

Design & Technology (Food Technology)

General Certificate of Secondary Education **GCSE 1954**

General Certificate of Secondary Education (Short Course) **GCSE 1054**

Mark Schemes for the Components

June 2007

1954/1054/MS/R/07

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Mark Scheme 1054/01, 1954/01
June 2007

INSTRUCTIONS ON MARKING SCRIPTS

All page references relate to the Instructions to Examiner booklet (revised June 2006)

For many question papers there will also be subject or paper specific instructions which supplement these general instructions. The paper specific instructions follow these generic ones.

1 Before the Standardisation Meeting

Before the Standardisation Meeting you must mark a selection of at least 10 scripts. The selection should be drawn from several Centres. The preliminary marking should be carried out **in pencil** in strict accordance with the mark scheme. In order to help identify any marking issues which might subsequently be encountered in carrying out your duties, **the marked scripts must be brought to the meeting.** (*Section 5c, page 6*)

2 After the standardisation meeting

- a) Scripts must be marked in **red**, including those initially marked in pencil for the Standardisation Meeting.
- b) All scripts must be marked in accordance with the version of the mark scheme agreed at the Standardisation Meeting.
- c) **Annotation of scripts**

The purpose of annotation is to enable examiners to indicate clearly where a mark is earned or why it has not been awarded. Annotation can, therefore, help examiners, checkers, and those remarking scripts to understand how the script has been marked.

Annotation consists of:

- the use of ticks and crosses against responses to show where marks have been earned or not earned;
- the use of specific words or phrases as agreed at standardisation and as contained in the final mark scheme either to confirm why a mark has been earned or indicate why a mark has not been earned (eg indicate an omission);
- the use of standard abbreviations eg for follow through, special case etc.

Scripts may be returned to Centres. Therefore, any comments should be kept to a minimum and should always be specifically related to the award of a mark or marks and be taken (if appropriate) from statements in the mark scheme. General comments on a candidate's work must be avoided.

Where annotations are put onto the candidates' script evidence, it should normally be recorded in the body of the answer or in the margin immediately adjacent to the point where the decision is made to award or not award the mark.

d) Recording of marking: the scripts

- i) Marked scripts must give a clear indication of how marks have been awarded, as instructed in the mark scheme.
- ii) All numerical marks for responses to part questions should be recorded unringed in the right-hand margin. The total for each question (or, in specified cases, for each page) should be shown as a single ringed mark in the right-hand margin at the end of each question.
- iii) The ringed totals should be transferred to the front page of the script, where they should be totalled.
- iv) Every page of a script on which the candidate has made a response should show evidence that the work has been seen.
- v) Every blank page should be crossed through to indicate that it has been seen. (*Section 8a – d, page 8*)

e) Handling of unexpected answers

The standardisation meeting will include a discussion of marking issues, including:

- a full consideration of the mark scheme in the context of achieving a clear and common understanding of the range of acceptable responses and the marks appropriate to them, and comparable marking standards for optional questions;
- the handling of unexpected, yet acceptable answers. (*Section 6a, bullet point 5, page 6*)

There will be times when you may not be clear how the mark scheme should be applied to a particular response. In these circumstances, a telephone call to the Team Leader should produce a speedy resolution to the problem. (*Appendix 5, para 17, page 26*)

Question 1

(a) **One mark for each correctly identified piece of equipment.**

One mark for each correct use of equipment.

Do not accept the same use twice.

If the equipment is wrong-can still get a mark for the example

- Electric whisk/electric mixer/hand mixer - whisk/beat/mix cake mixtures/ingredients /foods
whisk cream
instant desserts
batters
whisk eggs/egg whites

- (Food) processor- to chop vegetables/fruit/meat/food
slice fruit/vegetables
grate foods
mix flour mixtures together eg crumbles, scones, pastry/
mixing cakes/dough
puree fruits/vegetables
make smoothies
to make food smaller

- Juicer – must have correct examples-fruit/vegetables

(b) **2 x 1 mark**

Do not accept anything to do with trailing wires

- Equipment is set up correctly
- No loose wires
- No water in the area
- Equipment is non broken/damaged
- All the correct parts are present
- No bare wires exposed
- Flex/wire is not damaged/broken/frayed/cut
- Wash sharp blades from the food processor carefully
- Plugged in correctly
- Equipment placed in a safe place on the work top/not too near the edge
- Keep hands away from moving parts
- Have dry hands
- Check safety label is in date
- Trained staff
- Turned off after use

(c) 2 x 1 mark

- Hair/beard covered/wear nets/snood/hats
- Hair tied back
- Covered cuts/grazes/with blue plaster/waterproof plaster
- No jewellery/only wear a wedding ring
- Protective clothing worn/apron/overall/clean clothing/sleeve protectors
- Wash hands before starting work/after going to the toilet/hands are clean
- Don't touch the face
- Don't cough or sneeze over food
- Do not cook/prepare food if ill

(d) 2 x 1 mark**Do not accept reference to utensils**

- Clean work surfaces/disinfect/sanitise
- Clean cooker/hob/oven/extractor fan/equipment
- Sweep the floors
- Wipe any spillages immediately
- Clean sinks and draining boards
- Wash floors
- Empty and clean waste bins
- Move large equipment and clean behind them
- Clean/defrost fridges/freezers
- Keeping cupboards clean
- Clean food containers regularly

Foundation Question 2**(a) (i) 1 mark**

- Mayonnaise
- Smoked ham
- Soured cream
- Pasta

(ii) 1 mark

- Pasta

(iii) 1 mark

- Energy

(iv) 1 mark

- Refrigerator
- Fridge
- Chiller cabinet/chill cabinet/chiller

(b) 4 x 1 mark for each correct temperature/range or for putting the correct number from the question against the temperature range on the thermometer. A correct temperature from within the range is acceptable.

(i) 5 - 63°C/danger zone for bacteria to grow

(ii) 0 - 5°C/storing food in a refrigerator

(iii) -18°C/ storing food in a freezer

(iv) Above 70°C/safe reheating of food

(c) 1 mark

- to keep different work areas for different tasks
- to help prevent cross contamination of foods/bacteria spreading/bacteria carried from one food to another
- so equipment is used for certain tasks eg red for raw meat
- religious implications

(d) 1 mark

Green
Brown

Question 3**(a) 1 mark**

- Raising agent
- Makes the bread rise
- Flavour
- To provide carbon dioxide

**(b) Do not credit marks if the candidate draws a food package.
1 mark for showing how it meets each specification point.**

Examiners to show where credit has been by crossing through the specification point met.

