



B O A R D O F S T U D I E S
NEW SOUTH WALES

2010

**HIGHER SCHOOL CERTIFICATE
EXAMINATION**

Food Technology

General Instructions

- Reading time – 5 minutes
- Working time – 3 hours
- Write using black or blue pen
- Write your Centre Number and Student Number at the top of pages 9, 11, 13, 15, 17 and 19 or 23

Total marks – 100

Section I Pages 2–6

20 marks

- Attempt Questions 1–20
- Allow about 35 minutes for this section

Section II Pages 9–18

55 marks

- Attempt Questions 21–28
- Allow about 1 hour and 35 minutes for this section

Section III Pages 19–25

25 marks

- Attempt either Questions 29 and 30 or Questions 31 and 32
- Allow about 50 minutes for this section

Section I

20 marks

Attempt Questions 1–20

Allow about 35 minutes for this section

Use the multiple-choice answer sheet for Questions 1–20.

- 1** Students made cupcakes to sell to raise money for a school trip.
- This is an example of which level of operation?
- (A) Household
 - (B) International
 - (C) Small business
 - (D) Large company
- 2** Which of the following products was developed with health as a key driver?
- (A) Simmer sauces
 - (B) Dolphin-safe tuna
 - (C) High-energy drinks
 - (D) Fibre-enriched bread
- 3** Which of the following best characterises a multinational food company?
- (A) The products satisfy niche markets.
 - (B) The company has worldwide operations.
 - (C) The commercial equipment used is large-scale.
 - (D) The customers are located in a number of countries.
- 4** Which of the following would be identified as a threat in the development of a new food product?
- (A) A downturn in the economy
 - (B) Increased production facilities and cost
 - (C) Limited size and skill of the workforce
 - (D) Availability of a new processing technology

- 5 What does primary market research involve?
- (A) Review of food industry reports
 - (B) Data collection by company personnel
 - (C) Analysis of existing data from a research company
 - (D) Use of government publications to analyse information
- 6 What is the major effect on vegetables of slow freezing compared to quick freezing?
- (A) Improved texture
 - (B) Diminished colour
 - (C) Greater bacterial growth
 - (D) Increased size of ice crystals
- 7 In the manufacture of a processed food, which of the following best defines raw materials?
- (A) Fresh foods
 - (B) Any products
 - (C) Uncooked ingredients
 - (D) Unprocessed materials
- 8 Which of the following organisations has a primary role in conducting research and development for the Australian food industry?
- (A) CSIRO
 - (B) FSANZ
 - (C) NHMRC
 - (D) WHO
- 9 A consumer wants to raise concerns about the level of *trans* fats in processed foods.
What is the most effective way to get action on these concerns?
- (A) Start a blog
 - (B) Ring the Department of Health and Ageing
 - (C) Demand AQIS ban all imported foods containing *trans* fats
 - (D) Contact an advisory group such as the National Heart Foundation

Use the following information to answer Questions 10 and 11.

A company is working through the food product development process for a new food.

10 When is the prototype developed?

- (A) During idea generation
- (B) Before market research
- (C) At product testing stage
- (D) After production process development

11 At what stage is the feasibility study conducted?

- (A) During storage trials
- (B) When testing the prototype
- (C) Before the initial market research
- (D) Following the setting of product specifications

12 Which of the following is the best way for a food company to improve its long-term profitability?

- (A) Increase its market share
- (B) Reduce the range of products available
- (C) Increase staff training and development
- (D) Reduce the number of advertising campaigns

13 Various retailers at a shopping centre have agreed to charge a set price for imported bottled water.

Which legislation are they breaching?

- (A) *Food Act 2003* (NSW)
- (B) *Trade Practices Act 1974* (Cth)
- (C) *Imported Food Control Act 1992* (Cth)
- (D) *Protection of the Environment Operations Act 1997* (NSW)

- 14** A premium food company has introduced a range of organic biscuits.
- Which of the following is an external factor that has most likely influenced the company's decision to develop such a range?
- (A) Company image
 - (B) Production facilities
 - (C) Ecological environment
 - (D) Technological environment
- 15** Pre-cooked individual servings of food that are light in weight and non-perishable are most likely to be characteristics of foods produced for
- (A) aged care facilities.
 - (B) military operations.
 - (C) in-flight food service.
 - (D) correctional centre catering.
- 16** Which of the following processes is essential in the manufacture of freeze-dried food products?
- (A) Dehydration
 - (B) Evaporation
 - (C) Pasteurisation
 - (D) Sublimation
- 17** Which class of additive is used to absorb moisture from the atmosphere to prevent food drying out?
- (A) Anti-caking agents
 - (B) Antioxidants
 - (C) Humectants
 - (D) Mineral salts

18 Which type of packaging uses oxygen scavengers to increase the life of a product?

- (A) Active
- (B) Microwaveable
- (C) Modified atmosphere
- (D) Sous vide

19 Which of the following is the most critical control point in preventing spoilage during the canning of a vegetable such as sweet corn kernels?

