

# 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 pages 9, 11, 13, 15, 17 and 19

## Total marks – 100

**Section I** Pages 2–6

### 20 marks

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

**Section II** Pages 9–19

### 50 marks

- Attempt Questions 21–26
- Allow about 1 hour and 25 minutes for this section

**Section III** Page 21

### 15 marks

- Attempt Question 27
- Allow about 30 minutes for this section

**Section IV** Page 22

### 15 marks

- Attempt Question 28
- 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** Which of the following best describes the activities carried out in the food service and catering sector?

  - (A) Processing of raw materials
  - (B) Purchasing of food from outlets
  - (C) Production of plants and animals
  - (D) Preparation of food for customers
  
- 2** In which list would all the careers be commonly found in the food retail sector?

  - (A) Chef, farmer, scientist
  - (B) Waiter, stockist, marketer
  - (C) Cashier, accountant, grocer
  - (D) Food technologist, designer, kitchen-hand
  
- 3** Functional foods have been developed to

  - (A) address environmental concerns.
  - (B) utilise technological developments.
  - (C) meet market concerns about health.
  - (D) provide convenience for consumers.
  
- 4** Why is a technical feasibility study necessary in the development of a new product?

  - (A) To establish a marketing plan
  - (B) To determine the design brief
  - (C) To calculate a break-even point
  - (D) To determine the machinery required

- 5 Which of the following is an example of a nutritionally modified food?
- (A) Low fat milk
  - (B) Organic yoghurt
  - (C) Parmesan cheese
  - (D) Chocolate flavoured milk
- 6 Which of the following is the primary benefit of consuming food products rich in probiotics?
- (A) Reduced fatigue
  - (B) Improved memory
  - (C) Increased gut flora
  - (D) Improved cardiovascular health
- 7 A company surveys consumers about possible new flavour combinations in a muffin range.
- At which stage of the product development process should this occur?
- (A) Market research
  - (B) Prototype testing
  - (C) Prototype development
  - (D) Development of product specifications
- 8 A food manufacturer has identified a contaminant in one of their food products.
- Which advisory group should be consulted to assist with food product recall?
- (A) CSIRO
  - (B) FSANZ
  - (C) Australian Consumers' Association
  - (D) Australian Food and Grocery Council

- 9** A fast-food chain has strong brand recognition, competitive pricing and high levels of carbon emissions.

What would have been conducted to identify these findings?

- (A) A HACCP audit
- (B) A SWOT analysis
- (C) A feasibility study
- (D) A product life cycle analysis

- 10** Some supermarket chains have a range of generic products where they sell a number of commonly-bought items under their own label.

What are they hoping to achieve by doing this?

- (A) To increase profitability
- (B) To meet legal obligations
- (C) To add to consumer convenience
- (D) To take advantage of technological developments

- 11** Genetically modifying crops for human consumption is an example of the use of

- (A) aquaculture.
- (B) biotechnology.
- (C) nanotechnology.
- (D) organic farming.

- 12** Consuming foods with a low glycaemic index is useful in the management of which condition?

- (A) Diabetes
- (B) Osteoporosis
- (C) Hypertension
- (D) Coronary heart disease

- 13** Which level of operation dominates the food manufacturing industry in Australia?
- (A) Household
  - (B) Multinational
  - (C) Small business
  - (D) Large company
- 14** Which pricing strategy is most likely to be used for a *new to the world* product?
- (A) Price skimming
  - (B) Break-even point
  - (C) Penetration pricing
  - (D) Competitive pricing
- 15** Which of the following production systems would be best suited to the manufacture of fruit juice processed under high pressure?
- (A) Manual
  - (B) Robotic
  - (C) Automated
  - (D) Small scale
- 16** It is an essential requirement that the packaging used for dairy products is
- (A) lightweight.
  - (B) inexpensive.
  - (C) non-reactive.
  - (D) biodegradable.

**17** A person cannot consume wheat-based food products.

From which condition is the person most likely to be suffering?

- (A) Anaemia
- (B) Osteoporosis
- (C) Coeliac disease
- (D) Lactose intolerance

**18** A manufacturer of a tomato-based pasta sauce has requested blemish-free, firm tomatoes of uniform size.

This requirement would be outlined in the company's

- (A) feasibility study.
- (B) HACCP program.
- (C) quality assurance plan.
- (D) raw materials specifications.

**19** Which of the following is the most likely cause of food spoilage of ice-cream?

- (A) Bacteria
- (B) Enzymes
- (C) Poor handling
- (D) Inadequate packaging

**20** Putting a banana in a paper bag with an avocado will speed up the ripening of the avocado.

What causes this accelerated reaction?

