



Units 3 and 4 Food and Technology

Practice Exam Solutions

Stop!

Don't look at these solutions until you have attempted the exam.

Any questions?

Check the Engage website for updated solutions, then email practiceexams@ee.org.au.

Section A – Multiple-choice questions

Question 1

The correct answer is B.

Question 2

The correct answer is A.

Question 3

The correct answer is C.

Question 4

The correct answer is C.

Question 5

The correct answer is D.

Question 6

The correct answer is B.

Question 7

The correct answer is A.

Question 8

The correct answer is D.

Question 9

The correct answer is B.

Question 10

The correct answer is B.

Question 11

The correct answer is C.

Question 12

The correct answer is A.

Question 13

The correct answer is A.

Question 14

The correct answer is D.

Question 15

The correct answer is B.

Section B – Short-answer questions

Question 1a

The social pressure displayed is Australia's aging population. This graph shows the general trend that the projected aged population is due to increase from 2007. The number of people from 65-84 years is projected to rise from approximately 2 million to 6.75 million over 50 years. Also, the number of people over 85 years is expected to rise by approximately 1 million people. This will heavily impact upon all other forces of food product development as the demographic of a population can be a detrimental factor in the demands and requirements of a target market.

Question 1b

Increased development of functional foods that have health benefits beyond traditional food products, such as increased dietary fibre, enhanced nutritional products and high calcium.

Question 1c

Answers could include:

- *Wonder White Bread* (containing Hi-Maize)
- *PhysiCAL Milk* (high calcium, low fat)

Question 1d i

A target market is a group of consumers who share common needs or characteristics that the company determines to be the focal point for a marketing strategy; whereas, the niche market is a specific group of consumers within the target market.

Question 1d ii

Students have the opportunity to make up their own product, marks awarded based on explanation fitting their developed product- may see things such as, high fibre breads or cereals, high calcium milk or dairy products, as well as single serve meals etc.

Question 1e

Plastic made from biodegradable plant matter (starch etc.), glass bottles, PET bottles, paperboard cartons etc.

Question 1f

Biodegradable in compost, component in the production of new glass, plastic container/plant pots/pipes, corrugated cartons for packaging.

Question 2a i

A system of packaging that changes or modifies the atmosphere of gas inside a package (from air) in order to extend the shelf life of food.

Question 2a ii

- Reduced microbial activity
- Extended shelf life
- Increased convenience

Question 2a iii

- Active: wraps, Old el Passo Burrito Wraps
- Vacuum: smallgoods, Don Hungarian Salami

Question 2b

Function	Description
Containment	Enables the food to be transported from one place to another.
Communication	Informs consumer about: nutrient content, serving suggestions, portion control etc.
Convenience	Assists consumer by reducing preparation time or different sizing.
Protection	Protection during various stages: transport, climatic differences, insects, contaminant and tampering.
Preservation	Maintains freshness, safety and shelf-life.

Question 3a

Requirement	Reason for Requirement
Name of the food	Proscribed within the FSC, the name of the food must not mislead consumers. The name must inform consumers and reflect the true nature of the product.
Nutrition information panel	Amount per serve and amount per 100 grams or mL of kilojoules, carbohydrates, sugars and sodium.
Weight or measure of contents	Weight using metric units alongside the word 'NET'
Declaration of potential allergens	Likely to trigger a reaction in consumers to allow people with food sensitivity or food allergy to make an informed choice.

Question 3b

The Food Standards Code is based on the world standards established by the Codex Alimentarius Commission (UN and WHO developed).

Question 3c

Answers may include:

- False, misleading or deceptive statements or pictures
- Health claims that suggest that the foods is able to cure a specific illness or disease.

Question 4a

When a food product is found to be unsafe to eat due to poor hygiene during production, incorrect storage or faulty packaging, it is recalled. This mean that it is to be taken of the shelves, unable to be sold elsewhere, and consumers should return the product to the retailer or manufacturer. It is important as it assures that any food which is unsafe does not remain on the market and there it assures that a safe food supply is maintained in Australia.

Question 4b

Answers may include:

- Undeclared allergen
- Foreign bodies or contaminants

Question 4c

Advertisements in newspapers and in poster form at supermarkets.

Question 4d

- Federal: Coordination of food product recalls and develops guidelines through the 'Food Industry Recall protocol'.
- State: Works under FSANZ guidelines for food recalls and notifies municipal councils of recalls requiring action.
- Local: Implements food product recall in conjunction with information from the state government.

These different bodies of government must have a level of communication between one another in order to ensure the efficiency and effectiveness of the food product recall.

Question 5a i

Name of natural food component: Fat

Function of the natural food component: Contributes to shortening effect, aeration and contributes to sensory properties. Also extends shelf life by slowing down the staling process and gives the biscuit a richer texture.

Question 5a ii

Name of natural food component: Starch

Function of the natural food component: Provides structure and shape to the biscuits and enables dextrinization to occur.

Question 5b

Name of Functional Property	Effect on Chocolate Chip Cookies
Hydroscopic	Moisture retention, biscuits may lose their snap after a few days if not kept in an enclosed container.
Aeration	Butter creamed with sugar creates aerated texture which increases the volumes of the biscuit.
Maillard Reaction	A browning reaction that occurs as a result of protein, such as the egg, and a sugar, either white or brown sugar added, with the addition of dry heat to cause browning.

Question 5c

Through the utilisation of a dry method of cooking, in the form of baking, the chocolate chip biscuits are cooked to improve their overall sensory properties. Baking involves the transference of heat to the surface of the food by convection or radiation. The interior is cooked by the heat being conducted through the food.

Question 5d i

Batch systems produce small quantities of specialist products, often targeted at niche markets, which are of high quality.

Question 5d ii

Advantage: lower set-up costs, wider product range, superior sensory properties and greater flexibility in creating a product for a niche market.

Disadvantage: more expensive per unit produced, more labour intensive as very few automated processes are used and smaller quantities ('runs').

Question 5d iii

An alternate method to using batch systems is the use of continuous processing. Continuous processing involves the use of automated machinery to efficiently and cost effectively produce large quantities of uniform products.

Question 6

Student must include the following to achieve full marks:

- Reduced moisture levels: addition of salt (dry salting, brine etc), addition of sugar and dehydration
- Temperature: heating (cooking, canning and bottling) and reduction in temperature (refrigeration/chilling, freezing).
- pH levels (addition of acidic ingredients)
- Each must include an example.

Student may include any of the following to make up the 10 marks:

- A definition of preservation
- Advantages of preservation: convenience, seasonality of ingredients, trade and export ease and greater food choices.
- Reference to Fowlers Vacola® in their piece.
- What changes the food undergoes throughout these preservation methods- sensory as well as chemical.