Do not accept brown flour

Do not accept jam

- High fibre dough- must show use of wholemeal flour, oats, rye, granary
- Appeals to children-related to shape
- Named fruit or vegetables

Examples of types of products drawn may include, pizza, folded pizza/calzone, bread rolls with flavourings, Chelsea type buns.

(c) 3 x 1 mark

Do not accept use of same ingredient more than once

Use high fibre (NSP) dough	States clearly the ingredients which provide fibre eg wholemeal flour, granary flour, rye flour Addition of oats.
Contains fruit and/or vegetables	States clearly the name of the fruit and/or vegetables used
Appeals to primary school children	Explains why it is suitable for primary children, may make reference to <ul style="list-style-type: none"> • Size-specific/hand held • Shape • Flavours/ingredients traditionally liked by children • The way the ingredients are arranged in the product • Use of decoration/garnishes • Use of glazes • States clearly the colours used in the ingredients which provide the colour

(d) (i) 1 mark

The material stated must be suitable for the product drawn in 3b.

- Plastics/polythene/cling film/rigid plastic
- Ovenable paperboard
- Paper
- Card
- Tinfoil
- Perforated plastic
- Cellophane

(ii) 1 mark**The reason given must relate to the material identified in (i).**

- Plastics
 - Easy to print on
 - Inexpensive
 - Some can be recycled/environmentally friendly
 - To keep it fresh/soft/moist/prevents drying out/prevents staleness
 - Can see the product
 - Air tight
 - Can be shaped/moulded
 - Lightweight
 - Could be re-sealed

- Ovenable paperboard
 - Can be used in oven/microwave if product is to be reheated
 - Easy to print on
 - To keep it fresh/soft/moist/prevents drying out/prevents staleness
 - Recyclable
 - Keeps product in shape/stops damage

- Paper/card
 - Recyclable
 - Easy to open
 - Inexpensive
 - Comes in different thicknesses
 - Can be printed on
 - Can be made into a variety of shapes
 - Prevents the product getting crushed-for card only

- Tin foil
 - Attractive
 - Strong
 - To keep it fresh/soft/moist/prevents drying out/prevents staleness
 - Re-cyclable
 - can be printed on
 - can be shaped

- Perforated plastic
 - Easy to print on
 - Some can be recycled
 - Products can be wrapped when warm
 - See the product
 - Lightweight

Do not accept repeat answers.

Question 4

(a) (i) 1 mark

- Food product for a special occasion e.g. celebration cake-may be named
- Specified food product e.g. extra large pizza, hand decorated chocolate

(ii) 1 mark

- Used when a customer only wants one of a product
- Used to make special products for customers' requirements/specification
- Every item produced if different/unique/original
- Making one to test/prototype

(iii) 1 mark

- High quality products are produced
- Products are unique

Do **not** accept repeat answers from (ii)

(iv) 1 mark

- More expensive to produce - labour costs/ingredients
- Takes longer to produce products
- Skilled staff are required
- Expensive to set up if a lot of machinery/equipment is bought

(b) (i) 2 x 1 mark. Award 1 mark for statement and 1 mark for explaining it.

An example if a response is:

Attractive labelling can be produced (1 mark) therefore helping to sell the product (1 mark)

Accept any explanation that fits from below

- | | |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| • Attractive/colourful packaging produced | - helps to sell the product |
| • Clear labelling | - easy for customers to read
helps customers to make their choices |
| • Can make changes if required | - eg if a promotion is needed to help the product sell |
| • Accurate packaging produced | - sizes and shapes of nets |
| • Use of a variety of different CAD techniques used/imported into the packaging | - eg use of photographs, variety of different styles of text to make the product attractive to the customer/
customer can read it easily |
| • Wide variety of graphics techniques can be used | - this means appropriate styles can be for different products |

(ii) 2 x 1 mark. Award 1 mark for statement and 1 mark for explaining it.

An example of a response is:

Identical products will be produced each time (1 mark) this means there is less waste. (1 mark)

- | | |
|------------------------------------|----------------------------------------------------------------------------------------|
| • Identical/same products produced | - people will buy them
not so much waste
saves money
products not thrown away |
|------------------------------------|----------------------------------------------------------------------------------------|

- Products will be consistent in size/shape/weight - people will buy them
not so much waste
saves money products not thrown away
- Can control different parts of the production process eg temperature/cooking times/weight of final product/ingredients - products will be cooked
cooled correctly
products will be safe to eat/metal detecting
products will look the same
- Consistent products are produced - therefore people will buy them
not so much waste
saves money
products are not thrown away

(iii) 2 x 1 mark for each reason

- Can work 24 hours a day 7 days a week
- Speed of production increased/more produced/more profit
- Less skilled labour force needed
- Smaller workforce required/labour costs reduced
- Accuracy
- Saves time/quicker must be qualified
- Repetitive tasks can be completed quickly
- Increases safety - machinery rather than workers can carry out the more hazardous tasks.

Do **not** accept cheaper unless qualified

Question 5**(a) (i) 2 x 1 mark**

- Minced beef
- Kidney beans

(ii) 1 mark

- Growth/body building
- Repair
- Maintenance
- Secondary source of energy/energy

(b) 2 x 1 mark

- Packaging does not have as much colour on it/printing
- Weight of the pack is less
- Less beef
- High amount of water in the sauce. Water is the second highest ingredient in the sauce
- Uses cheaper beef/Aberdeen Angus is a luxury type of beef
- Uses less ingredients/the luxury product used a wider range of ingredients
- Basics doesn't contain wine/luxury product contains wine - link to cost
- Wider range of flavourings used in the luxury product eg vegetable bouillon, beef stock/basics uses less flavourings
- More rice in the cheaper product which is a cheaper ingredient than meat

