



L-Università
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MATSEC
Examinations Board



Marking Scheme

AM Home Economics

First Session 2025

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PAPER I

Question No	Solution	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. (Accept any other similar, relevant answer.)	(1 mark)	1
	b Smaller families, one-parent families, same-sex parent families, mixed race/ religion families, and young people moving away from home. (Accept any FOUR or any other similar, relevant answers.)	(½ mark x 4)	2
	c <ul style="list-style-type: none"> • There is less stigma when children are born outside of marriage. • Some individuals choose to start a family on their own. • The option of sperm banks and in-vitro fertilisation. (Accept any TWO or any other similar, relevant answers.)	(1 mark x 2)	2
	d <ul style="list-style-type: none"> • Single parents may struggle to cover their family's basic needs because of a single financial input for necessities such as food, utilities, housing, childcare, clothing and transportation. • The lone parent suffers from more stress. • Children may have fewer or less diverse social skills. • Children of single parents are more prone to various psychiatric illnesses and alcohol or drug abuse. • Research also found reduction in academic performance, motivation and creativity among those growing up in single-parent households. (Accept any FOUR or any other similar, relevant answers.)	(1 mark x 4)	4
	e <ul style="list-style-type: none"> • Grandparents can babysit or spend time with their grandchildren. • Grandparents can help in the weekly shopping. • They can drive their grandchildren to and from school or to after school activities. • They can be a good mental supportive system to their children. • Grandparents can do daily chores, such as lunch or meal preparation. (Accept any FOUR or any other similar, relevant answers.)	(1 mark x 4)	4
	f <ul style="list-style-type: none"> • Some think of happier marriage because you can devote more quality time with each member. • Financial constraints therefore the less children, the better to cope financially. • More time for parents and to pursue one's dreams. • More possibilities for self-development involving educational and work commitments. • Sometimes parents feel that their family is already complete. 	(1 mark x 2)	2

		<ul style="list-style-type: none"> Having children later in life makes it difficult to conceive more than one child. <p>(Accept any TWO or any other similar, relevant answers.)</p>		
	g	<p><u>Aging Population:</u> A decline in birth rates often leads to an older population, increasing the dependency ratio. This means fewer working-age individuals to support the elderly, which can strain social services and healthcare systems.</p> <p><u>Labour Shortages:</u> With fewer young people entering the workforce, industries may face labour shortages, potentially hindering economic growth and innovation.</p> <p><u>Economic Impact:</u> An aging workforce can lead to decreased productivity and economic dynamism. Countries may also face rising costs related to pensions and healthcare for the elderly.</p> <p><u>Changes in Family Structure:</u> Low fertility can lead to smaller family sizes, changing social dynamics and potentially increasing isolation among older adults.</p> <p>(Accept any THREE or any other similar, relevant answers.)</p>	(1 mark x 3)	3
	h	<p><u>Financial Incentives:</u> The government offers financial benefits for families, such as one-time birth grants and ongoing child allowances to help cover the costs of raising children.</p> <p><u>Parental Leave Policies:</u> Enhanced maternity and paternity leave provisions allow parents to spend more time with their newborns, which can help encourage family growth.</p> <p><u>Fertility Treatments:</u> Support for fertility treatments, including subsidized IVF (in-vitro fertilization) procedures, is available to couples' facing challenges in conceiving.</p> <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2
Total				20
2	a	<p>i. 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 moderately. To provide safety, supervision and control. To provide medical care. To provide an education. 	(2 marks)	2
		<p>ii. Partner:</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. To respect their partner's decisions - even if you don't agree. To apologize when you have made a mistake. 	(2 marks)	2

	<p>iii. Elderly parents:</p> <ul style="list-style-type: none"> • Treat them with dignity and respect. • Don't treat them like children. • Listen to them. • Make sure they have a place to call home. • To offer companionship, love and support to the elderly. • To spend quality time with them when possible. • To care for the parent when needed. • To make them feel valued within the family. <p>(Accept any TWO or any other similar, relevant answers for EACH category.)</p>	(2 marks)	2
b	<p>Breakfast clubs, Klabb 3-16, Flexi-time, Tele-working/Remote working, Job-sharing, Reduced hours.</p> <p>(Accept any FOUR or any other similar, relevant answers. NB: Since the age of children are 5 and 7 the couple cannot avail themselves of the free childcare scheme.)</p>	(½ mark x 4)	2
c	<p><u>Breakfast clubs:</u> This service gives the opportunity to Primary School students to have a healthy breakfast before school commences, as well as interact with other students through play and other activities.</p> <p><u>Klabb 3-16:</u> Klabb 3-16 is an after-school care service for children between the ages of 3 and 16 years, attending State, Church or Independent schools. Children who attend Klabb 3-16 benefit from a planned programme of activities. The schedule gives children the opportunity to do their homework under the guidance of warranted teachers, and to take part in educational non-formal activities with playworkers. These include activities such as arts and crafts, drama and storytelling, physical education and games, cookery sessions, science experiments, activities related to technology, educational talks and workshops that are linked to monthly themes. Children with a statement of support may also be provided with the assistance of a Child Support Worker.</p> <p><u>Flexi-time:</u> 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 also be present once they get back from school.</p> <p><u>Tele-working/Remote working:</u> 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>	(1 mark x 2)	2

	<p><u>Job-sharing</u>: A job share arrangement is a full-time job split between two individuals, each with responsibility for the success of the total job. Job sharing allows two staff members to share the responsibilities of one full-time position, typically with prorated salary and paid time off.</p> <p><u>Reduced hours</u>: When an individual works less than 40 hours per week to be able to cope with the needs and demands of the family.</p> <p>(Accept any TWO or similar explanation of family-friendly measures.)</p>		
d	<p><u>Work-Life Balance</u>: They help employees manage their personal and professional responsibilities, reducing stress and improving overall well-being.</p> <p><u>Economic Benefits</u>: Supporting families can lead to increased economic stability. Parents with access to family-friendly measures are more likely to participate in the workforce, contributing to overall economic growth.</p> <p><u>Health and Well-being</u>: Families which benefit from supportive measures often experience better mental and physical health, as they can manage stressors related to work and family responsibilities more effectively.</p> <p><u>Social Equity</u>: Family-friendly measures can promote equality by supporting all families, regardless of their socioeconomic status, helping to level the playing field in terms of opportunities and resources.</p> <p>(Accept any TWO or any other similar, relevant answers.)</p>	(2 marks x 2)	4
e	<p>Fostering involves providing a safe and nurturing environment for kids who cannot live with their biological families due to various reasons, such as abuse, neglect, or family crisis.</p> <p>While fostering can be long-term, it can also be temporary or short-term. Adoption, on the other hand, is usually permanent.</p> <p>(Accept any other similar, relevant answers.)</p>	(1 mark x 2)	2
f	<p><u>Stability and Security</u>: Foster homes provide a safe and stable environment, which can be crucial for children who have experienced trauma or instability in their previous living situations.</p> <p><u>Emotional Support</u>: Foster families often provide emotional nurturing, helping children to develop healthy attachments and coping mechanisms.</p> <p><u>Education Opportunities</u>: Foster care can facilitate access to education, allowing children to attend school regularly and receive necessary support for learning challenges.</p> <p><u>Social Skills Development</u>: Living with a foster family can help children develop important social skills, such as communication, empathy, and conflict resolution.</p>	(1 mark x 2)	2