- (A) Enzymes
- (B) Ethylene gas
- (C) Micro-organisms
- (D) Restriction of light

BLANK PAGE

BLANK PAGE



|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

Centre Number

## Section II

50 marks

Attempt Questions 21–26

Allow about 1 hour and 25 minutes for this section

|  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|

Student Number

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

---

### Question 21 (9 marks)

A self-heating can has been developed. When the can is opened a reaction is set off, heating the contents. This technology has been used to produce a new hot chocolate beverage.

- (a) Justify a likely target market for this product. 2

.....

.....

.....

.....

- (b) Describe a place and distribution system that could be used to market this product to the target market identified in part (a). 3

.....

.....

.....

.....

.....

.....

.....

Question 21 continues on page 10

Question 21 (continued)

- (c) Explain strategies for the promotion of this product that would appeal to the target market identified in part (a).

**4**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

**End of Question 21**

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

Centre Number

Section II (continued)

|  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|

Student Number

---

Question 22 (9 marks)

- (a) Answer the following questions in relation to an organisation that you have studied.

|                            |
|----------------------------|
| Name of organisation ..... |
|----------------------------|

- (i) Outline a research and development activity carried out by the organisation. **2**

.....

.....

.....

.....

.....

.....

Question 22 continues on page 12

Question 22 (continued)

(ii) Explain the impact of the organisation on the environment.

4

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

(b) What are the benefits of ecologically sustainable food production methods?

3

.....

.....

.....

.....

.....

.....

**End of Question 22**

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

Centre Number

Section II (continued)

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|

Student Number

Question 23 (10 marks)

- (a) Define the term *malnutrition*. 2

.....

.....

.....

.....

- (b) Describe the physical effects of malnutrition for a specific group you have studied. 3

|                              |
|------------------------------|
| Name of group studied: ..... |
|------------------------------|

.....

.....

.....

.....

.....

.....

.....

.....

.....

Question 23 continues on page 14

Question 23 (continued)

- (c) Evaluate the role of dietary supplements in the prevention and treatment of conditions caused by malnutrition. Use examples to support your answer.

5

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

**End of Question 23**

|  |  |  |  |  |  |
|--|--|--|--|--|--|
|  |  |  |  |  |  |
|--|--|--|--|--|--|

Centre Number

Section II (continued)

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|

Student Number

---

Question 24 (7 marks)

Explain how current technological developments in food packaging have had an impact on both the manufacturer and the consumer.

7

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

BLANK PAGE



|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

Centre Number

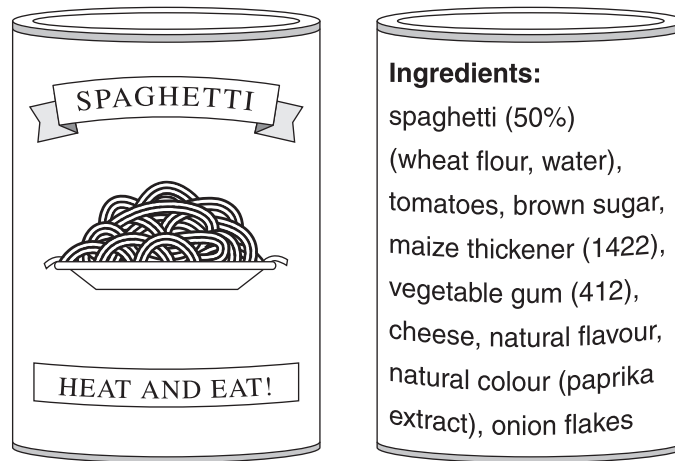
Section II (continued)

|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|

Student Number

Question 25 (7 marks)

Answer the following questions in relation to the food product shown.



(a) Describe the functions of the food additives in this product.

3

.....

.....

.....

.....

.....

.....

.....

Question 25 continues on page 18

Question 25 (continued)

(b) Explain how the canning process extends the shelf life of this type of product. **4**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

**End of Question 25**

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|--|--|--|--|--|

Centre Number

**Section II (continued)**

|  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|

Student Number

---

**Question 26 (8 marks)**

Evaluate the effects of cultural and social practices on the nutritional status of Australians. **8**

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

BLANK PAGE

# Food Technology

## Section III

**15 marks**

**Attempt Question 27**

**Allow about 30 minutes for this section**

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

---

### **Question 27** (15 marks)

An established health food company is developing a range of yoghurt and muesli 'breakfast-on-the-go' products for sale in supermarkets.

- (a) Outline an internal factor that would have an impact on the development of this product. **2**
- (b) Describe how you would test the prototype of this product. **5**
- (c) Explain the processes that could be used to transform the raw materials into this manufactured food product. **8**

**Please turn over**

## Section IV

**15 marks**

**Attempt Question 28**

**Allow about 30 minutes for this section**

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

---

Your answer 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
- 

**Question 28** (15 marks)

Explain how food manufacture and food product development are affected by government policy and legislation.

**End of paper**