(c) 2 x 1 mark

- Reference to nutritional content
- Portion size/servings
- Length of cooking time
- Appearance of the packaging
- Special offers
- Reference to the ingredients in the product
- No preparation time
- Family likes the product
- Suitable to be frozen/has to be kept frozen
- Not got the skills/knowledge to make
- Promoted as a 'new' product
- Degree of spiciness
- Description of product
- Gluten free/wheat free/allergy information
- Reference to best before/use by date

(d) 1 mark Do not accept 'going off'

- So that bacteria do not have opportunity to develop/micro- organisms
- So consumers do not get food poisoning/become ill
- So it is safe to eat
- Maintain the quality of the product

- (e) (i) **1 mark. Do not allow the same answer twice**
- It thickens the mixture
 - It produces a sauce that reheats to the same consistency each time
 - It produces a sauce that does not breakdown/separate when stored
 - The food manufacturer can make products to the same quality each time
 - Dissolves at a cooler temperature
 - Allows reduction of fat in products
 - Gives a better mouth feel to low/lower in/reduced fat products
- (ii) **1 mark.**
- Prevents separating
 - Prevents the oil and water separating
 - Mixes oil and water together
 - Stabilises product

**Mark Scheme 1054/02, 1954/02
June 2007**

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1	(a)	(i)	1 mark <ul style="list-style-type: none"> • Food product for a special occasion e.g. celebration cake-may be named • Specified food product e.g. extra large pizza, hand decorated chocolate
		(ii)	1 mark <ul style="list-style-type: none"> • Used when a customer only wants one of a product • Used to make special products for customer's requirements/specification • Every item produced is different/unique/original • Making one to test/ prototype
		(iii)	1 mark <ul style="list-style-type: none"> • High quality products are produced • Products are unique <p>Do not accept repeat answers from (ii)</p>
		(iv)	1 mark <ul style="list-style-type: none"> • More expensive to produce – labour costs/ingredients • Takes longer to produce products • Skilled staff are required • Expensive to set up if a lot of machinery/equipment is bought
	(b)	(i)	2 x 1 mark Award 1 mark for statement and 1 mark for explaining it. An example of a response is: Attractive labelling can be produced (1 mark) therefore helping to sell the product (1 mark). Accept any explanation that fits from below
			<ul style="list-style-type: none"> • Attractive/colourful packaging produced – helps to sell the product
			<ul style="list-style-type: none"> • Clear labelling – easy for customers to read helps customers to make their choices
			<ul style="list-style-type: none"> • Can make changes if required – eg if a promotion is needed to help the product sell
			<ul style="list-style-type: none"> • Accurate packaging produced – sizes and shapes of nets
			<ul style="list-style-type: none"> • Use of a variety of different CAD techniques used/imported into the packaging – eg use of photographs variety of different styles of text to make the product attractive to the customer/customer can read it easily
			<ul style="list-style-type: none"> • Wide variety of graphics techniques can be used – this means appropriate styles can be used for different products

	(ii)	<p>2 x 1 mark Award 1 mark for statement and 1 mark for explaining it. An example of a response is: Identical products will be produced each time (1 mark) this means there is less waste (1 mark).</p>	
		<ul style="list-style-type: none"> • Identical/same products produced – 	<p>people will buy them, not so much waste saves money products not thrown away</p>
		<ul style="list-style-type: none"> • Products will be consistent in size/shape/weight – 	<p>people will buy them, not so much waste saves money products not thrown away</p>
		<ul style="list-style-type: none"> • Can control different parts of the production process eg temperature/cooking times/ weight of final product/ingredients – 	<p>products will be cooked cooled correctly products will be safe to eat/metal detecting products will look the same</p>
		<ul style="list-style-type: none"> • Consistent products are produced – 	<p>therefore people will buy them not so much waste saves money products are not thrown away</p>
		<ul style="list-style-type: none"> • 	
	(iii)	<p>2 x 1 mark for each reason</p> <ul style="list-style-type: none"> • Can work 24 hours a day 7 days a week • Speed of production increased/more produced/more profit • Less skilled labour force needed • Smaller workforce required/labour costs reduced • Accuracy • Saves time/quicker must be qualified • Repetitive tasks can be completed quickly • Increase safety – machinery rather than workers can carry out the more hazardous tasks <p>Do not accept cheaper unless qualified</p>	

2	(a)	(i)	2 x 1 mark <ul style="list-style-type: none"> • Minced beef • Kidney beans 	
		(ii)	1 mark <ul style="list-style-type: none"> • Growth/body building • Repair • Maintenance • Secondary source of energy/energy 	
	(b)		2 x 1 mark <ul style="list-style-type: none"> • Packaging does not have as much colour on it/printing • Weight of the pack is less • Less beef • High amount of water in the sauce. Water is the second highest ingredient in the sauce • Uses a cheaper beef/Aberdeen Angus is a luxury type of beef • Uses less ingredients/the luxury product uses a wider range of ingredients • Basics doesn't contain wine/luxury product contains wine – link to cost • Wider range of flavourings used in the luxury product eg vegetable bouillon, beef stock/basics uses less flavourings • More rice in the cheaper product which is a cheaper ingredient than meat 	
	(c)		2 x 1 mark <ul style="list-style-type: none"> • Reference to nutritional content • Portion size/servings • Length of cooking time • Appearance of the packaging • Special offers • Reference to the ingredients in the product • No preparation time • Family likes the product • Suitable to be frozen/has to be kept frozen • Not got the skills/knowledge to make • Promoted as a 'new' product • Degree of spiciness • Description of product • Gluten free/wheat free/allergy information • Reference to best before/use by date 	
	(d)		1 mark Do not accept 'going off' <ul style="list-style-type: none"> • So that bacteria do not have opportunity to develop/micro-organisms • So consumers do not get food poisoning/become ill • So it is safe to eat • Maintain the quality of the product 	

(e)	(i)	1 mark Do not allow the same answer twice	
		<ul style="list-style-type: none"> • It thickens the mixture • It produces a sauce that reheats to the same consistency each time • It produces a sauce that does not breakdown/separate when stored • The food manufacturer can make products to the same quality each time • Dissolves at a cooler temperature • Allows reduction of fat in products • Gives a better mouth feel to low/lower in/reduced fat products 	
	(ii)	1 mark <ul style="list-style-type: none"> • Prevents separating • Prevents the oil and water separating • Mixes oil and water together • Stabilises product 	

