

# **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**

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**June 2008**

**1954/1054/MS/R/08**

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# 1054/01, 1954/01 Paper 1 (Foundation)

## Question 1

### (a) 2 x 1 mark

- (i) refrigerator/fridge/chiller cabinet
- (ii) room temperature/cupboard/cool dry place/larder

### (b) 3 x 1 mark

- Name of product
- Name of manufacturer
- Ingredients
- Weight or volume
- Allergy information
- Cooking instructions
- Batch number
- Shelf life – use-by date, best before **DO NOT ACCEPT SELL BY DATE**
- Place of origin
- Address of manufacturer

### (c) 1 mark

- Shows the price at the checkout when the bar code is scanned
- Details can be used for stock taking / see what people are buying
- Linked to a loyalty card therefore supermarket can target customers
- Automatic re-ordering
- Credit from wholesaler with returns
- Identifies the product
- Quicker response at the till
- Allows customers to check prices on scanners in some shops
- Allows customers to do self service shopping

### (d) 4 x 1 mark

**Do not accept the same food product twice**

Pickling	Vegetables, walnuts, eggs May state specific vegetable – credit
Canning	Fruit, vegetables, sauces, meat, fish, pies, sponge puddings, rice pudding, soup, pasta
Freezing	Ready meals, fruit (must be suitable for freezing if they state the name of the fruit), vegetables (must be suitable for freezing if they state the name of the vegetable), meat, fish, pastry products, bread, cakes, gateaux, icecream
Cook/chill	Ready prepared meals – accept if put a recognised product, (soups, sauces) (Not quiche, pizza, cooked sausages, garlic bread etc)

**2 (a) 1 mark**

- Oranges
- Kiwi
- Raspberries

**(b) 1 mark**

- Broccoli
- Peppers

**(c) 2 x 1 mark**

If ✓ all 4 award no marks

If ✓3 answers maximum 1 mark

- Protects against infection
- Helps to absorb iron

**(d) 6 x 1 mark**

Areas for improvement 2 x 1 mark

- Colourful appearance
- Spicy flavour

Colourful – 2 x 1 mark

Addition of other vegetables which will provide colour eg

- Carrots
- Peppers
- Celery
- Sweetcorn
- Coleslaw
- Radishes
- Tomatoes
- Beetroot
- Change to wholemeal tortilla wrap / seeded / tomato flavour / corn
- Cucumber

Spicy flavour – 2 x 1 mark

Addition of ingredients to provide spiciness

- Curry powder/curry flavoured sauce
- Paprika
- Coriander
- Sweet and sour sauce
- BBQ sauce
- More chilli powder/chillies/red hot peppers/jalapeno peppers
- Hot pepper sauce/taco sauce/salsa
- Add spices to the tortilla
- Marinading in spices
- Cayenne pepper

[6]

**3 (a)(i) 2 x 1 mark**

- Asking people – surveys/questionnaires/thought showers
- Looking on the internet
- Looking at existing products/taste testing existing products
- Looking in books/recipe books

**(ii) 2 x 1 mark**

- Graphs / bar graph / pie chart
- Charts / tables / tally charts / spreadsheet
- Photographic/video report
- Written report
- Verbal feedback

**(b) 4 x 1 mark**

**Do not accept reason for use – meets specification. Reason must clearly relate to the ingredient given**

<b>Design Specification</b>	<b>Ingredient</b>
<b>Colourful</b>	Must show a contrast of two colours States the colourful ingredient eg red and green peppers Sauce eg cheese, tomato, curry etc Specifies pasta colour Bread crumbs/cheese on the top – browning Diagram clearly shows colour of different foods
<b>To have a variety of textures</b>	Must state two foods and their textures Sauce – smooth Vegetables – may give specific vegetable – crunchy Pasta – chewy Meat – chewy / soft Fish – chewy / soft
<b>To be high in fibre</b>	Wholemeal pasta Wholemeal breadcrumbs Vegetables May state an ingredient it contains more fibre than eg wholemeal pasta instead of white pasta Seeds Nuts Use of pulses / peas / beans / lentils Dried fruit Fruit
<b>Contains protein</b>	Meat, fish, eggs, cheese, quorn products, peas, beans, lentils, poultry, tofu, nuts

**[4]****(c) 2 x 1 mark**

- Manufactures to make a profit / successful / sells well
- Appeals to target group / positive feed back / target group requires it
- Manufacturer won't go bankrupt
- Identified through research

## 4 (a) 4 x 1 mark

**Do not credit if candidates writes the instructions from the method on the paper**

- Weighing the ingredients accurately / exact amount / correct / right amount of ingredients
- Temperature of the water / check water is warm
- Consistency of the dough / don't add too much / too little water
- Time for kneading the dough / 10 minutes kneading time
- Dividing the dough into even pieces/even weight / same size
- Shaping the dough/ identical shapes / same shape
- Time and sufficient warmth for proving/rising the dough / correct time for proving
- Oven temperature / correct oven temperature / gas mark 7 / 220° C
- Time for baking / bake for 10 minutes

## (b) 4 x 1 mark

CAD	How used
Desk top publishing (word etc) Word processing	To produce the text for packaging eg cooking instruction Select font type / size
Nutrition programmes (food in focus, food for a PC etc)	To complete nutritional analysis for the nutritional labelling / nutritional claims used on packaging
Design programmes to do the packaging nets 2D design, Pro desk top, Corel draw	To plan the nets for the package To model packaging To design logos for packaging
Scanner	To scan images onto the food packages
Paint programme	Used for colouring backgrounds of packaging, to add colour to the packaging
Photo shop / photo editor	To manipulate images of foods / make them suitable for the packaging
Clip Art	To import images

## (c) 2 x 1 mark

- Reducing the amount of packaging on products/using minimal amounts of packaging
- Using paper or card which has come from sustainable forests
- Avoid harmful processes such as bleaching wood pulp with chemicals
- Printing symbols on the packaging which inform customers eg recycling logos, plastic identification symbols, anti litter symbols
- Providing information about packaging materials
- Reference to the development of biodegradable materials
- Use of recyclable materials
- Use recycled packaging materials
- Recycle excess materials

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

Complete the chart below to show which country **two** of the products originate from.

