

2023 ASSESSMENT REPORT

FDN315118 – FOOD AND NUTRITION

General Comments

More successful responses:

- Showed evidence of reading the questions carefully and correctly, and addressing all parts of the question. For example, students understood what was meant by key terms:

Identify	State what something is.
Describe	State what something is and what it does.
Explain	State what something is, what it does, and how it does it.
Analyse	State what something is, what it does, how it does it, and what it leads to.
Evaluate	State what something is, what it does, how it does it, what it leads to, and how well it does it.

- Demonstrated a thorough understanding of key concepts and theories, showcasing in-depth knowledge gained from the Food and Nutrition course.
- Exhibited critical thinking skills by not only addressing the questions but also analysing and evaluating concepts, providing insightful perspectives on the broader implications and applications of their knowledge.
- Demonstrated effective time management, allowing for thorough coverage of each question/section.

Less successful responses:

- Demonstrated challenges in interpreting and addressing the questions accurately, resulting in incomplete or inaccurate responses. For example, they misinterpreted key terms such as describe, discuss, or evaluate.
- Showed limited understanding of key concepts and theories, indicating a need for further exploration of foundational knowledge in the Food and Nutrition course.
- Lacked depth in critical thinking, with responses focusing on surface-level information and struggling to provide comprehensive analysis or evaluation.
- Exhibited ineffective time management, leading to inadequate coverage of questions unanswered.

Section A – Nutrition

Criterion 4: Describe the relationship between nutrition, food and health.

The following are the types of responses required for Section A. Marks have been allocated for variations, depending on the examples used by the students to demonstrate their understanding. Students were expected to give clear responses. Answers must be supported by science-based nutrition research to be accepted as valid e.g. NMMRC, AIHW.

Part I

Question I

a) Define the term 'Energy Density'. (1 mark)

Some students only referred to the amount of energy in food. It was important for students to include reference to the amount of energy in food, compared to the weight of the food.

Successful responses included:

- Energy Density refers to the number of kilojoules per gram of the specific food.
- The more kilojoules per gram of food, the greater the energy density.

b) Explain the structural difference between saturated, monounsaturated, and polyunsaturated fatty acids. (2 marks)

Many students struggled with this question and wrote about the impact of these fats on the development of LDL and HDL cholesterol. The question, however, seeks an explanation of the distinct arrangements of hydrogen/carbon atoms in saturated, monounsaturated, and polyunsaturated fatty acids. It assesses knowledge of their molecular structures and chemical characteristics of fats.

Successful responses included:

- Saturated fat doesn't have any double bonds without a hydrogen or oxygen attached (or they are said to be 'saturated' as they are holding all the hydrogen atoms they can). Monounsaturated fats have one unsaturated carbon bond in the molecule where more hydrogen can be added. Polyunsaturated fats possess two or more double bonds where a hydrogen could be added.

c) What are trans fats and explain how they detrimental to our health? (2 marks)

Most students recognised that trans fats were detrimental to health, but not necessarily explain the impact on health and how this impact occurs. Some students forgot the terminology of hydrogenated or hardened.

Successful responses included:

- Trans fats are formed when liquid vegetable oils are partially hydrogenated or hardened. They increase low density lipoprotein (LDL) cholesterol and may decrease high density lipoprotein (HDL) cholesterol. LDL cholesterol increases fatty plaque build-up in arteries and lead to cardiovascular disease.

Question 2

a) What is carbohydrate? (1 mark)

A range of answers were accepted with markers looking for two different concepts within the student response.

Successful responses included:

- Carbohydrate is a macronutrient. It is made up of the elements carbon, hydrogen and oxygen.

Other responses, included:

- formed by plants through the process of photosynthesis
- makes up the bulk of food
- the most important source of food energy in the world.

b) Explain two (2) functions of carbohydrate in the body, making reference to appropriate food sources for each. (2 marks)

While many students could state the function of carbohydrates, they frequently faltered in elaborating on how carbohydrates perform this function.

Successful response included:

- Carbohydrate is the preferred source of energy for the body. Starches and sugars are broken down to glucose for energy e.g., apple, milk.
- Carbohydrates stimulates the digestive tract. Cellulose is a type of fibre that helps to move food through the digestive tract e.g., chickpeas.

c) Explain the difference between soluble and insoluble fibre. Give a rich food source for each type of fibre. (2 marks)

Several students encountered confusion distinguishing between soluble and insoluble fibre in their responses. Notably, some inaccurately asserted that soluble fibre is absorbed, which is incorrect. While it is true that plant foods contain both types of fibre, the question specifically sought rich sources for each. It is crucial for students to identify and emphasise a rich source relevant to each type of fibre in their answers.

Successful responses included:

- Soluble fibre dissolves in water to form a gel like substance. It lowers LDL cholesterol and slows glucose absorption (e.g., oat bran, orange).
- Insoluble fibre doesn't dissolve in water, but it speeds up the time it takes for food to move through the gut. It also helps us feel fuller for longer (e.g., wholemeal bread, carrot skin).

Question 3

a) List two (2) functions of Vitamin C in the body. (1 mark)

Vitamin C is not a focus the syllabus document; markers took this into consideration when marking this question.

Successful responses included:

- Assists with the absorption of non-haem iron.
- Maintenance of healthy teeth, bones and gums.
- Speeds up the healing of wounds.
- Boosts resistance to infection (immune system)
- Helps with the formation of collagen.
- Prevents scurvy.
- Assists in preventing anaemia due to the role it plays in iron absorption.

b) Explain how the body responds to an excess of Vitamin C in the diet and why? (1 mark)

This was generally well answered, but some students forgot to mention the water-soluble aspect. As the question asked 'why' it was important for students to emphasise that Vitamin C is water-soluble and not stored in the body, leading to its excretion through urine in cases of excess intake.

Successful responses included:

Vitamin C is water soluble and is not stored in the body; any excess is flushed from the body in the urine.

c) Explain how iron and Vitamin C work together in the body and why this is important for vegans/vegetarians. (2 marks)

Overall, this was well answered. Better responses referred to haem and non-haem iron.

Successful responses included:

- The body doesn't absorb iron from plant foods (non-haem iron) as easily as it does from animal foods (haem iron) because some chemical compounds found in the plant sources inhibit iron absorption. One way to counteract the impact of these compounds is to include foods high in Vitamin C in the same meal. This is important for those following a vegan/strict vegetarian diet, as they don't consume animal products that provide haem iron.

Question 4

a) Explain the difference between nutrients and non-nutrients. (1 mark)

The question was generally well answered. Markers were seeking an explanation of the roles of nutrients in terms of growth, energy and overall health, as well as an understanding of how non-nutrients can be beneficial to the body. Some students mentioned non-nutrients like additives or caffeine. It's advisable for students to focus on the syllabus document, which specifically highlights important non-nutrients such as phytochemicals—antioxidants, phytoestrogens, and probiotics.