		<p><u>Individualized Attention:</u> Many foster families can offer more individualized attention than larger group settings, helping children to thrive academically and socially.</p> <p>(Accept any TWO or any other similar, relevant answers.)</p>		
	g	<p><u>Enriched Family Life:</u> Fostering can bring new dynamics into the household, allowing family members to develop empathy, patience, and resilience.</p> <p><u>Broadened Perspectives:</u> Families often gain a deeper understanding of diverse backgrounds and experiences, which can foster compassion and acceptance.</p> <p><u>Strengthened Relationships:</u> The experience of fostering can bring family members closer together as they navigate challenges and celebrate successes as a team.</p> <p><u>Sense of Purpose:</u> Many families find fulfilment in providing a safe, loving environment for children in need, enhancing their sense of community and purpose.</p> <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2
3	a	<ul style="list-style-type: none"> • When you buy a property, even if you buy through a loan, you are increasing the ownership of the property by time, whereas rent payments don't provide any ownership. • Real estate often appreciates in value over the long term, allowing you to potentially sell at a profit later. • Stability: Owning a home can provide more stability compared to renting, where lease terms can change, and rent prices may increase. • Control Over Property: Homeowners have the freedom to renovate and modify their property to their liking, while renters usually have restrictions. • If you rent your property or part of your property, it can generate a steady income, whilst you cannot rent an already rented property since the property is not yours to manage. <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2
	b	<p>Real estate agent/brokerage fees, notarial fees, architect's fees, stamp duties, bank loan fees, imposed insurance fees.</p> <p>(Accept any FOUR.)</p>	(½ mark x 4)	2

c	<ul style="list-style-type: none"> • Salaries from full-time and part-time jobs. • Borrowing from relatives / Donation from parents. • Inheritance. • Income from renting or investments. • Bank loans. <p>(Accept any FOUR or any other similar, relevant answers.)</p>	(½ mark x 4)	2
d	<p><u>i. Promise of Sale:</u> It follows that once promise of sale is signed, the vendor is legally obliged to sell the property at the pre-determined price to the purchaser who is equally bound to purchase the property, also at the price agreed upon and within the timeframe stipulated in the same contract.</p>	(2 marks)	2
	<p><u>ii. Deed of Sale:</u> The final deed of sale is the purchase contract for a property. It is drafted and read aloud by a notary in the presence of the buyer and vendor. Upon signing the final deed, the property ownership will be transferred from seller to buyer.</p> <p>(Accept any other similar relevant answers.)</p>	(2 marks)	2
e	<ul style="list-style-type: none"> • Signing a lease in front of a notary is important as it means that both the tenant and the owner must honour the contract. • The owner cannot ask or make you leave before the contract expires, even if they get a better deal, though the tenant can inform the owner a month before to terminate his rent contract if necessary. • Should there need to be upgrades within the property that might have an effect on the quality of life of the tenant, the owner is bound to fix or maintain the issue. • Both the tenant and the owner are bound to maintain and honour the contract's terms and conditions, such as the condition of the property, the term or the renting price cannot be altered. <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2
f	<p><u>Strong Demand:</u> Malta's appeal as a destination for expatriates, retirees etc. The country's favourable climate, English-speaking population, and lifestyle options attract many buyers.</p> <p><u>Economic Growth:</u> The Maltese economy has experienced steady growth, particularly in sectors like finance, technology, and tourism, boosting people's purchasing power and encouraging property investments.</p> <p><u>Limited Supply:</u> The availability of land for new developments is limited, especially in desirable areas. This scarcity drives up prices as more buyers compete for fewer properties.</p> <p><u>Government Incentives:</u> Various government initiatives (tax benefits and residency programs) have encouraged foreign investment in real estate.</p> <p>(Accept FOUR or any other similar, relevant answers.)</p>	(1 mark x 4)	4

	<p>g <u>First-time buyer scheme:</u> This Scheme Grant on the Acquisition of a Residential Property intends to assist first-time homebuyers in the crucial first years after the purchase of their first home by granting the sum of €10,000 over a ten-year period when purchasing a property.</p> <p><u>Deposit Payment Scheme:</u> This is a scheme on the 10% Deposit, aimed towards individuals aged 39 or less who can take a loan but have not yet saved the 10% value of the property not catered for in the loan. The Housing Authority acts as a guarantor in a personal loan for this amount, thereby enabling beneficiaries to purchase properties worth up to €225,000. Interest on this personal loan is also paid by the Housing Authority.</p> <p><u>Equity Sharing Scheme:</u> The Equity Sharing Scheme is aimed towards individuals aged 30+ who, due to their age and income, cannot take a loan which suffices to purchase their home. The Housing Authority purchases up to 50% of a property worth up to €250,000, thereby lowering the value of the loan taken by the beneficiaries. The remaining share is purchased from the Housing Authority when the beneficiaries' financial situation improves.</p> <p><u>Social Loan Scheme:</u> The Home Assist Loan Scheme is aimed towards low-income earners who cannot finance a home loan. A grant of up to €167/month is given to finance part of the repayment of a loan for the purchase of a property worth up to €140,000. The annual income threshold is €19,717.56 for single persons, €20,717.56 for single parents and €21,717.56 for couples.</p> <p><u>'Sir Sid Darek' Scheme:</u> Scheme 'Sir Sid Darek' enables tenants to purchase their government-owned residence. Tenants who hold assets worth less than €150,000 are granted 50% subsidy on the sale price. The sale is affected at the Housing Authority's discretion. High value, strategically located and historic properties are not offered for sale under this scheme.</p> <p><u>Grant on First Residence:</u> The Grant to assist owners in the completion of their first home provides financial assistance to all first-time buyers; no income threshold applies. The grant is calculated as 15.254% of the fiscal receipts submitted for finishing works, capped at €5,824. An additional €1,165 is granted for rehabilitation on construction works if the purchased property was built before 1990.</p> <p>(Accept any TWO or any other similar, relevant answers.)</p>	<p>(2 marks x 2)</p>	<p>4</p>
Total			20

4	a	Global warming, the depletion of the ozone layer, acid rain, an adequate supply of safe water and energy for all. (Do not accept any other answers.)	(½ mark x 4)	2
	b	<u>Global warming:</u> Global warming refers to the long-term rise in Earth's average surface temperature due to human activities, primarily the emission of greenhouse gases like carbon dioxide and methane. These gases trap heat in the atmosphere, leading to various environmental impacts. <u>Depletion of ozone layer:</u> The depletion of the ozone layer refers to the reduction of ozone (O ₃) in the stratosphere, which plays a crucial role in protecting life on Earth by absorbing most of the sun's harmful ultraviolet (UV) radiation. This depletion is primarily caused by human-made chemicals, especially chlorofluorocarbons (CFCs) and halons, which were commonly used in refrigeration, air conditioning, and aerosol propellants. <u>Acid rain:</u> Acid rain refers to precipitation that has a lower pH than normal, making it acidic. This phenomenon occurs when sulphur dioxide (SO ₂) and nitrogen oxides (NO _x) are released into the atmosphere, primarily from burning fossil fuels. These gases react with water vapor, oxygen, and other chemicals in the atmosphere to form sulfuric and nitric acids. <u>An adequate supply of safe water and energy for all:</u> overextraction, pollution, geographic disparities and some agricultural practices all effect the supply of safe water and energy for some people. (Accept any other relevant answers.)	(1 mark x 4)	4
	c	<ul style="list-style-type: none"> • We have seen an increase in temperatures. • We are experiencing a longer summer season. • Weather patterns are changing, having some extremes – mostly too hot weather. • Rainfall decreased and rainfall patterns changed. • Warmer temperatures also expanded the range of many disease-causing pathogens that were once confined to tropical and subtropical areas, killing off plant and animal species that formerly were protected from disease. • Agricultural systems suffering from drought and seasonality due to changed weather conditions. (Accept any THREE or any other similar, relevant answers.)	(1 mark x 3)	3
	d	<ul style="list-style-type: none"> • Improvements in energy efficiency. • An increased share of renewable energy. • Changes to the transport system. • Reduction of agricultural Greenhouse Gas emissions. • Grants when buying greener cars. • Schemes when investing in solar energy. 	(1 mark x 3)	3

		<ul style="list-style-type: none"> Schemes as incentives for improved home energy consumption and water conservation. <p>(Accept any THREE or any other similar, relevant answers.)</p>		
	e	<ul style="list-style-type: none"> When possible, choose the closest supermarket. Buy local products, preferably fresh. Buy organic products. Buy products with the least packaging or when possible, buy with biodegradable packaging. Avoid the purchase of single use-plastic. Buy only in the required amounts. When you throw food away, you're also wasting the resources and energy that were used to grow, produce, package and transport it. In addition, when food rots in a landfill, it produces methane, a powerful greenhouse gas. <p>(Accept any THREE or any other similar, relevant answers.)</p>	(1 mark x 3)	3
	f	<ul style="list-style-type: none"> Turn off the tap when it's not in use. Soak your dishes in warm water first. Run your dishwasher and laundry only when its full. Cut those long showers short. Use water-saving devices. Use a water softener to tackle hard water problems. Do not brush teeth, wash plates under running water. Use a bucket rather than a pipe to wash your car or yard. <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2
	g	<ul style="list-style-type: none"> Drinking straws Toothbrushes Pencils and biro cases Cutlery and plates Packaging material Stationary Grocery bags Toys <p>(Accept any SIX or other similar, relevant answers.)</p>	(½ mark x 6)	3
Total				20
5	a	<p>Personal, social, economic, environmental, marketing and retailing influences.</p> <p>(Accept any FOUR influences. Do not accept any other answers.)</p>	(½ mark x 4)	2
	b	<p><u>Personal influences:</u> knowledge, ability, likes and dislikes, emotional factors, values.</p> <p><u>Social influences:</u> gender, family roles, social status, cultural trends.</p> <p><u>Economic influences:</u> income, price, interest charged for hire purchase, saving and borrowing patterns.</p>	(½ mark x 8)	4

