



**Victorian Certificate of Education
2008**

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

Figures

Words

Letter

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FOOD AND TECHNOLOGY
Written examination

Tuesday 18 November 2008

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 21 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

Lasagne is a popular Italian dish that often includes a cheese sauce as a top layer, alternating with layers of meat sauce and lasagne pasta sheets. Traditionally lasagne is cooked in the oven.

Below is the recipe for the cheese sauce component of the lasagne.

Ingredients for cheese sauce

- 1 tablespoon butter
- 1 ½ tablespoons plain flour
- 1 cup milk
- 1 tablespoon grated tasty cheese
- 1 egg
- ¼ teaspoon salt
- 6 shakes pepper

Method for cheese sauce

1. Melt the butter in a saucepan.
2. Remove the saucepan from the heat. Add the flour and stir to combine.
3. Return to the heat, stir and cook slowly for 30 seconds until well combined. Do not brown. Remove from the heat and gradually add the milk, stirring continuously until smooth.
4. Return to the heat and stir until boiling, cook for 1 minute. Remove from the heat.
5. Add the cheese, egg, salt and pepper. Stir to combine.
6. Use as required.

Lasagne

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Butter and flour are key ingredients in the cheese sauce for the lasagne.

- a. Identify the natural food component in butter and in flour **and** explain one main function of each of these components in the preparation of the cheese sauce.

Ingredient – **butter**

Name of natural food component _____

Function of the natural food component _____

Ingredient – **flour**

Name of natural food component _____

Function of the natural food component _____

2 + 2 = 4 marks

During baking, changes will occur to the egg, cheese and pasta.

- b. Select **two** of these ingredients. Identify a natural food component in the selected ingredients **and** describe the changes that occur during baking.

Ingredient	Natural food component	Changes

4 marks

After baking the lasagne, you decide to make a comparison with a similar commercial product.

- c. Identify **and** describe one appropriate test that could be used to evaluate the physical or sensory properties of the home-made lasagne with a commercial lasagne.

2 marks

Lasagne can also be cooked in a microwave. After cooking the lasagne in the microwave, the sensory properties will be different from the lasagne cooked in an oven.

- d. Outline **one** difference in the sensory properties of the lasagne when it is cooked in a microwave.

1 mark

Total 11 marks

TURN OVER

Question 2



In November 2007, the Victorian Government decided to allow genetically modified (GM) canola to be grown in Victoria.

- a. Describe how plants such as canola are genetically modified.

2 marks

- d.** Explain the way in which national, state and local authorities work together if a food is found to be unsafe for human consumption.

National

State

Local

3 marks

Total 12 marks

Question 3

Vaalia has recently launched a new variety of low fat yoghurt.



According to FSANZ, food manufacturers can make a nutrient content claim about their product, but there are restrictions to making a health claim.

- a. Explain what is meant by the term ‘health claim’.

2 marks

This new Vaalia yoghurt has been developed to fulfill the market demands for functional foods.

- b. Explain the meaning of the term ‘functional foods’ and why this low fat yoghurt with omega-3 is considered a functional food.

2 marks

Question 3 – continued

- c. Identify **one** target market for yoghurt with omega-3 **and** explain why this product will meet the demands of the identified target market.

Target market _____

Explanation _____

2 marks

The development of a prototype and product evaluation were two key steps in the development of this yoghurt with omega-3.

- d. Explain the importance of each of these steps in the process of product development. Use an example to support your answer.

Step – Development of a prototype

Step – Product evaluation

2 + 2 = 4 marks

Vaalia has recently produced a pomegranate and raspberry version of their yoghurt with omega-3.

e. Identify this type of product development.

_____ 1 mark

New and emerging foods have been produced as a result of recent developments in technology.

f. i. List one new and emerging food **and** identify the technology that has enabled the production of this food.

New and emerging food _____

Technology _____

ii. Describe the technology used in developing this food.

1 + 2 = 3 marks

Total 14 marks

Question 4

Design brief

Australia Day is celebrated each year on 26 January. Ceremonies are held in most towns and cities where new citizens are officially recognised and welcomed as Australians.

Alexi, a university student, is becoming an Australian citizen and after the ceremony has decided to celebrate with a barbecue at a local park.

A caterer will supply all food items apart from the meats. The food items supplied by the caterer must be suitable to transport safely to the picnic and store before being served. The food items must appeal to people with a wide variety of tastes, including some guests who are vegetarian. The caterer will be working the day before, so some of the food will need to be prepared in advance and have good keeping qualities. The caterer will also use a range of cooking techniques.

Within this design brief there are several considerations and constraints that need to be met by the caterer when planning the menu.

- a. Outline **two** considerations and/or constraints from the design brief. Explain how they could affect the decisions made when planning the food items to be prepared and served at the barbecue.

Consideration and/or constraint	Explanation

2 + 2 = 4 marks

The caterer will need to undertake research before deciding on the most suitable food items to be served at this barbecue.

- b. What information will the caterer need to research before making a final decision about the food items to be served at this barbecue? Outline **two** examples.

2 marks

The design brief and research are two components of a design plan folio.