3	(a)	1 mark of correct function of each ingredient. Do not accept any reason twice or reference to nutrition.	
	(i)	Flour –	low gluten content for a short crumb texture main ingredient – bulk texture
	(ii)	Fat –	coats the flour with fat to reduce the water mixing with the gluten adds colour flavour to the pastry helps give the short crumbly texture
	(iii)	Egg –	sets/coagulates the filling helps provide colour Do not accept binding /thickens
	(b)	3 x 1 mark for how ingredients meet the identified needs.	
		Culture or country	Must clearly show which ingredient(s) show this eg use of spices – India, olives – Italy, cheeses from a specific country.
		Combines a variety of different textures in the filling	Must clearly state what ingredients are providing the different textures eg vegetables providing crunch, the egg/milk mixture providing a creamy texture. Must state ingredient and texture e.g. crunchy, chewy, crispy, hard
		Is attractive in appearance	How the ingredients they have used make it attractive eg placing of ingredients on the top, garnishes, use of specific ingredients which will enhance the colour. May make reference to how foods change when cooked eg browning.
	(c)	(i)	1 mark <ul style="list-style-type: none"> • Use of dried milk • Use of pasteurised/frozen/dried egg • Use of pre-manufactured pastry/frozen pastry/dried mix/uncooked pastry case/ready rolled • Vegetables – ready prepared • Cheese pre-grated • Meat chopped/cooked • Addition of colour preservatives, emulsifiers, flavourings
		(ii)	2 x 1 mark <ul style="list-style-type: none"> • Do not have to purchase expensive machinery for some tasks/less equipment required • May save labour costs • Quality will be the same every time • Saves preparation time of the ingredients/saves time • Production time will be quicker if the ingredients/some ingredients are ready prepared

	(iii)	1 x 1 mark Do not accept more expensive unless qualified or an example of what will be more expensive. Do not allow opposites from 3 (ii). <ul style="list-style-type: none">• Can be more expensive – ingredients• May need more specialist storage for ingredients/increased storage space – eg freezers for frozen ingredients• Sourcing of prepared ingredients may be time consuming• Deliveries may not be on time/supplier let you down	

4 (a)	<p>2 x 1 mark for each description</p> <ul style="list-style-type: none"> • Re design the package to make it more appealing • Make changes to the recipe and re-launch – new improved/new name • Use special offers/money off/BOGOF/reduce price/free complimentary product/loyalty points • New advertising campaign/celebrity endorsement • Have in store tasting • Develop a luxury/economy product/ healthier product-must be qualified/special diet –must be qualified • Produce the product in different sizes 		
(b)	<p>2 x 1 mark Do not credit repeated answers from 4a. Example of an answer for one mark. Remove some of the meat and add extra vegetables.</p>		
	<ul style="list-style-type: none"> • Change the cut/amount of meat used 		
	<ul style="list-style-type: none"> • Reference to packaging – 		<ul style="list-style-type: none"> use of less colours on the packaging/use less packaging materials
	<ul style="list-style-type: none"> • Bulking out the product – 		<ul style="list-style-type: none"> using thickened sauce/adding vegetables/meat substitutes/pasta
	<ul style="list-style-type: none"> • Not having as many ingredients in the pasta bake 		
	<ul style="list-style-type: none"> • Reducing the portion size/use less ingredients and example 		
	<ul style="list-style-type: none"> • Candidates may make reference to removing/added ingredients based on their own experiences eg add cheaper ingredients eg vegetables and reduce the amount of chicken 		
	<ul style="list-style-type: none"> • Add more pasta as this is a cheaper commodity than chicken 		
	<ul style="list-style-type: none"> • Change suppliers to find one who will provide the ingredients at less cost 		

(c)	6 x 1 mark Use the following codes on the scripts:		
	P relevant points issues		up to 3 marks
	Q quality of explanation of two issues		up to 2 marks
	S specific example or evidence given		1 mark
	Do not credit the same point twice.		
	Discussion could include:		
Discussion	Explanation	Example/Evidence	
Cooked chill products must be transported in their chilled state	reference to food spoilage bacteria needs to be stored below 3°C Do not credit phrases like prevents it 'going off'	makes reference to foods which are affected lists relevant food bacteria which may cause harm lists various types of food poisoning	
Cook chill foods must not be heated more than once	reference to food spoilage bacteria	makes reference to foods which are affected lists relevant food bacteria which may cause harm lists various types of food poisoning	
Consumption of cook chill foods must take place within 90 mins/2 hours of reheating	reference to food spoilage bacteria	makes reference to foods which are affected lists relevant food bacteria which may cause harm lists various types of food poisoning	
Only have a short shelf life	therefore consumers may need to shop more often if they use them regularly they only have a shelf life of five days including the day they were made		
Cost can be high	reference to budgeting	examples of relevant food costs given	
Health implications	not all foods are 'healthy' reference to nutritional content e.g. high in fat/salt use of hydrogenated fats in meals	if eat as a meal may not be serving required vegetables with a meal reference to traffic light system/stores own labelling	
Reference to publicity about healthy eating	can be high in fats/carbohydrates/salt additives	clearly linked to consequences of poor diets/states disease allergies/linked to hyperactivity in children	
Portion size	often small	examples of foods where this occurs	
Means that individuals in families can eat when they want to	useful if not every one is in at the same time	Can be microwaved /ease of cooking/no skill required	
Often it is quicker than preparing a meal from scratch	reference to busy lifestyles	Time taken to prepare specific foods	
Can cost less than buying all the different ingredients to make a meal for one	the ingredients might get wasted if not used/don't regularly cook	gives examples of relevant ingredients which go in a product and the differences	
No preparation required	Linked to skills/elderly/disabled	Chopping/slicing/opening cans	

