

Attach your candidate label here

FOOD AND NUTRITION

FDN315118

Section **A**

Pages: 16
Questions: 7

Preparation time for this exam: 15 minutes

Suggested working time: 45 minutes

Instructions:

- There are **two (2) parts** to this section:
 - **Part 1** – answer **all** questions and **all** items within each question
 - **Part 2** – answer **one (1)** question.
- Write your answers in the spaces provided in this exam paper.
- The exam is **three (3) hours** in length. The suggested working time is provided in the instructions for each part.
- All answers must be written in **English**.
- You **must** make sure your answers address the listed criterion.

Marker use	
C4	/ 45

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Guide to Exam Structure

		Parts	Questions available	Questions to answer	Suggested working time	Marks available
Section A	Part 1		6	6	25 minutes	25 marks
	Part 2		1	1	20 minutes	20 marks
Section B	Part 1		1	1	25 minutes	25 marks
	Part 2		1	1	20 minutes	20 marks
Section C			2	1	45 minutes	Extended rating of A+ to z
Section D	Part 1		3	3	10 minutes	10 marks
	Part 2		1	1	35 minutes	35 marks and A+ to z rating
Totals			15	14	180 minutes (3 hours)	135 marks and A+ to z rating

Criterion

You **must** make sure your answers address:

- Criterion 4 describe the relationship between nutrition, food and health.

Part 1

- Answer **all** questions in this section.
- This section is worth 25 marks. The suggested working time for this part is **approximately 25 minutes**.
- This section assesses **Criterion 4**.

Question 1

a) Define the term Basal Metabolic Rate (BMR).

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b) List **three (3)** factors that contribute to your BMR.

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c) Deep fried potato chips are more energy dense than steamed potato with skin on, for the same weight.

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i. Explain what the term energy dense means.

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Question 1 continues

Question 1 continued

Marker use

ii. In terms of energy density, provide **two (2)** reasons why the statement “Deep fried potato chips are more energy dense than steamed potato with skin on, for the same weight” would be true.

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Question 2

Marker use

a) What are essential fatty acids?

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b) Fats and/or lipids are found in many places in our food and exist in different states and types. For trans fats, state **two (2)** facts as well as **two (2)** food sources.

/2

Trans fats:

i. **Two (2)** facts:

1:
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2:
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ii. **Two (2)** food sources:

1:
2:

/1

c) Other than the role it plays in relation to heart disease, list **two (2)** other roles of fat in the diet. Use dot points.

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Question 3

Marker use

a) Describe the role of vitamin D in bone health.

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b) Explain why the following groups have specific requirements for vitamin D:

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i. Adolescents:

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ii. Elderly:

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c) Other than fish, provide **two (2)** dietary sources of vitamin D.

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Question 4

Marker use

a) List **two (2)** roles of calcium in the diet.

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b) Use the table below to list **two (2)** good dietary sources of calcium for each different type of food source.

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Animal-based sources	Plant-based sources

c) Traditional diets contained more calcium than modern diets. Explain why.

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Question 5

Marker use

a) List **four (4)** foods that are high in sodium and should be avoided where possible.

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b) Why is iodine important in a child's diet?

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c) Why is folate so important in the diet of pregnant women?

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Question 6

a) Explain the role of dietary antioxidants.

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b) Name **three (3)** different types of foods that are sources of antioxidants.

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c) Other than antioxidants, list **two (2)** other types of non-nutrients which are useful in the human diet.

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**Total
P1
/25**

Part 2

- Answer **the** question in this part.
- This part is worth 20 marks. The suggested working time for this part is **approximately 20 minutes**.
- This part assesses **Criterion 4**.

