



Victorian Certificate of Education 2003

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

Letter

Figures										
Words										

FOOD AND TECHNOLOGY

Written examination

Monday 17 November 2003

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>
8	8	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 15 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 electronic communication devices into the examination room.

Question 1



Use the information on the single serve frozen risotto packet shown above to answer the following questions.

- a. Explain **three** of the major steps in the process of product development that the Dolmio company might have undertaken in the development of this risotto.

Step 1 _____

Step 2 _____

Step 3 _____

- b. i.** Name a possible target market for this risotto.

- ii.** Provide **two** reasons why this risotto would appeal to this target market.

Reason 1 _____

Reason 2 _____

- iii.** Identify **two** promotional strategies that could be used to promote this risotto to this target market.

Strategy 1 _____

Strategy 2 _____

1 + 2 + 2 = 5 marks

- c.** Name and explain **one** factor that might be considered in setting the price of this risotto.

2 marks

- d.** What are **two** functions of the packaging of this risotto? Your answer may refer to the inner plastic packaging and/or the outer cardboard box.

Function 1 _____

Function 2 _____

2 marks

Total 15 marks

TURN OVER

Question 2

Select **one** item from the list of fresh foods below to answer the following questions.

- fresh tomatoes
- fresh fish fillets
- fresh strawberries
- fresh pasta

Fresh food selected _____

a. i. Name a processing technique that is used commercially to prevent deterioration of the fresh food selected.

ii. Describe **two** major steps followed when processing this fresh food using the technique named above.

Step 1 _____

Step 2 _____

1 + 2 = 3 marks

b. Describe how this technique prevents deterioration of the fresh food selected.

2 marks

c. What is the best method of storing this processed food in the home?

1 mark

d. What are **two** properties of this processed food that would be different from the properties of the original fresh food?

Property 1 _____

Property 2 _____

2 marks

Total 8 marks

Question 3

An apple pie could be made using the following ingredients.

Pastry ingredients:

250 grams butter

2 tablespoons water

½ teaspoon baking powder

350 grams plain flour

Filling ingredients:

750 grams apples

100 grams castor sugar

¼ teaspoon cinnamon

- a. Select **three** of these listed ingredients and describe the function of each in the apple pie.

Ingredient	Function

3 marks

A food manufacturer may wish to modify this apple pie.

- b. i. Select one of the ingredients listed above for the apple pie, and name an alternative food ingredient that could be used to modify the existing apple pie.

Original ingredient _____

Alternative ingredient _____

- ii. Explain how using the alternative ingredient would affect the properties of the pie.

- iii. Explain why a consumer may prefer to buy a pie made with this alternative ingredient rather than a pie made with the original ingredient.

1 + 2 + 2 = 5 marks

There are a variety of food production systems in the food industry which could produce this apple pie. Two of these systems are **batch production** and **continuous processing**.

A small local bakery might make apple pies using the batch production system, while a large food manufacturer might make apple pies using continuous processing.

- c. i. Compare these two different production systems in terms of the following.

Complexity of technology used _____

Amount of labour involved _____

Set up costs _____

- ii. Compare the apple pies produced using these two different production systems in terms of the following.

Quantity produced _____

Cost to the consumer _____

- iii. Provide another example of a food product that can be made using batch production and a food product that can be made using continuous processing.

Batch production _____

Continuous processing _____

3 + 2 + 2 = 7 marks

A food manufacturer might choose to use the **cook chill** or **cook freeze** processing method in the production of this apple pie.

d. i. Select and explain either the cook chill process or the cook freeze process.

Process selected _____

Explanation _____

ii. What are **two** advantages to the manufacturer and/or consumer of an apple pie produced using this process?

Advantage 1 _____

Advantage 2 _____

iii. What are **two** disadvantages to the manufacturer and/or consumer of an apple pie produced using this process?

Disadvantage 1 _____

Disadvantage 2 _____

2 + 2 + 2 = 6 marks

Total 21 marks

TURN OVER

Question 4

Gene technology has allowed genetically modified foods to be produced.

a. Explain **two** reasons for the development of genetically modified foods.

