



**Victorian Certificate of Education  
2005**

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

**STUDENT NUMBER**

Figures

Words


Letter

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# FOOD AND TECHNOLOGY

## Written examination

**Tuesday 15 November 2005**

**Reading time: 9.00 am to 9.15 am (15 minutes)**

**Writing time: 9.15 am to 10.45 am (1 hour 30 minutes)**

### QUESTION AND ANSWER BOOK

**Structure of book**

<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
7	7	100

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- No calculator is allowed in this examination.

**Materials supplied**

- Question and answer book of 17 pages.

**Instructions**

- Write your **student number** in the space provided above on this page.
- All written responses must be in English.

**Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.**

### Instructions

Answer **all** questions in the spaces provided.

#### Question 1

Delights is the name of a local coffee shop that is known for producing a small range of tasty cakes. The following ingredients are used to make one of their most popular chocolate cakes.

#### Chocolate cake ingredients

- 1½ cups (190 g) plain flour
- 1 teaspoon bicarbonate of soda
- ½ teaspoon cream of tartar
- 2 tablespoons (20 g) cocoa
- ¾ cup (190 g) caster sugar
- 125 g soft butter
- ½ cup (125 ml) milk
- 2 eggs

Fats and oils, acids, alkalis, starches and sugars are all natural food components and have important functions in the chocolate cake.

- a. Use the ingredient list to complete the following table.

Natural food component	One ingredient containing the natural food component	Function of the ingredient in the cake
Fats and oils		
Alkalis		
Starch		

6 marks

**b.** Other than flavouring, explain one function of sugar in the chocolate cake.

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2 marks

**c.** In response to consumer demands for healthier alternatives, Delights have decided to introduce a modified version of their popular chocolate cake.

**i.** Use the ingredient list for the chocolate cake to select an ingredient that could be replaced by a modified food product/ingredient.

Ingredient selected \_\_\_\_\_

Modified food product/ingredient \_\_\_\_\_

**ii.** Describe a property (physical, sensory and/or chemical) that may be different in a chocolate cake made with the modified ingredient when compared to the original chocolate cake.

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1 + 2 = 3 marks

**d.** **i.** Name the food production system that the Delights coffee shop uses to produce the chocolate cakes.

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**ii.** Identify two differences that could be expected of chocolate cakes made using the production system in **part i.** and chocolate cakes made by a large commercial cake manufacturer.

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1 + 2 = 3 marks

Total 14 marks

**Question 2**

Tip Top® is a bread company which produces a range of different muffin varieties. These muffins are breadlike products that can be split and toasted and topped with jam or cheese.

Two of the muffin varieties are shown below.

Tip Top® English Muffins are the original muffins produced by Tip Top®.



Tip Top® UP™ Muffins are a newer product produced by the Tip Top® company. These muffins have been modified by the addition of omega-3 to the ingredients. Omega-3 is an oil which has been shown to have health benefits such as protecting against heart disease and optimising foetal brain development.



- a. Tip Top® UP™ Muffins were produced in response to a range of factors such as social pressures, changes in technology, consumer demands and industry economics.

Select one of these factors and discuss how it may have influenced the development of the Tip Top® UP™ Muffins.

Factor selected

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Discussion

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2 marks

**b.** In the development of the new Tip Top® UP™ Muffin, product analysis was used to evaluate the product. Name one product analysis test and briefly describe how it could be used to evaluate the properties (physical, chemical and/or sensory) of the product.

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3 marks

**c. i.** A competitor has decided to produce a similar muffin to the Tip Top® UP™ Muffins. Identify this type of product development.

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**ii.** Describe one advantage the competitor would gain from using the type of product development identified in **part i**.

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1 + 2 = 3 marks

**d.** Tip Top® plan to increase their bread or muffin product range by producing another product.

**i.** Describe a bread or muffin product that Tip Top® could add to their product range.

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**ii.** Identify a possible target/niche market for this product.