Question 7

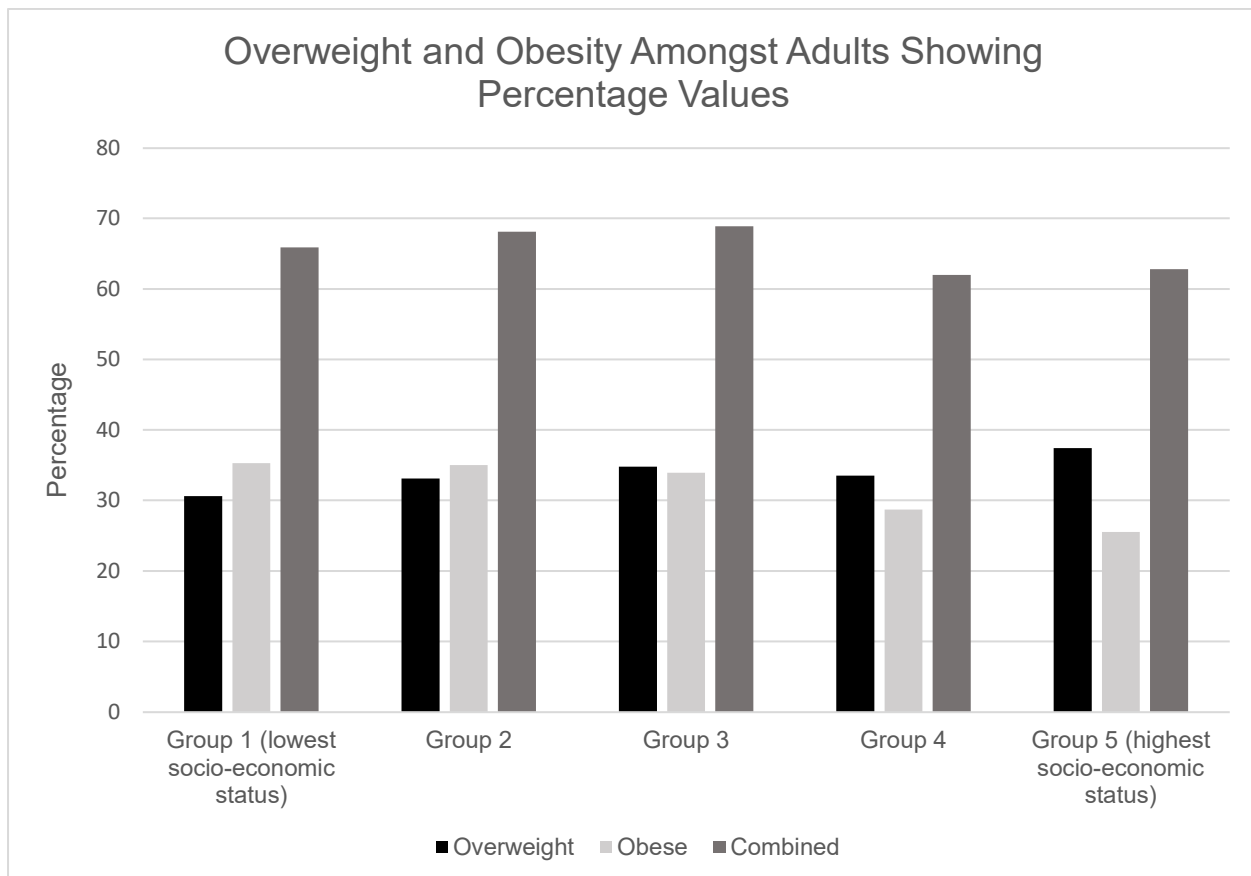


Figure 1: A graph showing the impact of socio-economic status on obesity rates.

Question 7 continued

Marker use

- a) From the graph in Figure 1, explain what impact socio-economic status has on overweight and obesity rates in adults. Suggest how this may impact their health status.

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- b) Explain **three (3)** dietary factors that increase the risk of overweight and obesity in adults.

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Question 7 continues

Question 7 continued

Marker use

c) List **three (3)** risk factors for heart disease.

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d) Outline the balance of low density lipoproteins (LDL) and high density lipoproteins (HDL) needed to reduce the risk of heart disease. Indicate how the required level of LDLs can be achieved through diet, including specific examples.

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e) Explain how increasing the consumption of grilled fish in the diet can assist in reducing the incidence of heart disease.

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Question 7 continues

Acknowledgements

Sources:

Figure 1: Overweight and obesity among adults, Australian Bureau of Statistics. National Health Survey 2022. <https://www.abs.gov.au/statistics/health/health-conditions-and-risks/national-health-survey/2022>

End of Section A

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FOOD AND NUTRITION

FDN315118

Section **B**

Pages: 16
Questions: 2

Suggested working time: 45 minutes

Instructions:

- There are **two (2) parts** to this section:
 - **Part 1** – answer **one (1)** question
 - **Part 2** – answer **one (1)** question.
- Write your answers in the spaces provided in this exam paper.
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- All answers must be written in **English**.
- You **must** make sure your answers address the listed criterion.