5	(a)	(i)	2 x 1 mark Candidates must make reference to both types of test to score 2 marks.	
			<ul style="list-style-type: none"> Rating test – 	this involves giving food products a score usually you give scores out of 5 it can involve giving a score for a final product or different aspects of the product
			<ul style="list-style-type: none"> Ranking test – 	putting the products in order of preference/which they liked the most/compare
		(ii)	4 x 1 marks To gain full marks they need to have 4 points. <ul style="list-style-type: none"> Employ trained tasters Prepare the charts which must be clear and easy to understand Check the tasting booths are set up correctly Put each product on the same type of plate/colour/size Label each product with a symbol/random characteristic/numbers/letters Provide each taster with a glass of water/dry biscuit Sit tasters in individual booths Give out samples one at a time Ensure tasters have a drink of water between samples/palate cleansed Use infra red lighting/blue lighting No windows in booths for tasters to confer Record results 	
	(b)	(i)	2 x 1 mark Each statement made must show a clear understanding. An example of an answer scoring two marks: Quality control can be used to check final products are identical (1 mark), they will reject ones which are not correct (1 mark). Quality control is part of the quality assurance process (1 mark), it involves checking the quality of the product at different stages eg during design, manufacture and at the end (1 mark). If candidates make a statement and give an example to support the statement award 2 marks.	
			<ul style="list-style-type: none"> Is part of the quality assurance process 	ensures customer satisfaction
			<ul style="list-style-type: none"> Checking of the product during or at – the end of the production system 	if there are problems then changes can be made to the production system
			<ul style="list-style-type: none"> It might include visual 	to make sure products meets the production/manufacturing specification/ specification
			<ul style="list-style-type: none"> If products do not meet the 	linked to continuing to have a good reputation/so they will sell/not have customer complaints

		<ul style="list-style-type: none"> Quality controls are important so there is not waste/loss of money/profits 	
		<ul style="list-style-type: none"> It will include critical control points <ul style="list-style-type: none"> – (may mention time, temperature controls) which are established as part of the HACCP procedure 	this ensures safe products for the consumer
		<ul style="list-style-type: none"> Involves setting of tolerances for different components and the final product therefore ensuring identical products are produced 	
(b)	(ii)	2 x 1 mark Each statement made must show a clear understanding	
		Candidates need to show that they <ul style="list-style-type: none"> – understand that 	quality assurance is a guarantee of quality
		An example of an answer scoring two marks: Quality assurance is a guarantee of quality (1 mark), and ensures that the customer will receive a product which is always of the same quality (1 mark). If a food manufacturer sets up quality assurance procedures then this means that he knows that the customer is guaranteed to get very good quality foods (1 mark) and they are going to be safe for them to eat. (1 mark) If candidates make a statement and give an example to support the statement award 2 marks.	
		<ul style="list-style-type: none"> A guarantee of quality/positive declaration Assures customer's product will be of a consistent standard It is a system set up before manufacturing begins An umbrella term which covers all the different areas in the food manufacturing industry Companies who reach high standards for the delivery of quality products can gain ISO9000 certification Will be a series of criteria or specifications to cover all areas of production <ul style="list-style-type: none"> – from the sourcing of ingredients through to consumer after sales service By having quality assurance the manufacturer knows that the customer/ consumer will be supplied with food products that are safe to eat and of a reliable standard each time It is a system that identifies in advance where problems are likely and sets up systems to stop them happening 	

Mark Scheme 1954/03
June 2007

INSTRUCTIONS ON MARKING SCRIPTS

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1 Before the Standardisation Meeting

Before the Standardisation Meeting you must mark a selection of at least 10 scripts. The selection should be drawn from several Centres. The preliminary marking should be carried out **in pencil** in strict accordance with the mark scheme. In order to help identify any marking issues which might subsequently be encountered in carrying out your duties, **the marked scripts must be brought to the meeting.** (*Section 5c, page 6*)

2 After the Standardisation Meeting

- a) Scripts must be marked in **red**, including those initially marked in pencil for the Standardisation Meeting.
- b) All scripts must be marked in accordance with the version of the mark scheme agreed at the Standardisation Meeting.
- e) **Annotation of scripts**

The purpose of annotation is to enable examiners to indicate clearly where a mark is earned or why it has not been awarded. Annotation can, therefore, help examiners, checkers, and those remarking scripts to understand how the script has been marked.

Annotation consists of:

- the use of ticks and crosses against responses to show where marks have been earned or not earned;
- the use of specific words or phrases as agreed at standardisation and as contained in the final mark scheme either to confirm why a mark has been earned or indicate why a mark has not been earned (eg indicate an omission);
- the use of standard abbreviations eg for follow through, special case etc.

Scripts may be returned to Centres. Therefore, any comments should be kept to a minimum and should always be specifically related to the award of a mark or marks and be taken (if appropriate) from statements in the mark scheme. General comments on a candidate's work must be avoided.

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d) Recording of marking: the scripts

- i) Marked scripts must give a clear indication of how marks have been awarded, as instructed in the mark scheme.
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e) Handling of unexpected answers

The Standardisation Meeting will include a discussion of marking issues, including:

- a full consideration of the mark scheme in the context of achieving a clear and common understanding of the range of acceptable responses and the marks appropriate to them, and comparable marking standards for optional questions;
- the handling of unexpected, yet acceptable answers. (*Section 6a, bullet point 5, page 6*)

There will be times when you may not be clear how the mark scheme should be applied to a particular response. In these circumstances, a telephone call to the Team Leader should produce a speedy resolution to the problem. (*Appendix 5, para 17, page 26*)

- 1 (a) **3x1 mark for each safety rule when using a cooker**
- Turn saucepan handles inwards/no handles over rings
 - Use oven gloves
 - Do not leave oven door open/leave grill unattended
 - Turn off after use
 - Do not touch electric rings after use as it takes time to cool down
 - Make sure gas is lit
 - Reposition oven shelves before heating the oven
 - Use back ring rather than front rings if available
 - Use correct size ring for pan size
 - Do not clean while still hot
 - Use correct temperature-not too high
 - Stir liquids with a wooden spoon not metal
 - Maintain/service regularly
 - Tie hair back/protect clothing/no loose clothing/no flammable items nearby
- (b) **3 x 1 mark for each position**
Candidates must clearly indicate where in the refrigerator each should be stored
- Raw meat -bottom shelf/ or top of salad box
 - Cooked meat - top shelf
 - Eggs - egg holder in door
- (c) **2 x 1 mark**
Allow circling or marking crosses in the picture
- Cable trailing from kettle
 - Cupboard door left open
 - Bag on the floor
 - Jug of hot water on the edge of the table
 - Stools in the middle of the floor
 - Sharp knife on the edge of the table
 - Food left out, uncovered
 - Flies buzzing around
 - Liquids spilt on the floor/wet floor
 - Peelings on the floor
- (d) **2 x 1 mark for each correct symptom**
- Diarrhoea
 - Nausea/feeling sick
 - Vomiting/sickness/being sick
 - Abdominal pain/stomach ache/stomach cramps/pain in stomach
 - Fever/high temperature/sweating/clammy
 - Low temperature
 - Headache
 - Dizziness
 - Double vision
 - Kidney failure
 - Flu like symptoms
 - Miscarriage/premature labour
 - Paralysis