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**iii.** Justify why the product in **part i** would appeal to this target/niche market.

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2 + 1 + 2 = 5 marks

- e. i. The marketing department at Tip Top® has been asked to design a new marketing and advertising campaign to promote the bread or muffin product identified in **part d.i.** Explain two possible strategies for marketing this product.

Strategy 1

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Strategy 2

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- ii. Evaluate the strategy you believe would be the most effective method to promote this bread or muffin product.

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4 + 2 = 6 marks

Total 19 marks

**Question 3**

Mediterranean pasta salad is one product from Edgell's new single-serve 'light lunch' range. The package includes an inner plastic sealed container and an outer cardboard cover.



The design brief for the proposed new product range outlined the following considerations and constraints. The brief stated that the products should

- be ready to eat
  - be stored without refrigeration until opened
  - be low in fat
  - be suitable for vegetarians
  - contain no artificial colours or preservatives
  - have a full serve of vegetables in each single meal.
- a. i. Identify a possible target/niche market for the mediterranean pasta salad.

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- ii. Discuss one reason why the mediterranean pasta salad may appeal to the target/niche market identified in part i.

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1 + 2 = 3 marks

- b.** Using the information in the design brief, identify two possible questions that could be used as criteria for evaluating the new Edgell light lunch range.

Criteria 1

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Criteria 2

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2 marks

- c.** It was important to evaluate the Edgell light lunch range during all stages of product development. Explain why.

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2 marks

- d.** The development of a prototype was one of the stages in the process of product development for the new Edgell light lunch range.

Outline two reasons why the development of a prototype is an important stage in product development.

Reason 1

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Reason 2

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2 marks



- e. Name and discuss two environmental factors Edgell would need to consider when selecting the packaging for their new range of light lunch products.

Factor 1 \_\_\_\_\_

Discussion \_\_\_\_\_

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\_\_\_\_\_

Factor 2 \_\_\_\_\_

Discussion \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4 marks

- f. Identify two functions of the packaging of the Edgell light lunch products. Explain why each is important to the consumer. Your response may refer to the inner plastic package and/or the outer cardboard cover.

Function 1 \_\_\_\_\_

Explanation \_\_\_\_\_

\_\_\_\_\_

Function 2 \_\_\_\_\_

Explanation \_\_\_\_\_

\_\_\_\_\_

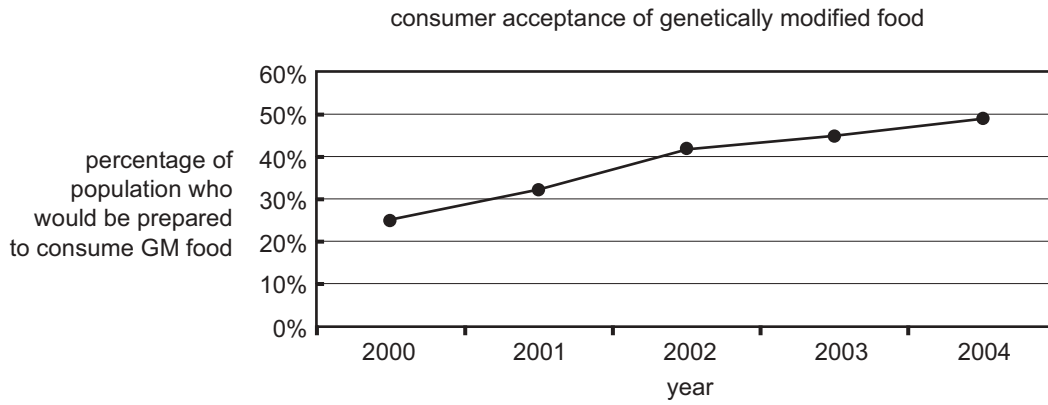
4 marks

Total 17 marks

**TURN OVER**

**Question 4**

Genetically modified (GM) food is one innovation in food technology.



a. Describe the main trend shown in the data.