Product	Country originates from
Chicken Korma with Rice	India
Spaghetti Bolognese	Italy
Chicken Chow Mein	China
Chilli con carne	Mexico

**(b) 2 x 1 mark**

- People travel abroad more
- Greater diversity of different cultures in the UK
- Wide variety of cookery programmes/books on sale/celebrity chefs demonstrating dishes
- Greater variety of ingredients readily available/improved transportation of foods
- Large variety of different restaurants selling foods from other countries and supermarkets have copied this idea
- Promotion / advertising of foods and food products from other cultures

**(c) 2 x 1 mark**

- Reduce the portion size / weight
- Use a cheaper cut of chicken/use leg meat/use thigh meat/use less chicken
- Add more vegetables
- Use a larger amount of sauce/may refer to a thickened sauce
- Use of a cheaper type of rice
- Change cream to milk

**(d) 2 x 1 mark**

- Growth
- Repair
- Energy

**(e) 2 x 1 mark**

- Quorn
- Tofu/soya bean curd
- TVP/ soya beans
- Use of pulses
- Nuts



## 1054/02, 1954/02 Paper 2 (Higher)

### 1 (a) 4 x 1 mark

**Do not credit if candidates writes the instructions from the method on the paper**

- Weighing the ingredients accurately / exact amount / correct / right amount of ingredients
- Temperature of the water / check water is warm
- Consistency of the dough / don't add too much / too little water
- Time for kneading the dough / 10 minutes kneading time
- Dividing the dough into even pieces/even weight / same size
- Shaping the dough / identical shapes / same shape
- Time and sufficient warmth for proving/rising the dough / correct time for proving
- Oven temperature / correct oven temperature / Gas mark 7 / 220 °C
- Time for baking / bake for 10 minutes

### (b) 4 x 1 mark

CAD	How used
Desk top publishing (word etc) Word processing	To produce the text for packaging eg cooking instruction Select font type / size
Nutrition programmes (food in focus, food for a PC etc)	To complete nutritional analysis for the nutritional labelling / nutritional claims used on packaging
Design programmes to do the packaging nets 2D design, Pro desk top, Corel draw	To plan the nets for the package To model packaging To design logos for packaging
Scanner	To scan images onto the food packages
Paint programme	Used for colouring backgrounds of packaging, to add colour to the packaging
Photo shop / photo editor	To manipulate images of foods / make them suitable for the packaging
Clip art	To import images

### (c) 2 x 1 mark

- Reducing the amount of packaging on products/using minimal amounts of packaging
- Using paper or card which has come from sustainable forests
- Avoid harmful processes such as bleaching wood pulp with chemicals
- Printing symbols on the packaging which inform customers eg recycling logos, plastic identification symbols, anti litter symbols
- Providing information about packaging materials
- Reference to the development of biodegradable materials
- Use recyclable materials
- Use recycled packaging materials
- Recycle excess materials

**2 (a) 2 x 1 mark**

Complete the chart below to show which country **two** of the products originate from.

Product	Country originates from
Chicken Korma with Rice	India
Spaghetti Bolognese	Italy
Chicken Chow Mein	China
Chilli con carne	Mexico

**(b) 2 x 1 mark**

- People travel abroad more
- Greater diversity of different cultures in the UK
- Wide variety of cookery programmes/books on sale/celebrity chefs demonstrating dishes
- Greater variety of ingredients readily available/improved transportation of foods
- Large variety of different restaurants selling foods from other countries and supermarkets have copied this idea
- Promotion / advertising of foods and food products from other cultures

**(c) 2 x 1 mark**

- Reduce the portion size / weight
- Use a cheaper cut of chicken/use leg meat/use thigh meat/use less chicken
- Add more vegetables
- Use a larger amount of sauce/may refer to a thickened sauce
- Use of a cheaper type of rice
- Change cream to milk

**(d) 2 x 1 mark**

- Growth
- Repair
- Energy

**(e) 2 x 1 mark**

- Quorn
- Tofu/soya bean curd
- TVP/ soya beans
- Use of pulses
- Nuts

- 3 (a) 4 x 1 marks  
Award 2 marks for a detailed explanation  
Award 1 mark for a brief explanation

**Explanation of awarding 2 marks**

**Fruit and vegetables do not contain fat (1 mark) therefore if people eat more fruit and vegetables this will help to reduce the amount of fat in the diet. (1 mark - as they have qualified the first statement)**

