



General Certificate of Secondary Education

Design and Technology: Food Technology 3542

Short Course Foundation Tier

Mark Scheme

2005 examination - June series

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

1

A supermarket wishes to extend the range of milk products.

(a) Name different types of milk that are sold in the following areas of the supermarket:

Area of supermarket

In the chill cabinet

Type of milk sold

Pasteurised, Channel Islands, skimmed, semi skimmed, goats' milk, fresh soya milk, fresh organic milk, whole, full fat, formula / baby bottled.

In non chilled areas

UHT, evaporated, condensed, dried, tinned, formulae milk, sterilised, UHT soya, homogenised carton.

2 x 2 marks
(4 marks)

(b) Name two other products made from milk.

- Yoghurt
- Cheeses
- Ice cream
- Butter
- Creams
- Fromage frais
- Crème fraiche
- Chocolate
- Any made product containing milk (can be sweet or savoury)

2 x 1 marks
(2 marks)

(c)

(i) Name one method of research used by supermarkets to find out about customer's views on milk chocolate.

Any 1 of the following:

- Questionnaire
- Surveys
- On line surveys
- E mail
- Interviews
- Consumer taste panels / sampling

Answers must be relevant to requesting feedback from consumers not manufacturers.

(1 mark)

(ii) Describe how this research is carried out.

Description may include:

- Venue: where it takes place in the store
- Type of people to ask/ target groups/ audience
- Number of people asked
- How results are recorded
- Analysis of results/ data
- Conclusions drawn from results
- Evaluation of research and method
- How answers may benefit design of new products.
- Give examples of number / type of questions asked

Detailed answer giving accurate information how carried out. 4 marks

Mixture of simplistic and detailed points. Correct research method identified. 2-3 marks

Simplistic answer. May have incorrect method. 1 mark

(4 marks)

2 Manufacturers must choose the correct ingredients for a product.

The table below compares different types of milk.

Use the information in the table.

(a)

(i) Which type of milk is most suitable for use in a healthy option product?

Skimmed milks with relevant reasons.

(1 mark)

(ii) Give reasons for your choice.

Reasons - Must refer to figures in table for full marks:

- Fewer calories- energy
- Higher in protein- for growth / repair
- Lower in fat- less risk of heart disease
- Higher in calcium- good for teeth and bones
- May refer to method of production, removal of cream

Qualified answers that use figures from the table. 4 marks

Qualified answer or two simplistic answers. 2-3 marks

Simplistic answer. 1 mark

(4 marks)

(b)

(i) Which types of milk is most suitable for use in a high energy milk drink for children?

Whole milk or semi skimmed with relevant reasons.

(1 mark)

(ii) Give reasons for your choice

Reasons - Must refer to figures in the table at least once for full marks:

- May refer to protein for growth
- More calories- for energy
- Higher in fat- more energy needed by children
- Full cream taste- full feeling
- May refer to method of production
- Calcium for bone and teeth development
- Fat soluble vitamins A D for bone development.

Qualified answers that use figures from the table.

4 marks

Qualified answer or two simplistic answers.

2-3 marks

Simplistic answer.

1 mark

(4 marks)

3

A catering company makes lunches for delivery to primary school kitchens.

The test kitchen is developing new ideas for cold desserts.

A successful cold dessert will:

- **use milk or milk products**
- **be easy to serve as single portions**
- **appeal to children**
- **be served chilled.**

(a) With the aid of notes and sketches, produce two different design ideas, which meet the design criteria. DO NOT draw any packaging.

Each sketch should reflect the design criteria

- Ideas produced must be different products that include milk / milk products, not variations of the same product
- Ideas should be communicated through the use of notes and sketches, including 2D, 3D or cross sections.
- Suitable for individual portioning
- Chilled product
- Notes may show main features of the product, dimensions, flavour, shape, texture, colour, ingredients, finishing techniques, cooking / preparation methods, portion control.

Recognisable sketch / prose shows good communication of the main features of a relevant product.

4-5 marks

Sketch / prose shows basic ideas for a relevant product but not clearly communicated.

2-3 marks

Sketch / prose attempted but inappropriate choice of product.