Successful responses included:

- Nutrients are chemical compounds in food needed for growth, energy and health whereas non-nutrients are believed to benefit health but are not needed for growth or energy.

b) What are phytoestrogens and in which foods can they be found? (2 marks)

Generally, this was well answered; however, some students did not mention that while the properties were similar, they were not identical to the human hormone oestrogen.

Successful responses included:

- Phytoestrogens are plant forms of estrogen which have similar chemical properties and function in a similar, but not identical, way to human estrogen. They can be found in various soy-based foods such as tofu and soy grits, linseed and flaxseed.

c) Describe two (2) health benefits of including phytoestrogens in the diet? **(2 marks)**

While some responses demonstrated strength, several students exhibited confusion regarding the specific roles of phytoestrogens. Markers were expecting the inclusion of words such as 'prevent' and 'decrease', coupled with a connection to a diet-related disease.

Successful responses included:

- May play a role in preventing the symptoms of menopause such as hot flashes.
- May help prevent osteoporosis because phytoestrogens function similar to oestrogen, so may help prevent calcium loss.
- May decrease the risk of coronary heart disease.
- May reduce the incidence of hormone related cancers such as breast and prostate.

Question 5

a) Explain the difference between Basal Metabolic Rate (BMR) and Body Mass Index (BMI). **(1 mark)**

Overall, the question received a satisfactory level of understanding, as students generally acknowledged the distinctions. However, it's notable that a few students omitted the essential detail that Basal Metabolic Rate (BMR) is measured when the body is at rest.

Successful responses included:

- BMR is the amount of energy burned at rest to keep the body functioning (for metabolic processes other than physical activity e.g., breathing) while BMI is a measure of a person's weight to height ratio.

b) Explain one (1) reason why BMR might be different for males and females of the same age and weight. **(1 mark)**

The question aimed to elicit a gender-specific explanation for the difference in Basal Metabolic Rate (BMR) between males and females, emphasising the role of body composition. The responses exhibited variations in accuracy, with some students omitting the explanation for the observed difference. Consequently, these answers did not achieve the full mark.

Successful responses included:

- Males typically have more muscle and less fat than females, leading to a higher BMR due to the higher metabolic rate of muscle. Females, with a higher percentage of body fat, tend to have a lower BMR.
- The difference in lean body mass and hormonal factors, such as the influence of muscle mass and oestrogen levels, can contribute to variations in Basal Metabolic Rate (BMR) between males and females of the same age and weight. Males typically have a higher BMR than females.

c) Explain energy intake and energy expenditure, and how they are used to calculate energy balance. **(2 marks)**

Many students effectively described energy intake and energy expenditure, utilising terminology such as kilojoules, food, beverages and exercise. However, there was a common oversight as students were adept

at explaining what causes weight gain but not necessarily clarifying the factors contributing to energy balance.

Successful responses included:

- Energy intake refers to the amount of energy consumed by the body through food and drink and is measured in kilojoules. Energy expenditure refers to the number of kJ burned by those same body functions and activities (BMR and thermic effect). Energy balance occurs when the number of kJ consumed is equal to the number of kJ burned, therefore weight remains the same.
- Energy intake refers to the amount of kilojoules consumed through food and beverages, while energy expenditure represents the kilojoules expended through basal metabolic rate, physical activity and the thermic effect of food. The calculation of energy balance involves comparing energy intake and expenditure, with a positive balance leading to weight gain, a negative balance to weight loss, and a balanced intake and expenditure resulting in weight maintenance.

Question 6

- a) What is the main function of iodine in the diet? Include one (1) possible health consequence of iodine deficiency in your response. **(1 mark)**

Generally, this was well answered.

Successful responses included:

- Iodine is an important mineral for correct functioning of the thyroid gland. A deficiency could lead to a goitre (enlarged thyroid gland) and/or stunted physical and mental growth in children.

- b) Explain why plant foods are a reliable source of iodine in some regions but not in other regions. **(1 mark)**

Some students overlooked the correlation between iodine-rich soils and iodine absorption. Additionally, some responses delved into the iodine content of seaweed, deviating from the question's focus.

Successful responses included:

- In some regions, soil can lack iodine so plants grown in this soil may be low in iodine as plants absorb iodine from the soil.

- c) Explain how the incidence of iodine deficiency has been reduced in the Australian population. **(1 mark)**

Generally, this was well answered.

Successful responses included:

- Iodised salt has been added to all commercially produced bread.

Note: Mandatory iodine fortification was implemented in Australia in 2009 through Standard 2.1.1 of the Australia New Zealand Food Standards Code which required the replacement of non-iodised salt with iodised salt for making all breads except organic bread and bread mixes for making bread at home. Mandatory iodine fortification of bread was intended to address the re-emergence of iodine-deficiency in some areas of Australia and New Zealand.

To create alternative dietary iodine sources for people who don't eat bread, manufacturers can use iodised salt in other foods. The voluntary fortification permissions in the Code allow manufacturers to add iodised salt to bread mixes and other foods if they wished, but labelling requirements must be adhered to in that regard.

<https://www.foodstandards.gov.au/consumer/nutrition/iodinefort/pages/default.aspx>

Part 2

Question 7

- a) Explain what GI is a measure of and outline how the body responds to high GI foods. **(2 marks)**

Students should be mindful of their wording when responding to this question and ensure a clear understanding of Glycaemic Index (GI). A prevalent misconception is the response: 'GI is a measure of how quickly energy is released in the body.' It's important to clarify that GI specifically measures how quickly carbohydrates in food elevate blood glucose levels, not the speed of overall energy release. Although it's correct that high GI foods lead to a rapid increase in blood sugar levels, which may result in a quick burst of energy, the focus should remain on the impact on blood glucose.

Successful responses included:

- Glycaemic Index is a scale where carbohydrate foods are rated based on their effect on blood sugar levels over time – usually 2 hours. High GI foods cause blood glucose levels to rapidly increase as the carbohydrates are broken down quickly (e.g., lollies) and do not provide sustained energy.

- b) A person could eat a diet containing many low GI foods but still have a Body Mass Index (BMI) of over 25. Explain with reference to energy balance how this is possible? **(4 marks)**

While a significant number of students could articulate reasons for weight gain, not all effectively clarified the connection to low GI foods, particularly understanding that some low GI foods can be energy dense.

Successful responses included:

- Low-GI foods are not necessarily low in energy (kJ). For example, low GI foods such as peanuts are energy dense and therefore can contribute to weight gain. GI only refers to the foods effect on blood glucose levels. Therefore, if someone is consuming a lot of low GI foods high in kJ, this can result in weight gain and an energy imbalance. For energy balance, intake needs to equal expenditure.
- Low GI doesn't necessarily mean low energy; for instance, chocolate is energy-dense but has a low GI. Weight management depends on balancing energy intake and expenditure, irrespective of a food's GI. Even with low-GI options, surpassing energy expenditure recommendations can lead to excess kilojoules, potentially causing weight gain and an elevated BMI. Thus, while GI informs blood glucose responses, maintaining overall energy balance is crucial for effective weight management.

