

LUI

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Book  of  books used

External assessment 2025

**Question and response book**

# Food & Nutrition

## Time allowed

- Perusal time — 10 minutes
- Working time — 120 minutes

## General instructions

- Answer all questions in this question and response book.
- Write using black or blue pen.
- Planning paper will not be marked.

## Section 1 (23 marks)

- 3 short response questions

## Section 2 (36 marks)

- 1 extended response question



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**THIS PAGE WILL NOT BE MARKED**

## Section 1

### Instructions

- If you need more space for a response, use the additional pages at the back of this book.
    - On the additional pages, write the question number you are responding to.
    - Cancel any incorrect response by ruling a single diagonal line through your work.
    - Write the page number of your alternative/additional response, i.e. See page ...
    - If you do not do this, your original response will be marked.
  - This section has three questions and is worth 23 marks.
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### QUESTION 1 (7 marks)

A food company has developed a new prototype for a yoghurt-topped snack bar. The food label includes an ingredient list.

Ingredient list	Serving size
<b>Wholegrain wheat flakes</b> , sunflower seeds, linseeds, sesame seeds, <b>peanuts</b> , <b>walnuts</b> , poppy seeds, rice syrup, canola oil, <b>yoghurt topping</b> (sugar, vegetable oil, <b>yoghurt powder</b> , emulsifier), cinnamon, vanilla extract.	35 g

- a) Explain the significance of the **bold** font in the ingredient list.

[1 mark]

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- b) Identify the ingredient that contains gluten and propose a suitable alternative ingredient for use in the snack bar.

[2 marks]

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The table shows the requirements that must be met for food companies to make certain nutrient content claims. The Nutrient Profiling Scoring Criterion (NPSC) calculation for the snack bar is also shown.

Food property	Claim	Requirement for claim
Dietary fibre	Good source of fibre	Product contains at least 4 g of dietary fibre per serve.
Sodium	Low in sodium	Product contains no more than 120 mg of sodium per 100 g.
Sugar	Low in sugar	Product contains no more than 5 g of sugar per 100 g.
Saturated fat	Low in saturated fat	Product contains no more than 1.5 g of saturated fat per 100 g.

#### Nutrient Profiling Scoring Criterion (NPSC) calculation per 100 g

Category 2

#### Baseline points

Nutrient information	Amount entered	Points earned
Energy	1580 kJ	4
Saturated fatty acid	3.1 g	3
Sugars	14.7 g	3
Sodium	29 mg	0
<b>Total baseline points</b>		<b>10</b>

#### Modifying points

Modifying points	Amount entered	Points earned
<i>f<sub>vn</sub>l</i>	Non- <i>f<sub>vn</sub>l</i> ingredients	11.5%
	Non-concentrated <i>f<sub>vn</sub>l</i> ingredients	88.5%
	Concentrated fruit and vegetable ingredients	0%
Protein	7.6 g	4
Dietary fibre	15.8 g	5
<b>Total modifying points</b>		<b>14</b>
<b>Final score</b>		<b>-4</b>

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- c) Determine whether the food company can claim that the snack bar is low in sodium.  
Use data from the NPSC to support your response.

*[2 marks]*

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- d) Use data from the NPSC to justify why the snack bar is suitable for the fitness-focused nutrition consumer market (NCM).

*[2 marks]*

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## QUESTION 2 (8 marks)

A food company has reformulated one of their ready-made meals to meet the nutritional needs of the elderly nutrition consumer market (NCM).

Lamb roast with vegetables and gravy	Reformulated lamb roast with vegetables and gravy
440 g serve	310 g serve
1355 kJ	1441 kJ
Ingredients: Sweet potatoes (16%), lamb stock, lamb (15%), potatoes (8%), carrot (6%), water, onion, cornflour, tomato puree, olive oil, seasoning, garlic extract, herbs.	Ingredients: Lamb (29%), sweet potatoes (11%), potatoes (9%), lamb stock, carrot (5%), broccoli (5%), water, onion, cornflour, tomato puree, olive oil, seasoning, garlic extract, herbs.

- a) Explain how the reformulated meal better meets two nutritional requirements of the elderly NCM.

*[2 marks]*

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Two dessert products are promoted as suitable for the elderly NCM.

