



FOOD AND NUTRITION

FDN315118

Section **A**

Pages 12

Questions 7

Reading time: 15 minutes – you may begin writing during this time

Suggested working time: 45 minutes

Instructions

- There are **two (2)** sections to this exam paper:
 - **Part 1** – answer **all** questions and **all** parts.
 - **Part 2** – answer **one (1)** question.
- Write your answers in the spaces provided in this exam booklet.
- All answers must be written in **English**.
- You **must** make sure your answers address:
 - Criterion 4 describe the relationship between nutrition, food and health.

Marker use

C4

45

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Guide to Exam Structure

		Sections	Questions available	How many questions to answer	Suggested working time	Marks available
Section A	Part 1		6	6	25 minutes	25
	Part 2		1	1	20 minutes	20
Section B	Part 1		1	1	30 minutes	30
	Part 2		1	1	15 minutes	15
Section C			2	1	45 minutes	Assessed using extended ratings of: A+ to z
Section D	Part 1		3	3	10 minutes	10
	Part 2		1	1	35 minutes	35
Totals			15	14	180 minutes (3 hours)	135+Alpha

Part 1

Marker use

- Attempt **all questions** in this section.
- This part is worth 25 marks.
- The suggested time for this part is **25 minutes**.

Question 1

- a) List **two (2)** functions of water in the body.

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- b) Compare the health benefits of drinking tap water rather than drinking sugary soft drinks and caffeinated energy drinks.

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Part 1 continues

Part 1 continued

Marker use

Question 2

a) Explain how a deficiency of carbohydrates may result in constipation.

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b) Compare the effect of sucrose to that of starch on blood glucose levels after consumption.

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Question 3

- a) Explain why some food products in Australia are fortified, specifically milk products with vitamin D and bread with folate.

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- b) Compare **one (1)** cooking method which retains more B vitamins with **one (1)** cooking method which retains less B vitamins.

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Question 4

Choose one of the following non-nutrients: antioxidants, probiotics or phytoestrogens. Identify **two (2)** health benefits of consumption and **two (2)** natural food sources of this non-nutrient.

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Part 1 continued

Marker use

Question 5

a) Explain the difference between essential and non-essential amino acids.

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b) Identify a health risk of consuming too much protein.

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Question 6

a) Referring to food sources, suggest why Australians are likely to consume excess sodium and not enough potassium.

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b) Describe **one (1)** health consequence resulting from an iodine deficiency.

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Total P1

/ 25

Part 2

Marker use

- Attempt **all questions** in this section.
- This part is worth 20 marks.
- The suggested time for this part is **20 minutes**.

Question 7

- a) Provide **two (2)** current statistics to show that diet related conditions are a major concern in Australia.

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- b) Explain the relationship between energy imbalance and the development of obesity. Recommend **two (2)** dietary practices to help maintain a healthy weight.

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Part 2 continues

Part 2 continued

Marker use

- c) Explain the relationship between dietary fats and cholesterol, and the development of atherosclerosis. Include **three (3)** different dietary practices to reduce the risk of heart disease and explain why **each** is beneficial.

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Part 2 continues

Part 2 continued

Marker use

- d) Explain the importance of a low sugar diet for a person with Type 2 Diabetes, referring to insulin. Include food examples in your answer.

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- e) Explain **three (3)** reasons why eating a high fibre diet can be of benefit in preventing diet related conditions.

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Total P2
20

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End of Section A



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Section **B**

Pages 12

Questions 2

Suggested working time: 45 minutes

Instructions

- There are **two (2)** sections to this exam paper:
 - **Part 1** – answer **all** questions and **all** parts.
 - **Part 2** – answer **one (1)** question.
- Write your answers in the spaces provided in this exam booklet.
- All answers must be written in **English**.
- You **must** make sure your answers address:
 - Criterion 5 analyse diets using Nutrient Reference Values and recognised food selection tools.