- c) It is recommended that individuals maintain a healthy weight range. Identify and discuss two (2) measurements, other than GI, an individual can use to monitor their weight. **(4 marks)**

While many students offered valuable insights into weight management strategies, the question specifically sought to identify and discuss measurements for monitoring weight, excluding Glycaemic Index (GI). Better answers focussed on measurements such as BMI, waist measurement, and hip-to-waist ratio as key indicators of weight status. These measurements provide a quantitative assessment, offering a more direct response to the question's intent.

Successful responses included:

- Body Mass Index (BMI): BMI is a widely used measurement calculated by dividing a person's weight in kilograms by the square of their height in meters. It provides an estimate of body fat and helps categorise individuals into different weight status categories, such as underweight, normal weight, overweight and obesity. Monitoring changes in BMI over time can be a useful tool for assessing weight management.

- **Waist Measurement:** Waist circumference is a direct measurement around the narrowest part of the waist. Women should aim for a waist measurement of below 80cm and for men below 94cm. This measurement is valuable as excessive abdominal fat is associated with an increased risk of health issues e.g. type 2 diabetes. Regularly monitoring changes in waist circumference can provide insights into abdominal fat accumulation and overall health.
 - **Waist-to-Hip Ratio (WHR):** WHR is a measurement that assesses the distribution of body fat. It is calculated by dividing the circumference of the waist by the circumference of the hips. Research suggests that a higher WHR may indicate a greater risk of cardiovascular diseases. Monitoring changes in waist-to-hip ratio can provide insights into changes in body fat distribution and overall health.
 - **Energy Balance - Energy In = Energy Out:** Involves calculating the number of kJ consumed in food and drink during the day and the number burned off through basic body functions and other activities. To lose weight, the number of kJ consumed must be less than the number burned off. Foods consumed must be chosen/combined for maximum nutrient value whilst maintaining low kJ.
- d)** Define 'overweight' and 'obesity' and include two (2) current Australian statistics. Explain which nutrients are often associated with overweight and obesity and why. Include food examples. Outline how obesity increases the risk of one (1) other diet related condition. **(5 marks)**

Overall, most students successfully identified data related to overweight and obesity. However, some students fell short in addressing all aspects of the question, neglecting nutrient and/or food examples. Additionally, a notable number of students encountered challenges in outlining how obesity increases the risk of a diet-related disease.

Successful responses included:

- **Definition - Overweight/Obesity** refers to an excessive accumulation of body fat that poses a risk health. Generally associated with an energy imbalance, where more kilojoules are consumed than are burned through physical activity. A BMI of 25+ is considered overweight and 30+ obese.
- **Statistics such as:**
 - 1 in 4 Australia children are considered overweight or obese.
 - 2 in 3 Australian adults are considered overweight or obese.
 - 75% of men and 60% of Australian women are overweight or obese.
 - Cost the health system \$11.8 billion in 2018.
 - In 2021, Australia had the 9th highest rates of overweight and obesity in people aged 15+ of the 21 OECD member countries.

Nutrients: It is typically associated with foods high in fat and sugar, especially fat as it is the most energy dense nutrient, supplying 37kJ/g.

Foods – Foods high in fat include butter, chocolate, pizza and chips.

Associated condition; for example:

- Obesity can increase the risk of type 2 diabetes as fat acts as a barrier to insulin, reducing its effectiveness in controlling blood glucose levels.
- Obesity can increase the risk of cancer as toxic fat leads to more chemicals and hormones being released into the body and inflammation, creating an environment where cancer is more likely to grow.
- Obese people typically consume a diet high in saturated fat which can raise LDL cholesterol and increase the risk of cardiovascular disease.

- e) Identify and briefly explain two (2) prevention strategies the community has implemented to address overweight and obesity. **(2 marks)**

Many students misconstrued this question, interpreting it as inquiring about prospective measures that could be put into action to lower the rates of overweight and obesity. It's crucial to clarify that the question specifically sought strategies that have already been implemented at the community-based level, meaning initiatives and actions carried out within a local community setting.

Successful responses included:

- Health Star Rating campaign – front of pack labelling system that rates food from 0.5 – 5 stars. The more stars, the healthier the choice. Choosing foods higher in positive nutrients can help prevent overweight/obesity.
- Life, Be in It – a long running advertising campaign that encourages individuals to be active to improve health outcomes.
- Park Run – encourages people to meet in a supportive social setting and be active by taking part in a 5km run or walk on a regular basis.
- Community Gardens – allow individuals to grow healthy fresh food which typically has a lower energy density than processed foods. Fresh fruit, vegetables and herbs can be shared in the community.
- Stephanie Alexander Kitchen Garden program – children learn how to grow and fresh fruit, vegetables and herbs. They also learn how to prepare simple recipes using the foods they have harvested and eat these foods at a shared table.
- Jamie's Ministry of Food – education programme for preparing fresh food alternatives to energy dense, processed foods.
- Eat for Health (ADG) – provides dietary guidelines and support materials promoting healthy eating habits and nutrition for optimal well-being.
- Eat Well Australia – emphasises balanced nutrition for health, offering guidance and resources to promote overall well-being through healthy eating habits.
- National Obesity Strategy – focuses on prevention but also actions to better support Australians living with obesity.
- Heart Foundation Walking – caters for all ages and abilities. Can also sign up as a virtual walker.

Section B – Diet Analysis

Criterion 5: Analyse diets using the Nutrient Reference Values and recognised food selection tools.

Part I

Question 8

- a) Compare how many kilojoules Jayde needs per day to meet her Estimated Energy Requirement (EER) with how many kilojoules she is actually consuming. Is Jayde under or overeating? **(3 marks)**

Overall, most students successfully identified data related to EER.

Successful responses included:

- Jayde needs to be consuming 9245kj to meet her EER but she is actually consuming 108% of this (9984.6kj). This means she is overeating as she is 8% over her EER.

b) What is Jayde's Body Mass Index (BMI) classification? Explain how this is possible given the amount of energy dense food she consumes.

Briefly explain one (1) possible short-term and one (1) possible long-term consequence of this daily eating pattern. **(4 marks)**

Overall, most students effectively identified BMI-related data.

Successful responses included:

- Jade's BMI is 17.3, indicating she is underweight. Despite consuming energy dense foods like crisps, Red Bull, and pizza, her inconsistent energy intake and moderate exercise may contribute to her underweight status. It's possible that her current diet reflects only temporary excess kilojoule consumption, and her regular intake may be insufficient to meet energy needs.