	<p><u>Environment related influences:</u> considerations of impact on the environment of purchasing decisions (food, clothing, personal hygiene, transport).</p> <p><u>Marketing and retailing influences:</u> promotional strategies and advertising.</p> <p>(Accept any TWO for EACH factor. Do not accept any other answer.)</p>		
c	<p><u>Personal:</u> Not everyone has the same tastes in style, food etc. Therefore, everybody has different likes and dislikes. For example, one individual might like very spicy foods, whilst another individual dislikes spicy food.</p> <p><u>Social:</u> Young people like to wear clothes that are in line with current trends, whilst older individual might not be very influenced by current styles and trends.</p> <p><u>Economic:</u> One's salary can differ greatly from the other. The amount of income influences the lifestyle that what can live and what we buy and consume.</p> <p><u>Environmental:</u> Consumers have different knowledge and awareness on being sustainable and green. Therefore, this influences the consumption from one person to the other. Being environmentally concerned makes consumers opt for more environment friendly products and services and reduce consuming certain deterrents towards the environment.</p> <p><u>Marketing and retailing influence:</u> some people are more active in social media and follow more influencers than others. Due to this, these individuals are more aware of what is available on the market and might be more influenced about certain products advertised.</p> <p>(Accept any FOUR. Accept any other similar, relevant answers.)</p>	(1 mark x 4)	4
d	<p>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.</p> <p>(Accept any other similar relevant answer.)</p>	(2 marks)	2
e	<ul style="list-style-type: none"> • Protecting Consumer Rights. Your customers already have statutory rights which the seller is bound to honour. • Preventing Charge backs. • Building credibility and might also help to have return customers. • A useful sales aid. <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2

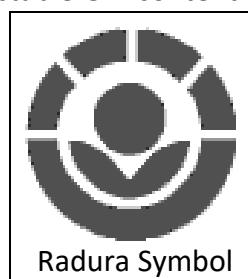
	f	<ul style="list-style-type: none"> • With retailer or service provider in person. • Over the phone. • Via a letter or email. • Through the MCCA. • Using Consumer Associations. <p>(Accept any TWO. Do not accept any other answers.)</p>	(1 mark x 2)	2
	g	<p>Justification:</p> <ul style="list-style-type: 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. • The retailer can check the item by inspection and confirm complaint. • The consumer can ensure that there is no misunderstanding, his complaint is tackled adequately and an agreement on way forward is easier reached. <p>(Accept any answer if a corresponding justification is given.)</p>	(2 marks)	2
	h	<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. • Address the manager/responsible person who can help you settle the issue. All this will help the consumer to settle the issue as soon as possible. <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2
Total				20
6	a	<p>Credit options:</p> <ul style="list-style-type: none"> • Hire purchase • Credit cards • Short/ long term loans 	(1 mark x 3)	3
	b	<p><u>Main uses:</u></p> <ul style="list-style-type: none"> • Home loans • Home finishing loans • Car loans <p>(Accept any TWO or any other similar, relevant answers.)</p>	<ul style="list-style-type: none"> • Students' loans • Medical loans • Travel loans <p>(1 mark x 2)</p>	2

	<p><u>Limitations:</u></p> <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 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. • It has a limit of amount you can spend. • Loans requires various documentation to ascertain purchase. • The item bought is never entirely yours until your last payment, which may be years after. <p>(Accept any FOUR or any other similar, relevant answers.)</p>	(1 mark x 4)	4
c	<p><u>Poor Financial Planning:</u> Lack of budgeting or understanding of expenses can lead to overspending.</p> <p><u>Easy Credit Access:</u> Credit cards and loans can create a false sense of financial security, encouraging spending beyond one’s means.</p> <p><u>Lack of Savings:</u> Without an emergency fund, people are more likely to rely on credit when unexpected costs arise.</p> <p><u>Social Pressure:</u> Keeping up with peers can lead to unnecessary purchases and debt accumulation.</p> <p><u>Unexpected Expenses:</u> Sudden medical bills, car repairs, or job loss can strain finances.</p> <p><u>Lifestyle Inflation:</u> As income increases, spending often rises too, leading to unsustainable habits.</p> <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2
d	<p><u>Mental issues</u> such as prolonged stress, depression, and anxiety.</p> <p><u>No savings:</u> Debt can restrict your ability to save or invest, limiting future opportunities and financial growth.</p> <p><u>Lifestyle Constraints:</u> Ongoing debt payments can force you to cut back on discretionary spending, impacting your quality of life.</p> <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2

	<p>e <u>Life insurance</u> is a contract between an individual and an insurance company where the insurer provides a payout to beneficiaries upon the insured's death, in exchange for regular premium payments. It can offer financial security for loved ones, covering expenses like mortgages, education, and daily living costs.</p> <p><u>Health insurance</u> is a type of insurance coverage that pays for medical and surgical expenses incurred by the insured.</p> <p>(Accept any other similar, relevant answer.)</p>	(1 mark x 2)	2
	<p>f</p> <ul style="list-style-type: none"> • <u>Financial Protection</u>: It safeguards your investment by covering damages from events like fire, theft, or natural disasters. This means you won't have to bear the full financial burden of repairs or replacements. • <u>Peace of Mind</u>: Knowing you have coverage against unexpected events can provide significant peace of mind. It allows you to enjoy your home without constantly worrying about potential risks. • <u>Loan Requirement</u>: Many lenders require homeowners to have insurance as a condition for the mortgage. This ensures that their investment is protected. • <u>Personal Property Protection</u>: Home insurance can cover your personal belongings, from furniture to electronics, in case of theft or damage. <p>(Accept any THREE or any other similar, relevant answers.)</p>	(1 mark x 3)	3
	<p>g</p> <p>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 policyholder for a specific term, usually the same amount of time as the house loan, and you'll be covered if you pass away during that term while life assurance usually covers the policyholder for their entire life and when one passes away, a lump sum will be paid to your loved ones.</p> <p>(Accept any other similar, relevant answer.)</p>	(1 mark x 2)	2
Total			20

PAPER II

Question No		Solution	Marks Distribution	Marks
1	a	<ul style="list-style-type: none"> Genetically Modified Organisms (G.M.O) is where the genetic material or DNA of an organism is altered in some way. Food irradiation is when food is exposed to ionizing radiation (gamma rays or X-rays) in order to disinfect, sanitise, sterilise, and preserve food or to provide insect disinfestation. This process will slow down the sprouting in potatoes and ripening of some fruits, as well as kill moulds, insects and bacteria. Artificial fertilizer refers to a man-made product used in agriculture to provide essential nutrients and minerals to plants, competing with natural residues like manure. <p>(Accept any other similar, relevant answers.)</p>	(1 mark x 3)	3
	b	<p><u>Identification of genetically modified foods:</u> EU law requires any approved GM product to be clearly labelled, including foods derived from GM crops that do not have a detectable GM content.</p> <p><u>Identification of irradiated foods:</u> Foods that are irradiated may carry the RADURA symbol or the food is labelled with the words 'irradiated' or 'treated with ionising radiation'.</p> <p>(Accept any other similar, relevant answers.)</p>	(1 mark x 2)	2
	c i	<p>For the food producers.</p> <ul style="list-style-type: none"> GM tomatoes and fruit can tolerate a lengthier transport time. This means that farmers/producers can avoid picking their crops while they are green to tolerate the transportation phase. The farmer has the advantage that long-lasting GM tomatoes and other fruits can be harvested simultaneously. The farmer can grow a larger crop of GM foods because it is easier to fight pests. The farmer no longer must use insecticide to kill insects, so there are lower production costs. Therefore, the farmer may have a competitive edge on other farmers as one may sell at a cheaper price per unit. The farmer no longer must use insecticide to kill insects on the GM plants, so the surrounding farmland is no longer exposed to large amounts of harmful insecticide. Also, the farmer no longer needs to walk around with a drum of toxic spray wearing a mask and protective clothing. 	(1 mark)	1



