risk for complications. 	1 mark for any one positive 1 mark for any one negative	2
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	d	<ul style="list-style-type: none"> • Stress and heartache from parents. • More worry from parents as children are away from them. • Economic issues due to parents still helping their children to cope financially. 	1 mark each for any two	2						
	e	<ul style="list-style-type: none"> • Single parent who wants to start a family. • Same-sex couple who want to become parents. • Want to help children and will give a child a loving home. • Might want to raise an older child rather than an infant. 	1 mark each for any two	2						
f	<ul style="list-style-type: none"> • Free injections to PAPs when travelling to sending countries. • The grant of 10,000 Euros for Prospective Adoptive Parents. • €1,000 grant for people who adopt a child locally. • Psychological and family counselling and support services throughout the adoption process. 	1 mark each for any two	2							
g	<ul style="list-style-type: none"> • Safe and secure family environment. • A stimulating environment to ensure holistic growth. • Loved, feeling of belonging and taken care of by parent/s. • Increased opportunities. 	1 mark each for any two	2							
h	<p>Challenges before:</p> <ul style="list-style-type: none"> • Adoption process is lengthy and stressful. • Financial problems. • Anxiety until being matched with a child. 	1 mark each for any two challenges before	4							

		<p>Challenges after:</p> <ul style="list-style-type: none"> • Identify development issues in child. • Racism. • Social interaction problems. 	1 mark each for any two challenges after		
	i	<ul style="list-style-type: none"> • Social interactions with family and other members of the community. • The provision of a safe environment at home. • Love and attention from parents and other family members. • The provision of adequate material living conditions such as food and clothes. • Leisure activities with family and friends. • School, education and a stimulating learning environment being provided. • Given the same rights and responsibilities. 	½ mark each for any six	3	
				Total:	20
2	a	<p>Children:</p> <ul style="list-style-type: none"> • To protect the child from harm. • To provide the child with food, clothing and a place to live. • To financially support the child. <p>Partners:</p> <ul style="list-style-type: none"> • To treat their partner with respect, equality, and honesty. • To encourage their partner's dreams and individuality. • To never humiliate or put down their partner. <p>Elderly</p> <ul style="list-style-type: none"> • Treat them with dignity and respect. • Don't treat them like children. • Listen to them. 	1 mark each for any two from each category	6	
	b	<p>Family-friendly measures: Flexitime, tele/remote working, job sharing, reduced hours.</p> <p>Flexitime: Employees with flexible schedules may not have to commute to the office every day. This helps when having children and saves them money on commuting expenses, work clothing, and eating lunch out every day. Working on flexitime will enable the parents to drive children to school and pick them up themselves and be present once they get back from school.</p> <p>Tele/remote working: Offers the parents the opportunity to spend more time with their kids. Even whilst working, they can still supervise their children from afar. This reduces the level of stress on parents.</p>	<p>1 mark each for any 2 for identifying 2 measures</p> <p>1 mark each for explaining the importance of these 2 measures</p>	4	

	c	<p>Parents: Childcare centres are allowing the parents to keep on working and do not need to take a career break as these centres are taking care of their children whilst they are at work. Parents have their mind at rest that their child is being taken care of by professionals. Most childcare centres also provide daily photos of activities being organised with their children, so that they can still follow what is being organised in the childcare centre and may be compliment what was learnt at home.</p> <p>Children: Childcare centre provides an environment which is suitable for the different needs of the children. The children are divided into different age groups which makes it more fruitful for the child.</p>	1 1	2
	d	<p>Cooking: is a wonderful example of a holistic activity. While helping you prepare food, children build fine motor skills and hand-eye coordination as they chop, peel, wash and slice.</p> <p>Playing dress up: When children play dress-up, they enter a world where they can be anything they want and try to make sense of the world around them. This is an important part of their emotional development.</p> <p>Singing Songs and Rhymes: Singing songs and nursery rhymes develops children's auditory perception – an important pre-reading skill.</p> <p>Playdough: Playdough is a calming activity that improves attention span and is great for strengthening the finger muscles and building creativity.</p>	1 mark each for any three	3
	e	Healthy food, shelter, sanitation, affection, medical care, clothing and education.	½ mark each for any six	3
	f	<p>Each child has physical needs, including healthy food, water, and a place to stay (shelter). Without these things, children can't properly grow and mature physically. So, it's necessary to make sure children eat nutritious and healthy meals on a regular basis and get enough water to drink.</p> <p>Children must be provided with a stimulating learning environment, given education toys, read to, talked to, played with, taken to children care centres and later to school in order to develop intellectually and also socially.</p>	1 mark each for any two	2
			Total:	20
3	a	<ul style="list-style-type: none"> Personal influences: knowledge, ability, likes and dislikes, emotional factors, values. Social influences: gender, family roles, social status, cultural trends. 	½ mark each for any four influences	4