Marker use	
C5	/ 45

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Guide to Exam Structure

	Parts	Questions available	Questions to answer	Suggested working time	Marks available
Section A	Part 1	6	6	25 minutes	25 marks
	Part 2	1	1	20 minutes	20 marks
Section B	Part 1	1	1	25 minutes	25 marks
	Part 2	1	1	20 minutes	20 marks
Section C		2	1	45 minutes	Extended ratings of A+ to z rating
Section D	Part 1	3	3	10 minutes	10 marks
	Part 2	1	1	35 minutes	35 marks and A+ to z rating
Totals		15	14	180 minutes (3 hours)	135 marks and A+ to z rating

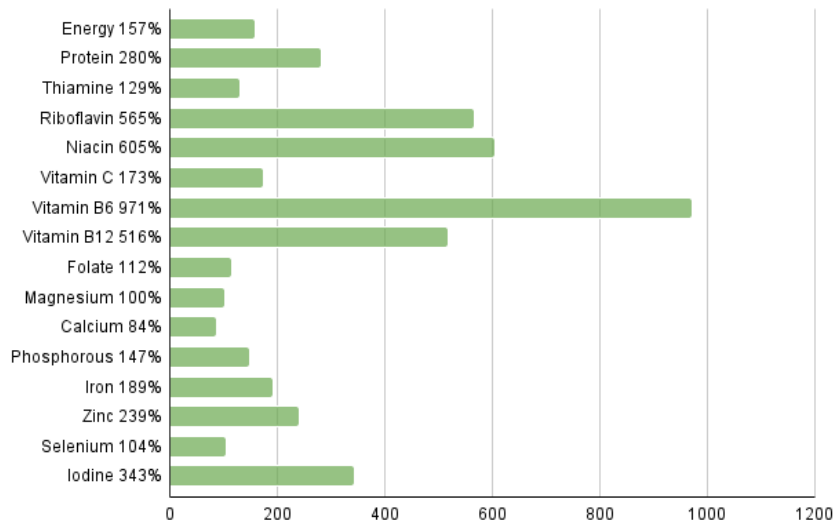
Criterion

You **must** make sure your answers address:

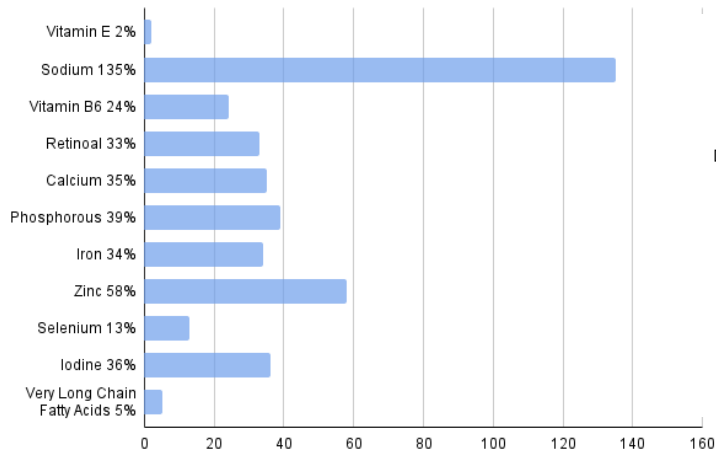
- Criterion 5 analyse diets using Nutrient Reference Values and recognised food selection tools.

Section B data continued

Estimated Average Requirement (EAR) in Percentages



Upper Intake Level (UL) in Percentages



Adequate Intake (AI) in Percentages

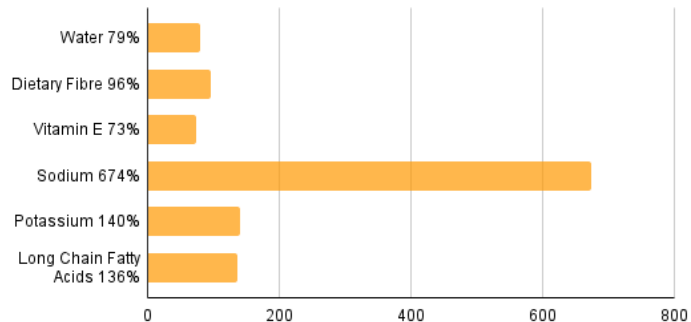


Figure 3: Bar chart of Nutrient Reference Values.