Students also were required to accurately identify short and long-term consequences, providing brief justifications for each. Acceptable examples included, but were not limited to:

- Short term:
 - Tooth decay/Dental caries: Excess consumption of foods high in added sugar (e.g., Red Bull, Ginger Beer, donut).
 - Dehydration: Headaches and thirst due to high sodium content in foods like crisps, pizza with bacon, KFC.
 - Weight gain: Sustaining excess kilojoule consumption leads to fat storage if not utilised.
 - Difficulty sleeping and rapid heart rate: Resulting from excess caffeine in energy drinks.
- Long term:
 - Nutrient deficiencies: Energy-dense foods may lack essential nutrients, displacing more nutritious options like dairy, fruits, and vegetables.
 - High LDL cholesterol: Arising from elevated saturated fat levels in the consumed foods.
 - Increased risk of type 2 diabetes: Excess intake of high GI foods causing fluctuations in blood sugar levels.
 - Hypertension: Linked to excessive sodium intake.
 - Increased risk of heart disease: Associated with high sodium and saturated fat intake.

c) Explain how Jayde's fat intake ratio differs from the nutritional recommendations. **(3 marks)**

For full marks students needed to identify the recommendation, what Jayde's ratio was and, whether this was under/over the recommendation.

Successful responses included:

- The recommended fat intake ratios are 33% saturated fat, 33% polyunsaturated fat and 33% monounsaturated fat (one-third for each fat).

Jayde's ratios are:

- 37.49% saturated (over the recommendation and needs to be reduced).
- 12.98% polyunsaturated (well below the recommendation and needs to be increased).
- 48.47% monounsaturated (well above the recommendation and needs to be reduced).

d) Identify and explain two possible consequences this might have for Jayde's health. **(2 marks)**

Answers needed to reflect an understanding of the impact of different types and ratios of fats, rather than just an excess of fats in the diet.

Successful responses included:

- A high intake of saturated fat can raise LDL cholesterol, causing plaque deposits which block arteries and reduce blood flow.
- Increased levels of cholesterol in the arteries leads to atherosclerosis and can increase the risk of cardiovascular disease and stroke.
- Excess saturated fat intake is also linked to high cholesterol and insulin resistance, which is a risk factor for type 2 diabetes.
- Inadequate levels of polyunsaturated essential fatty acids may decrease HDL (good) cholesterol, reducing its protective effect. This, in turn, diminishes its ability to lower overall cholesterol levels and provide protection against the development of heart disease.
- Deficiency of essential fatty acids Omega 3 and 6 resulting in poor wound healing, rough, dry skin, and brittle hair.
- Low intake of essential fatty acids is associated with increased risk of cognitive decline and dementia.

e) Analyse Jayde's sodium intake. Which foods may contribute to Jayde's sodium intake? Discuss the risks of this consumption level of sodium. **(4 marks)**

This question required students to not only refer to the data in the scenario, but importantly to analyse the data. Many students were able to correctly identify the types of foods that may contribute to this excessive intake. When it came to discussion of the possible health risks of this consumption level, the examiners were looking for responses that explained the conditions well.

Successful responses included:

- Jayde's AI for sodium is 888%, this is 788% above the Adequate Intake recommendation of 460-920 mg of sodium per day. The potato chips salt n' vinegar, pizza with bacon and the KFC wicked wings all have a high concentration of sodium. Jayde would likely have high blood pressure (hypertension) as salt draws fluids out of cells into the blood, this would also make her very thirsty. Less water/fluid in cells effects concentrations for absorbing nutrients, so may become deficient in other nutrients.

f) Identify three micronutrients which Jayde is deficient in and describe the possible consequences of each deficiency. **(6 marks)**

Many students were able to identify the appropriate micronutrients; however, excellent responses referred to the data (either RDI or AI) and used the correct units (% RDI, % AI) consistently. Some students misinterpreted and responded using macronutrients- water and fibre. It would be expected that students would most likely respond with the course required micronutrients of calcium, potassium, iron, iodine and/or folate.

Successful responses included:

- Folate (RDI 52%): A lack of folate could lead to megaloblastic anaemia which is larger than normal red blood cells that don't function properly and there are too few of them. If she were pregnant, it could lead to a neural tube defect e.g., spina bifida.
- Calcium (RDI 55%): A lack of calcium could lead to reduced bone density and osteoporosis. This is a condition where the bones become porous, brittle and can break easily. She could also suffer with dental issues as the body draws stored calcium from the teeth to make up the deficiency.

- Iron (RDI 33%): A lack of iron could lead to anaemia which is a reduced number of red blood cells. These are important for transporting oxygen around the body. Symptoms of anaemia include tiredness and pale skin.

Could also list iodine (RDI 94%) or potassium (AI 88%).

- g)** Comment on Jayde's fibre intake. Identify one (1) short term and one (1) long term implication of this level of fibre in a diet. What is the recommended dietary fibre intake for adult women? **(4 marks)**

This question was well answered by most students. The best responses once again referred to the data given in the analysis and used the correct units and determined that this intake was deficient. Many students identified the short-term effect of constipation, and many students were able to list numerous longer-term implications. Not as many students were able to correctly identify the correct amount of fibre per day for adult women, 25g per day. Some students gave the incorrect unit of mg.

Successful responses included:

- It is recommended that adult women consume 25g fibre per day. Jayde is well below the recommended intake for fibre as she only consumes 31% of AI (7.75g). In the short term this could lead to constipation. In the longer term could lead to diverticular disease, IBS, bowel cancer, weight gain, CVD or type 2 diabetes.

Part 2

Question 9

- a)** The Australian Dietary Guidelines (ADG) number 2 states:

'Enjoy a wide variety of nutritious foods from all food groups'.

As part of this guideline, it is recommended that individuals eat plenty of vegetables, including different types and colours. Jayde's daily food intake does not meet this recommendation. How many serves of vegetables should Jayde be consuming daily? **(1 mark)**

Those students who responded to this question generally gave the correct response.

Successful responses included:

- 5 serves for an adult female.

- b)** Discuss four (4) ways Jayde could introduce or swap more vegetables into her daily food intake to comply with the amount recommended by the ADG. **(4 marks)**

Many students attempted this question and proposed four options. The stronger responses delved into suggestions, incorporating variety and colour, meeting the 5-serving goal, and providing specific examples, like suggesting a salad wrap for lunch with ingredients such as lettuce, beetroot, cucumber and tomato. However, many responses were standard, mentioning snacks like carrot sticks or suggesting salads without offering specific examples. Students receiving lower marks included fruits in their responses, such as swapping Red bull for a fruit smoothie. Unfortunately, this did not earn marks as the question specifically sought examples to increase vegetable intake.

Successful responses included:

- Jayde could have smashed avocado on toast with a grilled tomato and mushrooms.
- She could swap her crisps for a snack of carrot and celery sticks.

- For lunch, she could swap the pizza to a salad with grilled lean chicken, lettuce, tomato, cucumber and snow pea sprouts with balsamic vinaigrette dressing, or skip the dressing and put these fillings into a wholemeal wrap.
- For dinner, she could swap the KFC wings for a piece of lean meat with steamed broccoli, cauliflower and yellow squash.

c) Outline three (3) nutritional benefits of eating more vegetables for Jayde. **(3 marks)**

Many students acknowledged the value of eating more vegetables, citing examples like increased vitamins and minerals. However, they often missed specific nutritional benefits, such as protecting against diseases like cardiovascular disease (CVD) and maintaining energy balance. The better responses not only justified their choices but also highlighted additional benefits. They recognised the importance of water content in vegetables, regulating body temperature and aiding bowel movements. Additionally, they emphasised that consuming vegetables raw or in less processed forms could lower sodium and fat intake, reducing the risk of CVD, including hypertension and atherosclerosis.