- Generally associated with lower disease risks, particularly cardiovascular disease/heart disease
- Associated with lower disease risks, particularly some cancers - particularly colon and stomach cancers
- Fruit and vegetables do not contain fat - therefore can contribute to the reduction of fat in the diet
- Fruits and vegetable contain fibre - which can help to prevent constipation, diverticulitis and colon related cancers
- Eating 5 portions of fruit and vegetables a day is linked to having a balanced diet - it is an easy way for people with limited nutritional knowledge to work out if they are having sufficient portions a day rather than having to calculate different nutrients
- Contains iron for red blood cells / prevent anaemia
- Contains vitamin C – protects against infection / helps absorb calcium / iron / prevents scurvy
- Contain vitamin A – required for eye sight / bones growth / mucous membranes
- Contains anti-oxidants – helps prevent cancer

- (b) (i) 3 x 1 mark  
**Do not credit snack product in specification**

Three points relating to:

- Cost – referenced
- Target group e.g. children, teenagers, everyone, families etc **must be named**
- Size – e.g. hand held
- Ease to eat
- Ease to reheat/cook
- Attractive/ colourful
- Reference to tasting qualities – e.g. spiciness, texture **only accept one point**
- Suitable for production - **may state the method**
- Reference to cultures
- Reference to dietary needs/requirements
- Interesting shape

- (ii) 3 x 1 mark  
**Candidates must clearly use notes (and diagrams) to explain how they have met the three points they have written**

- Cost - reference to types of ingredients used, seasonal variations, buying in bulk to reduce costs
- Target group - clearly shows how the product is suitable for target group eg a pizza with lots of vegetables on for a young child has the vegetables arranged as a face, no meat products for a vegetarian etc

- Size - may relate to it being hand held, snack product - not large - may give weight or size dimensions
- Ease to eat - discuss that the product won't fall apart when being eaten, reference to being hand held - may give dimensions
- Ease to reheat/cook - reference to how it could be cooked - short amount of time, reheated in the microwave
- Attractive/colourful - use of glazes, decoration, garnishes, colourful ingredients to make it look attractive
- Reference to tasting qualities - which ingredients provide the tasting characteristics required - eg named spices for flavour, foods that provide specific textures
- Suitable for production - why it is suitable for the production method stated - eg not requiring hand finishing therefore suitable for batch production
- Reference to cultures - reference to the ingredients used and how they relate to the culture
- Reference to dietary needs/requirements - specifically shows how the ingredients used to meet the dietary requirements
- Shape – reference to how it is a new shape / aids eating / not falling apart / ease of production

**4 (a) 2 x 1 mark**

- To ensure the consumers/intended market like the product
- To identify any improvements which are required
- To check that it meets the specification
- To check that the assembly/batch/production line is producing identical products - candidates may give examples
- To check if improvements to a product have worked - eg adding extra seasoning to a product - can the taste panel tell the difference

**(b) 4 x 1 mark**

**Award one mark for a brief explanation/statement**

**Award two marks for a detailed explanation**

**Marks are given for the explanation not identifying the characteristic needing improving**

**Example of a 2 mark response**

**Crisp**

**Make sure the biscuits are cold before they are packaged (1 mark) if they are put away when they are warm or hot the biscuit will go soft because of the condensation**

**DO NOT ACCEPT THE SAME EXPLANATION TWICE**

**Crisp:**

- Cook for a longer period of time - so that the sugar caramelises
- Increase the proportion of sugar - the higher the sugar % the harder/crisper the biscuit will be (above 50% sugar)
- Make the biscuit thinner - therefore it will cook more quickly/dry out/not have as much moisture in it
- Ensure the biscuits are cooled before packaging - condensation will cause the biscuit to soften
- Change the proportions of ingredients - reduce the amount of fat which provided the biscuit with moisture

**Have a soft filling**

- Add more fat to the ingredients - to make it softer - may compare it to butter icing
- Add some form of liquid to the filling eg glucose syrup to make it softer
- Check the proportions of ingredients were correct - too much dry ingredient will affect the consistency of the mixture

**Round in shape**

- Check the proportion of sugar was correct - the more sugar the softer the gluten becomes and therefore the biscuit will spread more
- Use a coarser sugar - it will not dissolve as quickly and therefore the gluten will not soften as quickly
- Use a mould to bake the biscuit in therefore preventing it changing shape
- Use a cutter to shape the biscuit so they are all the same shape/uniform in shape/round in shape

- (c) **1 x 2 marks for each section. Maximum 4 marks**  
**Award one mark for a limited explanation or clear statement**  
**Award 2 marks for a well explained answer**  
**Do not accept fresh, going off**

**Example of a 2 mark response**

**Adding preservatives to food means that it will have a longer shelf life (1 mark) therefore the consumer can buy foods in larger quantities and have longer to use it in**

**'Longer' needs to be qualified- e.g. shelf life**

**Preservatives**

- Help to keep food safe for longer - protecting it against the growth of micro organisms/ bacterial growth
- Extending shelf life is useful to consumers - products keep longer and therefore don't have to be purchased so often. Can be purchased in larger quantities, which are often cheaper/ quality of food is maintained
- Prevents growth of micro organisms that can lead to food poisoning
- Manufacturers add preservatives so that shops have longer time to sell products in- will not have so much waste/lose money/lose profits
- Consumers often shop weekly therefore it allows them to keep food for longer/saves going shopping so often/ can save on costs such as petrol
- Food is available out of season - it increases the consumer's choice of foods
- Manufacturers can safely transport foods from other countries/greater distances-greater choice to the consumers

**Emulsifiers**

- Used to help substances that contain oil and water mix together. These would normally separate eg mayonnaise, sauces, and salad dressings, low fat spreads
- Used in low fat products that have a high percentage of water to stay evenly mixed/ give a creamy texture
- Used to give foods a smooth creamy texture eg desserts – so they don't separate/more appealing to customer
- Can be made from locust bean gum. Used to make products suitable for vegetarians that may have been thickened with gelatine in a similar alternative product eg thick and creamy yoghurts