### Product 1: Chocolate pudding

#### Food components

water, milk powder, cream, cocoa powder, chocolate, sweetener, emulsifier, vanilla essence

#### Nutrition information

Servings per package: 1

Serving size: 150 g

	Average quantity per serving	Average quantity per 100 g
Energy	699 kJ	466 kJ
Protein	14.9 g	9.9 g
Fat, total	8.5 g	5.7 g
– saturated	5.8 g	3.9 g
Carbohydrate	10.6 g	7.1 g
– sugars	7.9 g	5.3 g
Dietary fibre	0.15 g	0.1 g
Sodium	137 mg	91 mg
Calcium	107 mg	71 mg

### Product 2: Vanilla rice pudding

#### Food components

water, rice, milk powder, cream, butter, sugar, vanilla essence, emulsifier

#### Nutrition information

Servings per package: 1

Serving size: 170 g

	Average quantity per serving	Average quantity per 100 g
Energy	1017 kJ	598 kJ
Protein	4.8 g	2.8 g
Fat, total	7.4 g	4.35 g
– saturated	5.1 g	3.0 g
Carbohydrate	35.4 g	20.8 g
– sugars	22.6 g	13.3 g
Dietary fibre	0.34 g	0.2 g
Sodium	39 mg	23 mg
Calcium	109 mg	64 mg

- b) Use the data to determine which product is the better option for the elderly NCM.

Justify your answer with three reasons supported by data.

[4 marks]

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- c) Identify one change that could be made to the product you selected in Question 2b to better meet the needs of the elderly NCM. Justify the change with data from the nutrition information panel.

[2 marks]

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### QUESTION 3 (8 marks)

A company produces ready-made meals for supermarkets. The company has determined a need to reformulate one of its meals, beef and pork rissoles with mashed potato, vegetables and gravy, to cater for obese consumers experiencing coronary heart disease.

<b>Beef and pork rissoles with mashed potato, vegetables and gravy</b>	
<b>Food components</b> 250 g beef mince 250 g pork mince 1 egg (60 g) 5 ml Worcestershire sauce 2 g fresh thyme, chopped 2 g salt 2 g pepper 40 ml vegetable oil, for frying rissoles 300 g frozen mixed vegetables (carrot, peas, corn)  <b>Mashed potatoes</b> 600 g potatoes, peeled and chopped 40 ml cream  <b>Gravy</b> 30 g butter 120 g onion, diced 30 g plain flour 375 ml chicken stock (reduced salt) 2 g thyme, chopped	<b>Procedure</b> <ol style="list-style-type: none"><li>1. Combine the beef and pork mince with the egg, Worcestershire sauce, thyme, salt and pepper. Mix well.</li><li>2. Shape the mixture into five rissoles.</li><li>3. Heat oil in a pan and fry rissoles until golden.</li><li>4. Meanwhile, steam the frozen mixed vegetables until tender.</li></ol> <b>For the mashed potatoes</b> <ol style="list-style-type: none"><li>1. Boil the potatoes in a saucepan until tender.</li><li>2. Drain and return to the saucepan.</li><li>3. Add the cream and mash until smooth.</li></ol> <b>For the gravy</b> <ol style="list-style-type: none"><li>1. Melt butter in a saucepan. Add the onion and sauté until tender.</li><li>2. Add flour and cook for one minute, stirring continuously.</li><li>3. Add in the stock and continue stirring until the mixture thickens and comes to a boil. Add the thyme.</li><li>4. Serve the rissoles with mashed potato, vegetables and gravy.</li></ol>

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## **Beef and pork rissoles with mashed potato, vegetables and gravy**

## **Nutrition information**

	Average quantity per 420 g serving	Average quantity per 100 g
Energy	2100 kJ	500 kJ
Protein	30.5 g	7.3 g
Fat, total	28 g	6.7 g
– saturated	10.6 g	2.5 g
Carbohydrate	28.5 g	6.8 g
– sugars	3.1 g	0.7 g
Sodium	574 mg	137 mg

- a) Determine and explain two nutritional disadvantages for obese consumers experiencing coronary heart disease who consume this meal on a regular basis. Justify your answer using data.

[4 marks]

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In order to reformulate the meal, the company is considering the following alternative food components:

- Olive oil
  - Coconut oil
  - Tinned lentils
  - Zucchini
  - Mushrooms
  - Red apple
  - Brown rice
  - Sour cream
  - Milk
  - Paprika
  - Dried mustard

- b) Using the alternative food components, propose two refinements to the meal that would meet the needs of obese consumers experiencing coronary heart disease. Justify your response.

[4 marks]

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## Section 2

## Instructions

- Read Stimulus 1 and 2 in the stimulus book.
  - Respond in 400 words or more.
  - Respond in paragraphs consisting of full sentences.
  - This section has one question and is worth 36 marks.

## QUESTION 4 (36 marks)

Use the problem-solving process to determine which of the three prototype formulations outlined in the stimulus book is the most suitable for the lactose-intolerant infant nutrition consumer market (NCM).

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## **ADDITIONAL PAGE FOR STUDENT RESPONSES**

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## References

### Question 1

Data sourced from Australian Government, Australia New Zealand Food Standards Code, Schedule 4, Standard 1.2.7, 2017 (Cth), <https://www.legislation.gov.au/F2015L00474/2017-04-13/text>



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