- (A) Can seam closure
- (B) Microbes in cooling water
- (C) Salt concentration in brine
- (D) Sugar levels in the vegetable

20 Following harvest, wheat is stored in large quantities in silos.

Which of the following is most likely to make the wheat unsafe for human consumption?

- (A) Bacteria
- (B) Insects
- (C) Mould
- (D) Vermin

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Food Technology

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Centre Number

Section II

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Student Number

55 marks

Attempt Questions 21–28

Allow about 1 hour and 35 minutes for this section

Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

Question 21 (5 marks)

- (a) To which Australian food industry sector do each of the following belong? 2

<i>Organisation</i>	<i>Sector</i>
Piggery	
Canning factory	
School canteen	
Online grocery network	

- (b) Describe the quality assurance activities in one organisation within the Australian food industry. 3

Name of organisation

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Question 22 (5 marks)

How may gender issues influence employment in the Australian food industry?

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Question 23 (3 marks)

A small company which supplies prepared meals for international flights is about to establish a production plant in an inner city residential area.

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What are the environmental implications?

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Centre Number

Section II (continued)

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Student Number

Question 24 (8 marks)

Explain how internal factors which impact on food product development can influence the success or failure of a product in the marketplace.

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Section II (continued)

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Student Number

Question 25 (6 marks)

- (a) Outline the difference between me-too products and line extensions. In your answer, provide examples. 2

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- (b) Why would a food manufacturer develop a line extension rather than a new-to-world food product? 4

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Question 26 (8 marks)

(a) What are the key features of a marketing plan?

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(b) Propose and justify suitable strategies for marketing the product shown.

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Centre Number

Section II (continued)

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Student Number

Question 27 (10 marks)

You have been making a food product at home and giving it away to friends. They are so impressed with your product they convince you to manufacture it in an industrial setting.

Name the food product

- (a) Outline ONE processing technique used to prepare the product. 2

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- (b) Compare the domestic and industrial equipment which would be used in the manufacture of this product. 4

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Question 27 continues on page 16

Question 27 (continued)

- (c) How would storage and distribution of this product differ between domestic and industrial settings?

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End of Question 27

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Centre Number

Section II (continued)

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Student Number

Question 28 (10 marks)

(a) Describe the functions of packaging.

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Question 28 continues on page 18

Question 28 (continued)

Name a food product

(i) Identify suitable packaging materials for this product. 1

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(ii) Describe experiments that could be used to test the suitability of packaging materials for this product. 5

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End of Question 28



Food Technology

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Centre Number

Section III

25 marks

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Student Number

You must attempt the TWO questions on the Contemporary Food Issues option you have studied.

Allow about 50 minutes for this section

If you have studied the Contemporary Food Issues – Nutrition attempt Questions 29 and 30.

Answer Question 29 in the space provided. This space provides guidance for the expected length of response.

Do NOT attempt Questions 29 and 30 if you have already attempted Questions 31 and 32.

Question 29 (10 marks)

- (a) How do cultural and social practices influence nutritional status? In your answer, provide examples. **4**

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Question 29 continues on page 20

Question 29 (continued)

(b) Explain, using examples, how community groups and government organisations can promote good health through diet.

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End of Question 29

Food Technology

Section III (continued)

Answer Question 30 in a SEPARATE writing booklet. Extra writing booklets are available.

In your answer you will be assessed on how well you:

- demonstrate knowledge and understanding relevant to the question
 - apply course concepts to food technology issues
 - communicate ideas and information using appropriate terminology and relevant examples
 - present a logical and cohesive response
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Contemporary Food Issues – Nutrition

Question 30 (15 marks)

Discuss the impact of nutritionally modified foods, active non-nutrients and dietary supplements on the dietary health of Australians.

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Centre Number

Section III (continued)

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If you have studied Contemporary Food Issues – Marketplace attempt Questions 31 and 32.

Answer Question 31 in the space provided. This space provides guidance for the expected length of response.

Do NOT attempt Questions 31 and 32 if you have already attempted Questions 29 and 30.

Question 31 (10 marks)

- (a) What are the ethical implications of a marketplace trend? 4

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Question 31 continues on page 24

Question 31 (continued)

(b) Explain, using examples, the social and environmental implications of a marketplace trend.

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End of Question 31

Food Technology

Section III (continued)

Answer Question 32 in a SEPARATE writing booklet. Extra writing booklets are available.

In your answer you will be assessed on how well you:

- demonstrate knowledge and understanding relevant to the question
 - apply course concepts to food technology issues
 - communicate ideas and information using appropriate terminology and relevant examples
 - present a logical and cohesive response
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Contemporary Food Issues – Marketplace

Question 32 (15 marks)

Explain the relationship between food consumption and issues of social justice, in both developed and developing countries.

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