Successful responses included:

- Vegetables provide a range of vitamins, minerals, fibre and non-nutrients which help to protect the body from diseases such as CVD and some types of cancer.
- Most vegetables are low in kilojoules so they help to maintain energy balance.
- Vegetables are a good source of fibre which may help to give a feeling of fullness to prevent overeating and weight gain. Fibre lowers the risk of heart disease by reducing cholesterol levels.
- Vegetables enhance variety and appeal to the diet by introducing diverse colours, textures, and flavours. They serve as a plentiful source of antioxidants, believed to contribute positively to health.

d) Choose two (2) food groups (other than vegetables) that the ADG 2 recommends and discuss:

- if Jayde is meeting the recommendation
- how much of each group she should be consuming daily
- two (2) specific food modifications she can make to meet the recommendation

(provide a nutritional reason for each change).

(6 marks)

This question was generally answered well. For a student to receive full marks they needed to include the name of each food group, correct amount of serves the ADG recommend for each food group and the amount of serves Jayde is consuming. Students also needed to provide relevant food modifications and a nutritional reason for each change.

Grain foods

* It is worth noting that many students confused nuts by associating them with the grain's food group.

Successful responses included:

- The ADG suggests 6 serves of grain food per day for Jayde, who is currently only consuming 1 serve of grain food (the pizza base may be classified as discretionary, in which case the number of serves is 0). Jayde could introduce more grain foods into her diet by introducing two slices of wholegrain toast or wholegrain cereal with fruit and low-fat milk for breakfast. This would increase the fibre & folate content of her diet.

Other food and nutritional examples could include:

- Wholegrain seed/grain crackers with low fat cheese for her morning or afternoon snack.

Wholegrains reduce the GI index of CHO's, plus add additional fibre, vitamins (b group) and minerals (iron and magnesium).

- A wholegrain wrap or sandwich with salad filling for lunch. Wholegrains reduce the GI index of CHO's, plus add additional fibre, vitamins (b group) and minerals (iron and magnesium).
- A wholemeal pasta or brown rice dish with her evening meal. Wholegrains reduce the GI index of CHO's, plus add additional fibre, vitamins (b group) and minerals (iron and magnesium).

Dairy (milk, yoghurt, cheese and/or alternatives, mostly reduced fat)

Successful responses included:

- Jayde is under the recommended number of serves as the only dairy food she has is the milk in her cappuccino (1 – 1.5 serves). The ADG recommend 2.5 serves per day of mostly reduced fat dairy foods. She could snack on plain low-fat Greek yoghurt, and she could add fruit such as strawberries. Greek yoghurt is a good source of calcium which helps prevent osteoporosis.

Other food and nutritional examples could include:

- Add a serve of low-fat cheese to a salad or sandwich at lunch as this would increase her calcium intake without adding extra saturated fat.
- Replace the doughnut with yoghurt and fruit for dessert. Doughnuts contain empty kilojoules. Yoghurt contains calcium.

Lean meat & poultry, fish eggs, tofu, nuts & seeds & legumes/beans

Successful responses included:

- Jayde would be under the recommended number of serves as the pizza and KFC wings would be considered discretionary foods due to the high saturated fat and added salt. The ADG recommend 2.5 serves per day for adult women. Jayde could snack on some nuts e.g., almonds instead of crisps. Nuts are a good source of protein needed for growth, maintenance and repair of cells.

Other food and nutritional examples could include:

- Enjoy a dinner of steamed or grilled fish, chicken or lean meat paired with a salad or vegetables. Lean meat serves as an excellent source of iron, and the chosen cooking method minimises the need for added fats.

Fruit

Successful responses included:

- Jayde should be eating 2 serves of fruit per day, but she doesn't appear to be eating any fruit. She could introduce fruit into her diet by having fruit with cereal for breakfast, or if she has toast, she could have a piece of fruit to finish breakfast. Fruit contains fibre, antioxidants and vitamins.

Other food and nutritional examples could include:

- If eating breakfast is not appealing, Jayde may prefer to make a fruit smoothie with low fat dairy and maybe some chia seeds. Fruit contains fibre. The dairy will boost her calcium intake, along with the essential fatty acids in the chia seeds.
- Replacing her snacks – either morning or afternoon – with a piece of fruit as fruit contains fibre and antioxidants.
- Having a piece of fruit for dessert instead of the doughnut. Doughnuts contain empty kilojoules that contribute to weight gain.

- e) Define 'discretionary food'. Explain why they should be limited in the diet. Provide three specific food examples from Jayde's diet. **(3 marks)**

This question was generally answered well. Some common errors included students not recognising the risk nutrients in discretionary foods or that they can increase the risk of diet-related conditions. Majority of students were able to accurately identify 3 discretionary foods in Jayde's diet.

Successful responses included:

- Discretionary foods are high in saturated fat, and/or added sugar, added salt or alcohol. They should be consumed infrequently and in small quantities in the diet as they can be high in kilojoules, they displace other more nutritious foods and many have low levels of essential nutrients. They increase the risk of diet related disease. Jayde's discretionary foods include chips, Red Bull, Monster energy drink, KFC wicked wings, commercial pizza and the doughnut.

- f) Give the recommended range of discretionary foods for adult women and adult men and state the two (2) factors that this depends on. **(2 marks)**

To receive full marks, students were required to specify that women should consume 0-2.5 serves per day, while adult men should aim for 0-3 serves per day. The allowable discretionary serves for adults depend on their physical activity level and height. Unfortunately, most students did not provide a range, incorrectly stating fixed values such as 3 serves for adult men. While many identified physical activity as a relevant factor, a majority struggled to accurately state a second factor.

Successful responses included:

- 0 - 2.5 serves per day for women (19 – 50 years)
- 0 – 3 serves for men (19 – 50 years)
- This is dependent on activity level and height/weight ratio.

Section C – Food Issues

Criterion 2: Communicate ideas and information in a variety of forms.

Strong responses structure:

- Demonstrated a clear structure with an introduction, body paragraphs, and conclusion.
- Effectively explained ideas, providing accurate information, and maintaining a logical progression through the question.
- Correct use of formal language and specialised terminology is crucial.
- Skilfully employed topic sentences to indicate the addressed part of the question, leading to a significant improvement in essay clarity and coherence.

Additional feedback:

- Capitalisation issues were noted in responses, with some sentences lacking initial capital letters.
- Some students exhibited confusion with terminology (e.g., using 'sustainability' instead of 'stability').
- Handwriting remains a challenge, with some responses being difficult to read. Blue or black pens are recommended; pencil writing was often faint and hard to decipher.