Recommended Dietary Intake (%)

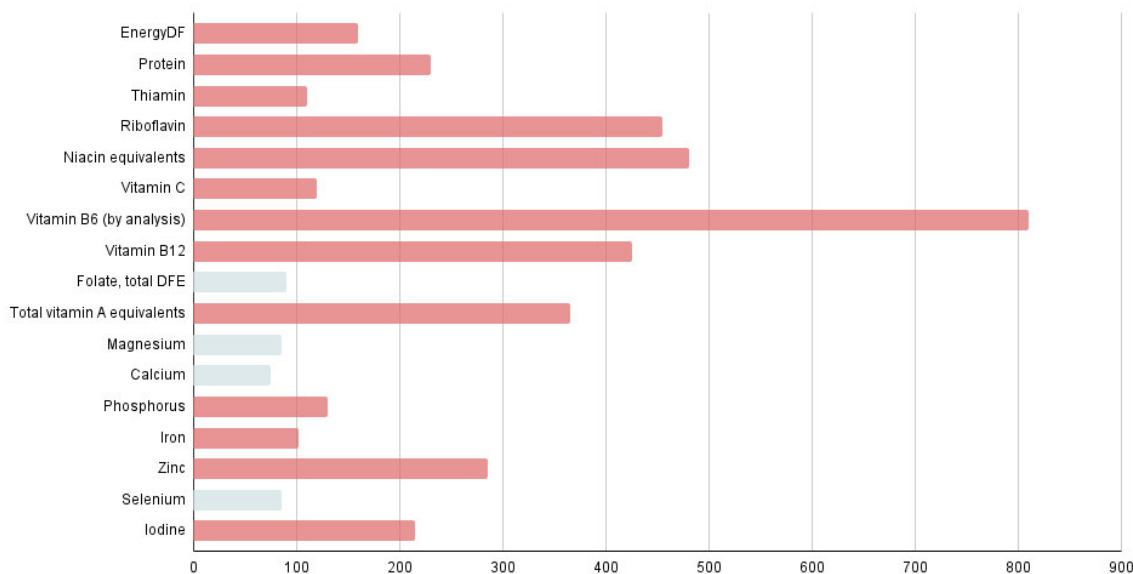


Figure 4: Bar graph of the Recommended Dietary Intake (%) of various nutrients.

Percent Poly, Mono, and Saturated Fats

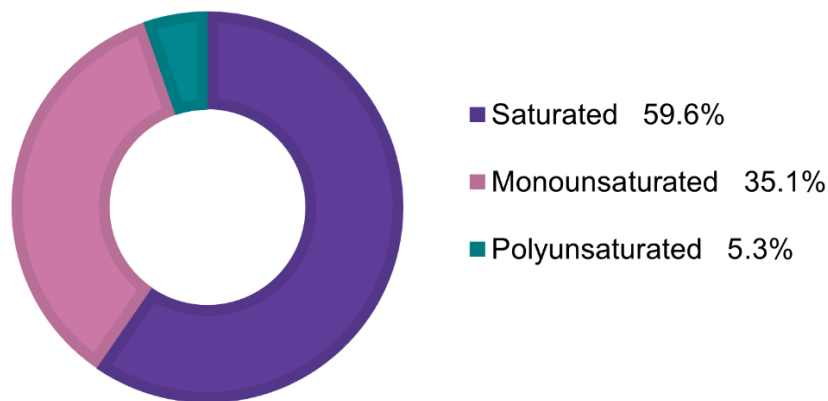
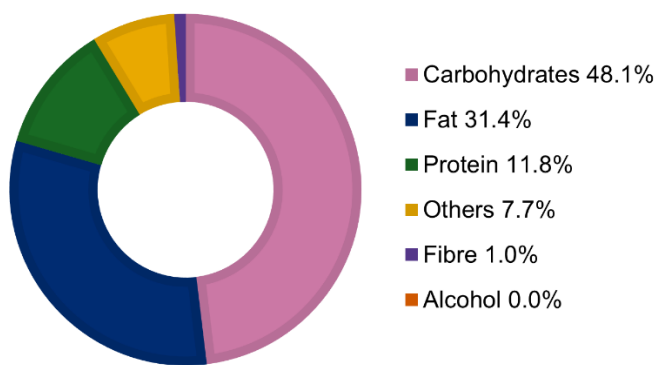


Figure 5: Pie graph of the percentage ratio of saturated, monounsaturated and polyunsaturated fats.

