

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

2011

**HIGHER SCHOOL CERTIFICATE
SPECIMEN EXAMINATION**

Food Technology

General Instructions

- Reading time – 5 minutes
- Working time – 3 hours
- Write using black pen
- Write your Centre Number and Student Number at the top of page 9

Total marks – 100

Section I Pages 2–6

20 marks

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

Section II Pages 9–16

50 marks

- Attempt Questions 21–28
- Allow about 1 hour and 25 minutes for this section

Section III Page 17

15 marks

- Attempt Question 29
- Allow about 30 minutes for this section

Section IV Page 18

15 marks

- Attempt Question 30
- Allow about 30 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** What is the most commonly used construction material in food processing equipment?

 - (A) Copper
 - (B) Glass
 - (C) Timber
 - (D) Stainless steel

- 2** Which of the following is identified by a SWOT analysis?

 - (A) Strengths, weaknesses, opinions and threats
 - (B) Strengths, weaknesses, opportunities and threats
 - (C) Strategies, weaknesses, opinions and threats
 - (D) Strategies, weaknesses, opportunities and threats

- 3** Which sector of the Australian food industry is responsible for the production of low-fat milk?

 - (A) Food retail
 - (B) Agriculture and fisheries
 - (C) Food services and catering
 - (D) Food processing/manufacturing

- 4** What are raw material specifications used for?

 - (A) To reduce price
 - (B) To ensure product supply
 - (C) To increase company profits
 - (D) To maintain product consistency

- 5 What is the purpose of the nutritional panel on a food label?
- (A) To show the additives included
 - (B) To inform consumers of nutritional content
 - (C) To show quantity of the ingredients in the product
 - (D) To inform consumers of nutrient function in the body
- 6 Which one of the following medical conditions is linked with undernutrition?
- (A) Anaemia
 - (B) Diabetes
 - (C) Obesity
 - (D) Stroke
- 7 Which of the following is most likely to occur in a food company as a result of an economic recession?
- (A) An increase in personnel numbers
 - (B) A decrease in quality assurance procedures
 - (C) A decline in new food products being released
 - (D) An expansion in the range of products available
- 8 Which of the following raw materials has traditionally been fortified to help meet the deficiency related to low levels of iodine in Australian soil?
- (A) Flour
 - (B) Milk
 - (C) Salt
 - (D) Water
- 9 Which factor most influences the price structure of a new food product?
- (A) The environment
 - (B) Distribution systems
 - (C) Nature of the target market
 - (D) Expertise of company staff

- 10** What is the major role of advisory groups to the Australian food industry?
- (A) Developing human resources
 - (B) Organising the recall of products
 - (C) Setting minimum prices for similar products
 - (D) Lobbying the government on issues of concern
- 11** Which of the following food types is an example of a functional food?
- (A) Free-range, organic eggs
 - (B) Soy and linseed breads
 - (C) Pre-cut packaged salads
 - (D) Pre-packaged frozen meals
- 12** The development of lightweight plastic bottles is a response to
- (A) improved shelf stacking properties.
 - (B) consumer demand for lower prices.
 - (C) environmental awareness of consumers.
 - (D) the needs of an ageing population.
- 13** Which of the following is responsible for issuing a food product recall?
- (A) Local council food inspectors
 - (B) Australian Food and Grocery Council (AFGC)
 - (C) Food Standards Australia New Zealand (FSANZ)
 - (D) Australian Quarantine Inspection Service (AQIS)
- 14** During which step is a break-even point decided when developing a food product?
- (A) Idea screening
 - (B) Feasibility study
 - (C) Primary research
 - (D) Product specification