Marker use

C5

45

Guide to Exam Structure

	Sections	Questions available	How many questions to answer	Suggested working time	Marks available
Section A	Part 1	6	6	25 minutes	25
	Part 2	1	1	20 minutes	20
Section B	Part 1	1	1	30 minutes	30
	Part 2	1	1	15 minutes	15
Section C		2	1	45 minutes	Assessed using extended ratings of: A+ to z
Section D	Part 1	3	3	10 minutes	10
	Part 2	1	1	35 minutes	35
Totals		15	14	180 minutes (3 hours)	135+Alpha

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Part 1

- Attempt **all questions** in this section.
 - Use your knowledge of nutrition and the information provided in Sarah's dietary intake over one day to answer Question 8.
- This part is worth 30 marks.
- The suggested time for this part is **30 minutes**.

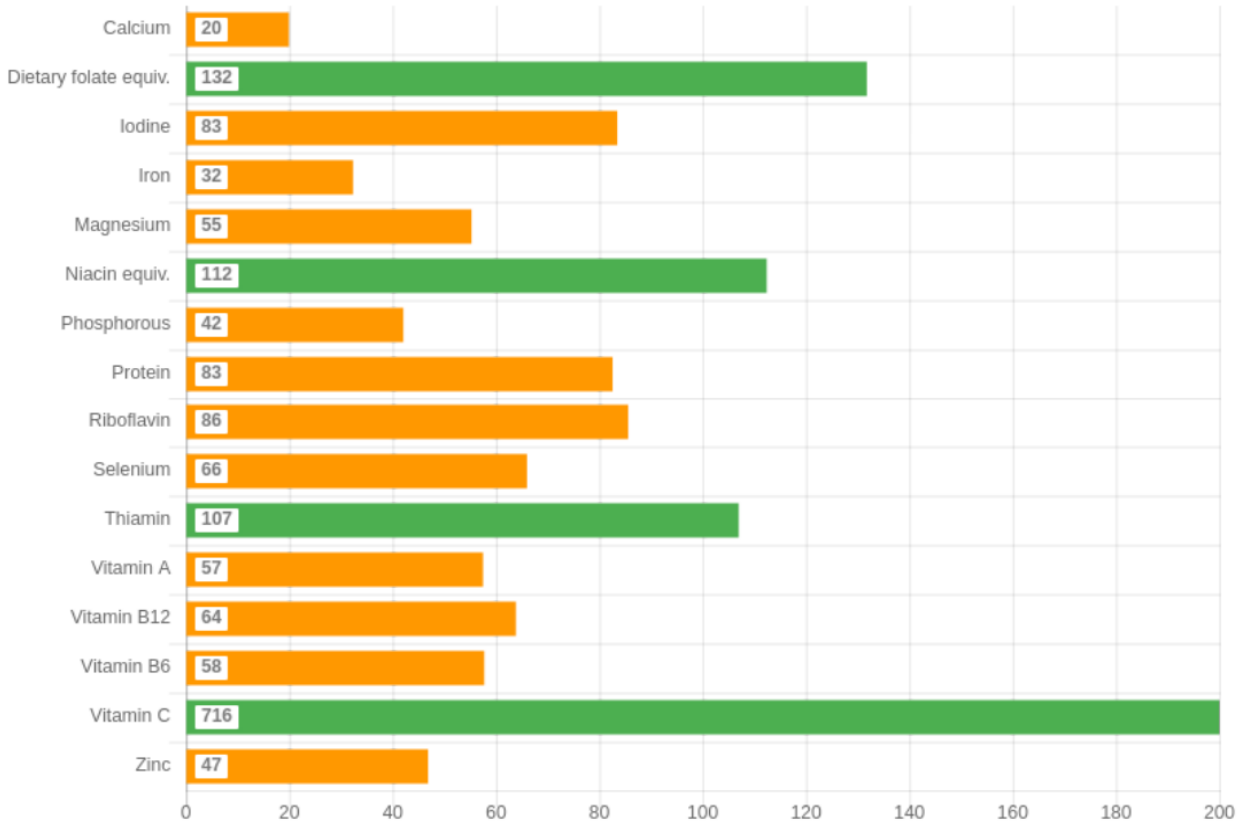
Sarah's dietary intake over **one** day:

Meal	Food	Portion	kJ
Breakfast	Bread, white toasted	2 slices	851
	Margarine	20g	366
	Coffee, black	1 large mug	26
Morning tea	Banana	1 medium	377
	Orange juice	400ml	487
Lunch	Sushi, vegetarian variety	2 rolls	1,306
	Water	1 glass	0
Afternoon snack	Apple	1 medium	405
Dinner	Noodles, boiled, with flavour sachet	350g	2625
	Water	1 glass	0
Evening Snack	Plain chocolate	30 g	661
	Herbal tea, no milk	1 cup	0

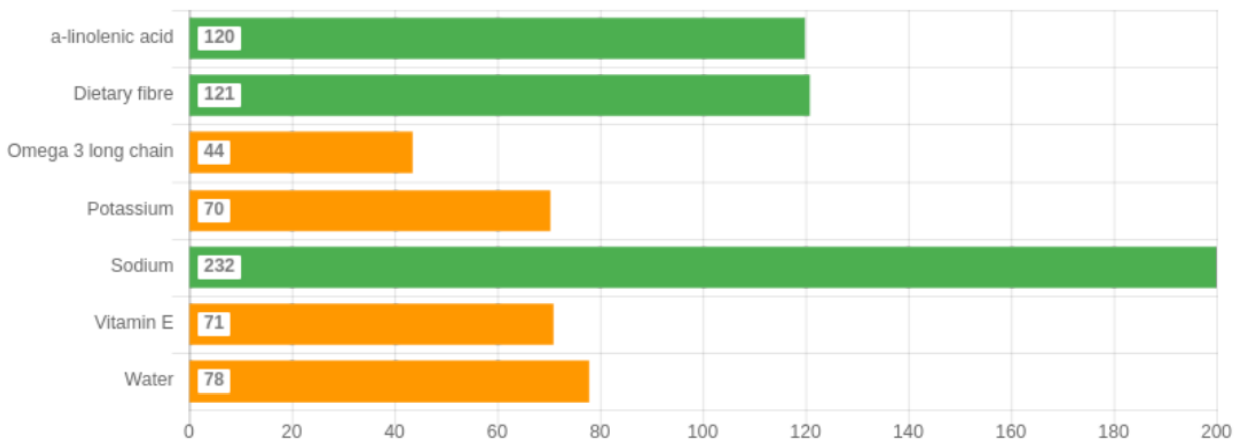
Sarah's Profile	
Age	17
Height	165cm
Weight	55kg
BMI	20
Activity level	sedentary
Estimated energy requirement	8,368 kJ/day
Energy intake on the recorded day	7,121 kJ/day

Part 1 continues

Recommended Dietary Intake(%)

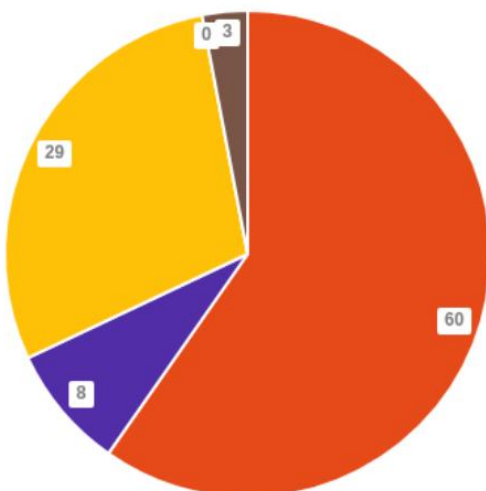


Adequate Intake(%)

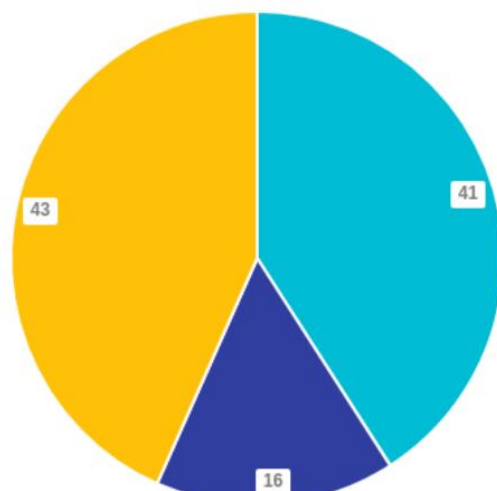


Macronutrient Ratio

Carbohydrate Protein Fat Alcohol Fibre Monounsaturated Polyunsaturated Saturated



Fat Ratio



Part 1 continued

Question 8

Marker use

a) In which category is Sarah's BMI?