Percent Protein, Fat, Carbs, Fibre, and Alcohol



Energy Ratios

kJ from protein	11.84%
kJ from fat	31.43%
kJ from saturated fat	16.76%
kJ from trans fat	1.14%
kJ from carbohydrate	48.06%
kJ from alcohol	0.00%
kJ from fibre	1.00%
kJ from others	7.67%

Figure 6: Pie graph of the percentage of protein, carbs, fats, alcohol, fibre and kJ from others.

Macronutrients			
EnergyDF	16,974 kJ	Cholesterol	417.05 mg
EnergyDF	4,057 Cal	Carbohydrate-available	499.22 g
Protein	118.26 g	Sugars	203.58 g
Total fat	144.19 g	Added Sugars	150.78 g
Saturated fat	76.89 g	Free Sugars	150.78 g
Trans Fatty Acids	5.25 g	Starch	288.26 g
Polyunsaturated fat	6.86 g	Water	1,740.11 g
Monounsaturated fat	45.35 g	Alcohol	0.00 g
		Dietary fibre	21.18 g

Figure 7: Quantities of macronutrients table.

Question 8

Marker use

- a) How does Samantha’s energy intake compare with the recommendations? Determine the long-term outcome if this continues.

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- b) Refer to Figure 6 and 7. Compare Samantha’s intake of protein, fat and carbohydrates with nutrition recommendations.

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- c) Based on findings from part b), make **one (1)** important recommendation for a change to Samantha’s diet and justify your recommendation.

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Question 8 continues

Question 8 continued

Marker use

d) Carbohydrates vary in type, quality and their contribution to a healthy diet.

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Explain this statement in terms of the information provided about Samantha's carbohydrate intake and determine the short-term and long-term consequences of the carbohydrates she is consuming.

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e) Provide **three (3)** suggestions as to how Samantha's diet could be adapted to include healthier carbohydrates.

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f)
i. Referring to Samantha's diet, list **four (4)** food and beverage items that would contribute to Samantha's water intake. Use dot points.

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Question 8 continues

Question 8 continued

Marker use

ii. Evaluate **one (1)** beverage from your previous answer as a source of water in the diet, adding **two (2)** suggestions for improved choices. Use dot points.

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g)

i. Is there sufficient calcium in Samantha's diet?

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ii. What fact in the data supports this? Explain in dot points where this calcium comes from in the diet.

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h) Identify whether or not Samantha's fibre intake is sufficient.

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i) List **two (2)** possible consequences of Samantha not including enough fibre in her diet. Use dot points.

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Total
P1
/25

Part 2

- Answer **the** question in this part.
 - Refer to the data provided in Part 1 in your answers to Part 2.
- This part is worth 20 marks. The suggested working time for this part is **approximately 20 minutes**.
- This part assesses **Criterion 5**.

Question 9

The Australian Dietary Guideline (ADG) 1 states: ‘To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs’. As part of this guideline it is recommended that adolescents should eat nutritious foods to grow and develop normally. Quality grains and cereals are an essential food group in the diet.

- a)
- i. How many serves of grains and cereals should Samantha be consuming each day?

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- ii. Identify the grains and cereals Samantha has consumed.

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Question 9 continues

Question 9 continued

Marker use

iii. Evaluate the foods in part a) ii, in terms of their nutritional value and the recommendation to '**Choose mostly whole foods or minimally-processed foods**'.

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iv. Suggest **four (4)** ways that Samantha could introduce or swap more grain and cereals into her daily food intake. Use dot points.

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v. List **three (3)** benefits for Samantha of increasing her grain and cereal intake.

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Question 9 continues


Question 9 continued

Marker use

- b) The Australian Dietary Guideline (ADG) 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 of different types and colours.

