



LEVEL 3 CERTIFICATE/DIPLOMA

4563UB0-1

TUESDAY, 3 JUNE 2025 – AFTERNOON

FOOD SCIENCE AND NUTRITION

Unit 1: Meeting Nutritional Needs of Specific Groups

1 hour 30 minutes (with an additional 15 minutes' reading time) plus your additional time allowance

Surname _____

First name(s) _____

Centre Number _____

Candidate Number 4 _____

For Examiner's use only

Question	Maximum Mark	Mark Awarded
Section A	24	
Section B		
1.	8	
2.	8	
3.	6	
4.	6	
Section C		
1.	10	
2.	12	
3.	6	
4.	10	
Total	90	

INSTRUCTIONS TO CANDIDATES

Use black ink, black ball-point pen or your usual method.

Write your name, centre number and candidate number in the spaces provided on the front cover.

Answer ALL questions.

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES

The total for the paper is 90 marks.

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the necessity for good English and orderly presentation in your answers.

Reading time may be permitted as indicated on the examination paper. This is additional time to the duration of the exam. This time can only be used for reading through the questions on the exam paper, and prioritising your time. However, you may write notes.

Answer ALL questions.

SECTION A

1 (a) State THREE different causes of food spoilage.

[3 marks]

(i) _____

(ii) _____

(iii) _____

(Turn over)

1 (b) Identify ONE consequence of food spoilage.

[1 mark]

2 (a) Name the food safety management system used by a food business. [1 mark]

2 (b) Describe why a food business needs to have a food safety management system in place.

[3 marks]

[illegible]

(Turn over)

3 (a) Name TWO good food sources of Omega 3 fatty acids. [2 marks]

(i)

(ii)

3 (b) State why it is necessary to obtain Omega 3 fatty acids from a food source. [1 mark]

(c) Give ONE function of Omega 3 fatty acids in the body. [1 mark]

4 (a) Discuss the complementary interaction between any TWO named micronutrients. [3 marks]

[illegible]

(Turn over)

4 (b) Outline an example of a negative interaction between micronutrients. [2 marks]

5. List TWO factors which may affect an individual's nutritional requirements. [2 marks]

(i) _____

(ii) _____

6 (a) Explain how ascorbic acid loss can be reduced when preparing and cooking vegetables. [3 marks]

[illegible]

(Turn over)

6 (b) Name TWO methods of preservation that would destroy ascorbic acid. [2 marks]

(i)

(ii)

SECTION B

- 1. Good personal hygiene is critical when working in the food industry.**

Discuss how the personal hygiene of food handlers could affect a food business, its employees, and its customers. [8 marks]

(Turn over)

2 (a) Describe the chemical composition of protein.

[4 marks]

(Turn over)

2 (b) Explain how protein foods are classified. [4 marks]

3. Examine the menu below.

**Cream of mushroom soup with croutons
Vegetable Lasagne, mixed green salad, baked
sweet potato
Carrot cake with cream cheese frosting**

**Explain why the menu above would not be suitable
for a coeliac or an individual who is lactose
intolerant.**

(i) A coeliac [3 marks]

(Turn over)

3 (ii) An individual who is lactose intolerant. [3 marks]

[illegible]

(Turn over)

- 4. Consumers are being encouraged to eat more sustainably, to reduce the impact on the environment.**

Assess the nutritional impact of this lifestyle choice when planning a balanced diet. [6 marks]

[illegible]

SECTION C

Read the case study opposite and answer all questions in the space provided.

1. Analyse Martin's profile to determine his current and future nutritional needs. [10 marks]
2. Discuss the implications on Martin's health and well-being if he does not make changes to his eating habits and lifestyle choices. [12 marks]
3. Suggest an improved daily diet for Martin.
[6 marks]
4. Justify the improved daily diet that you have suggested, in relation to fitness for purpose.
[10 marks]

(Turn over)

END OF PAPER

(Turn over)

Question number	Additional page, if required. Write the question number(s) in the left-hand margin.

(Turn over)

Question number	Additional page, if required. Write the question number(s) in the left-hand margin.

Martin lives on his own and has recently retired from his job as a lorry driver. He suffers with leg ulcers and is asthmatic. He enjoys working in his garden, completing crosswords, watching motorsport, quiz shows and films.

Name	Martin	
Age	67	
Weight	152.4 kg	
Height	1.78 m	
	Time	
Diary of a typical day	9.30 am 10.00 am 11.00 am 1.00 pm 2.00pm 4.00pm 7.30 pm 8.00 pm 10.00 pm 12.30 am	Get up/Breakfast. Drive to the local town for shopping. Stop for morning coffee. Eat lunch – completes the crossword. Work in the garden. Watch quiz shows on television. Eat evening meal. Watch television. Eat evening snack whilst watching a late-night film. Goes to bed.
Example of current daily diet	Breakfast: Morning break: Lunch: Mid-afternoon: Evening meal: Evening snack:	Bowl of Shreddies, 2 tsp sugar, full fat milk Cup of coffee made with full fat milk and 2 tsp sugar Cup of coffee made with full fat milk 2 tsp sugar, two digestive biscuits Cheese & pickle sandwiches made from four slices of white sliced bread & butter, mature cheddar cheese and pickle Packet of crisps Sausage roll Pint of orange squash Pint of orange squash Handful of sweets Two beefburgers, hash browns, baked beans, slice of white bread & butter Tinned peaches with ready-made custard Can of lager Packet of salted peanuts