		<ul style="list-style-type: none"> • Economic influences: income, price, interest charged for hire purchase, saving and borrowing. • Marketing and retailing influences: promotional strategies and advertising. 	½ mark each for each example	
b	i	Litter man symbol: This symbol asks you not to litter. It doesn't relate to recycling but is a reminder to be a good citizen, disposing of the item in the most appropriate manner. Example: biscuit packaging, drinking bottles, snacks bag.	½ mark for each symbol 1 mark for each outline ½ mark for each product	1½
	ii	Glass recycling symbol: The glass recycling symbol reminds us that glass can be widely recycled. One can usually dispose of any glass container, jars and bottles in the household glass recycling collection systems when left outside the door or else in the bring-in sites. Example: wine bottles, food jars, sauce bottles.		3
	iii	Green dot: The Green Dot is a license symbol used on packaging in some European markets which shows that a fee has been paid to fund the recycling of that packaging when it becomes waste. Example: food jars, soft drink glass bottles, wine bottles.		1½
c	<p>Energy label: an energy label of A or better. The lower the energy consumption, the less harmful it is for the environment. Generating energy releases CO₂, which causes global warming.</p> <p>Build quality: That means the washing machine lasts longer on average than a basic model.</p> <p>Automatic detergent dosing: The washing machine automatically adds the right amount of detergent and fabric softener. This way, you never use too much, and the washing machine doesn't need as much water to rinse your laundry.</p> <p>Washing quality: Almost all environmentally friendly models have a load sensor that adjusts the cycle duration to the amount of laundry. As a result, you don't use more water and energy than necessary.</p> <p>Eco wash: Eco mode is essentially just a program that uses lower wash and rinse temperatures so less energy is required for heating, and it minimises the amount of water required while still achieving a satisfactory threshold for dirt removal.</p>	1 mark for any four	4	
d	When the consumer buys any of the products included in the BCRS scheme, they have to pay an extra 10c. When the consumer is done from the product, they can dispose of the bottle at one of the Reverse Vending Machine. The machine issues a voucher of 10c for each container that was disposed. This voucher can be redeemed against the bill at any retail outlet in Malta and Gozo where beverages are sold.		2	

	e	<ul style="list-style-type: none"> • Water and flavoured water. • Non-carbonated soft drinks. • Carbonated soft drinks. • Ciders, beers and other malt beverages. • Ready to drink coffee. • Flavoured alcoholic beverages having an alcoholic content level which does not exceed 5%. • Dilutables. 	½ mark each for any four	2
	f	Once collected from the reverse vending machine, the bottles are transported to the BCRS Malta’s clearing centre in Hal Far. There, they will be sorted according to material type using specialised equipment and packed efficiently to be exported for recycling.		2
			Total:	20
4	a	<p>Rights:</p> <ul style="list-style-type: none"> • Right to safety. • Right to choose. • Right to be informed. • Right to consumer education. <p>Responsibilities:</p> <ul style="list-style-type: none"> • To research and compare products or services before you buy them. • To check the qualifications of service providers. • To read and follow product instructions. • To redress immediately. 	1 mark each	6
	b	A legal guarantee is a statutory right that entitles the consumer to seek redress from the seller if a product is defective or does not conform with the contract of sale. The legal guarantee has a minimum of 2 years. Whereas a commercial warranty is given voluntarily to consumers by sellers when buying certain types of products, such as for instance electric products. This warranty does not replace the legal guarantee, but it must provide additional benefits to consumers.		2
	c	<p>Retailer:</p> <ul style="list-style-type: none"> • Protecting Consumer Rights. Your customers already have statutory rights the seller is bound to honour. • Preventing Charge backs. • Building Credibility and might also help to have return customers. <p>Consumer:</p> <ul style="list-style-type: none"> • Offers protection and gives the consumer the right to claim for remedy or compensation from the seller when the goods bought are not fit for purpose. • Safeguards consumer and offers peace of mind in case of unsatisfactory purchase. 	1 1	2