Section C – Food Issues

Criterion 8: Identify and analyse food related issues.

It was apparent that many students relied on pre-learned essays, with some submissions containing nearly identical information. The more proficient students demonstrated adaptability by tailoring their essays to align with the specific question prompts. However, a notable observation was that, for a considerable number of students, the essays appeared to be information dumps. While some contained excellent information and writing, there was a misalignment with the specific focus of the questions, indicating a need for a more targeted and question-responsive approach.

Question 10

Refer to page 4 of Section C for the stimulus used in the exam paper.

Explain the term 'food insecurity'.

This part of the question explicitly sought an explanation of the term 'food insecurity'. However, a common trend in responses was the provision of definitions for food security instead. Some students attempted to rectify this by adding a brief acknowledgment that 'food insecurity is the opposite' after defining food security. A more effective response should focus on defining food insecurity directly, encompassing the lack of consistent access to sufficient, nutritious food and the various factors contributing to this state. This ensures a comprehensive understanding of the term as distinct from food security. To further enhance the response, consider incorporating the pillars of food security, addressing aspects such as availability, access, utilisation and stability would have added greater depth to the explanation of food insecurity.

Discuss the relationship between food insecurity and the current economic situation. i.e., the increasing cost of living and increasing food insecurity for Australians who have some kind of employment.

The discussions, for the most part, remained superficial and lacked depth. The specification of 'some kind of employment' was frequently overlooked, with many responses delving into discussions about unemployment instead. Notably, stronger responses delved into the impact of increased interest rates and the rising cost of living; however, a notable omission was the absence of consideration for the role of wages in this context. To enhance responses, it is crucial to intricately link the economic factors (e.g., pillars of access, stability and adequacy) to food insecurity, encompassing the aspects of employment and recognising the specific economic challenges faced by those with some form of employment.

Choose another group of people in Australia and explain why they are at risk of food insecurity.

Most students referred to Indigenous and/or rural/remote populations, often relying on broad generalisations (see below). Stronger answers, however, were observed among students who discussed the vulnerabilities of single-parent families and people with disabilities, providing specific examples to illustrate why they are at risk of food insecurity.

Several responses contained gross generalisations, such as:

- Low socioeconomic individuals being depicted with addictions to alcohol and smoking.
- Homeless individuals assumed to have no income.
- Broad generalisations about all Indigenous people residing in rural areas.
- Unwarranted assumptions about Indigenous people having addictions.
- Overarching assumptions that unemployed individuals have no money.

To improve responses, it is crucial to move beyond stereotypes and engage in more nuanced discussions. Consider providing concrete examples and exploring various factors that contribute to the food insecurity risk for different groups, such as economic challenges, systemic issues, or specific circumstances that may impact access to adequate and nutritious food.

Name a developing country and describe one (1) barrier to food security for people in that country.

Overall, this section of the extended response was handled adeptly. Most students demonstrated a solid understanding, providing relevant links to describe the barriers to food security in their chosen developing country. It's worth noting that Africa is a continent, not a country, and several students correctly identified this. There was a notable trend where many students discussed issues related to Ukraine, and these responses were generally well-explained.

How can food insecurity for these groups to be addressed? Identify, describe, and evaluate two (2) initiatives/programs/interventions that are designed to address food insecurity. Explain the strategies employed to achieve desired outcomes. One (1) example should be from Australia and one (1) from the developing country you have discussed.

Many students demonstrated knowledge of various initiatives, programs, or interventions but struggled when it came to evaluating their effectiveness. A considerable number of responses seemed rote-learned, merely providing information about the chosen initiative without delving into a critical assessment of its impact.

Woolworths Odd Bunch and Plumpy Nut, along with widely recognised entities like the World Food Program, Food Bank, and FMNR (Farmer Management Natural Regeneration), were frequently mentioned. Some responses explored ecological sustainability options as strategies, which was acceptable when well-justified and linked back to the specific country discussed. However, many responses listed options such as solar panels without robust justification.

Notably, weaker responses highlighted food waste as a reason for food insecurity but lacked substantive justification on how addressing food waste would significantly improve food security beyond the general notion of reducing waste and promoting consumption. To strengthen responses, it is crucial to move beyond rote knowledge and provide a thoughtful evaluation of the effectiveness of the chosen initiatives, considering their real-world impact and relevance to the specific context of the discussed country. Additionally, when proposing strategies, clear and well-justified connections to the chosen developing country should be established.

Question 11

Explain the term 'ecological sustainability' and why it is a concern.

Students generally provided a solid explanation of the term 'ecological sustainability'. Stronger responses not only defined the concept but also delved into the associated concerns. To enhance the depth of responses, students could consider incorporating examples that illustrate real-world implications of ecological sustainability concerns. For instance, discussing the impact of deforestation on biodiversity, the depletion of natural resources, or the consequences of pollution on ecosystems can provide a more comprehensive understanding of why ecological sustainability is a pressing concern.

Explain the main features of a food system.

While the question seemed straightforward, the responses were not consistently strong. Notably, some students, when discussing specific practices such as monoculture, tended to concentrate solely on the primary stage of cropping/agriculture, neglecting other stages of the food system. It is crucial to extend the examination beyond the stimulus and encompass all relevant stages of the food system.

Moreover, a portion of students tended to include four to five components when addressing the food system, deviating from the course-specific focus on food production, food processing, and consumer practices. Emphasising the clarity of the three designated stages will enhance the precision and depth of responses. To excel in answering this question, students should ensure a balanced exploration of each stage, offering a comprehensive understanding of the main features that collectively define the entirety of the food system.

Select one (1) of the environmental issues listed above and discuss the impacts it has on the ecological sustainability of food production and the food system. Use examples from Australia or from a developing country.

Many students provided responses that lacked specificity by discussing environmental issues in general terms. While there were some excellent answers that scored well, it is important to note that marks were allocated for the inclusion of specific examples. To enhance the quality of responses, students are encouraged to provide concrete examples, either from Australia or a developing country, when discussing the impacts of their chosen environmental issue on the ecological sustainability of food production and the food system. This approach will demonstrate a deeper understanding of the practical implications and contribute to a more detailed and comprehensive analysis.

Identify another environmental issue from a different part of the food system and discuss the impacts it has on ecological sustainability.

Several students, while presenting excellent answers, predominantly focused on examples from the food production sector in response to the identification of another environmental issue from a different part of the food system. However, it is crucial to note that this impacted their overall score, particularly in the subsequent section where they were tasked with providing strategies. To optimise performance, it is advised that students diversify their examples by selecting an environmental issue from a distinct part of the food system. This approach ensures a more comprehensive exploration of ecological sustainability across various facets of the food system and lays a stronger foundation for addressing subsequent components of the question.

Evaluate two (2) strategies that could be enacted to minimise the negative impacts of the chosen environmental issues, either in Australia or in the chosen developing country.