		<ul style="list-style-type: none"> The farmer can also protect the environment by using less herbicidal crop spray. In some cases, the farmer can use a more environment-friendly herbicidal crop spray. 		
	ii	<p>For the world population.</p> <ul style="list-style-type: none"> GM crops are resistant to insects and pesticides infestations. This will result in more crop yield and so more food is available worldwide. This can reduce the global famine problem. Because the GM tomatoes and other fruits can remain fresh for longer, they can be allowed to ripen in the sun before picking – resulting in better tasting produce. Certain food products become more widely available and are cheaper to purchase. Nutrient-rich food would be available to people in developing countries, thus reducing the incidence of nutrient-related deficiency diseases. <p>(Accept any other similar, relevant answer from EACH section.)</p>	(1 mark)	1
	i	<p>Positive impacts of food irradiation for:</p> <p>For the food producers.</p> <ul style="list-style-type: none"> Reduces amount of spoilage bacteria, insects and parasites present; reduces health hazards associated with certain products due to the presence of pathogenic micro-organisms. It can be used to prolong the shelf life of food products. In certain fruits and vegetables, it inhibits sprouting and delays ripening. 	(1 mark)	1
	ii	<p>For the world population.</p> <ul style="list-style-type: none"> Food irradiation supports the trend towards globalisation through supporting centralised mass production and distribution of foods worldwide. Poor countries and low-income families may have access to nutrient dense foods, which would otherwise be unavailable or too expensive for these groups of people to buy. Foods will have a longer shelf life, so the food can be transported to different parts of the world and still retain its good quality. <p>(Accept any other similar, relevant answer from EACH section.)</p>	(1 mark)	1

	i	<p>Positive impacts of artificial fertilisers for: For the food producers.</p> <ul style="list-style-type: none"> • Chemicals, liquid or water-soluble, can be sprayed as foliar feeding or delivered immediately to crop roots through fertigation systems. • When compared to natural, mass-produced synthetic fertilizers with a long shelf-life are more cost-effective. 	(1 mark)	1
	ii	<p>For the world population.</p> <ul style="list-style-type: none"> • Fertilisers are a valuable tool in a world where fewer people grow more food and do it cheaply to stay competitive in the global market. • Artificial fertilisers are boosting crop yields which is helping in feeding the world's growing population. • Increased yields mean we can produce more food in a smaller surface area, preventing land use change like deforestation. • Being cheaper to purchase, artificial fertilisers may help in keeping prices low for the crops. <p>(Accept any other similar, relevant answer from EACH section.)</p>	(1 mark)	1
d		<ul style="list-style-type: none"> • GM vegetables or fish are endangering wildlife in general. In case of farmed salmon, since these fish are larger, they can easily take over the natural, though smaller, salmon. GM vegetables are made more resistant to pesticides, requiring a larger amount of pesticides, thus killing the natural vegetables and crops. • GM crops increase pesticide use all over the world. This is because crops through genetic alterations are made more resistant to pesticides. Over time, insects become immune to the pesticides, so stronger pesticides need to be used. • GM is unreliable and uncontrollable, since it increases mutations in species, giving different results altogether. • The WHO mostly highlights 'out crossing', that is the movement of genes from GM plants into conventional crops or related species in the wild, as one of the main disadvantages of GMOs. • The WHO is also concerned with the mixing of crops derived from conventional seeds with those grown using GM crops, as these may have an indirect effect on food safety and food security. An example of this risk is when it was shown that traces of a maize type which was only approved for feed use, appeared in maize products for human consumption in the United States of America. Several countries have adopted strategies to reduce mixing, including a clear separation of the fields within which GM crops and conventional crops are grown. <p>(Accept any THREE or any other similar, relevant answers.)</p>	(1 mark x 3)	3

e		<ul style="list-style-type: none"> • Environmental pollution: Most synthetic fertilizers, in contrast to natural ones, tend to run off and volatilize, contaminating the soil, water, and air. • Altering soil pH: Long-term chemical applications may affect the soil’s pH balance, making it hostile to beneficial insects and microorganisms. • Overfertilization: Because synthetic fertilizing products are extremely concentrated, they are easily overused, for example, resulting in fertilizer burn. • Contamination of the water table: Artificial fertilisers take longer, if ever, to decompose and get rid of, so extra artificial fertilisers which is not consumed by the plant may leach to the water table, leading to its contamination. <p>(Accept any THREE.)</p>	(1 mark x 3)	3
f		<ul style="list-style-type: none"> • Organic farming is a sustainable approach to agriculture that avoids synthetic fertilizers and pesticides, instead relying on compost, animal manure, and green manure to build soil quality and maintain long-term fertility. By enhancing soil health, conserving water, recycling animal waste, and prohibiting the use of sewage sludge, organic practices protect the environment while producing healthier food. This system benefits not only the land but also farmers and consumers, promoting ecological balance and resilience compared to traditional farming methods. • Integrated Pest Management (IPM) is an ecological farming strategy that combines natural predators, pest-resistant crops, cultural practices, biological controls, physical techniques, and limited pesticide use to reduce reliance on chemicals. It emphasizes environmentally friendly, low-cost methods such as plant-based pesticides and crops with biological control properties, avoiding genetic modification and agrochemical contamination. Successful examples of these natural approaches already exist and some are commercially available, showing that IPM can effectively regulate pests while protecting soil, water, and overall farm sustainability. • Intercropping and crop rotation use plant diversity to improve farm productivity and sustainability. By carefully planning spatial arrangements, planting rates, and maturity dates, farmers can achieve higher yields than monocultures while also gaining pest management benefits. Different systems include mixed intercropping, strip cropping, and traditional arrangements, with harvesting options ranging from hand to machine or even animal grazing. Well-designed intercrops create favourable microclimates, enhance nutrient cycling, and balance soil fertility. 	(1 mark x 3)	3

		<p>Deep-rooted plants act as nutrient pumps, while legumes fix nitrogen, making them especially beneficial when grown alongside cereals.</p> <ul style="list-style-type: none"> • Maintaining diversity strengthens traditional agricultural ecosystems by reducing vulnerability to droughts, floods, and plant epidemics. Diversity links directly to food security and ecological stability, as communities worldwide rely on both wild and domesticated forms for livelihoods. Ecological studies show that diverse communities are more resilient to environmental disturbances, since species interact through mutualistic and competitive relationships that balance populations and support the survival of the whole system. • Conventional breeding Conventional breeding relies on classic genetic principles and phenotype-based selection to introduce desirable traits into crops and livestock. Each cross combines genetic material from both parents, which can also pass on unwanted traits that must be eliminated over successive generations. This process requires repeated testing for growth, nutrition, and processing qualities, often taking many years, especially for perennial crops and livestock. While effective, conventional breeding is slow, costly, and labour-intensive. Biotechnology can complement and improve these methods, offering more efficient and reliable genetic improvement. • Permaculture - Permaculture is an ecological design approach that creates sustainable human settlements and self-maintaining agricultural systems modelled on natural ecosystems. It minimizes waste, labour, and energy by building synergistic relationships between design elements, evolving into complex systems that produce abundant food and materials with minimal input. Each element is analysed for its needs and outputs, then arranged so that one supports another, reflecting natural spatial patterns. Common practices include polyculture farming, perennial crops, rainwater harvesting, and terraforming, all aimed at long-term resilience and sustainability. <p>(Accept any THREE or any other similar, relevant answers.)</p>		
Total:				20
2	a	<p>Water: 1.5-2 litres Dietary fibre: 25-30g</p>	(½ mark x 2)	1
	b	<ul style="list-style-type: none"> • Soluble fibre attracts water and turns to gel during digestion. This slows digestion. It can help lower blood cholesterol and blood glucose levels. Soluble fibre is found in oats bran, barley, nuts, seeds, beans, lentils, peas, and some fruits and vegetables. • Insoluble fibre is not digested but adds bulk to the stool and appears to help food pass more quickly through the stomach and intestines. As it 	(1 mark x 2)	2