5 (a) 6 x 1 mark. Use the following codes on the scripts

<b>P</b>	<b>relevant points issues</b>	<b>up to 3 marks</b>
<b>Q</b>	<b>quality of explanation of two issues</b>	<b>up to 2 marks</b>
<b>S</b>	<b>specific example or evidence given</b>	<b>1 mark</b>

Do not credit the same point twice

Discussion could include:

<b>Discussion Points</b>	<b>Explanation</b>	<b>Example/Evidence</b>
Adapting of traditional foods to comply with current nutritional thinking	Reduction of fats, salt, sugars in foods for health reasons  Increase in fibre	Health reasons clearly linked to the reduction Eg fibre-bowel cancer, diverticulitis Fat and links to obesity/heart disease, Sugar - obesity/issues with teeth Salt linked to high blood pressures/heart disease
Production of food s which are linked to healthier options	Consumer preference has led to a demand for these products	Targeted at certain groups of people eg weight watchers, children's lunch boxes. Named healthy eating ranges
Clearer nutritional labelling	So consumers can make informed choices easily  Some supermarkets think this is confusing  Not all supermarkets are using the same methods	Information clearly shown on the front of products - as % of RDA, how many portions of fruit and veg it contributes to  May use a traffic light system - red consume in moderation, green good for you
Products developed in relation to 'new' diets	Products developed to complement the latest trends - this may be linked to general nutrition or specific diets	GI index - indicated on the front of packets  Extra vitamins Quorn
Increased amount of organic foods available	People are choosing to purchase these foods because they feel they are better for you	Not used fertilisers on them, free from genetic modification

- (b) 4 x 1 marks**  
**Award 2 marks for a well explained answer**  
**Award 1 mark for a briefly explained answer**

**Do not accept the same explanation for a point twice**  
**Example of an answer worth 2 marks**

**There has been a lot of publicity about these products on TV, and in supermarkets (1 mark), people are choosing to support these farmers as they know the farmers will get a fair price for the product (1 mark)**

- Awareness of the costs some under developed/poor countries are paid for their crops
- Consumers want to see these people have a more sustainable income/better lifestyle, get paid a fair price for the products they grow
- Advertising - many stores promote the sale of fair traded products - linked to national campaigns - fair trade week. Media campaigns on television often highlight fair trade issues
- Publicity in schools through charities/ churches/Fair trade towns/ councils etc
- More widely available - there are now sections in all major supermarkets of foods which are fair traded
- Supermarkets/special promotions of fair trade products encourage consumers to buy these- may continue to purchase when not on offer/more competitively priced



# 1954/03 Paper 3 (Foundation)

Q	Syllabus Ref	Expected Answer	Rationale
1 (a)		<p><b>4x1 mark for each hazard.</b></p> <ul style="list-style-type: none"> <li>• Saucepan handle sticking out.</li> <li>• Sharp knives over edge/worktop.</li> <li>• Box of food on floor.</li> <li>• Rubbish on the floor</li> <li>• Spill/water on the floor.</li> <li>• Overflowing waste bins.</li> <li>• Trailing cable from kettle.</li> <li>• Plug in water</li> <li>• Lids into cans (sharp metal cans exposed).</li> <li>• Worn/broken tile on the floor.</li> <li>• Unattended saucepan/heat too high.</li> <li>• Saucepans on shelf above cooker.</li> <li>• Kettle overfilled/leaking.</li> <li>• Sink full of water/overflow.</li> </ul>	<p>Candidate should make it clear what the hazard is.</p> <p>If the candidate <b>only</b> circles the hazard on the picture do not allow.</p>
1 (b)		<p><b>2x1 mark each.</b></p> <ul style="list-style-type: none"> <li>• With a clean spoon.</li> <li>• Hands washed.</li> <li>• Clean plates.</li> <li>• Always wash spoon after use/ do not put spoon back in food.</li> <li>• Clean spoons for each person tasting.</li> <li>• Do not use/lick your fingers.</li> </ul>	<p>Do not accept statements about personal hygiene or the food itself.</p>
1 (c)		<p><b>(i) 1 x mark</b></p> <ul style="list-style-type: none"> <li>• Blue</li> </ul>	
1 (c)		<p><b>(ii) 1 x mark</b></p> <ul style="list-style-type: none"> <li>• So that the dressing can easily be seen.</li> <li>• Not many blue foods.</li> <li>• Can be detected by metal detector.</li> </ul>	