	d	<p>With the retailer in person by visiting the retail outlet.</p> <p>Justification:</p> <ul style="list-style-type: none"> • When redressing in person, the consumer is making sure that his case has reached the retailer and is being taken care of. • The consumer can make sure that all important information is delivered and might also be able to reach an agreement with the retailer there and then. 	<p>1 2</p>	3
	e	<ul style="list-style-type: none"> • Over the phone. • Via a letter or email. • Through the MCCA. • Using Consumer Associations. <p><i>'With retailer or service provider in person' is not accepted.</i></p>	1 mark each for any four	4
	f	<p>Important factors to consider when redressing:</p> <ul style="list-style-type: none"> • It is very important that the consumer contacts the retailer as soon as possible to avoid further damage on the product. • Provide all the necessary documents and packaging as proof of purchase. • Be truthful and state clearly what you want from the beginning; refund or a replacement. • Be patient and calm and talk with respect. This will ensure mutual trust and respect. 	1 mark each for any three	3
			Total:	20
5	a	<p>Online shopping advantages:</p> <ul style="list-style-type: none"> • Very convenient • Better prices and better discounts <p>Online shopping disadvantages:</p> <ul style="list-style-type: none"> • Negative environment impact • Risk of fraud <p>Tele-shopping advantages:</p> <ul style="list-style-type: none"> • Sale is quantified immediately • Offers first hand customers information <p>Tele-shopping disadvantages:</p> <ul style="list-style-type: none"> • Can result in impulse buying • The items specifications might vary 	1 mark each for any advantage and disadvantage of online shopping and teleshopping	4
	b	<ul style="list-style-type: none"> • Cash: buying using paper money already available. • Debit cards: is a plastic currency or plastic money. The money is deducted from your own money found in a bank account. • Credit cards: is a type of credit facility, provided by banks that allow customers to borrow funds within a pre-approved 	½ mark for each identification	6

		<p>credit limit. It enables customers to make purchase transactions on goods and services.</p> <ul style="list-style-type: none"> • Contactless cards: Contactless cards is a way of paying that doesn't require cash or even swiping a card. All you have to do is tap or hold your contactless card near a compatible card reader while you're checking out. The terminal will automatically connect with your bank account and the purchase will be complete in just a few seconds. 	1 mark for each outline																
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d		<p>EPOS (electronic point of sale): It allows you to speed up checkout processes, complete transactions, and keep on top of inventory from a single device.</p> <p>Barcode: Barcodes are applied to products as a means of quick identification. This makes it much faster and easier to identify items at a store, supermarkets, or track inventory in a warehouse. Besides ease and speed, bar codes' major business benefits include accuracy, inventory control and cost savings.</p>	1 1	2															
			Total:	20															
6	a	<p>When one is a newly graduate, financial help from the government, mainly students' stipends, will stop. However, new and more income will also mean new expenses. So, it is important to start with <u>a budget that will match with the lifestyle one wants to lead.</u> Johnathan aspired lifestyle requires him to budget well to be able to fulfil all his dreams. Mainly, he should set aside money to be able to pay for the 10% of the deposit of the property he will buy. Travelling is not cheap, so Johnathan should set aside money to fund his travels. Going out to different places is not free either, so he should</p>	1 mark for each justification	2															

	<p>budget money for entertainment. One thing Johnathan might also be interested in is to start a pension plan which requires him to save money monthly or yearly, depending on the plan chosen.</p> <p><u>If Johnathan does not budget well, he will run into debt and will not be able to lead the lifestyle or buy the property he wants. Following a budget eliminates the risk of overspending, impulse buying and wasting money on unnecessary items.</u></p>		
b	<ul style="list-style-type: none"> • Debt affects one’s life financially, emotionally, mentally, and physically. Johnathan can experience anxiety and depression (mentally), which can increase headaches, affect sleeping pattern and impact a person's ability to focus. • This type of stress on the body can result in more frequent colds and infections (physically) and affect a person's ability to go to work, which further enhances financial struggles. • Johnathan might not be able to keep up with his outings and travel and will have to cut down on them too (financially), which in turn will also influence his emotional wellbeing and start having feelings like resentments, irritation, anger and frustration. 	1 mark each for any three	3
c	<ul style="list-style-type: none"> • Commercial banks. • Stock brokers. • Financial investors. 	1 mark each for any two	2
d	<p>Credit options:</p> <ul style="list-style-type: none"> • Hire purchase • Credit cards • Short/ long term loans <p>Main uses:</p> <ul style="list-style-type: none"> • Home loans • Home finishing loans • Car loans 	<p>½ mark each for any three</p> <p>½ mark each for any three</p>	3
e	<ul style="list-style-type: none"> • Credit almost always costs money. So, one must decide if the item is worth the extra expense of interest paid, the rate of interest and possible fees. • Overuse of credit leads to a poor credit record. A poor credit record means you will find it more difficult and more expensive to get future credit. • Reduces future buying power. Future income is tied up in credit payments. If you use credit, part of everything you earn in the future will go towards what you bought in the past. • It can become a habit and encourages overspending. By simply having a credit card available, a person is likely to spend more when shopping than when paying cash for everything. 	1 mark each for any four	4
f	Both are forms of protection designed to pay out after the policyholder passes away, but they don't work the same way. The key difference is that life insurance is designed to cover the		2