4 marks

Many people are opposed to the use of genetically modified foods.

b. Explain **two** areas of concern that people may have to genetically modified foods.

4 marks

Food Standards Australia New Zealand (formerly known as ANZFA) is responsible for a number of aspects of food control in Australia.

- c. Identify two roles of Food Standards Australia New Zealand and explain the importance of each role.

Role	Importance
1. _____ _____ _____ _____ _____	_____ _____ _____ _____ _____
2. _____ _____ _____ _____ _____	_____ _____ _____ _____ _____

(1 + 2) + (1 + 2) = 6 marks

Total 14 marks

TURN OVER

Question 5

Adapted from: *Herald Sun*

When bigger is better

In Australia, service station counters now display king-size chocolate bars.

‘When people go to a convenience store the price is not an issue. Everyone expects to pay a high price compared to a supermarket, where there is more attention to good value,’ Mr Stavros, an advertising expert, said.

‘Paying a bit more for a bigger chocolate is not going to bother anyone. It’s a great business model.’

Mr Stavros said the manufacturers were the winners of the ‘king-size’ trend.

It is easier to keep consumers happy with a slightly bigger product than to slightly increase the price of the normal-sized product.



Opting for extra large: Mars has led the way with big bars

- a. Name and describe the type of product development outlined in the article above.

1 + 2 = 3 marks

- b. Explain **one** benefit for the manufacturer and **one** benefit for the consumer of this type of product development.

Manufacturer _____

Consumer _____

2 marks

- c. Briefly describe another chocolate bar product that a company could produce using the same type of product development identified in part **a.** of this question.

1 mark

- d. Name and describe one other type of product development that a chocolate bar company could use to expand their chocolate bar range. Provide an example in your answer.

3 marks

Total 9 marks

TURN OVER

Question 6



PhysiCAL is a low fat milk that is high in calcium and has added vitamin D. Because of high temperature processing and sterile packaging, the UHT PhysiCAL (pictured) has an extended shelf life and can be stored at room temperature until opened.

PhysiCAL is an example of a modified food product.

- a. What is a modified food product?

1 mark

Social pressures, consumer demands, industry economics and changes in technology are all examples of factors that can influence the development of new products.

- b. Select **two** of these factors and explain how they may have influenced the development of the PhysiCAL milk.

Factor 1 _____

Influence _____

Factor 2 _____

Influence _____

4 marks

- c. Name and describe a niche market for the PhysiCAL milk.

2 marks

- d. Explain **two** advantages for the consumer of using the PhysiCAL milk in place of regular full fat milk.

Advantage 1 _____

Advantage 2 _____

2 marks

- e. The properties of the PhysiCAL milk, such as flavour, appearance and mouth feel would have been evaluated during the process of product development. Briefly describe a test that could be used to evaluate the properties of the PhysiCAL milk.

2 marks

Total 11 marks

TURN OVER

Question 7

New packaging techniques include Aseptic packaging, Active packaging and Modified Atmosphere packaging. Select one of these new packaging techniques and use the table below to explain its features.

Packaging technique	
Example of food packaged using this technique	
Explanation of the packaging process using this technique	
Reason this packaging technique was developed	
Environmental considerations of using this packaging technique	

1 + 2 + 2 + 2 = 7 marks

Total 7 marks

Question 8

a. i. Name a key food commodity and its origin.

Key food commodity _____

Origin _____

ii. Identify the main steps in the primary processing of this key food commodity.

- iii. Explain **one** environmental implication of the primary processing of this key food commodity.

- iv. Briefly explain the health and safety issues that need to be considered during the primary processing of this key food commodity.

2 + 2 + 2 + 2 = 8 marks

- b. i. Name a food which results from the secondary processing of the key food commodity named in part a. and describe the main steps in the secondary processing of this key food commodity.

Food product _____

Secondary processing _____

- ii. Explain **one** environmental implication of the secondary processing of this key food commodity.

- iii. Briefly explain the health and safety issues that need to be considered during the secondary processing of this key food commodity.

(1 + 2) + 2 + 2 = 7 marks

Total 15 marks