Q		Syllabus Ref	Expected Answer	Rationale
1	(d)		<p><b>2x1 mark</b></p> <ul style="list-style-type: none"> <li>• Do not leave food out on the work surface.</li> <li>• Keep all food covered.</li> <li>• Store correctly.</li> <li>• Cover windows with a mesh screen/keep closed/air conditioner.</li> <li>• Install an insecticuter/fly catcher.</li> <li>• Keep bins covered.</li> <li>• Empty bins regularly.</li> <li>• Keep all work surfaces/floors etc clean.</li> </ul> <p><b>Do not accept spray/swatter or killing.</b></p>	Accept any form of insecticuter.
2	(a)		<p><b>2x1 mark. Answers must relate to appeal to children.</b></p> <ul style="list-style-type: none"> <li>• Attractive coloured packaging.</li> <li>• Children on the packaging.</li> <li>• Chocolate flavour.</li> <li>• Child friendly lettering/font.</li> <li>• Free gift offer.</li> <li>• Easy to open packaging.</li> <li>• States its high in energy.</li> <li>• Catchy name/slogan.</li> </ul>	
2	(b)		<p><b>2x1 mark for each reason for increase in popularity.</b></p> <ul style="list-style-type: none"> <li>• Quick replacement for breakfast/no time/eat while travelling.</li> <li>• Packed lunch/picnic/tea time snack/bedtime snack/dessert/pudding.</li> <li>• High in energy/sports bar.</li> <li>• Some are fortified/good nutritional value.</li> <li>• Perceived as being a healthier option.</li> <li>• Hand held/easy to eat/carry.</li> <li>• Favourite cereals included.</li> <li>• Attractive packaging/good advertising.</li> <li>• Variety of flavours.</li> <li>• Individual portion sizes.</li> <li>• Saves time making breakfast/ no preparation required.</li> <li>• Personal recommendation.</li> </ul>	Do not accept healthy/ healthier, or cheaper/ quick and easy unless qualified. Do not accept 'it comes with free gift'.

Q	Syllabus Ref	Expected Answer	Rationale
2 (c)		<b>2x1 mark</b> <ul style="list-style-type: none"> <li>• Tooth decay – any reference to tooth decay.</li> <li>• Excess sugar stored as fat which leads to obesity/weight gain.</li> <li>• Could lead to heart disease.</li> <li>• Diabetes.</li> <li>• High sugar diet often means they are not eating other essential nutrients.</li> <li>• May make them bad tempered/irritable.</li> </ul>	<b>Do not</b> accept hyperactivity.
2 (d)		<b>(i) 2x1 mark</b> Any suitable recipe e.g.	
		<ul style="list-style-type: none"> <li>• Accept any suitable <b>named</b> product e.g. rock cakes/ scones/ muffins/ shortbread/ cookies/ chocolate bars/ biscuit bars                crumbles/ steamed, baked or cold puddings/ cheesecakes/ stewed fruits/yogurts/breakfast cereals/ museli.</li> </ul>	Do not accept just cakes/ biscuits/ puddings/ yogurt/ cereals – must be named. Do not allow two named cereals. Remember there is a wide range of dried fruits. This should be a product where the dried fruit is used to <b>replace or reduce the sugar</b> in the recipe.
2 d		<b>(ii) 2x1 mark</b> <ul style="list-style-type: none"> <li>• Increases the fibre content/filling</li> <li>• Improves the texture</li> <li>• Improves/adds to the flavour</li> <li>• Improves the colour/appearance</li> <li>• Suitable for diabetics</li> <li>• Increases iron/minerals/vitamin content</li> <li>• Increases moisture</li> <li>• Part of ‘five a day’.</li> <li>• Keeps longer than fresh fruit.</li> </ul> Do not accept one word answers. Do not accept ‘more healthy’.	Accept two points for texture/appearance/ flavour even if on one line/sentence.

Q	Syllabus Ref	Expected Answer	Rationale
3 (a)		<p><b>4x1 mark for notes/explanation of how the specification point has been met. One mark for each specification point. Do not accept repeat answers.</b></p>	<p><b>Accept marks without a drawing. Look out for annotation on the drawing.</b></p>
3 (a)		<p><b>Lower the fat</b></p> <ul style="list-style-type: none"> <li>• Reference to a low/lower fat ingredient eg low fat mayonnaise.</li> <li>• Low fat ingredient eg chicken/named vegetables.</li> <li>• No fat/oil added.</li> </ul> <p><b>Vitamin C</b></p> <ul style="list-style-type: none"> <li>• Use of suitable <b>named</b> vegetable. (tomatoes/peppers/cucumber/courgette/carrots/sweetcorn/spinach/broccoli/cabbage/parsley).</li> <li>• Use of suitable <b>named</b> fruit.</li> <li>• Lemon/lime juice.</li> </ul> <p><b>Low cost</b></p> <ul style="list-style-type: none"> <li>• Economy/value product/supermarket own brand/low cost supermarket</li> <li>• Special offers/buy in bulk.</li> <li>• Lower cost products – eg tuna, minced beef, chicken, soya, TVP.</li> <li>• Increased use of fruit/vegetables to lower costs.</li> <li>• Replacement - eg yogurt instead of cream.</li> </ul> <p><b>Variety of textures</b></p> <p><b>Must state the texture descriptor eg crunchy carrot</b></p> <ul style="list-style-type: none"> <li>• Reference to smooth/crisp/soft/puree/etc</li> <li>• Description of different ingredients giving a contrast texture.</li> </ul>	<p>Accept Tuna</p> <p>Do not accept potato as a topping.</p> <p>Nuts do not contain any Vitamin C</p> <p>Do not accept cheap.</p> <p>Do not accept just the word texture.</p>