	e	<p>Osteomalacia and Rickets</p> <p><i>How it is different from osteoporosis:</i> Osteomalacia is the softening of the bones due to defective <u>bone mineralization</u>. It may show signs as diffuse body pains, muscle weakness, and fragility of the bones. A common cause of the disease is a deficiency in <u>vitamin D</u>, which is normally obtained from the diet and/or sunlight exposure.</p> <p><i>Specific group of people most susceptible (osteomalacia).</i> Adults who are confined, dark-skinned, or have an unbalanced diet, mainly lack of Vitamin D.</p> <p><i>How it is different from osteoporosis.</i> Rickets is a softening of bones in children, potentially leading to fractures and deformity. It is sometimes also known as infantile osteomalacia. This can lead to skeletal deformity; cranial, spinal, and pelvic deformities.</p> <p><i>Specific group of people most susceptible (rickets).</i> Breast-fed infants who are not exposed to sunlight or individuals not consuming milk, such as those who are <u>lactose intolerant</u>.</p>	<p>½ mark each</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	5	
				Total:	20
2	a	<p>Pulses are the edible seeds of plants in the legume family. Pulses grow in pods and come in a variety of shapes, sizes and colours. Pulses, also known as grain legumes, are a group of 12 crops that includes dry beans, dry peas, chickpeas, and lentils. They are most popular in developing countries, but are increasingly becoming recognized as an excellent part of a healthy diet throughout the world.</p> <p>Dry beans, split beans, dry broad beans, dry peas, chickpeas, lentils.</p>	<p>1</p> <p>½ mark each for any four</p>	<p>1</p> <p>2</p>	
	b	<p>Pulses are valuable sources of protein, as well as being low in saturated fat, sodium and also cholesterol free. They are also good sources of fibre, complex carbohydrates, vitamins and minerals including thiamine (B1) riboflavin (B2), niacin (B3), folate, calcium, potassium, iron and phosphorus.</p>	<p>1 mark each</p>	2	
	c	<p>Many diets around the world rely on pulses as a source of protein. The amount of protein in beans, lentils, chickpeas and peas is 2-3 times the levels found in cereal grains like wheat, rice, quinoa, oats, barley, and corn. Compared to animal and many other plant-based sources of protein, pulses are a more affordable and sustainable protein source. This is because the production of pulses is much cheaper and can feed many more people as compared to animal protein agriculture.</p>		2	
	d	<p>Bigilla, Butter beans with garlic and parsley, Broadbean salad with garlic and parsley, Maltese ftira with beans.</p>	<p>½ mark each for any four</p>	2	