- c. Identify two other components of a design plan folio **and** explain why each of these is important when planning or preparing the food items to be served at the barbecue.

Component 1 _____

Explanation _____

Component 2 _____

Explanation _____

2 + 2 = 4 marks

- d. Based on the design brief, the following types of food would be suitable to prepare and serve at the barbecue.

- sweet and savoury preserves
- savoury yeast products
- a special celebration cake
- salads

Select **one** of the types of food listed above and identify a suitable food item that could be made to serve at the barbecue. Justify why this food item is suitable to serve at the barbecue.

2 marks

During the preparation and storage of all the food items for the barbecue, health, safety and hygiene practices are very important.

- e. Outline examples of two health, safety or hygiene practices that should be implemented during the preparation and storage of food to be eaten at the barbecue.

Practice 1

Practice 2

2 marks

A complex process is one that requires important decisions to be made for a successful food item to be produced.

f. Name **one** food item you have produced in your Food and Technology class this year that has incorporated a complex process.

i. Identify the complex process required to produce the food item identified.

ii. Outline two **key** steps in the complex process you have identified **and** explain the decision you made at each step to achieve a successful product.

	Outline	Explanation
Step 1		
Step 2		

1 + 4 = 5 marks

Total 19 marks

TURN OVER

Question 5

The Kumato is a new variety of tomato. The Kumato is the result of crossing a South American variety of tomato with another type of tomato. Only recently introduced to Australia, this tomato is initially bright green in colour and turns brownish-black once ripe. It also has firmer flesh, a sweeter flavour and less acid than regular tomatoes. The Kumato is **not** genetically modified.

- a. Identify and describe the innovation in food product development used to produce the Kumato.

Type of innovation in food product development

Description of the innovation

1 + 2 = 3 marks

- b. i. Identify one way in which the Kumato could be used in food preparation.

- ii. Describe how the physical and sensory properties of the Kumato would be an advantage in the preparation of the food item identified above.

1 + 1 = 2 marks

The farming of vegetables, such as the Kumato, for the fresh food market may have an impact on the environment.

- c. Describe how an environmentally friendly method of farming vegetables such as the Kumato could provide an economic advantage for the primary producer.

2 marks

f. Various techniques can be used to preserve food items.

i. Identify a suitable technique for preserving tomatoes.

ii. Describe the preservation technique identified above **and** explain why this technique will preserve the tomatoes for future use.

1 + 2 = 3 marks

Total 15 marks

Question 6

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M^cCain Pizza Subs are a popular snack food made by the continuous processing system.

a. Outline three advantages to M^cCain of making the pizza subs by the continuous processing system.

1. _____

2. _____

3. _____

3 marks

b. Individual pizzas can also be purchased from local pizza stores.

i. Name the food production system that a local pizza store would use to manufacture a similar pizza.

1 mark

ii. Describe **two** possible differences in the physical or sensory properties of pizzas made by a local pizza store in comparison with the pizzas made by M^cCain.

2 marks

Prior to beginning their production of the pizza subs, M^cCain would have been required to develop a Hazard Analysis Critical Control Points (HACCP) system for their pizzas.

c. Explain why a HACCP system is important in the production of the M^cCain Pizza Subs.

2 marks

The production of the M^cCain Pizza Subs involves various stages including

1. delivery of the raw ingredients
2. storage of the raw ingredients
3. cooking of the pizzas
4. packaging and storing of the pizzas.

d. Select **two** of the stages in the production of the pizzas identified above.

- i. Outline **one** hazard that could lead to food spoilage or food poisoning at the stage selected.
- ii. Describe **one** food safety practice M^cCain could use to overcome the hazards selected.

Stage	Hazard	Safety practice

4 marks

Question 6 – continued

Some of the key ingredients used to make pizza are cheese, capsicum, onion, olives and wheat flour. These ingredients are subject to food spoilage.

- e. Explain the meaning of the term 'food spoilage' **and** how one of these ingredients could be affected.

2 marks

Meat products such as beef and pork are also frequently used as the topping ingredients of a pizza. These ingredients can be the source of food poisoning.

- f. Explain the meaning of the term 'food poisoning'.

2 marks

Total 16 marks

TURN OVER

Question 7

Fruit drinks are often marketed to parents as a good source of vitamins for children. Various strategies can be used when marketing a children’s fruit drink. A ‘point-of-sale’ promotion at a supermarket is one example of a strategy used when marketing this product to the consumer.

- a. Identify one marketing strategy, other than point-of-sale promotion, **and** explain how it could be effective in marketing a children’s fruit drink.

Strategy

Explanation

1 + 2 = 3 marks

- b. Explain **one** ethical consideration that the manufacturer of a children’s fruit drink should consider when marketing their product.

2 marks

Packaging is an important part of the food production process.

- c. Identify and explain **one** purpose of packaging.

2 marks

- d. Identify **two** types of information that must legally appear on packaging **and** explain why each is required by law.

Type of information	Explanation

2 + 2 = 4 marks

The aseptic system of packaging is a suitable method for packaging children's fruit drinks.

- e. Describe the process of aseptic packaging.

2 marks

Total 13 marks