		<p>goes along the intestine, it sweeps away toxins to get eliminated. It is found in foods such as wheat bran, vegetables, certain fruit if eaten with skin on and wholegrains.</p> <p>(Accept any other similar, relevant answers.)</p>	(Food sources: ½ mark x 4)	2
	c	<ul style="list-style-type: none"> • Normalizes bowel movements. Dietary fibre increases the weight and size of your stool and softens it. A bulky stool is easier to pass, decreasing your chance of constipation. If you have loose, watery stools, fibre may also help to solidify the stool because it absorbs water and adds bulk to stool. • Helps maintain bowel health. A high-fibre diet may lower your risk of developing haemorrhoids and small pouches in your colon (diverticular disease). Some fibre is fermented in the colon. Researchers are looking at how this may play a role in preventing diseases of the colon, such as the prevention of colorectal cancer. • Lowers blood cholesterol levels. Soluble fibre found in beans, oats, flaxseed and oat bran may help lower total blood cholesterol levels by lowering low-density lipoprotein, or "bad" cholesterol levels. Studies also have shown that fibre may have other heart-health benefits, such as reducing blood pressure and inflammation. • Helps control blood sugar levels. In people with diabetes, fibre — particularly soluble fibre — can slow the absorption of sugar and help improve blood sugar levels. A healthy diet that includes insoluble fibre may also reduce the risk of developing Type 2 diabetes. • Aids in achieving healthy weight. High-fibre foods generally require more chewing time, which gives your body time to register when you're no longer hungry, so you're less likely to overeat. Also, a high-fibre diet tends to make a meal feel larger and linger longer, so you stay full for a greater amount of time. These diets also tend to be less "energy dense," which means they have fewer calories for the same volume of food. <p>(Accept TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2
	d	<p><i>Maintaining blood volume and blood pressure.</i></p> <ul style="list-style-type: none"> • Water maintains blood volume, which in turn influences blood pressure. Central to the regulation of blood volume and blood pressure are the kidneys. All day, every day, the kidneys reabsorb needed substances and water and excrete wastes with some water in the urine. The kidneys meticulously adjust the volume and the consistency of the urine to accommodate changes in the body, including variations in the day's food and fluid intakes. • Instructions on whether to retain or release substances or water come from ADH, renin, angiotensin and aldosterone. Whenever the blood volume or blood pressure falls too low, or whenever the extracellular fluid becomes too concentrated, the hypothalamus signals the pituitary 	(2 marks x 3)	6

		<p>gland to release antidiuretic hormone (ADH). ADH is a water-conserving hormone that stimulates the kidneys to reabsorb water. Consequently, the more water a person needs, the less the kidneys excrete. These events also trigger thirst. Drinking water raises the blood volume and dilutes the concentrated fluids, thus helping to restore homeostasis.</p> <p>ii <i>Regulating the body temperature and cools the body when necessary.</i></p> <ul style="list-style-type: none"> • The health and well-being are dependent on keeping body temperature within a very narrow range and water serves this function very well. This is because water itself changes temperature slowly and is able to help regulate body temperature by serving as a good heat storage material. This is important because the human body is made up of 60-75 percent water, with the brain up to 75%; and the muscles up to 70% water. • For the body the cool down, evaporation of water from body surfaces needs to take place. Sweat loss that is barely noticeable occurs every day and night. Water allows the body to release heat when ambient temperature is higher than body temperature. The body begins to sweat, and the evaporation of water from the skin surface very efficiently cools the body. Individuals may lose up to a pint of water each day in this manner. In hot, humid weather or during exercise, increased sweating and losses of water are more visible. <p>iii <i>Cleansing the body.</i></p> <ul style="list-style-type: none"> • Water helps cleanse the stomach and aids in digestion as it forms saliva which is needed to mash the food and push it down the oesophagus. Water is also found in gastric juices and enzymes needed to breakdown the food. Drinking room temperature water between meals helps flush the stomach clean after processing its last meal so that no small, trapped pieces of food remain in it. A clean stomach can relax, rest and stop producing acid. • Drinking room temperature water between meals rinses the small intestine too. It loosens up the food particles, which helps them move faster to the next section of the digestive tract for further processing. Water in the small intestine is much needed to help carry essential nutrients through the intestinal walls to the bloodstream. By doing that, it aids absorption of nutrients, making the individual require less food which is a definite benefit for weight reduction. Drinking room temperature water between meals also helps to flush out old food particles, helping beneficial intestinal bacteria to keep the inside of the intestines clean. Water also helps clean the large intestine (colon). By 		
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		<p>moving in and out of the large intestine through the intestinal wall, water is exchanged with the fluid outside the cells, controlling the volume of this fluid throughout the body. Water softens the waste, so you do not have to strain to get it out.</p> <p>(Accept any similar, relevant answers.)</p>		
e	<p>i</p> <p>ii</p> <p>iii</p>	<p><i>Athletes following a high-protein diet.</i></p> <p>When athletes consume more protein without increasing water or other fluid intake, their blood urea nitrogen level (BUN), which measures kidney function, rises. This occurs because of the extra stress placed on the kidney while eliminating the breakdown by-products of protein, which isn't used as efficiently by the body as carbohydrate for energy. So high protein intake, causes the kidneys to produce more concentrated urine, which is a sign of dehydration, caused by the extra fluid needed to eliminate the waste products. Thus, such athletes need to drink more water to produce more dilute urine, consequently helping the kidneys to work more efficiently.</p> <p><i>People on a high-fibre diet.</i></p> <p>Water keeps the human body hydrated, prevents constipation and softens the stools, allowing them to pass through the colon without excessive pressure. Because fibre absorbs water, a person may need to increase the water intake on a high-fibre diet. Most of the dietary fibre in fruits, vegetables, legumes and whole grains that a person eats passes through the digestive system without being absorbed. As fibre moves through the digestive tract, facilitating the removal of wastes, it forms a bulky mass. Much of the fluid from this mass is withdrawn in the colon for use by the body. If water intake is too low, the stools may be dry, and bowel movements may become difficult and painful.</p> <p><i>People with diabetes.</i></p> <p>For people with diabetes, the risk of dehydration is greater, because higher than normal blood glucose depletes fluids. With diabetes, excess blood sugar or glucose, in the body draws water from the tissues, making the person feel dehydrated. To get rid of the glucose, the kidneys will try to pass it out in the urine, but that takes water. So, the higher the blood glucose, the more fluids a sufferer should drink. One of the best warning signs that glucose levels are high is thirst, and water is the best way to quench that thirst, and to break down those sugars.</p> <p>(Accept any other similar, relevant answers.)</p>	(1 mark x 3)	3

		<p>seeds, nuts, dairy products and eggs. It excludes meat, fish and poultry or products containing these foods.</p> <p>Pesco-vegetarian: Pescatarians eat freshwater and saltwater fish and shellfish in addition to the fruits, vegetables, grains and legumes typically consumed.</p> <p>(Accept any FOUR similar, relevant answers.)</p>								
	b	<ul style="list-style-type: none"> • A well-balanced vegetarian or vegan diet can provide many health benefits, such as a reduced risk of chronic diseases, including coronary heart disease and hypertension. • Since plant-based foods and grain are low in fat, one is less likely to suffer from obesity. • Plant-based diets also reduce the risk of some types of cancer, especially linked to the gastrointestinal tract. • Consuming low-glycaemic foods, such as whole grains, legumes, and nuts, keep blood sugar levels steady, helping to prevent Type-2 diabetes. <p>(Accept any other FOUR similar, relevant answers.)</p>	(½ mark x 4)	2						
	c	<ul style="list-style-type: none"> • religious or other beliefs. • out of concern over animal rights and welfare. • environmental conservation and awareness. • personal likes and dislikes – they might not enjoy the taste of meat. • ethical concerns. <p>(Accept any TWO or other similar, relevant answers.)</p>	(1 mark x 2)	2						
	d	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;">Type of iron <i>(Note to markers: Accept any other similar, relevant answers.)</i></th> <th style="text-align: center; padding: 5px;">Food sources <i>(Note to markers: Accept any TWO)</i></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Haem iron</td> <td style="padding: 5px;">It is found in foods that contain haemoglobin – animal foods including red meats, fish and poultry. One of the biggest benefits is that haem iron is absorbed better than non-haem iron, and its absorption is not affected by anything else a person eats.</td> </tr> <tr> <td style="padding: 5px;">Non-haem iron</td> <td style="padding: 5px;">It is the form of iron found in all other, non-meat-based foods. Non-haem iron is not absorbed by the body as well as haem iron.</td> </tr> </tbody> </table>	Type of iron <i>(Note to markers: Accept any other similar, relevant answers.)</i>	Food sources <i>(Note to markers: Accept any TWO)</i>	Haem iron	It is found in foods that contain haemoglobin – animal foods including red meats, fish and poultry. One of the biggest benefits is that haem iron is absorbed better than non-haem iron, and its absorption is not affected by anything else a person eats.	Non-haem iron	It is the form of iron found in all other, non-meat-based foods. Non-haem iron is not absorbed by the body as well as haem iron.	(1 mark x 2) (Food source: ½ mark x 2)	3
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	e	<p>Iron Deficiency Anaemia</p> <p>How this condition results: Iron deficiency anaemia occurs when red blood cell counts are low due to a lack of iron. Iron deficiency anaemia is generally an acquired disease due to insufficient iron in the diet. It is a condition in which few red blood cells are present, or the red blood cells are immature or too small or contain too little haemoglobin to carry the amount of oxygen to the tissues.</p> <p>(Accept any other similar, relevant answers.)</p>	(1 mark) (2 marks)	4						