Q	Syllabus Ref	Expected Answer	Rationale
3 (b)		<p><b>2x1 mark - Answers must relate to promotion of the product.</b></p> <ul style="list-style-type: none"> <li>• Bright/attractive/colourful packaging/good slogan.</li> <li>• Celebrity endorsement.</li> <li>• Special offers/free gifts/</li> <li>• Samples/trial offers.</li> <li>• Linked to sport.</li> <li>• Advertising/billboards/poster/TV's</li> </ul>	Do not accept two forms of advertising.
3 (c)		<p><b>1x1 mark</b></p> <ul style="list-style-type: none"> <li>• To ensure waste products are easily excreted/helps digestion.</li> <li>• Absorbs water and enables waste products to be pushed along intestine easily.</li> <li>• Prevents constipation.</li> <li>• Reduces amount of cholesterol from blood stream.</li> <li>• Reduces risk of bowel cancer.</li> <li>• Prevents piles/ diverticulitis.</li> <li>• Keeps digestive system healthy.</li> </ul>	
3 (d)		<p><b>1x1 mark</b></p> <p>Method of cooking:-</p> <ul style="list-style-type: none"> <li>• Boiling.</li> <li>• Steaming.</li> <li>• Microwave.</li> <li>• Pressure cooking.</li> </ul>	

Q		Syllabus Ref	Expected Answer	Rationale
3	(e)		<b>2x1 mark</b> <ul style="list-style-type: none"><li>• Prepare just before you need them.</li><li>• Don't cut into too small pieces.</li><li>• Don't leave to stand in water.</li><li>• Cook quickly – in a small amount of water/with pan lid on/do not overcook.</li><li>• Put into boiling water/blanching/par boiling.</li><li>• Do not store vegetables for a long time before use.</li><li>• Steam or microwave to use minimal water.</li><li>• Use water from vegetables as a sauce/gravy.</li><li>• Bake / roast or stir fry the vegetables</li><li>• Do not peel the vegetables – thinly peel the vegetables.</li><li>• Do not put bicarbonate of soda in the cooking water.</li><li>• Use a sharp knife.</li></ul>	

Q	Syllabus Ref	Expected Answer	Rationale
4 (a)		<p><b>2x1 mark for each reason given.</b></p> <ul style="list-style-type: none"> <li>• Wide range of colours.</li> <li>• Model packaging without having to make/see what it looks like</li> <li>• Wide range of clip art/fonts.</li> <li>• Can alter designs as new products are developed/new offers etc are added/trial different designs</li> <li>• Can insert digital images.</li> <li>• Can make attractive headings eg 'word art'.</li> <li>• Accurate and precise.</li> <li>• Can plan economic lay out of actual packaging ready for cutting.</li> <li>• Can keep up to date with images.</li> <li>• After it is set up it is economical to run.</li> <li>• Easy to reproduce.</li> <li>• More professional finish/ more complex/ attractive finish.</li> <li>• Can include accurate nutritional information.</li> <li>• Quicker than designing by hand.</li> </ul>	<p><b>Please note this question is focused upon the designing of the packaging.</b></p> <p>Do not accept quicker, cheaper, faster, easier unless qualified.</p>
4 (b)		<p><b>2x1 mark</b></p> <ul style="list-style-type: none"> <li>• They work non stop/24hrs a day /24/7.</li> <li>• Saves money due to efficiency/time saving.</li> <li>• Work is carried out accurately, no human error.</li> <li>• Monotonous, boring work can be carried out by a robot.</li> <li>• High quality products are produced.</li> <li>• Consistent /identical standard of products.</li> <li>• Less workers needed.</li> <li>• Improve safety.</li> <li>• Repeats the same process over and over again.</li> </ul>	<p>Do not accept easier, quicker, cheaper unless qualified.</p>

Q	Syllabus Ref	Expected Answer	Rationale
4 (c)		<p><b>2x2 marks for fully detailed answers. 2x1 mark for brief statements.</b></p> <ul style="list-style-type: none"> <li>• Weighing biscuit ingredients – to obtain the correct consistency.</li> <li>• Mixing dough to correct consistency – to have an even texture.</li> <li>• Rolling out the thickness of the dough – to obtain equal depth in the biscuits.</li> <li>• Cutting dough into accurate portions/portion control on extruder – to obtain equal/exact size/equal shape biscuits.</li> <li>• Temperature control of the product/use of food probe – to ensure bacteria is controlled/even cooking for colour and crispness.</li> <li>• Time control during cooking – to ensure even cooking for colour and crispness.</li> <li>• Colour sensor for cooked biscuits – to guarantee even colour.</li> <li>• Cooling time – to ensure standard degree of crispness (non soggy).</li> <li>• Counting into packages – to get correct numbers.</li> <li>• Sealing packages – to exclude air to keep biscuits crisp.</li> <li>• Metal detector – to make sure there are no foreign bodies.</li> <li>• Weighing finished biscuits – for equal products.</li> <li>• Moisture sensor – to ensure correct degree of crispness.</li> <li>• Monitoring the rate of production – the quantity/consistency of biscuits produced.</li> <li>• Alerting to any problems in the system – the quality of the biscuits.</li> <li>• Checking the number of biscuits made – to re-order the ingredients/stock.</li> </ul>	<p><b>For two marks to be awarded candidates must refer to a control and its effect on the biscuits.</b></p> <p><b>One mark can be given for just stating a control or the effect of a control.</b></p> <p>Hygiene control is not undertaken by a computer system.</p>
4 (d)		<p><b>2x1 marks for each benefit stated.</b></p> <ul style="list-style-type: none"> <li>• Can run a small or large number in a batch (specific amount).</li> <li>• Products are made to demand therefore no wastage.</li> <li>• Can respond to consumer demand/special occasions/seasonal.</li> <li>• Can vary the type of biscuit (vary flavour/colour etc).</li> <li>• Can bulk buy ingredients so save money/reduce overall cost.</li> <li>• Equipment can be used to make other types of products.</li> <li>• Staff are semi-skilled/involved in production (job satisfaction) makes full use of staff/can be more interesting for staff.</li> <li>• Flexibility eg easier to alter number in batch to meet changes from client.</li> <li>• Less likely to have errors/all the same/accurate/no mistakes/identical products/consistent quality/faults easily found.</li> <li>• Quicker than handmade/fast to produce large numbers of products.</li> </ul> <p><b>Do not accept quicker, easier or cheaper to make unless qualified.</b></p>	