Suggest **three (3)** ways that Samantha could alter the following recipe for savoury mince.

Use the table on the following page to record your responses.

	Savoury Mince and Rice
	<ul style="list-style-type: none">1 tablespoon oil500 grams beef mince1 onion, finely diced1 clove garlic, crushed½ carrot, peeled and finely diced1 tablespoon of Worcestershire sauce1 tablespoon of tomato paste1 teaspoon curry powder1 beef stock cube1 tablespoon plain flour1 cup water

Question 9 continues

Question 9 continued

Marker use

Provide three (3) ways Samantha can adjust the recipe for savoury mince in order to increase the range of vegetables and improve the nutritional value.	Explain how each change meets guideline 2.
Change 1	
Change 2	
Change 3	

/6

Total
P2
/20

Acknowledgements

Sources:

<https://www.cookitrealgood.com/savoury-mince/>

End of Section B
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FOOD AND NUTRITION

FDN315118

Section **C**

Pages: 12

Questions: 2

Suggested working time: 45 minutes

Instructions:

- Answer **one (1)** question in **extended written response**.
- Write your answers in the spaces provided in this exam paper.
- The exam is **three (3) hours** in length. The suggested working time for this section is **approximately 45 minutes**.
- All answers must be written in **English**.
- You **must** make sure your answers address the listed criteria.

Marker use	
C2	/ Alpha
C8	/ Alpha

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Guide to Exam Structure

	Parts	Questions available	Questions to answer	Suggested working time	Marks available
Section A	Part 1	6	6	25 minutes	25 marks
	Part 2	1	1	20 minutes	20 marks
Section B	Part 1	1	1	25 minutes	25 marks
	Part 2	1	1	20 minutes	20 marks
Section C		2	1	45 minutes	Extended ratings of A+ to z rating
Section D	Part 1	3	3	10 minutes	10 marks
	Part 2	1	1	35 minutes	35 marks and A+ to z rating
Totals		15	14	180 minutes (3 hours)	135 marks and A+ to z rating

Criteria

You **must** make sure your answers address:

- Criterion 2 communicate ideas and information in a variety of forms
- Criterion 8 identify and analyse food related issues.

- Answer **one (1)** question in an extended written response, either Question 10 **OR** Question 11.
 - Communicate ideas and information in the form of an extended written response.
 - Use structured paragraphs and sentences. These must be written in a logical, coherent manner, using specialised terminology and appropriate English grammar.
 - Provide clear and reasoned arguments supported by examples.
 - The suggested working time for this section is **approximately 45 minutes**.
 - This section assesses **Criteria 2 and 8**.
-

Question 10

As cost-of-living concerns spread not only in Australia but across the globe, more Australians than ever before are finding themselves at the risk of food insecurity.

According to the World Health Organization (WHO) 2024 State of Food Security and Nutrition in the World (SOFI) report, around 733 million people faced hunger in 2023.

In Australia, estimates suggest that between 4% and 13% of the general population are food insecure; and 22% to 32% of the Indigenous population are food insecure, depending on location.

In addition to this, it is undeniable that without sustainable food practices, future food security is impossible.

Write an extended response that:

- defines food security and identifies the key components
- examines each component to explain the conditions that those living with food insecurity may be experiencing
- identifies risk factors and barriers for why people may experience food insecurity
- explains the short-term and long-term impacts for children living with food insecurity
- suggests a strategy that could assist in overcoming food insecurity in children
- makes a connection between food security and ecological sustainability.

OR

Question 11



Figure 8: The 17 Sustainable Development Goals from the United Nations depicted as icons.

The United Nations Department of Economic and Social Affairs has developed 17 Sustainable Development Goals. While these goals are a far-reaching call to action to people and governments everywhere, Goals 2 and 12 are of particular concern with regards to ecological sustainability and food security.

Write an extended response that:

- defines ecological sustainability
- explains the structure of the food system including both global and local examples
- discusses **three (3)** barriers to sustainable food systems
- briefly discusses how technology, education and government policy are working to overcome these barriers to produce a more sustainable food system that, in turn, provides better food security for all.