		<p>Common symptoms:</p> <ul style="list-style-type: none"> feelings of weakness, or fatigue. poor concentration. dyspnoea (shortness of breath) on exertion. <p>(Accept any TWO or any other similar, relevant answers.)</p>	(½ mark x 2)													
f		<p><i>A specimen answer:</i></p> <table border="1"> <thead> <tr> <th>MEAL</th> <th>JUSTIFICATION</th> </tr> </thead> <tbody> <tr> <td> <p><u>Breakfast:</u> Avocado toast with beans.</p> </td> <td>Will provide energy from the carbohydrates found in bread, unsaturated fats from avocado, LBV proteins from the beans and various vitamins and minerals from the avocado and beans.</td> </tr> <tr> <td> <p><u>Lunch:</u> Whole meal wrap with spinach and tofu ricotta.</p> </td> <td>The wrap will provide carbohydrates and fibre, spinach will provide iron and various vitamins while tofu ricotta will give iron, calcium and important proteins.</td> </tr> <tr> <td> <p><u>Snacks:</u> Hummus with celery sticks</p> </td> <td>This will serve as a good source of LBV proteins, iron and important vitamins.</td> </tr> <tr> <td> <p><u>Dinner:</u> Vegan lentil lasagne with cooked bean and kale salad.</p> </td> <td>Good sources of complementary protein and non-haem iron. Vitamin C in tomato sauce will help in the absorption of non-haem iron. Good source of fat-soluble vitamins A and D. Good source of carbohydrates and NSP. High in vitamins A and C and in phytochemicals (e.g. lycopene).</td> </tr> <tr> <td> <p><u>Drink:</u> Kale and avocado smoothie</p> </td> <td>This will give her a good number of antioxidants, vitamins, essential unsaturated fatty acids, iron, calcium and proteins.</td> </tr> </tbody> </table> <p>(Accept other valid answers. Menu should include breakfast, lunch, snacks, dinner and drink.)</p>	MEAL	JUSTIFICATION	<p><u>Breakfast:</u> Avocado toast with beans.</p>	Will provide energy from the carbohydrates found in bread, unsaturated fats from avocado, LBV proteins from the beans and various vitamins and minerals from the avocado and beans.	<p><u>Lunch:</u> Whole meal wrap with spinach and tofu ricotta.</p>	The wrap will provide carbohydrates and fibre, spinach will provide iron and various vitamins while tofu ricotta will give iron, calcium and important proteins.	<p><u>Snacks:</u> Hummus with celery sticks</p>	This will serve as a good source of LBV proteins, iron and important vitamins.	<p><u>Dinner:</u> Vegan lentil lasagne with cooked bean and kale salad.</p>	Good sources of complementary protein and non-haem iron. Vitamin C in tomato sauce will help in the absorption of non-haem iron. Good source of fat-soluble vitamins A and D. Good source of carbohydrates and NSP. High in vitamins A and C and in phytochemicals (e.g. lycopene).	<p><u>Drink:</u> Kale and avocado smoothie</p>	This will give her a good number of antioxidants, vitamins, essential unsaturated fatty acids, iron, calcium and proteins.	<p>(Meal example: ½ mark x 5)</p> <p>(Brief justification of each suggested meal: ½ mark x 5)</p>	<p>2½</p> <p>2½</p>
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Total:				20												

4	a	<p>Fad diets are eating patterns that promote short-term weight loss, usually with no concern for long-term weight maintenance, and enjoy temporary popularity. These diets normally promise unreasonable fast weight loss.</p> <p>(Accept any other similar, relevant answer.)</p>	(1 mark)	1
	b	<p>At the stage both teenagers and young adults can be very self-conscious of their image and are concerned about their weight and figure, so they resort to dieting. Unfortunately, most of these individuals want to see immediate effects and so they are ready to go to the extreme that is either literally starve themselves or opt for a 'miracle' cure. These do not help the teenagers and young adults in the long-term so they will end up with their same weight or maybe even more once the effect has passed. Once the person realises this, they will move on to the next Fad diet and start all over.</p> <p>(Accept any other similar, relevant answer.)</p>	(1 mark)	1
	c	<ul style="list-style-type: none"> • Promises a quick fix. • Promotes 'magic' foods or combinations of foods. • Implies that food can change body chemistry. • Excludes or severely restricts food groups or nutrients, such as carbohydrates. • Has rigid rules that focus on weight loss. • Makes claims based on a single study or testimonials only. <p>(Accept any FOUR or any other similar, relevant answers.)</p>	(½ mark x 4)	2
	d	<ul style="list-style-type: none"> • Dehydration due to lack of adequate intake of water and food with high water content. • Weakness and fatigue due to lack of intake of carbohydrates which produce energy. • Nausea and headaches – these results due to lack of energy in the body, oxygen in blood cells and water in the body. • Constipation – lack of fibre and water will lead to constipation. • Inadequate vitamin and mineral intake resulting to various deficiencies, all of which can be easily prevented with a well-balanced diet. <p>(Accept any Three or any other similar, relevant answers.)</p>	(1 mark x 3)	3
	e	<p>Examples of eating disorders: Anorexia, Bulimia Nervosa</p> <p>Anorexia nervosa is a serious eating disorder marked by extreme thinness, distorted body image, and intense fear of gaining weight. People with anorexia often restrict food intake, exercise excessively, or misuse methods like vomiting and laxatives. Food and weight control become obsessive, with behaviours such as constant weighing and eating very</p>	(½ mark x 2)	1
			(1 mark x 2)	2

		<p>small portions. The condition can cause severe health problems, including loss of menstruation in women, and may follow different courses: some recover after one episode, others relapse, and some struggle chronically with long-term health deterioration.</p> <p>Bulimia nervosa is an eating disorder marked by repeated episodes of binge eating, often consuming thousands of calories in a short time, followed by extreme efforts to avoid weight gain. These compensatory behaviours may include vomiting, laxatives, diuretics, enemas, excessive exercise, fasting, or crash dieting. People with bulimia struggle with guilt, shame, and a sense of being out of control, caught between the desire to stay thin and the compulsion to binge. The condition affects both men and women of all ages and can cause serious physical and emotional health problems.</p> <p>(Accept any other similar, relevant answers.)</p>		
f		<p>Physical effects:</p> <ul style="list-style-type: none"> • Consuming fewer calories than you need means that the body breaks down its own tissue to use for fuel. Muscles are some of the first organs broken down, and the most important muscle in the body is the heart. Pulse and blood pressure begin to drop as the heart has less fuel to pump blood and fewer cells to pump with. • Purging by vomiting or laxatives depletes your body of important chemicals called electrolytes. The electrolyte potassium plays an important role in helping the heartbeat and muscles contract but is often depleted by purging. • Eating disorders can lead to reduced resting metabolic rate, a result of the body’s attempts to conserve energy after periods of nutrient restriction; conversely, some people may experience a paradoxical increase in metabolic rate as they begin to renourish. • Binge eating can cause the stomach to rupture, creating a life-threatening emergency. <p>Psychological effects:</p> <ul style="list-style-type: none"> • People with eating disorders are at risk for co-occurring mental illnesses, which most often include depression, anxiety, and substance use disorders. People with eating disorders are also at a higher risk for suicide. It’s critical to treat any co-occurring conditions as part of the treatment plan. • Struggling with an eating disorder can feel unmanageable, like there is no way to escape. Depression can often result from feeling trapped by an unhealthy relationship with food. 	(1 mark x 4)	4