e		<p>Add cannellini or butter beans, or green or brown lentils, to a salad for lunch.</p> <p>Add lentils or beans to soups and eat them for lunch.</p> <p>Add extra kidney beans to your favourite chilli.</p> <p>Homemade hummus using tinned chickpeas only takes a couple of minutes to make if you have a food processor – it's cheaper than shop-bought.</p>	<p><i>½ mark each for any four</i></p>	<p>2</p>
f		<p>While dry pulses are almost always very cheap to buy, purchasing them from bulk stores or ethnic food stores is ideal, where the turnover is high, and you can pick from a large variety.</p> <p>Look for pulses that are uniform in size, bright in colour and are smooth, with a minimal number of broken or shrivelled specimens.</p> <p>The older the pulses are, the drier and more shrivelled they will be.</p> <p>Dry beans, whole peas and chickpeas need to be soaked before they are cooked. Lentils and split peas do not need to be soaked before they are cooked. Before soaking dry pulses, remove any shrivelled or broken seeds or any foreign matter such as dried soil or pebbles, then place in a sieve and rinse under cold running water. Place dried pulses in a deep container, cover them with water and let them stand for 8 – 10 hours.</p> <p>Once the pulses are finished soaking, always discard the soaking water, place pulses in strainer or sieve and rinse well under cold running water. This will wash away any carbohydrates responsible for flatulence.</p>	<p><i>1 mark each for any three</i></p> <p><i>1 mark each</i></p>	<p>3</p> <p>2</p>
g	i	<p>Certain pulses which can be toxic if consumed in their raw form as they contain a compound called phytohemagglutinin (lectin) in their outer layer that can cause severe vomiting and diarrhoea if it's not destroyed via cooking. That's why it's so important to fully cook such pulses before eating them.</p>		<p>1</p>
	ii	<p>Uncooked red kidney beans and white kidney beans (also known as cannellini).</p>		<p>1</p>
	iii	<p>Place the kidney beans in a large bowl and cover with water. Leave the bowl on the counter and soak for at least 5 hours or overnight. Throw away the soaking water when the beans are plump and slightly softer, and the skins are no longer wrinkled. Rinse well.</p> <p>When cooking these dried beans, one must boil them for a minimum of 10-20 minutes. Since most slow cookers do not reach the boiling point, beans prepared in them will still carry the toxic lectin.</p>		<p>2</p>
Total:				<p>20</p>

3	a	<ul style="list-style-type: none"> • Building and repairing body tissues. • Creating new cells in the body. • Form the major constituents of muscle. 	½ mark each for any two	1
	b	Proteins are macronutrients as they are needed in large amounts as they are present in the body in relatively large amounts e.g. protein found in all cells. In addition, they also provide energy, unlike micronutrients.		1
	c	Meat, fish, eggs, milk, cheese, soybean	½ mark each for any two	1
	d	<p>Foods which lack adequate amounts of certain essential amino acids are eaten with other foods which contain adequate amounts of these essential amino acids.</p> <p>Example: Grains plus dairy products: wholemeal bread with cheese, cereal with milk, pizza with a whole wheat crust and cheese on top, wholegrain pasta with cheese sauce.</p>	1 1	2
	e	<p>One would be supporting and boosting the local economy.</p> <p>One would be helping the local industries.</p> <p>The customer will be reducing their carbon footprint – since there is less transportation time.</p> <p>Yoghurt will be fresher since they are sold soon after the milk is obtained and processed.</p>	1 mark each for any two	2
	f	<p>Yogurt is a cultured or fermented milk product that is soured and thickened by adding specific lactic acid-producing cultures to milk. The basic cultures or probiotics used to make yogurt are Lactobacillus bulgaricus and Streptococcus thermophilus. Additional probiotics are often added. Common ones are Lactobacillus acidophilus, Lactobacillus casei, and Bifidus, all of which may help to maintain the balance of bacteria needed to boost the immune system and promote a healthy digestive tract.</p> <p>A properly processed yoghurt has a pH of about 4.6. After processing, conventionally, it is stored around 4°C to maintain the taste, aroma, texture, and physical appearance. If it is not refrigerated, the pH can drop from growth of yoghurt cultures. This will result in the growth of moulds, aciduric bacteria and the appearance of microbial growth. There is less likelihood of growth of bacterial pathogens, but there are some acid resistant pathogens, that, if contamination occurs, can survive and on consumption of that yogurt can cause foodborne infection.</p>	2 2	4
	g	<ul style="list-style-type: none"> • Use yogurt to bulk up smoothies. • Use yoghurt to make salad dressings and marinades. • Use yogurt as a base for thick, custard puddings. • Add yoghurt to curries instead of cream. 	½ mark each for any four	2