1

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b) Based on Sarah's EER and her actual energy intake, what **two (2)** health consequences would you predict if this daily intake becomes regular?

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c) Discuss how Sarah's macronutrient energy ratios compare with the recommended AMDR.

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d) Assess Sarah's energy intake from fat, and her fat ratio graph. What recommendations would you make to Sarah about her fat intake?

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Part 1 continues

Part 1 continued

Marker use

e) Name **two (2)** minerals Sarah is under consuming and describe the main functions of each mineral.

Mineral 1.....

Function.....

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Mineral 2.....

Function.....

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2.5

2.5

f) Explain why Sarah's intake of folate and iodine are adequate, using food examples.

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g) Identify **four (4)** symptoms likely to result from Sarah's water intake.

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2

h) List the sources of complete and incomplete proteins in Sarah's diet.

Complete:

Incomplete:

2

Part 1 continues

Part 1 continued

Marker use

i) Compare Sarah's protein intake with the recommended NRV.

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j) Sarah is eating a vegetarian diet. Suggest **two (2)** additions of plant sourced proteins to improve her intake of complete protein.

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k) Which **two (2)** foods in Sarah's diet provide a high level of sodium?

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l) List **one (1)** short term and **one (1)** long term consequence of an excessive sodium intake.

2

Short term consequence:.....

Long term consequence:

m) Which foods in Sarah's diet provide the most fibre?

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n) List **one (1)** short term and **one (1)** long term consequence of an inadequate fibre intake.

2

Short term consequence:.....

Long term consequence:

Total P1

30

Part 2

- Attempt **all questions** in this section.
 - Use your knowledge of nutrition and the information provided in Sarah’s dietary intake over one day to answer Question 9.
- This part is worth 15 marks.
- The suggested time for this part is **15 minutes**.

Question 9

- a) Sarah is attempting to eat a vegetarian diet (not vegan) by removing sources of meat from her diet.
Complete the table below to show which food groups from the Australian Guide to Healthy Eating Sarah is lacking and to recommend dietary changes to achieve a healthy vegetarian diet.

9

Australian Guide to Healthy Eating food groups Sarah’s diet is lacking.	Recommend two(2) specific dietary changes in each food group to achieve a healthy vegetarian diet.
1.....	1..... 2.....
2.....	1..... 2.....
3.....	1..... 2.....

Part 2 continues

Part 2 continued

Marker use

b) Why are different colours and types of vegetables encouraged to be consumed in the Australian dietary guidelines (ADG) 2?

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c) Why are lean meats and reduced fat dairy products specified for Australian adults under ADG 3?

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d) What are discretionary foods and why are they considered to be “energy dense”?

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Total P2

/ 15

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End of Section B



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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 booklet.
- All answers must be written in **English**.
- You **must** make sure your answer addresses:
 - Criterion 2 communicate ideas and information in a variety of forms.
 - Criterion 8 identify and analyse food related issues.

Marker use	
C2	A+ to z rating
C8	A+ to z rating

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Totals		15	14	180 minutes (3 hours)	135+Alpha

- Attempt **one (1) question** in extended written response, either Question 10 **or** 11.
 - Communicate ideas and information in the form of extended written expression.
 - Use structured paragraphs and sentences, which 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 time for this section is **45 minutes**.
-

Question 10

Identify why there is global concern about ecological sustainability. Include statistical evidence.

Explain one barrier to sustainability at each level of the food system – food production, food processing and consumer practices.

Describe and evaluate a range of interventions, programs or initiatives that are designed to address the ecological sustainability of food systems. Identify the application of technology, education and/or government policy in your discussion.

OR

Question 11

Identify why there is global concern about food security. Include statistical evidence.