1 mark

2 x 5 marks **(10 marks)**

- (b) Choose one of your design ideas for the manufacturer to develop. Explain how the chosen idea is suitable for children.**
- No marks awarded for choice of idea.
 Explanation of how product is suitable for children.
 References to: type of milk product used, portion control, suitability for school lunches, nutritional value, variety in colour / flavour / texture to add interest, healthy option – low fat / lower sugar / higher fibre, decoration / finish.
 Any relevant point.
- | | |
|--|-------------------------------|
| Number of simplistic answers or one/ two detailed answers showing clear understanding. | 4-5 marks |
| Simplistic answers showing some understanding. | 1-3 marks
(5 marks) |
- (c) Name three main ingredients needed to make your chosen cold dessert. Explain why each ingredient is used.**
- | | |
|--|--------------------------------|
| Description of three different ingredients used in chosen design idea. | 3 x 1 mark |
| Explanation of accurate function of each ingredient within dish e.g. filler, binder, sensory functions, raising agent, addition of nutrient.
Any relevant, accurate response. | 3 x 1 mark
(6 marks) |
- (d) Produce a plan for making your chosen idea in the test kitchen.**
- You may use flow charts, diagrams, notes or sketches in your answer.**
- Plan for making in the test kitchen:
 Look for candidate showing awareness of different aspects to consider when planning the making of a food product.
 At least one reference to any of following:
- Logical sequence
 - Dovetailing of tasks
 - Specialist terminology
 - Timings
 - Temperatures / heat control
 - Named processes
 - Personal hygiene
 - Kitchen hygiene
 - Safety/ risk assessment
 - Control checks/ HACCP
 - QA/QC – size, shape, portion
 - Feedback on any checks
 - Clarity of instructions.
- | | |
|---|--------------------------------|
| Answer showing logical plans, clarity of instruction and detail. | 9-10 marks |
| Logical planning with a range of different information covered. | 6-8 marks |
| Some parts detailed, may not be logical some key areas for successful making omitted. | 4-5 marks |
| Simplistic answer giving some relevant planning. | 1-3 marks
(10 marks) |

4 (a) A food manufacturer is developing new yoghurt products to meet the needs of customers.

(i) Name two ingredients that could be added to natural yoghurt.

(ii) Explain your choice of ingredients.

	(i) List Ingredients to be added	(ii) Why ingredients added
Consumer 1	<ul style="list-style-type: none"> • May note main ingredient of filling e.g. fruit plus 	<ul style="list-style-type: none"> • Cultural spices • Hot taste adds variety of flavour
Yoghurts with a variety of flavours	<ul style="list-style-type: none"> • Add mixed/ named spices • Cinnamon • Cardamom • Nutmeg • Sugar • Syrup • Honey • Named flavouring • Any relevant response 	<ul style="list-style-type: none"> • Hot • Spicy • Sweet • fruity • change flavour
Consumer 2	<ul style="list-style-type: none"> • fruit/ dried/ fresh • nuts 	<ul style="list-style-type: none"> • texture changed • crisp
Yoghurt with a variety of textures	<ul style="list-style-type: none"> • toffee chunks • caramelised sugar • chocolate chunks • any relevant response 	<ul style="list-style-type: none"> • variety of texture • crunchy • sticky • chunky <p>Not “to add texture”.</p>

Range of detailed answers for ingredients and a valid reason.

3-4 marks

Mixture of simplistic and detailed- may cover only ingredients or reasons.

2 marks

Simplistic answers.

1 mark

2 x 4 mark

(8 marks)

(b) What are the advantages of using the following equipment?

(i) A hand blender.

A hand blender

Any of following and others as relevant:

- Small quantities
- Easy to handle
- Fewer skills needed
- Speed controls
- Different attachments can be used for variety of tasks
- Cheaper equipment than large scale processor
- Can control consistency of outcome – size, texture
- Takes up less space in kitchen.

(3 marks)

(ii) A computer to record temperatures.

Computer

- Less human error
- Clear digital records
- Can be taken out of hours when no one around
- Continual monitoring
- Less bulky records. No paper involved
- Faster
- More reliable

Number of simplistic answers or one/ two detailed answers showing clear understanding.

3 marks

Simplistic answers showing some understanding.

1-2 marks
(3 marks)

- 5 (a) Describe *different* quality checks which need to be made on each of the following ingredients.

Answers should relate to foods named.

Ingredients	Quality check
Tub of double cream	<ul style="list-style-type: none"> • Datemark / sell by • Good condition packaging • Seal not broken / tampered with • Meets spec. e.g. check it is double cream not single • Quantity correct / weight check • Visual check
Fresh strawberries	<ul style="list-style-type: none"> • Not bruised – ripe • Correct quantity / weight check • Clean / washed • Not squashed / firm • No insects / damaged • Stalks still intact • Meets spec. e.g. similar size • Datemark • Visual check – good shape/size
Box of custard powder	<ul style="list-style-type: none"> • Not damaged • Not damp • Datemark • Instructions for use included • Quantity / weight check • Meets specification

Number of simplistic answers or one/ two detailed answers showing clear understanding.

2 marks

Simplistic answers showing some understanding.