	h	<p>Enzymes are proteins that act as catalysts in all living organisms. Catalysts are compounds that increase the rate of chemical reactions in biological systems. Very small quantities of enzymes can increase the rate of reactions up to ten million times. Enzymes operate within a narrow set of conditions, such as temperature and pH (acidity), and are subject to inhibition by various means.</p> <table border="1" data-bbox="280 481 1165 1294"> <tr> <td data-bbox="280 481 1002 616">Heating milk to a temperature that denatures its proteins (<u>scalding</u>), essential for making yoghurt. The milk may be held at 85°C for a few minutes.</td> <td data-bbox="1002 481 1165 616">1 mark</td> </tr> <tr> <td data-bbox="280 616 1002 750">The yoghurt is pasteurized before adding the bacterial cultures. The pasteurization process kills any pathogens that can spoil milk.</td> <td data-bbox="1002 616 1165 750">1 mark</td> </tr> <tr> <td data-bbox="280 750 1002 840">The milk is cooled down to 40-46°C, the temperature for optimal growth of yoghurt starter cultures.</td> <td data-bbox="1002 750 1165 840">1 mark</td> </tr> <tr> <td data-bbox="280 840 1002 974">Inoculation - The yoghurt starter cultures, usually <u>Streptococcus thermophilus</u> and <u>Lactobacillus bulgaricus</u>, is added into the cooled milk.</td> <td data-bbox="1002 840 1165 974">1 mark</td> </tr> <tr> <td data-bbox="280 974 1002 1198">The inoculated yoghurt culture is incubated until a pH of below 5 is obtained. This is called the fermentation process, whereby lactose in the milk is converted to lactic acid, which lowers the pH. The longer the fermentation, the more acidic yoghurt is produced.</td> <td data-bbox="1002 974 1165 1198">1 mark</td> </tr> <tr> <td data-bbox="280 1198 1002 1294">Flavours and colours are added before the yoghurt is packaged.</td> <td data-bbox="1002 1198 1165 1294">1 mark</td> </tr> </table>	Heating milk to a temperature that denatures its proteins (<u>scalding</u>), essential for making yoghurt. The milk may be held at 85°C for a few minutes.	1 mark	The yoghurt is pasteurized before adding the bacterial cultures. The pasteurization process kills any pathogens that can spoil milk.	1 mark	The milk is cooled down to 40-46°C , the temperature for optimal growth of yoghurt starter cultures.	1 mark	Inoculation - The yoghurt starter cultures , usually <u>Streptococcus thermophilus</u> and <u>Lactobacillus bulgaricus</u> , is added into the cooled milk.	1 mark	The inoculated yoghurt culture is incubated until a pH of below 5 is obtained. This is called the fermentation process , whereby lactose in the milk is converted to lactic acid, which lowers the pH. The longer the fermentation, the more acidic yoghurt is produced.	1 mark	Flavours and colours are added before the yoghurt is packaged.	1 mark	1	7
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b	i	Good quality foods, or nutrient-dense foods, contain vitamins, minerals, complex carbohydrates, lean protein, and healthy fats. These are very important for elderly people since they may have reduced appetites, yet still require nutritious food to sustain their diminishing bodies. After the age of 65, there is a reduction in energy needs but vitamins and minerals requirements remain unchanged. This means that the nutrient density of the diet is even more important. Examples of nutrient-dense foods include fruits and vegetables, whole grains, low-fat or fat-free milk products, seafood, lean meats, eggs, peas, beans, and nuts.	1	4
	ii	Energy requirements decrease gradually after the age of 50 in women and age 60 in men as people typically become less active and the basal metabolic rate is reduced. Protein requirements decrease for men but continue to increase slightly in women. The requirements for vitamins and minerals remain virtually unchanged for both men and women.	1	
	iii	After menopause, a woman's iron needs drop as her menstrual cycle ends and recommendations of iron requirements are then the same as for men. If you are still having periods over 50 years, iron requirements for menstruating women still apply.	1	
	iv	At about age 60, taste buds begin to decrease in size and number. As a result, the taste threshold is higher in older adults, meaning that more of the same flavour must be present to detect the taste. Many elderly people lose the ability to distinguish between salty, sour, sweet, and bitter flavours. This can make food seem less appealing and decrease appetite. Intake of foods high in sugar and sodium can increase due to an inability to discern those tastes, which in turn may be harmful to health and increase the risk of the off set of diseases.	1	
c	<p>Food mixer - Since mixers mix food very quickly there is less destruction of water-soluble vitamins resulting from oxidation, even though food may be creamed whilst mixing.</p> <p>Food processor - Since blenders cut food very quickly there is less destruction of water-soluble vitamins resulting from oxidation, even though food is chopped finely.</p> <p>Microwave oven – Microwaves use high frequency electromagnetic waves which cause molecules of liquid present in the food to vibrate and create friction which produces the heat and cooks food using little amount of electric power and very fast. Due to this, nutrients are not destroyed where food practically retains all the nutrients that it originally had before being cooked.</p> <p>Pressure cooker – A pressure cooker is a sealed pot with a valve that controls the steam pressure inside where all water-soluble vitamins</p>	<p>½ mark for each appliance</p> <p>1 mark for each highlight</p>	6	