		<ul style="list-style-type: none"> • A dominating symptom of hunger, irritability, can affect those who restrict their food intake, greatly affecting their own mood and interactions with those around them. • Distorted eating patterns are always coupled with a harsh self-perception. This can manifest in symptoms like calorie counting, weighing oneself constantly, extreme dieting and excessive working out. While they are all physical behaviours, they stem from emotional and mental distress. One of the most common mental effects of eating disorders is an increase in anxiety. <p>(Accept any TWO or any other similar, relevant answers for EACH.)</p>		
	g	<ul style="list-style-type: none"> • Eat a variety of foods: lean protein; complex carbohydrates such as whole grains, fruits, and vegetables; and "good" fats, like omega-3 fats from fish and monounsaturated fats from avocados, nuts, and olives or olive oil. • Say NO to 'bad' fats: minimize how much saturated fat the individual gets from animal sources, and eliminate trans fats from fried foods, snacks, and fast-food products. • Eat at least five servings of fruits and vegetables each day. Choose different colours of fruits and vegetables to ensure optimal nutrition. • Be careful about portion sizes. If the teen or young adult must have seconds, they should serve themselves vegetables. If the individual likes lots of food on the plate, s/he should fill up with a large salad and a good serving of green beans, broccoli, cabbage, kale, or other low-calorie vegetable. • Exercise at least 150 minutes each week with a moderately intense activity like brisk walking. This can be divided into smaller blocks of time. For example, one could do a brisk walk for 10 minutes three times a day for five days to reach 150 minutes. • Clean out the room or kitchen and eliminate all junk food. Toss out high-calorie, high-fat, sugary foods that will tempt the individual to overeat such as chips, cookies, crackers, ice cream and chocolate. <p>(Accept any THREE or any other similar, relevant answers.)</p>	(1 mark x 3)	3
	h	<ul style="list-style-type: none"> • Extra protein is not used efficiently by the body and may impose a metabolic burden on the bones, kidneys, and liver. • High-protein/high-meat diets may also be associated with increased risk for coronary heart disease or even cancer due to high intakes of saturated fat and cholesterol. • Some high-protein diets limit carbs so much that you might not get enough nutrients or fibre. This can cause problems such as bad breath, headache and constipation. 	(1 mark x 3)	3

		<ul style="list-style-type: none"> • Some high-protein diets allow red meats, processed meats and other foods high in saturated fat. These foods may increase your risk of heart disease, and they can increase your low-density lipoprotein (LDL) cholesterol, the “bad” cholesterol. • A high-protein diet may worsen how well a kidney works in people with kidney disease. This can happen because the body may not be able to get rid of all the waste products of protein that’s broken down. <p>(Accept any THREE or any other similar, relevant answers.)</p>		
Total:				20
5	a	<ul style="list-style-type: none"> • It is one of the best white meats available on the market today. • The meat has a high percentage of easily digestible protein. • It contains the least amount of fat among all the other available meats. • Rabbit meat contains less calorie value than other meats. • Rabbit meat is almost cholesterol free and therefore heart patient friendly. <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2
	b	<ul style="list-style-type: none"> • Small Rabbit Meat pies. These would be very similar to small qassatat with a rabbit meat filling which includes vegetables like carrots, onion and peas. • Rabbit drumsticks: Cook the back and front legs of the rabbit in stew. Serve the rabbit drumsticks with a stew sauce dip. • Beer Basted Rabbit: Rabbit meat grilled with garlic salt seasoning, basted with beer. Serve on kebab stick. • Rabbit meat Kebabs: Use marinated (herbs and olive oil) boneless rabbit meat, and place alternatively on kebab stick with bell peppers and onions. Brush with the marinade liquid and bake in oven for 30 minutes, turning the kebabs halfway through the cooking time. • Rabbit Burgers: Shred rabbit meat. Boil the meat until tender and it starts to fall off the bone. Once cool, remove meat from bones. Grind the meat. Use several slices of bread, either fresh or stale, to push all of the meat out of the grinder when done. Mix well. Place ground meat in a large bowl. Add pepper and seasonings, chopped garlic and onions. Add enough eggs to make it stick together. Mix well. Shape into patties and bake in a moderate oven until crisp. Serve on buns with onion rings and tomatoes as regular hamburgers. • Rabbit meatballs: Mince the rabbit meat (remove all bones), add breadcrumbs, beaten eggs, Parmesan cheese, garlic, parsley and some pepper. Mix well. Using your hands, shape the mixture into large marble- 	(½ mark x 6)	3

		<p>sized balls. Put in fridge to chill and firm up. Fry or bake the meatballs and serve with tomato sauce.</p> <ul style="list-style-type: none"> • Rabbit liver pate serve on toasted bread: Fry chopped onion and garlic in pan until golden brown and soft. Add the liver and cook for 2 minutes before adding sherry, parsley, thyme and pepper. Stir for 1 minute then remove from heat and leave for 2 minutes. Place in a food processor and blend until the pâté is smooth. Cool for 5 minutes then gently fold in the whipped cream. <p>(Accept ANY SIX or any other similar, relevant answers.)</p>		
	c	<ul style="list-style-type: none"> • Before freezing, allow the cooked rabbit to cool to room temperature. This prevents condensation inside the packaging, reducing the risk of freezer burn and maintaining the meat's texture. • Use airtight packaging, such as vacuum-sealed bags or containers with tight-fitting lids, to minimize exposure to air. This helps prevent freezer burn and preserves the flavour and moisture of the meat. Select containers or packaging that are freezer-safe and airtight. This helps prevent freezer burn and maintains the flavour and texture of the cooked meat. • Clearly label each package with the date of freezing and the type of meat. This information helps you keep track of storage times and ensures you use the oldest frozen meat first. <p>(Accept any THREE or any other similar, relevant answers.)</p>	(1 mark x 3)	3
	d	<p>i Oxygen, hydrogen, nitrogen, carbon, and sometimes sulphur and phosphorus.</p> <p>(Accept any FOUR.)</p> <p><u>Proteins</u> are biological <u>polymers</u> composed of <u>amino acids</u> that are linked together by peptide bonds to form a polypeptide chain. There are two general classes of protein molecules: globular proteins and fibrous proteins. Globular proteins are generally compact, soluble, and spherical in shape. Fibrous proteins are typically elongated and insoluble. Globular and fibrous proteins may exhibit one or more of four types of protein structure.</p> <p>(Accept any other similar, relevant answer.)</p>	(½ mark x 4)	2
		<p>ii Protein are labelled as macronutrients as they are needed in large amounts (grams) as they are present in the body in relatively large amounts i.e. protein found in all cells.</p> <p>(Accept any other similar, relevant answer.)</p>	(1 mark)	1