- 2 (a) **2 x 1 mark for each reason**
- Stating minerals or calcium/iron/phosphorous/
 - Source of carbohydrate
 - Vitamins/Vitamin C/Vitamin A
 - Any correct function of above nutrients/Scurvy/night blindness/preventing disease
 - High in fibre
 - Low in fat
 - Natural sugars
 - Fill you up so less likely to eat unhealthy foods
 - Can reduce fat and cholesterol levels
 - Anti oxidants/reduce risk of cancers/assists immune system
 - Reduce obesity
 - Balanced diet
 - As part of '5' a day
 - Contributing to protein in diet
- Do not award a mark for 'because they are healthy'**

- (b) **1x1 mark. Answers must relate to appeal to children**
- To disguise them in other foods/carrot cake
 - Use as a decoration/garnish
 - Serve them in a fun/attractive way/fruit kebabs/fruit dipped in chocolate
 - Add to sauces/soups/burgers etc
 - Put fruit in jelly/smoothies/yoghurt/milk shakes/juices
 - Add fruit to cereals
 - Add dried fruit to cookies/biscuits
 - Add fruit to puddings/cakes etc
 - Freeze fruit juice into ice lollies

Do not accept rewards

- (c) **2x1 mark for each reason**
- High fat diet can cause obesity and related disorders
 - Increases risk of developing some cancers
 - Increase risk of high cholesterol
 - Linked to furring/narrowing of the arteries
 - Linked to heart disease/blood clots/strokes

- (d) **2 x 1 mark**
- Reduce sugar**
- State an amount of sugar lower than 100g
 - Use artificial sugar/allow named artificial sweetener
 - Use fresh fruit instead of tinned pie filling
 - Use dried fruit to sweeten
- Do not allow 'use brown sugar'

Reduce fat

- State an amount of fat between 75g and 99g
- Use margarine/polyunsaturated fat
- Use lower fat margarine/butter

(d) (ii) 1x1 mark

- Use wholemeal/wholewheat flour
- Add nuts/chopped nuts to topping
- Add cereal to crumble\topping (accept named cereal)
- Add bran to topping
- Add seeds to topping
- Use fresh fruit instead of pie filling
- Add dried fruits to fruit or topping
- Add orange/lemon/lime rind to topping
- Increase the amount of fruit
- Keep skins on fruit

Do not allow brown sugar

(iii) 2 x 1 mark

- Adverts/magazines/papers/TV/radio/posters/internet
- Money off offers/coupons
- BOGOF
- Free samples
- Tasting in supermarkets
- Eye catching packaging/attractive packaging
- Free gifts
- Using famous people

- 3 (a) **4 x 1 mark for meeting four specification points**
Must clearly show in the drawing or by annotation how that the point has been met

To be hand held

- In any edible food wrapping eg bun /pitta/tortilla/wrap/bread

Spicy

- Spice/chilli powder/chilli pepper/curry powder/sauces/relish

Variety of textures

Diagram should show a variety of textures

- Reference to chopped/sliced/diced/shredded/grated
- Use of obvious hard/crunchy/crisp textures

Colourful

- Addition of suitable colourful salad/vegetables/cheese
- Colourful garnish

- (b) **4 x 1mark**

Answers must explain how the design meets each of the specification points. Marks are awarded for showing how the ingredients meet the specification points

To be hand held

- Detail of the food wrapping eg bun /pitta/tortilla/wrap and how it will hold its shape.
- Suitable size

Spicy

- How the spice is being used
- Description of ingredient to give spicy flavour/chilli powder/chilli pepper/curry powder
- Example of spice with its function e.g. hot flavour

Colourful

- Addition of named colourful salad/vegetables/cheese eg red tomatoes/green lettuce/white chicken
- Colourful garnish

Variety of textures

- Description of different ingredients giving a contrast texture e.g seeds on cob/crunchy lettuce

- (c) **2 x 1 mark for each method**

- Moulds
- Burger press/former/shaper/cutter
- Visual checks/CAM checks/quality control checks
- Accurate weight check of each burger
- Discarding any that are not the correct shape
- Machine cutter

4 (a) (i) **3 x 1 mark for each benefit**

- Efficient/faster than other methods
- Production line can be automated/less staff needed/less wages to pay
- Uses specialist machines which are accurate/reliable
- Produces high quality product/consistent quality
- Data handling/able to get information on production
- Produces large quantities quickly
- Can bulk buy ingredients so save money/cost effective/economies of sale
- Workers do not have to be highly skilled
- Less training needed for staff
- Less risk of contamination
- Increased safety for staff as dangerous procedures are carried out by machine eg cutting
- Can use 'just in time' so reduces stock storage.
- Production system is constantly monitored
- Unit costs are lower
- Machines run 24/7
- Less chance of human error

Do not accept quicker/easier/cheaper unless qualified

(ii) **1 x1 mark for limitation**

- Expensive to set up
- Expensive to maintain
- Higher energy costs
- If it breaks down all production stops
- The work can be very repetitive for the staff/boredom/low morale/no job satisfaction/difficult to recruit and keep staff
- Machines cannot be used for other products
- Cannot produce an original/individual product

Do not accept a repeat of answers for a(i)

- (b) **2 x 1 mark** for correctly named equipment
2 x 1 mark for naming a suitable food product

RotaryCutter/Cutter/Roller Cutter Example of product:
 Biscuits/pastry/marzipan/icing/cookies

Bratt Pan. Example of products: sauces/gravies/curry/chilli/cooking vegetables/
 fillings for pies/soups/ stock

(c) **2 x 1 mark** The reason must relate to the task.