While many students presented commendable strategies to mitigate the negative impacts of their chosen environmental issues, a common pitfall was the tendency to focus solely on the positive aspects of these strategies. It is essential for students to provide a balanced evaluation by also considering the potential drawbacks or challenges associated with their proposed solutions. By addressing both the positive and negative aspects, students demonstrate a more comprehensive understanding of the complexities involved in implementing strategies to enhance ecological sustainability. This approach not only strengthens the overall quality of the response but also showcases a thorough awareness of the broader implications of the chosen strategies.

Section D – Food Sociology

Criterion 8: Analyse factors affecting food choice.

Part I

Question 12

a) Explain the difference between hunger, appetite and satiety. Include food examples. **(3 marks)**

Generally answered well. A variety of definitions were given that were acceptable. Some students missed giving food examples.

Successful responses included:

- Hunger is the feeling of emptiness from a lack of food and the feeling will only go away once eaten. If a person hasn't eaten for several hours, they may choose to eat two salad rolls and a milk shake for lunch.
- Appetite is the desire for food when not hungry. It is often triggered by senses e.g. if a person likes the aroma of a hot pie they may choose to eat one even though not hungry.
- Satiety is the feeling of fullness from eating adequate food. If someone has snacked during the day, they may only have an egg on toast for dinner.

Question 13

b) Describe two (2) strategies in relation to food choice that fast food outlets may use to encourage individuals or families to purchase discretionary food **(3 marks)**

Generally, well answered with most students able to describe two strategies. Strategies included colour, marketing, media, price, convenience, giveaways, slogans, position of fast-food outlets. Better responses named the strategy, explained how it can influence food choice and included a specific example from a fast-food outlet.

Successful responses included:

- Fast food outlets may use a marketing strategy such as colour to encourage people to buy discretionary food. McDonalds uses yellow and red which stimulate the appetite and grab attention.
- Low prices are another strategy which can appeal to people on low incomes or families on a budget e.g. Hungry Jack's 'Family Bundle Meals' are promoted as 'tasty value that will fill the spot'.
- Giveaways that may appeal to children are the free items when buying a McDonalds Happy Meal e.g., free toy or book.

Question 14

Explain how geographical location can affect food selection. Contrast how living in rural Tasmania affects food selection as opposed to living in one of the larger towns or cities. Provide two (2) Tasmanian food examples **(4 marks)**

Some students misread the question and incorrectly compared the climate of northern Australia to Tasmania and how this can influence food choice.

Two Tasmanian food examples was often missed.

Students should avoid making unsubstantiated statements e.g. "You cannot buy healthy food in rural Tasmania." Rather, "It may be more difficult to buy fresh salad ingredients."

A successful response included:

- In rural areas of Tasmania, people often rely on small general stores (e.g., IGA supermarket) with limited produce due to the areas low population, resulting in higher costs due to transportation. Items such as Tasmanian salmon may be considered a luxury due to their expense. Those living in larger towns/cities likely benefit from access to large supermarkets, speciality stores and farmer's markets. This can mean a diverse selection of Tasmanian seafood such as oysters, salmon and berries at more affordable prices due to an increased demand and reduced freight costs.

Section D – Food Sociology

Criterion 2: Communicate ideas and information in a variety of forms.

General Comments

Responses which rated highest on criterion 2 included:

- Responses structured into small paragraphs per sub-factor.
- Space between paragraphs or factors and highlighting key terminology.
- High level of accuracy in spelling, grammar, sentence structure and punctuation.
- Words written in full (not abbreviated).
- Correct and frequent use of terminology (e.g., physiological, psychological, social, values, beliefs etc.).
- Sophisticated language and complete sentences.

Section C – Food Sociology

Criterion 8: Analyse factors affecting food choice.

General Comments

Responses which rated highest on criterion 6 included:

- Identified the correct sub-factor for the main factor they were discussing e.g., 'values' as a 'psychological factor'.
- Evaluated the sub-factor by defining, explaining, and justifying it in relation to the factors influencing food choice.
- Referred to a range of different factors within a question.
- Linked the sub-factor to a specific food or range of foods that the individual may select.

Common errors/approaches that reduced ratings for criterion 6 included:

- Most students were able to identify some sub-factors to each person, many struggled to evaluate the sub-factor and gave responses which were far too brief.
- Some students simply rewrote information from the scenario without elaborating and explaining how this may affect the food choices of the family members.
- If students talked about the same sub-factor twice within a question, they were only awarded points for stating the sub-factor once.

- Incorrect sub-factor for the explanation provided.
- Some students gave dietary modification advice which was not relevant to this section of the exam and did not score well.

Part 2

Question 15

Refer to the scenario on page 6 in your response to the following. You must include **Food Choice Factors** and **sub-factors** in your response.

- a) Comment on the impact of two (2) different cultural factors that may influence the family's food choices **(5 marks)**

Markers were looking for two different factors. If students discussed the same factor, marks were allocated for different comments, but marks only given once for stating the same factor.

Successful responses included:

- Social – Culture and tradition – as the family are originally from Nepal, they may choose to eat traditional dishes from Nepal that are part of their culture and remind them of where they came from. For example, they may eat plenty of rice, corn and lentils in dishes such as lentil soup, steamed rice and vegetable curry.
- Economic – Food Availability – As they now live in Australia, they may eat foods that are popular in Australian culture. The ingredients would be readily available and Dexa is learning Australian cooking. The family may try foods such as meat pies, fish and chips or Anzac biscuits. Additionally, they may incorporate Australian elements into their Nepalese cuisine e.g., using lamb instead of goat.
- Social – Social and community interactions – Engaging in community gatherings that celebrate diverse cultures, the family may choose to try dishes from other cultures to foster a sense of community e.g., Chinese dumplings, a Sudanese rice dish or an Afghan curry.

- b) Evaluate the impact of Dexa's recent medical diagnosis on her specific food choices **(6 marks)**

Some students focused on food choices that possibly led to Dexa's medical diagnosis, whereas the question relates more to how the diagnosis may now impact her food choices.

Successful responses included:

- Physiological – Nutritional requirements – As Dexa has been diagnosed with a health condition of pre-diabetes, she may include more low GI foods in her diet to help maintain steady blood glucose levels. She may eat wholegrain cereals such as wholegrain bread, porridge and wholemeal pasta as they have a lower GI than more refined cereals e.g., white bread.
- Physiological – Taste – As part of a low GI diet, Dexa is likely to select low GI foods that align with her health goals and also cater to her taste preferences. For example, she may choose to eat broccoli rather than brussel sprouts due to her personal preference for the taste, ensuring a more enjoyable and sustainable approach to her dietary adjustment.
- Social – Lifestyle and work pattern – As Dexa works part-time, she may choose to take her lunch and snacks to work so that she can continue to follow a low GI diet. If she bought food from the school canteen it might be more challenging for her, and the choices may be limited. She may take low GI fruit (pears, apples) and nuts (cashews) to snack on and food such as a chicken salad (lettuce, tomato) for lunch.

