



National
Qualifications
2024

X836/76/11

Health and Food Technology

FRIDAY, 17 MAY

12:30 PM – 2:30 PM

Total marks — 60

Attempt ALL questions.

Write your answers clearly in the answer booklet provided. In the answer booklet you must clearly identify the question number you are attempting.

Use **blue** or **black** ink.

Before leaving the examination room you must give your answer booklet to the Invigilator; if you do not, you may lose all the marks for this paper.



* X 8 3 6 7 6 1 1 *

Question 1

- (a) Explain factors that could contribute towards the following dietary diseases:
- obesity
 - dental caries.
- (b) An athletics club aims to meet the nutritional needs of its athletes.

4

Table 1 shows the Dietary Reference Values for females aged 26.

Dietary Reference Values for females aged 26				
Estimated average Requirements (26-year-old female)	Reference Nutrient Intakes (19–50-year-olds)			
Energy (Kcal)	Protein (g)	Vitamin B1 (mg)	Iron (mg)	Fibre (g)
2175	45	0.8	14.8	30

The food intake of a 26-year-old female athlete includes the following lunch:

<p>Spinach and Rocket Salad Spaghetti Bolognese Fresh Fruit Salad</p>
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Table 2 shows the dietary analysis of her food intake, including the meal.

Dietary analysis of the 26-year-old's food intake				
Energy (Kcal)	Protein (g)	Vitamin B1 (mg)	Iron (mg)	Fibre (g)
1885	48	0.7	11.2	35

Analyse **three different** aspects of the 26-year-old's food intake shown in Table 2, in relation to the Dietary Reference Values (DRVs) for 26-year-old females in Table 1.

For **each** aspect you should include:

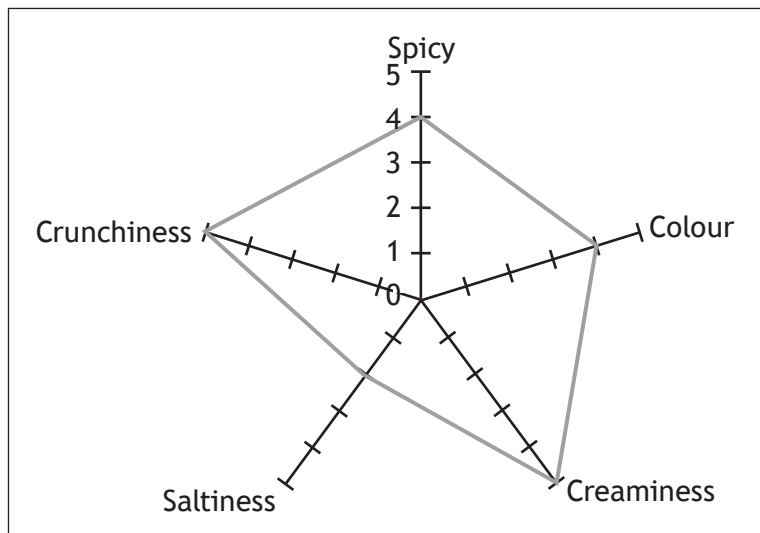
- a comment on the impact of her diet in relation to the Dietary Reference Values
- the potential consequence for her health
- a conclusion about the contribution made by her meal to her food intake.

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Question 1 (continued)

(c) A food manufacturer is developing a pasta salad for athletes.

The star profile below shows the results of sensory testing of a prototype of the pasta salad.



Key: 5 = very high
 4 = high
 3 = slightly high
 2 = low
 1 = very low

Evaluate the suitability of this pasta salad for an athlete.

4

(d) Explain **three** stages a food manufacturer would follow in the development of a pasta salad.

3

[Turn over

Question 2

- (a) Evaluate how each of the following affects consumer food choice:
- food miles
 - food packaging.
- 4
- (b) Evaluate the use of each of the following marketing techniques used to promote a new food product:
- money off vouchers
 - in store demonstrations.
- 3
- (c) Explain how each of the following organisations can support consumers when purchasing food:
- Trading Standards Department
 - Environmental Health Department.
- 3

Question 3

- (a) Evaluate how the consumption of breakfast cereals can help meet **three** different pieces of current dietary advice.
- 3
- (b) Explain the functional properties of the following ingredients in a baked product:
- eggs
 - fat.
- 4
- (c) Explain the inter-relationship between each of the following:
- vitamin A, C and E
 - calcium, phosphorous and vitamin D.
- 3

Question 4

- (a) Evaluate how each of the following ethical issues affects consumers food choice:
- sustainability
 - genetically modified foods.
- 4
- (b) Explain how the use of food additives can benefit a food manufacturer.
- 3
- (c) Explain the effect on health of following the dietary goal of increasing fruit and vegetables to 400 g per day.
- 3

Question 5

- (a) Evaluate each of the following technological developments for the consumer:
- ultra heat-treated products
 - functional foods.
- 4
- (b) Evaluate the contribution of oily fish in the diet. 3
- (c) Explain **three** factors which could influence an elderly person's choice of food. 3

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