- 15** What would a company use to ensure that it provides food of a consistently high quality to consumers?
- (A) Quality testing
 - (B) Quality assurance
 - (C) Sensory assessment
 - (D) Hazard Analysis and Critical Control Point (HACCP)
- 16** Osteoporosis is a condition caused by a long-term deficiency of calcium.
- Which of the following physical effects is a person with osteoporosis likely to experience?
- (A) Brittle bones
 - (B) Heart failure
 - (C) Increased body weight
 - (D) Reduced oxygen levels in blood
- 17** Which of the following is most affected by high levels of ethylene?
- (A) Ripening of fruit
 - (B) Rancidity of cheese
 - (C) Colour change in meat
 - (D) Microbial spoilage of bread
- 18** Which of the following will minimise deterioration of fats and oils during storage?
- (A) Anticaking agents
 - (B) Antioxidants
 - (C) Emulsifiers
 - (D) Preservatives
- 19** Which of the following food products is most likely to be associated with food poisoning caused by *Clostridium botulinum*?
- (A) Boiled rice
 - (B) Roast chicken
 - (C) Canned tomatoes
 - (D) Canned sweet corn

20 Antioxidants and fibre are examples of active non-nutrients.

Which of the following statements is true of active non-nutrients?

- (A) They are essential in the diet.
- (B) They produce an immune system response.
- (C) They contribute to the promotion of good health.
- (D) They play an important role in the growth of the body.

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Centre Number

Section II

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Student Number

50 marks

Attempt Questions 21–28

Allow about 1 hour and 25 minutes for this section

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

Question 21 (2 marks)

Define *malnutrition*.

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Question 22 (4 marks)

Outline TWO types of food product development. Use examples to support your answer.

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Question 23 (5 marks)

Name a food organisation that you have studied.

Name of organisation:

- (a) Identify TWO quality assurance procedures used by this organisation. **2**

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- (b) Explain how the identified organisation has responded to consumer influences, using relevant examples. **3**

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Question 24 (7 marks)

(a) What are the main reasons for preserving food? **3**

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(b) Identify ONE preservation technique that can be applied to a particular food. **1**
In your answer, name the food and the preservation technique.

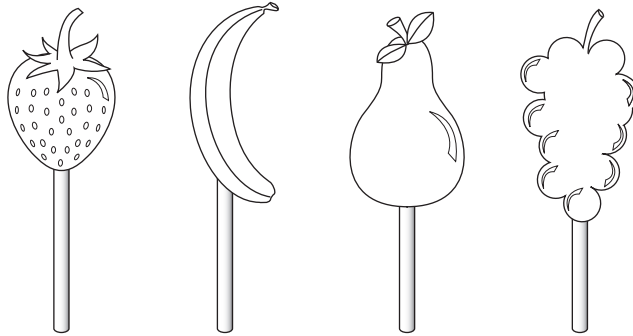
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(c) Explain the principles behind the preservation technique identified in part (b). **3**

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Question 25 (10 marks)

Fastfruit is a multinational company with a large share of the fruit juice market. It wants to expand its product range by developing frozen, fruit-shaped confections.



- (a) Describe the market research that would need to be conducted before specifications are developed for this product. **4**

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- (b) Explain the tests that would need to be conducted during the prototype development of this product. **6**

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Question 26 (6 marks)

Describe the ethical issues related to advertising practices commonly used by fast food companies.

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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 of 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 and storage of the product. **4**

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Question 27 continues on page 15

Question 27 (continued)

- (c) How would storage and distribution of the product differ between domestic and industrial settings? **4**

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End of Question 27

Food Technology

Section III

15 marks

Attempt Question 29

Allow about 30 minutes for this section

Answer the question in a writing booklet. Extra writing booklets are available.

Question 29 (15 marks)

- (a) Describe the relationship between nutrient intake and ONE dietary disorder. **3**
- (b) What factors should be considered when planning diets for people suffering from the dietary disorder described in part (a)? **4**
- (c) How have food manufacturers responded to meet the needs of people with a dietary disorder? **8**

Please turn over

Section IV

15 marks

Attempt Question 30

Allow about 30 minutes for this section

Answer the question 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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Question 30 (15 marks)

Discuss the role of emerging technologies in the production, manufacturing and packaging of different food products.

End of paper