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1 mark

b. Explain how the trend identified in the data may influence product development.

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2 marks

- c. Outline two reasons why some people may have concerns about the use of genetically modified foods.

Reason 1

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Reason 2

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4 marks

- d. Irradiation is another innovation in food technology.

i. Briefly explain the process of irradiation.

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ii. Outline a reason why some people may have concerns about irradiated food.

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2 + 2 = 4 marks

‘Food Standards Australia New Zealand (FSANZ, formerly known as ANZFA) is an integral part of a strong food regulatory system operating between governments at all levels in Australia and New Zealand.

In Australia, FSANZ develop food standards for the entire food supply chain, from primary production through to manufactured food and retail outlets.’

source: [www.foodstandards.gov.au/](http://www.foodstandards.gov.au/)

- e. FSANZ is responsible for the development of the Food Standards Code. Identify two other roles of FSANZ in the food industry.

Role 1

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Role 2

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2 marks

The Food Standards Code regulates food labelling in Australia and New Zealand to assist consumers to make informed choices.

- f. Identify one other aspect of food safety that is regulated by the Food Standards Code and explain why it is important.

Aspect of food safety regulated by the Food Standards Code

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Explanation

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2 marks

Total 15 marks

**Question 5**

a. Alex has decided to sell a small range of homemade preserved foods at a market in the local community.

i. Identify a preserved food that would be suitable to sell at the market.

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ii. Identify the processing technique that is used to preserve the food named in **part i. and** explain how this preservation method prevents the deterioration of this food.

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1 + 2 = 3 marks

b. Compare two properties (physical, chemical and/or sensory) of the original food before preservation and the food after it has been preserved.

Food \_\_\_\_\_

Properties of the food before preservation	Properties of the food after preservation
1.	1.
2.	2.

4 marks

Total 7 marks

**TURN OVER**

**Question 6**

Your Food and Technology class is preparing a special lunch to celebrate Youth Week. The menu includes

- chicken, lettuce and mayonnaise rolls
- beef hamburgers with lettuce and tomato
- fried rice with peas, bacon and egg
- chicken noodle soup.

a. When preparing the lunch, identify one health and safety practice you will need to consider in **each** of the following areas and justify why this practice is important for consumers.

	Health and safety practice	Justification
Storage controls		
Food handling practices		
Design of work areas		

6 marks

The fried rice and chicken noodle soup were so popular that a local food company has decided to produce, package and market these products as home meal replacements.

b. The company wants to extend the shelf life for the fried rice or soup product by using a recently developed packaging technique such as Modified Atmosphere Packaging or Aseptic Packaging.

Select one of these packaging techniques \_\_\_\_\_

i. Discuss the process involved in packaging the product using this technique and explain how it is able to extend shelf life.

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- ii. Other than extending shelf life, explain one reason that makes this technique appropriate to package the food.

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3 + 2 = 5 marks

- c. The label on the fried rice or soup must, by law, contain specific information. Identify three labelling requirements that must be included on the package and explain how this information would benefit the consumer.

Labelling requirement	Benefit to the consumer
1.	
2.	
3.	

6 marks

Total 17 marks

**TURN OVER**

**Question 7**

Apples are an example of the key food commodity – fruit.

- a. Identify two environmental issues associated with the primary **production** of key food commodities. Explain how each of them affects the environment.

Issue 1 \_\_\_\_\_

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Issue 2 \_\_\_\_\_

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4 marks

- b. Complete the diagram below for the **processing** of apples in industry and in commercial settings.

key food commodity – fruit



two examples of primary processing applied to apples

two examples of secondary processing techniques applied to apples

4 marks



- c. Identify a **product** that could result from the secondary processing of apples in industry and in commercial settings.

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1 mark

- d. Identify two reasons for secondary processing of food.

Reason 1

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Reason 2

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2 marks

Total 11 marks