Explain why ecologically unsustainable practices by food producers, processors and consumers are a barrier to food security.

Describe and evaluate how **three (3)** of the following strategies are being used to improve food security in developing countries and/or Australia:

- sustainable food systems
- technology
- education
- aid
- government policy.

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End of Section C

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Section **D**

Pages 12

Questions 4

Suggested working time: 45 minutes

Instructions

- There are **two (2)** sections to this exam paper:
 - **Part 1** – answer **all** questions and **all** parts.
 - **Part 2** – answer **one (1)** question.
- Write your answers in the spaces provided in this exam booklet.
- All answers must be written in **English**.
- 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.

Marker use	
C2	35
C6	10

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Guide to Exam Structure

	Sections	Questions available	How many questions to answer	Suggested working time	Marks available
Section A	Part 1	6	6	25 minutes	25
	Part 2	1	1	20 minutes	20
Section B	Part 1	1	1	30 minutes	30
	Part 2	1	1	15 minutes	15
Section C		2	1	45 minutes	Assessed using extended ratings of: A+ to z
Section D	Part 1	3	3	10 minutes	10
	Part 2	1	1	35 minutes	35
Totals		15	14	180 minutes (3 hours)	135 +Alpha

Part 1

Marker use

- Attempt **all questions** in this section.
- This part is worth 10 marks.
- The suggested time for this part is **10 minutes**.

Question 12

- a) Describe how attitudes and experiences can enhance the variety in an individual's diet. Provide an example to support your answer.

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- b) Discuss how a child may gain a preference for energy dense foods despite having health conscious parents. Provide an example to support your answer.

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Part 1 continues

Question 13

How does food availability affect an individual's food choice? Provide an example to support your answer.

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Question 14

Explain why a person may choose to eat dessert despite experiencing satiety.

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Total Pt 1

/ 10

Part 2

- Attempt the **one (1)** question in this section.
- This part is worth 35 marks.
- The suggested time for this part is **35 minutes**.

Question 15

Scenario: A group of 18-year-old students (Ani, Bo and Cim) have recorded their daily food intake for the purpose of diet analysis. They recognise that their diets need improvement, but before they make any changes, they want to identify why they eat what they eat.

Study each student's food intake and lifestyle information.

Identify and evaluate food choice factors which could be influencing each person's food choices. Justify your analysis by linking the identified factors to the student's food intake and lifestyle information.

Note to students: better answers will evaluate a broad range of relevant social, economic, psychological and/or physiological factors affecting food choice. They will identify interrelating factors and justify answers with valid and logical explanations.

35

STUDENT'S FOOD INTAKE AND LIFESTYLE INFORMATION		
Ani	Bo	Cim
<p><u>Breakfast:</u> McDonald's black coffee, egg and bacon muffin with no cheese</p> <p><u>Morning tea:</u> black tea</p> <p><u>Lunch:</u> hot chips and coke</p> <p><u>Dinner:</u> microwaved frozen meal</p> <p><u>Evening snack:</u> chocolate bar</p>	<p><u>Breakfast:</u> homemade vegetable pancake and glass of milk</p> <p><u>Morning tea:</u> apple</p> <p><u>Lunch:</u> left over homemade lentil curry and naan bread</p> <p><u>Snack:</u> 2-minute noodles</p> <p><u>Dinner:</u> homemade tofu burger</p>	<p><u>Breakfast:</u> low fat muesli and juice</p> <p><u>Morning tea:</u> 3 donuts and hot chocolate with friends</p> <p><u>Lunch:</u> 2 homemade salad rolls</p> <p><u>Snacks:</u> 2 bananas, protein shake</p> <p><u>Dinner:</u> BBQ steak, prawns, salad and slice of birthday cake</p>
<ul style="list-style-type: none"> • lives alone • drives one hour to college • works 20 hours a week and studies full time • lactose intolerant 	<ul style="list-style-type: none"> • lives with stay-at-home mum and three siblings • walks to college • no job, studies three hours every night • Indian family origin 	<ul style="list-style-type: none"> • lives with two parents working professional jobs • rides bus 15 minutes to college • spends time with friends • works out at gym daily

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End of Section D



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