Task

- Putting fillings onto sandwiches
- Hand finishing/decorating cakes
- Putting decorations onto cakes eg cherries
- Packing
- Checking the weight
- Visual checks (shape/size/colour/texture)
- Cleaning
- Tasting/testing
- Programming machines/monitoring control system/HACCP
- Maintenance of machinery

Reasons:

- People can make decisions/judgments
- People can do delicate work
- Human skill required
- Not worth setting up automated system as job not done often/in big quantities
- Value added-unique product eg hand finished
- Some tasks cannot be done by machine eg tasting

- 5 (a) (i) **1 x 1 mark for reason No marks for identifying the target group**
Answer must relate specifically to a named target group e.g.
- Parents - Convenient/lack of time to cook
 - Students - easy to cook/don't need skills/little preparation time
 - Single people - Can use part of bag and freeze the rest.
 - Families - can be used as base for stir fry/don't have to buy a range of different vegetables/to give variety to a stir fry
 - Vegetarians- no meat in the product

Do not accept healthier/quicker/easier-unless qualified

- (ii) **1 x 1 mark for each reason**
- Can design products to meet their needs/appeal to target group
 - Will affect the ingredients used
 - Will affect the price charged for the product and therefore the ingredients selected
 - Might affect portion size
 - Might affect the design of the packaging
 - Might affect the promotion of the product
 - Might affect special offers
 - Sell well and make a profit

- (b) **1 x 1 mark for each improvement**

Filling

- Adding a carbohydrate eg rice/noodles/pasta
- Adding meat /prawns/quorn/tofu
- Adding pulses/beans

Variety of colours

- A coloured suitable named vegetable-tomatoes/red pepper/carrot batons/yellow pepper

- (c) **1 x 1 mark for correctly naming each symbol**

2 star

- Use within one month from date of purchase

1star

- Use within one week from date of purchase

(d) (i) 3 x 1 mark for each correctly named benefit

- Often good quality as good fresh produce used and frozen very quickly to minimize deterioration
- Different quality types available
- Nutritional/value maintained/enhanced
- Colour/flavour/texture maintained
- Wide selection available
- Widely available in many retail outlets
- Increases the availability of produce out of season
- Can be cheap as they are mass produced/reduces the cost of seasonal produce (**do not accept cheap unless qualified**)
- Longer shelf life than fresh/can be stored for when needed
- Convenient/as no preparation required
- Vegetables have clear instructions for their storage/cooking/serving
- They do not have to be defrosted before using them
- Can be microwaved
- Cooked more quickly than fresh

(ii) 1 x 1 Mark for a correct limitation

- Can be expensive eg mushrooms (do not accept expensive unless qualified)
- Difficult to transport home /need to be taken home quickly/need to use a cool box/ defrost while transporting home
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- Can get freezer burn/build up of ice crystals if incorrectly stored
- May lose taste/texture in freezing process
- Once defrosted they cannot be re-frozen

Mark Scheme 1954/04
June 2007

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(c) **2 x 1 mark** The reason must relate to the task.

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- Not worth setting up automated system as job not done often/in big quantities
- Value added - unique product eg hand finished
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 - Need specialist storage at home -18 C/home freezer
 - Some vegetables do not freeze well eg cucumber
 - Can get freezer burn/build up of ice crystals if incorrectly stored
 - May lose taste/texture in the freezing process
 - Once defrosted they cannot be re-frozen

- 3 (a) **4 x 1 mark for clearly showing how the design meets each specification point
Accept any ingredient only once**

Contain iron

- Include iron rich ingredient eg red meat/pulses/suitable green vegetable

Be filling

- Include a suitable carbohydrate eg potatoes/cobbler/dumplings/cereals/pulses

Have a rich sauce or gravy

- Clearly described in drawing eg meat stock/include alcohol/contain cream/cheese/tomato puree/butter

Luxury/high quality

Ingredient must be special and appropriate

- Seasonal ingredients eg chestnuts
- Type of expensive meat eg venison/game/fillet steak
- Expensive/exotic vegetables eg asparagus/wild mushrooms
- Fresh herbs
- Cream/crème fraiche/fromage frais
- Alcohol eg sherry/red wine/brandy
- Organic

- (b) **Up to 2 marks for a clear explanation of how the design is suitable for the high quality market.**

No marks awarded for just stating a repeat of the ingredients described in part a)

- Unusual/interesting ingredients
- Organic ingredients
- Free range ingredients/farm assured
- Cost of meat/vegetables
- Finish eg garnish/herbs
- Local product

- (c) **2 x 1 mark for each way**

- Name of the range eg 'the Best' 'Deluxe'
- Name of the product/description eg Prime cut
- Colour of packaging eg gold/silver/purple/black
- High quality packaging materials
- Choice of font on packaging
- Quality setting, expensive crockery etc shown in photography
- Lack of special offers/price reductions
- Serving container included
- Ingredients list

- (d) **2 marks for a clear explanation of gelatinization
1 mark for simple explanation**

Cold water mixed with starch/cornflour/flour

Starch grains swell when heated in liquid and make a gel

Starch grains burst when sauce is boiled

If not cooked it may taste raw as the grains of starch have not burst

If not stirred, the starch grains will not remain in suspension, instead settling and the sauce will become lumpy

Forms an opaque gel

The proportion of starch to liquid affects the thickness of the gel formed

- 4 (a) **2x 1 mark for stating the function of sugar in a steamed pudding**
2x2 marks for function and detailed explanation

- Aeration-air is trapped in creaming method with fat
- Colour - caramelisation takes place
- Moisture retention-helps to reduce drying out and delays staling
- Softens gluten - improves the texture
- Preservative - can inhibit the growth of micro organisms
- Flavour - by using demerara or molasses to improve colour and flavour.