		<p>iii</p> <ul style="list-style-type: none"> • Building and repairing body tissues. • Creating new cells. • Fighting illness and disease. • Hormone production. • Producing enzymes. <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2												
		<p>iv</p> <p>The digestion and absorption of protein in the body.</p> <table border="1" data-bbox="300 593 1225 1998"> <thead> <tr> <th data-bbox="300 593 466 728">Part of Digestive system</th> <th data-bbox="466 593 837 728">Physical Process</th> <th data-bbox="837 593 1225 728">Chemical Process</th> </tr> </thead> <tbody> <tr> <td data-bbox="300 728 466 1057">Mouth</td> <td data-bbox="466 728 837 1057">The digestion of protein begins in the mouth with chewing. Chewing not only makes food easier to swallow, but it also helps with digestion by chopping food up into smaller bits.</td> <td data-bbox="837 728 1225 1057"></td> </tr> <tr> <td data-bbox="300 1057 466 1467">Stomach</td> <td data-bbox="466 1057 837 1467">The muscles surrounding the stomach squeeze and crush the foods and stomach fluids together.</td> <td data-bbox="837 1057 1225 1467">Protein digestion continues in the stomach with the release of hydrochloric acid and pepsinogen. Hydrochloric acid converts pepsinogen into pepsin, which begins to break down the bonds between the amino acids.</td> </tr> <tr> <td data-bbox="300 1467 466 1998">Small intestines</td> <td data-bbox="466 1467 837 1998"></td> <td data-bbox="837 1467 1225 1998"> <p>The hydrochloric acid is neutralized with bicarbonates released from the pancreas.</p> <p>The pancreas also releases an enzyme called trypsin. Trypsin continues to break apart the amino acids, which are then absorbed into the blood stream.</p> </td> </tr> </tbody> </table>	Part of Digestive system	Physical Process	Chemical Process	Mouth	The digestion of protein begins in the mouth with chewing. Chewing not only makes food easier to swallow, but it also helps with digestion by chopping food up into smaller bits.		Stomach	The muscles surrounding the stomach squeeze and crush the foods and stomach fluids together.	Protein digestion continues in the stomach with the release of hydrochloric acid and pepsinogen. Hydrochloric acid converts pepsinogen into pepsin, which begins to break down the bonds between the amino acids.	Small intestines		<p>The hydrochloric acid is neutralized with bicarbonates released from the pancreas.</p> <p>The pancreas also releases an enzyme called trypsin. Trypsin continues to break apart the amino acids, which are then absorbed into the blood stream.</p>	(1 mark x 5)	5
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		<p>Once in the bloodstream, the amino acids are carried to the cells in various parts of the body. The body uses the individual amino acids that were broken down during digestion to build the proteins needed for the various functions.</p> <p>(Accept any other similar, relevant answers.)</p>																	
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6	a	<ul style="list-style-type: none"> • Traditional foods often make use of fresh, local food produce found available locally at relatively low prices. • Association of traditional food with warm feelings and good memories. • It ties people to their families, holding a special and personal value. • Traditional food often becomes the comfort food we seek as adults in times of frustration and stress. <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2															
	b	<p>Modifications of Baked Timpana recipe:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">ORIGINAL RECIPE INGREDIENTS</th> <th style="text-align: center;">MODIFIED INGREDIENTS</th> <th style="text-align: center;">JUSTIFICATION</th> </tr> </thead> <tbody> <tr> <td>White pasta</td> <td>Wholegrain pasta</td> <td>Higher fibre content gives a sense of feeling full, so the individual will eat less. Has a low glycaemic index so the release of glucose takes longer and the individual will not feel hungry.</td> </tr> <tr> <td>Minced beef</td> <td>Use lean minced meat. Substitute with TVP/tofu chunks.</td> <td>Lower in fat and calorific content. Lower in saturated fats. If TVP is used, it has a higher dietary fibre content.</td> </tr> <tr> <td>Butter</td> <td>Olive oil</td> <td>Olive oil is a good source of monounsaturated fats.</td> </tr> <tr> <td>Tinned tomatoes and tomato paste</td> <td>Fresh tomatoes</td> <td>Tomato paste and tinned tomatoes are high in salt/sodium and other preservatives including sugar. Sodium toxicity results in acute hypertension whilst too much sugar can add to the problem by triggering diabetes mellitus. It also has additives such as flavourings and colourings which are not really needed by the body. On the other</td> </tr> </tbody> </table>	ORIGINAL RECIPE INGREDIENTS	MODIFIED INGREDIENTS	JUSTIFICATION	White pasta	Wholegrain pasta	Higher fibre content gives a sense of feeling full, so the individual will eat less. Has a low glycaemic index so the release of glucose takes longer and the individual will not feel hungry.	Minced beef	Use lean minced meat. Substitute with TVP/tofu chunks.	Lower in fat and calorific content. Lower in saturated fats. If TVP is used, it has a higher dietary fibre content.	Butter	Olive oil	Olive oil is a good source of monounsaturated fats.	Tinned tomatoes and tomato paste	Fresh tomatoes	Tomato paste and tinned tomatoes are high in salt/sodium and other preservatives including sugar. Sodium toxicity results in acute hypertension whilst too much sugar can add to the problem by triggering diabetes mellitus. It also has additives such as flavourings and colourings which are not really needed by the body. On the other	(1 mark x 5)	5
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		hand, fresh tomatoes are high in Ascorbic acid, fibre and non-haem iron.
Stock cube	Herbs e.g. basil, mint Homemade stock	Stock cubes are high in sodium and salt. Exchanging this with fresh/dried herbs and spices will give the sauce flavour without increasing intake of sodium in the body. Excess intake of sodium/salt can lead to dehydration. Homemade stock is low in sodium and helps in the prevention of hypertension.
Bacon	Eliminate	Eliminating bacon results in less consumption of saturated fats and sodium. Dish can be flavoured with fresh or dried herbs or spices.
Evaporated Milk	Skimmed milk	Skimmed milk is giving all the nutrients without giving too much fat, thus lower calorific value.
Tinned peas	Fresh or frozen peas	Frozen and fresh vegetables are preferred over tinned vegetables mainly because tinned vegetables are preserved mainly in brine, thus containing large amounts of sodium/salt. In addition, tinned vegetables have less fibre than frozen or fresh vegetables.
2 eggs	Eggwhites / ¼ cup tofu	Eggwhite can be used instead of whole as binding agents. The advantage is that though they have all the nutrients needed, cholesterol is absent from eggwhite. Whipped tofu is an excellent replacement to egg or egg white as it can be used as binding agent without adding fat or interfering in the dishes taste. Tofu is rich in

			calcium, protein (HBV) and B vitamins including cobalamin.			
		Parmesan cheese	Grated cheeselet /mozzarella	Cheeselets/mozzarella made from cow's milk do not have more than 2.5% fat while hard cheese contains about 40% of fat.		
		Seasoning	Add pepper only	Omitting salt will help reduce the risk of hypertension.		
		Puff Pastry	Short crust pastry with olive oil (top only)	Puff pastry is very high in trans fats and saturated fats. Olive oil is a good source of monounsaturated fats.		
		Other additions	Add corn	For higher dietary fibre. Higher content of Vitamin C and A.		
		(Accept any FIVE or any other similar, relevant answer.)				
	c	"Food miles" is a term which refers to the distance food is transported from the time of its production until it reaches the consumers' table.			(1 mark)	1
	d	<ul style="list-style-type: none"> • Purchase locally produced seasonal foods. • Use fruits and vegetables that are in season. • Purchase food from sources that are as close to your home as possible. • Buy directly from farmer and food producer. • Buy fresh rather than processed foods. (Accept any THREE or any other similar, relevant answers.)			(1 mark x 3)	3
	e	Buying: <ul style="list-style-type: none"> • Avoid bruised, wilted, old produce. • Avoid buying produce from vendors where the vegetables are exposed for lengthy periods to high temperatures. • Avoid buying produce from vendors with a low turn-over. Storing: <ul style="list-style-type: none"> • Vegetables and herbs need to be stored in a cool environment. • Potatoes should be stored in a cool, dark place. • Chopped vegetables should be packed well to reduce/avoid oxidation. Cooking <ul style="list-style-type: none"> • Steam/stir fry any items which need pre-cooking. • Add vegetables to boiling water. • Avoid using excess water. Serving <ul style="list-style-type: none"> • Serve hot soup immediately. • Avoid reheating. (Accept any ONE or any other similar, relevant answer from EACH section.)			(1 mark x 4)	4

f	i	<ul style="list-style-type: none"> • The cultural heritage of our traditional recipes are retained. • These easy-to-prepare frozen dishes have a higher nutritive value than any other fast food, therefore provide a better alternative. • They are easy and quick to prepare by all, therefore easier to include as part of the regular meal plans of local families. • Cooking time is short, saving on energy (fuel and human energy). • Can be prepared by inexperienced cooks. <p>(Accept any TWO or any other similar, relevant answers.)</p>	(1 mark x 2)	2
	ii	<ul style="list-style-type: none"> • Are low in NSP/fibre when compared to traditional recipes using fresh produce. • May contain high amounts of additives and preservatives, like salt and other artificial additives. • Include more saturated fat than the traditional recipe using fresh produce. • Include fewer vitamins and minerals which are lost as a result of processing. <p>(Accept any THREE or any other similar, relevant answers.)</p>	(1 mark x 3)	3
Total:				20