Q	Syllabus Ref	Expected Answer	Rationale
5	(a)	<b>1x1 mark</b> <ul style="list-style-type: none"> <li>• Gelatine/ vegegel /jelly/ egg/ carrageen/ lime/ lemon juice.</li> </ul>	
5	(b)	<b>3x2 marks</b> <b>2x1 marks - Two different ways of making the change</b> <b>2 marks - One change with a good explanation.</b>  <b>The change must work as a recipe.</b> <b>Do Not accept the same repeat of a method within one category.</b>	
5	(b)	<b>Lower the fat</b> <ul style="list-style-type: none"> <li>• Low fat plain chocolate in the topping instead of ordinary chocolate/ fruit.</li> <li>• Reduce the amount of chocolate.</li> <li>• Low fat cream/yogurt in the filling.</li> <li>• Lower fat cream cheese/cottage cheese/or a lower fat variety.</li> <li>• Low fat cream alternatives/yogurt/fromage fraiche.</li> <li>• Low fat biscuits in the base.</li> <li>• Polyunsaturated margarines/low fat spread/ low fat butter instead of butter (lower saturated fatty acids).</li> </ul>	<b>These would not work:</b> <ul style="list-style-type: none"> <li>• <b>remove butter/</b></li> <li>• <b>change the double cream to single cream</b></li> <li>• <b>to reduce the quantity of butter in the base.</b></li> </ul>
5	(b)	<b>Lower the sugar</b> <ul style="list-style-type: none"> <li>• Fruit of any kind this will lower the sugar in the topping.</li> <li>• Low sugar fruit in natural juice this will lower the sugar but keep the sweetness.</li> <li>• Artificial sweetener in the base/filling/topping.</li> <li>• Low sugar/diabetic chocolate for the topping.</li> <li>• Sugar free jelly in the filling (will lower the sugar).</li> <li>• Sugar 'lite' biscuits (lower sugar).</li> <li>• Reducing the quantity of sugar.</li> <li>• Sugar free lemon/lime juice.</li> </ul>	<b>Do not accept:</b> <ul style="list-style-type: none"> <li>• take out sugar completely as stability of filling would be affected.</li> <li>• Reduce sugar/ Reduce chocolate</li> </ul>
5	(b)	<b>Increase the fibre</b> <ul style="list-style-type: none"> <li>• Wholemeal biscuits or relevant named biscuit.</li> <li>• Add chopped nuts/dried fruit/oats/bran to the base.</li> <li>• Use fruit in the topping/ adds to '5 a day'.</li> </ul>	<b>Accept:- Reduce the sugar in the filling/ change the chocolate to fresh fruit</b>  <b>Do not accept an increase in the amount of biscuits.</b>

Q	Syllabus Ref	Expected Answer	Rationale
5 (c)		<b>1x1 for correct answer</b> <ul style="list-style-type: none"> <li>• A temperature probe/ food probe/probe/temperature sensor.</li> </ul>	Do not accept thermometer
5 (d)		<b>1x2 mark for correct explained answer.</b> <b>1x1 mark for brief statement.</b> <ul style="list-style-type: none"> <li>• The chilling process is when products are prepared (cooked if necessary) and chilled rapidly/ blast chilled.</li> <li>• Products must be cooled to between 0 and 8° C</li> <li>• In 90 minutes/quickly to slow down any bacterial growth.</li> <li>• The law states that chilled foods must be stored below 4° C.</li> </ul>	<b>Accept any temperature within the range.</b>

## 1954/04 Paper 4 (Higher)

Q	Syllabus	Expected Answer	Rationale
1 (a)		<p><b>2x1 mark for each reason given.</b></p> <ul style="list-style-type: none"> <li>• Wide range of colours.</li> <li>• Model packaging without having to make/see what it looks like.</li> <li>• Wide range of clip art/fonts.</li> <li>• Can alter designs as new products are developed/new offers etc are added/trial different designs</li> <li>• Can insert digital images.</li> <li>• Can make attractive headings eg 'word art'.</li> <li>• Accurate and precise.</li> <li>• Can plan economic lay out of actual packaging ready for cutting.</li> <li>• Can keep up to date with images.</li> <li>• After it is set up it is economical to run.</li> <li>• Easy to reproduce.</li> <li>• More professional finish/ more complex/ attractive finish.</li> <li>• Can include accurate nutritional information.</li> <li>• Quicker than designing by hand.</li> </ul>	<p><b>Please note this question is focused upon the designing of the packaging.</b></p> <p>Do not accept quicker, cheaper, faster, easier unless qualified.</p>
1 (b)		<p><b>2x1 mark</b></p> <ul style="list-style-type: none"> <li>• They work non stop/24hrs a day /24/7.</li> <li>• They save time/more efficient which means saving money.</li> <li>• Work is carried out accurately, no human error.</li> <li>• Monotonous, boring work can be carried out by a robot.</li> <li>• High quality products are produced.</li> <li>• Consistent /identical standard of products.</li> <li>• Less workers needed.</li> <li>• Improve safety.</li> <li>• Repeats the same process over and over again.</li> </ul>	<p><b>Do not accept easier, quicker, cheaper unless qualified.</b></p>