Acknowledgements

Sources:

Hunger numbers stubbornly high for three consecutive years as global crises deepen: UN report

<https://www.who.int/news/item/24-07-2024-hunger-numbers-stubbornly-high-for-three-consecutive-years-as-global-crises-deepen--un-report#>

Understanding food insecurity in Australia, Australian Institute of Family Studies (2020)

<https://aifs.gov.au/resources/policy-and-practice-papers/understanding-food-insecurity-australia#table1>

How can the Food Industry Achieve the Sustainable Development Goals?

<https://www.un.org/sustainabledevelopment/news/communications-material/>

End of Section C



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FOOD AND NUTRITION

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Section **D**

Pages: 12
Questions: 4

Suggested working time: 45 minutes

Instructions:

- There are **two (2) parts** to this section:
 - **Part 1** – answer **all** questions and **all** items within each question
 - **Part 2** – answer **one (1)** question.
- Write your answers in the spaces provided in this exam paper.
- The exam is **three (3) hours** in length. The suggested working time is provided in the instructions for each part.
- All answers must be written in **English**.
- You **must** make sure your answers address the listed criterion/criteria.

Marker use	
C2	/ Alpha
C6	/ 45

Guide to Exam Structure

	Parts	Questions available	Questions to answer	Suggested working time	Marks available
Section A	Part 1	6	6	25 minutes	25 marks
	Part 2	1	1	20 minutes	20 marks
Section B	Part 1	1	1	25 minutes	25 marks
	Part 2	1	1	20 minutes	20 marks
Section C		2	1	45 minutes	Extended ratings of A+ to z rating
Section D	Part 1	3	3	10 minutes	10 marks
	Part 2	1	1	35 minutes	35 marks and A+ to z rating
Totals		15	14	180 minutes (3 hours)	135 marks and A+ to z rating

Criteria

You **must** make sure your answers address:

- Criterion 2 communicate ideas and information in a variety of forms
- Criterion 6 analyse factors affecting food choice.

Part 1

- Answer **all** questions in this section.
- This section is worth 10 marks. The suggested working time for this section is **approximately 10 minutes**.
- This section assesses **Criterion 6**.

Question 12

Explain the difference between hunger, appetite and satiety.

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Question 13

What is the role of marketing in consumer food selection?

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/1

Question 14

Marker use

a) List **two (2)** of the goals of a Health Promoting Framework.

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b) Choose **one (1)** of the not-for-profit health programs listed below and explain their role in contributing to community health:

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- National Heart Foundation
- Diabetes Australia
- Nutrition Australia.

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c) Explain **one (1)** of the following health promotion strategies and briefly evaluate it:

/2

- Get Up & Grow
- Veg It Up
- Health Star Rating
- Get Set 4 Life
- Hello Sunday Morning
- Canteen Nutrition Policy
- The Gutsy Challenge.

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**Total
P1
/10**

Part 2

- Answer the question in this part.
 - This part is worth 35 marks. The suggested working time for this part is **approximately 35 minutes**.
 - This part assesses **Criteria 2 and 6**.
-

Question 15

Brad and Michelle Parsons have recently moved to Hobart from rural Tasmania where they had a sheep and crop farm. They have very traditional values and attitudes and value family time and interactions. Over the last several years, Michelle, formerly a teacher, has been completing a degree in Environmental Science. Brad works from 11pm – 7am as a night shift packer in a distribution warehouse. He drives the children to and from their schools which are close to where they are now living, and also takes them to their after-school activities. He sleeps during the day while the children are at school. Brad and Michelle have three children:

- Noah aged 8 – is a fussy eater – does not like spicy or strong foods, plays soccer on Thursday evenings
- Beth aged 9 – has Type 1 diabetes, netball training Wednesday afternoon and plays Saturday morning
- Michael aged 14 – plays soccer on Thursday nights and trains for State Athletics Friday nights, with competitions on Saturday during the season.

Money is always tight, though they are hoping to buy a second-hand car for Michelle to take to uni. At present, she catches two buses each way, which means she spends a lot of time travelling and away from home.

Identify and discuss food choice factors which could be influencing the family food choices, as well as those for various individuals within the family. Ensure you:

- discuss a broad range of relevant factors including social, economic, psychological and physiological factors affecting food choice
- include specific food choices
- provide examples that demonstrate the link between various factors.

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End of Section D
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