		<p>which were in the process will remain in the liquid of the meal. In addition, little amount of nutrients are destroyed since food is cooked quicker than usual, not giving enough time for the nutrients to be destroyed.</p>		
	d	<p>Likes and dislikes – though it is not wise to prepare different meals according to tastes on a daily basis, sometimes it might be just adjusting a cooking method or changing a simple ingredient in order to make everyone happy.</p> <p>Texture, aesthetics of meals – hard, tough or too crunchy textures may be hard for the elderly so one might need to adjust the cooking method in order to enjoy the meal.</p> <p>Time available to make the meal – whoever is preparing and cooking the meal needs to consider the time available in order to prepare and cook the meal. Preparing healthy economical meals does not necessarily mean that it needs to take a lot of time.</p> <p>Religious beliefs – the family may have certain beliefs that will lead to adjustment of meals or ingredients. It could also be a certain time of the year e.g. lent, where meals need to be adjusted accordingly.</p>	1 mark each	4
			Total:	20
5	a	<p>Poultry are domesticated birds kept by humans for the eggs they produce, their meat, their feathers, or sometimes as pets. These birds are most typically members of the fowl, especially chickens, Guinea fowls, quails and turkeys and the waterfowl, including domestic ducks and domestic geese. Poultry also includes other birds that are killed for their meat, such as the young of pigeons.</p> <p>Game is any animal hunted by humans for sport or food, example wild birds such as dove pigeons and wild quails, rabbits, pheasants, deer, etc...</p> <p>Game has less saturated fats than farmed poultry because animal feeds used in farms normally have a higher fat content. Furthermore, animals reared in farms have less space to do exercise and burn calories, thus their fat composition is higher.</p>	1 1 1	3
	b	<p>Organic chicken The birds must be raised organically no later than two days after they hatch. They must be fed certified organic feed for their entire lives. Organic feed cannot contain animal by-products, antibiotics or genetically engineered grains and cannot be grown using persistent pesticides or chemical fertilizers.</p> <p>Free range chicken Free range (or free roaming) is a general claim that implies that a meat or poultry product, including eggs, comes from an animal that was raised in the open air or was free to roam.</p>	1 1	4

		<p>Battery chicken Battery hens are egg-laying hens that are kept in restrictive cages. In these battery cages, one hen is kept in one cage and these cages are kept together, often in long rows. The hen’s laying cycle is directly affected by daylight. These cages have their light regulated to expand daylight, especially in autumn, rendering most chickens to lay more eggs.</p> <p>Free range hens are fed a grain mixture, the same as in battery and cage-free farms, but they can supplement their diet with greens and insects, as they can roam (for a certain amount of time per day) around a yard, a shed or an enclosed chicken coop.</p>	1	
c	i	Poultry meat can carry harmful bacteria on the outside. It is therefore important to cook all meat properly to kill the bacteria that can cause food poisoning. Cooking all poultry to minimal safe internal temperature of 74°C, ensures that a safe temperature has been reached inside the meat and so harmful bacteria have been destroyed.	1	3
	ii	Raw poultry products should be kept at 4°C or below to greatly reduce the growth rate of any pathogenic bacteria that may be present on their surfaces. Chilling is required of all raw products unless they move directly from the slaughter line to heat processing or cooking (made into hot dogs or luncheon meats, for example), which destroys pathogens.	1	
	iii	Hormones, chemicals, and drugs have been used for the growth of animals for human food consumption since the 1950s. Steroid hormones are made into pellets and implanted behind the ears of certain food-producing animals. Though authorities make claim that the dosages are too low to affect humans, there is still great concern by the population that consumption of these poultry meats is not healthy as these chemicals are passed on to the human body when consumed. Amongst the health issues that can arise from eating poultry meats produced with hormones and antibiotics one may find early puberty in children; breast, prostate, and other cancers; and the inability to fight bacterial infections.	1	
d	<p>Energy value of eggs A medium egg has an energy value of 78 kcal (324 kJ) and the consumption of one egg daily would contribute only around 3% of the average energy requirement of an adult man; 4% for an adult woman.</p> <p>Carbohydrate and dietary fibre Eggs contain only traces of carbohydrate and no dietary fibre.</p>	1 mark each	4	