- Psychological – Emotions – Dexa’s diagnosis may have triggered intense emotions. Following a low GI diet may eliminate certain traditional Nepalese ingredients, such as white rice, some wheat breads and certain vegetables like pumpkin. She may have feelings of nostalgia for foods she can no longer consume, become anxious about preparing unfamiliar dishes and feel stress related to adjusting to new low GI foods.

c) Identify and describe the impact of two (2) specific economic factors on Amir’s food choices.

(5 marks)

Successful responses included:

- Food affordability – Employment status and income – Due to Amir and Dexa’s part-time employment and potentially lower income, cost-conscious measures are taken to minimise food waste. For instance, preparing surplus portions during dinner allows Amir to bring economical homemade leftovers, like a hearty vegetable curry or lentil soup, for work lunches, eliminating the need for additional expenditure on purchased lunches.
- Food availability – Residing in a large regional city grants the family access to a diverse food market. This accessibility enhances their ability to obtain essential Nepalese ingredients. They can readily purchase spices such as turmeric and cumin, enabling them to cook traditional dishes like Nepalese dal bhat or vegetable momo without significant hurdles.
- Food Affordability – Employment Status and Income – With both parents working part-time, there is an opportunity to allocate more time for preparing meals from scratch, promoting financial efficiency. For example, the family may opt for homemade options like a simple vegetable stir-fry with brown rice over purchasing pricier pre-prepared meals.

d) Identify and describe three (3) different social factors that might influence Taral’s food choices.

(7 marks)

Several students identified the sub-factor of ‘interests,’ but then their evaluation focused on Taral meeting his energy needs which links more to Physiological – Nutrient Requirements. Similarly, some identified the sub-factor of ‘education’ and then discussed how the canteen might influence his food choices which links more to Economic – Food Availability.

Successful responses included:

- Social and Community Interactions – Peers – Being a 14-year-old, Taral's food choices might be influenced by his friends. Observing his peers purchasing items like meat pies, fries and coke from the canteen after soccer could impact his choices. For instance, he might opt for a similar meal to align with his friends' preferences. Additionally, Taral's diverse friend circle may introduce him to foods from various cultures; he might be intrigued to try items like Chinese dumplings, expanding his culinary experiences.
- Lifestyle and Work Pattern – Interests – Taral's affinity for bike riding with his dad influences their food choices during these activities. Opting for easy-to-carry and no-preparation-needed snacks is a practical choice. For example, they might pack nutritious and convenient options like fresh fruit, mixed nuts, or muesli bars to sustain them during their long rides, aligning with their active lifestyle.
- Food Regulation, Marketing, and Advertising – Exposure to influential figures, such as well-known soccer players, through food advertising can impact Taral's preferences. Seeing endorsements for specific products may prompt him to try those items. For instance, if a soccer player endorses Milo or a commercial hamburger, Taral might be inclined to choose these products due to the influence of sports-related advertising.

e) Evaluate three (3) physiological factors which may be influencing Lopika's food choices. **(7 marks)**

Some students indicated that Lopika needs to increase her iron intake as she is anaemic. For her age of 7, the RDI for iron is the same for boys and girls (10mg). Increasing her iron intake would be more relevant if she was in the 14-18 year age group (15mg).

Successful responses included:

- Reactions to Food – Turgor – Turgor, the pressure exerted on the cell wall by fluid inside the cell, contributes to the crisp mouthfeel of certain foods. Since Lopika doesn't favour hard textures, her mother adapts cooking methods to ensure softer textures. For instance, she opts for cooked vegetables like mashed potato, steamed carrot, and broccoli instead of a crisp salad.
- Nutritional Requirements – Age – Lopika, being only 7 years old, is likely to have smaller servings aligned with her smaller body size. This influences her meal portions, such as enjoying a small serving of curry and rice for dinner and a modest bowl of vegetable soup for lunch.
- Reactions to Food – Taste – Given Lopika's young age, her taste buds are likely more sensitive, and she may not appreciate highly spicy dishes. In family meals like beef or chicken curry, adjustments are made to reduce the curry's intensity, ensuring a milder flavour that suits her preferences.
- Reactions to Food – Shape – Lopika's food choices are significantly influenced by the shape of the food. For instance, she may prefer bite-sized, visually appealing shapes over irregular or challenging forms. Her mother may creatively shape vegetables or fruits into fun forms, making them more appealing and enjoyable for Lopika. This consideration ensures that the shape of the food positively influences her eating experience and encourages a broader range of nutrient-rich choices.

f) Evaluate two (2) psychological factors which may be influencing the family's food choices. **(5 marks)**

When evaluating the sub-factor of 'habit', several students linked it to an event rather than a food choice as the question requires.

Several students confused the sub-factors of 'values' and 'belief'.

Successful responses included:

- Psychological – Values – The family's aversion to food waste strongly influences their choices. Leftover food, like vegetable curry and rice, is repurposed for subsequent meals, aligning with their values of minimising waste. Additionally, using bones to make stock for soups shows their commitment to making the most of ingredients. For instance, chicken bones may be transformed into nutritious and flavourful chicken stock, showcasing a practical and value-driven approach to food.
- Psychological – Self-Concept – Dexa's self-concept, shaped by her perception of her appearance, plays a role in food choices. Being slightly overweight, she may opt for reduced portion sizes, such as a smaller serving of vegetable soup. Snacking on healthful options like apple slices or carrot sticks reflects her conscious effort to align her food choices with her self-perception and well-being goals.
- Psychological – Personal History – Lopika's past experiences with dental issues contribute to her food choices. Averse to hard foods due to previous discomfort, she may opt for softer textures. This psychological factor, due to her personal history, significantly influences her preferences. For example, she may choose mashed potatoes over crunchy snacks, ensuring a more positive and pain-free eating experience.
- Psychological – Emotions – Dexa's recent diagnosis of pre-diabetes may evoke various emotions, influencing her food choices. Emotionally driven, she might seek comfort in familiar foods while navigating the challenges of her new dietary requirements. For instance, choosing a comforting lentil soup that aligns with her Nepalese heritage could provide emotional reassurance during this

adjustment period.

- Psychological – Beliefs – The Ansari family's cultural background and diverse community interactions shape their beliefs about food. Amir, influenced by his multicultural surroundings, may incorporate diverse ingredients into traditional Nepalese dishes. For example, blending Australian-grown herbs into a Nepalese curry showcases the family's belief in embracing culinary diversity.
- Psychological – Habits – Amir and Dexa might have a habit of preparing traditional Nepalese dishes for festive occasions which they may do without thinking. This may also be a way to help them celebrate the occasion and their culture. Foods may include bean dishes, Nepalese bread, fried doughnuts and rice pudding.
- Psychological – War and Depression – Amir's background and experiences as a social worker might sensitise him to the impact of war and depression on individuals' well-being. This awareness could influence the family's food choices, leading them to incorporate ingredients known for their mood-boosting properties. For instance, choosing foods rich in omega-3 fatty acids, like salmon.