Do not accept flavour unless qualified

- (b) **3x 1 mark for stating the way that puddings could be designed to meet healthy eating guidelines. (must relate to obesity)**
3x2 marks for explaining 3 ways that puddings could be designed and how they meet the healthy eating guidelines to reduce obesity
3x2 marks for stating and explaining (must relate to obesity)

Reduce sugar

- Reduce amount of sugar in recipe
- Use sweetener to replace sugar/light/half sugar
- Avoid sugar glazes/toppings/icings etc
- Use dried fruits to sweeten as they contain vitamins, minerals and fibre
- Use a named fruit/fruit puree to sweeten as they contain vitamins and fibre
- Use fruit juices as sauces as they contain vitamins and fibre

Increase fibre

- Change to wholemeal flour as it includes vitamins\minerals, and fibre
- Add a suitable named fruit - '5' a day

Reduce fat

- Reduce the amount of fat in the recipe/use low fat ingredients/reduce the quantity of fat e.g. use reduced fat milk or cream rather than full fat/yoghurt or fromage frais rather than cream or crème fraiche
- Use 'healthier types of fat eg Polyunsaturated fats/avoid hydrogenated fats
- Choose less fat methods of preparation and cooking eg steaming/whisking method rather than creaming
- Reduce portion size/portion control
- Reduce the total calorific content

Do not accept repeat of similar answers
Do not accept the word healthier

**5 (a) 2x1 mark for correctly identifying the conditions that affect bacterial growth
2x2 marks for identifying the method and explaining how the method controls bacterial growth**

- High temperature-destroys bacteria and spores
- Low temperature for storing foods-slows down growth
- Water availability/Removal of moisture
- pH create unsuitable conditions for growth
- Removal of oxygen eg Vacuum packing. MAP
- Time-HACCP systems that identify critical control points
- Cross contamination - High and low risk areas in the production system
- Staff training and qualifications avoids cross contamination and poor personal hygiene
- Use of preservatives

Additives must be qualified

(b) 6 x 1 mark. Use the following codes on the scripts**P- Relevant points/issues****Q- Quality of explanation of two issues****S - Specific example or evidence given**

Do not credit the same point twice

Discussion could include

up to 3 marks**up to 2 marks****1 mark**

Point P=3	Explanation Q=2	Example/Evidence S=1
Ensures high standards of personal hygiene	Prevents contamination Prevents food poisoning	Protective Clothing worn by workers No jewellery/nail varnish etc
Ensures high standards of safety	Control of high risk foods, foreign bodies Health and safety of workers	Named high risk food Any physical accident
Prevents cross contamination	From raw to cooked foods	Raw meat to cooked meat Colour coded equipment Safety of machinery
Staff training	Staff must all undergo training before being employed in the food chain	Foundation certificate in food hygiene
HACCP procedures	Assess and monitor risks	Any named control
Ensures appropriate control of high risk foods.	Temperature control in freezing/transportation/ Refrigerator/cooking/ reheating	Any named temperature example Refrigerator 8° or below Freezer below -18°C Cooking above 72°C
Safety of equipment, machinery, storage equipment, transport	Equipment must be checked and cleaned regularly using sanitizer or disinfectant	Meat slicer etc Any suitable equipment
Microbial analysis must be carried out	Samples are taken regularly and checked in a laboratory	Any suitable named food product Food poisoning
Premises are inspected	Environmental health officers can visit at any time.	Premises can be closed down if they are not of the correct standard
Manufacturers must provide evidence of safe practices	Products are tracked through the factory	Cook Chilled products Batch numbers
Food labelling	Specific information must be include on labels	Contact details of manufacturer Storage instruction Reheating instructions Use by/sell by dates
Consumers have the legal rights to complain	Legal action can be taken if there is a fault in a product	Any suitable example Eg fly in a loaf of bread.
Good standards Poor standards	High reputation Closed down Fined	Increased sales Lose/poor sales Bankruptcy Product recall

General Certificate of Secondary Education

D&T Food Technology Short Course (1054)

June 2007 Assessment Series

Component Threshold Marks

Component	Max Mark	A	B	C	D	E	F	G
1	50			33	28	24	20	60
2	50	29	24	19	14			
3	105	84	72	61	49	38	27	16

Specification Options

Foundation Tier

	Max Mark	A*	A	B	C	D	E	F	G
Overall Threshold Marks	175				102	86	70	55	40
Percentage in Grade	175				17.0	30.3	23.4	12.7	10.5
Cumulative Percentage in Grade	175				17.0	47.2	71.0	84.0	94.0

The total entry for the examination was 145

Higher Tier

	Max Mark	A*	A	B	C	D	E	F	G
Overall Threshold Marks	175	142	124	106	89	69	59		
Percentage in Grade	175	13.9	37.2	30.0	13.9	4.4	0.00		
Cumulative Percentage in Grade	175	13.9	51.1	81.0	94.9	99.3	99.3		

The total entry for the examination was 137

Overall

	A*	A	B	C	D	E	F	G
Percentage in Grade	6.8	18.9	14.7	15.4	17.6	11.8	6.5	5.4
Cumulative Percentage in Grade	6.8	25.2	40.0	55.2	73.0	85.0	91.1	97.0

The total entry for the examination was 282

Statistics are correct at the time of publication.

General Certificate of Secondary Education

D&T Food Technology Full Course (1954)

June 2007 Assessment Series

Component Threshold Marks

Component	Max Mark	A	B	C	D	E	F	G
1	50			33	28	24	20	16
2	50	29	24	19	14			
3	50			31	26	22	18	14
4	50	27	23	19	13			
5	105	84	72	61	49	38	27	16

Specification Options

Foundation Tier

	Max Mark	A*	A	B	C	D	E	F	G
Overall Threshold Marks	175				103	86	70	54	38
Percentage in Grade	175				28.0	57.6	78.8	92.0	97.7
Cumulative Percentage in Grade	175				28.0	29.6	20.4	13.3	6.6

The total entry for the examination was 10284

Higher Tier

	Max Mark	A*	A	B	C	D	E	F	G
Overall Threshold Marks	175	134	119	104	89	68	57		
Percentage in Grade	175	11.4	22.2	28.0	23.7	11.6	1.3		
Cumulative Percentage in Grade	175	11.4	33.8	62.9	86.6	98.0	99.2		

The total entry for the examination was 10079

Overall

	A*	A	B	C	D	E	F	G
Percentage in Grade	5.8	11.02	14.4	25.5	19.5	11.0	6.7	3.4
Cumulative Percentage in Grade	5.8	17.2	32.1	58.2	78.2	89.2	95.7	98.5

The total entry for the examination was 20363

Statistics are correct at the time of publication.

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