		<p>Protein Eggs are an excellent source of protein. Egg protein is of HBV. Protein is found in both the yolk and the albumen. Although protein is more concentrated around the yolk, there is in fact more protein in the albumen.</p> <p>Fat (including Cholesterol) 11.2% of the egg content is fat. The fat of an egg is found almost entirely in the yolk; there is less than 0.05% in the albumen. An egg consists of 44% monounsaturated and 32% saturated fatty acids.</p>		
	e	<ul style="list-style-type: none"> • Roasted chicken with potatoes (Tigieġ bil-patata il-forn). • Chicken broth (Brodu tat-tigieġ). • Chicken with tomato sauce (Tigieġ fiz-zalza). • Balbuljata. 	½ mark each	2
	f	<p>Aeration/Foaming - Eggs are often used in cooking in order to incorporate air into a mixture and hold it there, as in soufflés, meringues and cake mixtures. When whisking, whipping or beating incorporates air, the air bubbles in the liquid become coated with protein; the molecules uncoil (denature) so that they extend and surround the globules of air to create and stabilise the foam. Without the aeration property of eggs, many of the dishes would not have the desired texture.</p> <p>Emulsification - An emulsion (mixture) is made up of one liquid dispersed (distributed) in another. This means when one liquid does not mix entirely with another liquid. The dispersion will only remain stable if it contains an emulsifying agent, that is; a substance attracted to both phases. Since eggs do not separate into oil and water even during lengthy storage, the yolk must contain a powerful emulsifying and stabilising agent. If it is so powerful within the egg, it seems likely that the yolks themselves can be used to emulsify and stabilise other emulsions.</p> <p>Binding/Coagulation – Eggs are used to keep food mixtures together e.g. adding eggs in Quiche Lorraine, that way the egg will solidify together with the milk and the ingredients in the mixture. This happens since proteins coagulate with heat, making the egg in a solid state.</p> <p>Glazing – If eggs are beaten lightly and brushed over the top of pastry or yeast dishes before cooking, they give an attractive golden-brown glaze to the baked product.</p>	1 mark each	4
			Total:	20
6	a	Hypertension is higher-than-normal blood pressure. This is caused by restricted blood flow to organs and the rest of the body due to atherosclerosis, a condition characterised by plaque (made up from fat streaks which are hardened with minerals) formation along the inner walls of the arteries. Plaque stiffens the arteries and narrows the passage through them. The progression of atherosclerosis in the arteries may restrict blood flow to the heart muscle, and limit the		2

		<p>delivery of oxygen. This induces the heart to pump extra hard to push the blood against resistant arteries, thus increasing the blood pressure in the arteries. Hypertension worsens atherosclerosis by mechanically injuring the artery linings and accelerating plaque formation. In return, plaque induces a further rise in blood pressure, intensifying the problem.</p>																
b		<ul style="list-style-type: none"> • Headache. • Dizziness. • Blurred vision. • Nausea. 			<i>½ mark each for any four</i>	2												
c		<ul style="list-style-type: none"> • Constant high pressure in an artery may cause it to gradually balloon out, and eventually burst. This is known as aneurysm. • Undetected aneurysms can lead to massive bleeding and death, especially if a major vessel like the aorta is affected. • Aneurysms in the small arteries of the brain may lead to a stroke. • Aneurysms in the eye can lead to blindness. 			<i>½ mark each for any four</i>	2												
d	i	<p><i>Dietary Measures:</i></p> <ul style="list-style-type: none"> • Weight control. • Monitor and control alcohol intake. <p><i>Non-Dietary Measures:</i></p> <ul style="list-style-type: none"> • Physical activity. • Obtain regular prenatal medical care. 			<i>½ mark each for any two of each</i>	2												
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			Increased calcium intake.	For the development of the skeleton (strong bones and teeth) in the unborn child. To prevent the mother losing calcium from her skeleton and teeth.	Milk and milk products (no soft cheese) Dark green leafy vegetables			
			Increased iron intake.	To have a good supply of blood for the mother, the unborn child and placenta.	Spinach Beans			
			Ensure adequate intake of essential fatty acids.	These are needed by the foetus for brain growth and cell division.	Nuts, particularly walnuts Soyabeans			
							Total:	20