1 mark

3 x 2 marks

(6 marks)

(b) Standard components are used to save time during food production.

Describe one other advantage of using standard components.

- Needs less specialist equipment- may be cheaper for production cost
- Can work out exact costs
- Less risk of contamination / safer
- Reduces manufacturer's risk / liability
- Less staff needed / less skilled staff
- Consistent quality / size / shape / weight / colour / depth
- Allows work to designated tolerances
- Components can be bought in bulk
- May be cheaper if bought in bulk
- May give examples to illustrate answer
- May be easier to store than individual ingredients

Single qualified answer or two simplistic answers.

2 marks

Simplistic unqualified answer.

1 mark

(2 marks)

(c) Using notes and sketches describe how a quality finish can be achieved by decorating the top of the cheesecake below.

Your design idea should use a mixture of fruit, chocolate and cream.

- Identify use of chocolate
- Identify use of fruit
- Identify use of cream
- Quality finish shown on sketch
- Other Quality procedures noted, i.e. method of production, dimensions.

Recognisable sketch. Prose shows good communication of the finishing techniques used.

4-5 marks

Sketch. Prose shows basic ideas for a finish but not clearly communicated.

2-3 marks

Sketch/ prose attempted but inappropriate choice of finish.

1 mark

(5 marks)

(d) Explain why food manufacturers use the following.

Single qualified answer or two simplistic answers.

2 marks

Simplistic unqualified answer.

1 mark

(i) 1 egg to 125 ml of milk in an egg custard

Egg custard

- proportions needed to enable mixture to 'set' / hold together
- set / coagulation of egg when heated

(2 marks)

(ii) Butter in shortcrust pastry

Butter in pastry

- To add colour
- To add taste/ flavour
- To add nutritional value
- In place of vegetable fat which may lack properties required
- Extends shelf life
- Improves shortness / texture / richness
- NOT BINDING

(2 marks)

6

(a) Explain why the following materials are used in the packaging of ready made custards.

Material	Why it is suitable*	Also acceptable
Plastic lid	Moulded to shape, resistant to high/ low temp, moisture proof, recyclable, flexible, cheap, strong, durable, lightweight, resealable, transparent.	*generic answer relating to functions of packaging in general may be accepted if not repeated. i.e. protects food against contamination, prevents tampering, easier to store/ carry. Up to a maximum of 3 marks.
Foil cover	Impermeable, temp resistant, durable, can be sealed, can be recycled, air / moisture resistant, lightweight, freshness.	
Paperboard	Cheap, easy to print info on, lightweight, biodegradable, mouldable, recyclable, inner package, can be waxed, strong.	

Single qualified answer or two simplistic answers.

2 marks

Simplistic unqualified answer.

1 mark

3 x 2 marks

(6 marks)

(b) The following symbol is often seen on packaging.

Explain what the symbol means.

Symbol	Meaning
Man with bin	<ul style="list-style-type: none"> • Environmental • Encourages disposal of waste materials • Recycling of waste packaging • Dispose of packaging carefully.

Single qualified answer or two simplistic answers.

2 marks

Simplistic unqualified answer.

1 mark

(2 marks)

7 (a) **Explain how a food worker will show good working practices in personal hygiene;**

(i)

Personal hygiene

- Clean clothing / apron
- Sanitise / clean hands
- Disposable gloves
- Hair nets / hair tied back
- No nail polish
- No strong perfume
- Clean footwear
- Blue plasters on cuts
- No jewellery
- Training in food hygiene
- Kitchen rules e.g. reporting illnesses
- Personal cleanliness / habits.

Mixture of simplistic and detailed answers.

3 marks

Simplistic answers.

1 -2 marks

(3 marks)

(ii) **kitchen hygiene.**

Kitchen hygiene

- Food hygiene training e.g. basic food hygiene certification
- Use of colour coded equipment to prevent cross contamination
- Hygienic waste disposal practices
- No animals / pests in kitchen
- Cleanliness of surfaces before / after use
- Cleanliness of equipment before / after use
- Correct storage of foods / ingredients
- Separate areas for raw and cooked foods
- Use of cleaning products / sanitisers.

Mixture of simplistic and detailed answers.

3 marks

Simplistic answers.

1 -2 marks

(3 marks)

(b) **Explain what happens to the quality of the finished product if safe working practices are not followed.**

- Finished product may become contaminated and be unsafe to eat
- Contamination may come from physical means
- Contamination may come from microbiological means
- Contamination may come from chemical means
- No guarantee of QA / QC

Mixture of simplistic and detailed answers.

3 marks

Simplistic answers.

1 -2 marks

(3 marks)