Q	Syllabus	Expected Answer	Rationale
1 (c)		<p><b>2x2 marks for fully detailed answers. 2x1 mark for brief statements.</b></p> <ul style="list-style-type: none"> <li>• Weighing biscuit ingredients – to obtain the correct consistency.</li> <li>• Mixing dough to correct consistency – to have an even texture.</li> <li>• Rolling out the thickness of the dough – to obtain equal depth in the biscuits.</li> <li>• Cutting dough into accurate portions/portion control on extruder – to obtain equal/exact size/equal shape biscuits.</li> <li>• Temperature control during cooking (food probe) – to ensure even cooking for colour and crispness.</li> <li>• Time control during cooking (food probe) – to ensure even cooking for colour and crispness.</li> <li>• Colour sensor for cooked biscuits – to guarantee even colour.</li> <li>• Cooling time – to ensure standard degree of crispness (non soggy).</li> <li>• Counting into packages – to get correct numbers.</li> <li>• Sealing packages – to exclude air to keep biscuits crisp.</li> <li>• Metal detector – to make sure there are no foreign bodies.</li> <li>• Weighing finished biscuits – for equal products.</li> <li>• Moisture sensor – to ensure correct degree of crispness.</li> <li>• Monitoring the rate of production – the quantity of biscuits produced.</li> <li>• Alerting to any problems in the system – the quality of the biscuits.</li> <li>• Checking the number of biscuits made-too reorder the ingredients/stock</li> </ul>	<p><b>For two marks to be awarded candidates must refer to a control and its effect on the biscuits.</b></p> <p><b>One mark can be given for just stating a control or the effect of a control.</b></p> <p><b>Hygiene control is not undertaken by a computer system</b></p>

Q		Syllabus	Expected Answer	Rationale
1	(d)		<p><b>2x1 marks for each benefit stated.</b></p> <ul style="list-style-type: none"> <li>• Can run a small or large number in a batch (specific amount).</li> <li>• Products are made to demand therefore no wastage.</li> <li>• Can respond to consumer demand/special occasions/seasonal.</li> <li>• Can vary the type of biscuit (vary flavour/colour etc).</li> <li>• Can bulk buy ingredients so save money/reduce overall cost.</li> <li>• Equipment can be used to make other types of products.</li> <li>• Staff are semi-skilled/involved in production (job satisfaction) makes full use of staff/can be more interesting for staff.</li> <li>• Flexibility eg easier to alter number in batch to meet changes from client.</li> <li>• Less likely to have errors/all the same/accurate/no mistakes/identical products./consistent quality/faults easily found</li> <li>• Quicker than handmade/fast to produce large numbers of products.</li> </ul>	<p><b>Do not accept quicker, easier or cheaper to make unless qualified</b></p>

Q		Syllabus	Expected Answer	Rationale
2	(a)		<b>1x1 mark</b> <ul style="list-style-type: none"> <li>• Gelatine/ vegegel /jelly/ egg/ carrageen/ lime/ lemon juice.</li> </ul>	
2	(b)		<b>3x2 marks</b> <b>2x1 marks - Two different ways of making the change</b> <b>2 marks - One change with a good explanation.</b>  <b>The change must work as a recipe.</b> <b>Do Not accept the same repeat of a method within one category.</b> <b>Lower the fat</b> <ul style="list-style-type: none"> <li>• Plain chocolate in the topping instead of ordinary chocolate/ fruit.</li> <li>• Reduce the amount of chocolate.</li> <li>• Low fat cream/yogurt in the filling.</li> <li>• Lower fat cream cheese/cottage cheese/or a lower fat variety..</li> <li>• Low fat cream alternatives/yogurt/fromage fraiche.</li> <li>• Low fat biscuits in the base.</li> <li>• Polyunsaturated margarines/low fat spread/ low fat butter instead of butter (lower saturated fatty acids).</li> </ul> <b>Lower the sugar</b> <ul style="list-style-type: none"> <li>• Fruit of any kind this will lower the sugar in the topping.</li> <li>• Low sugar fruit in natural juice this will lower the sugar but keep the sweetness.</li> <li>• Artificial sweetener in the base/filling/topping.</li> <li>• Low sugar/diabetic chocolate for the topping.</li> <li>• Sugar free jelly in the filling (will lower the sugar).</li> <li>• Sugar 'lite' biscuits (lower sugar).</li> <li>• Reducing the quantity of sugar.</li> <li>• Sugar free lemon/lime juice</li> </ul> <b>Increase the fibre</b> <ul style="list-style-type: none"> <li>• Wholemeal biscuits.</li> <li>• Add chopped nuts/dried fruit/oats/bran to the base.</li> <li>• Use fruit in the topping/ adds to '5 a day'.</li> </ul>	<b>These would not work:</b> <ul style="list-style-type: none"> <li>• <b>remove butter/</b></li> <li>• <b>change the double cream to single cream</b></li> <li>• <b>to reduce the quantity of butter in the base.</b></li> </ul> Do not accept: <ul style="list-style-type: none"> <li>• take out sugar completely as stability of filling would be affected.</li> <li>• Reduce sugar/ Reduce chocolate</li> </ul> <b>Accept:- Reduce the sugar in the filling/ change the chocolate to fresh fruit</b>  Do not accept an increase in the amount of biscuits.

Q	Syllabus Ref	Expected Answer	Rationale
2 (c)		<b>1x1 for correct answer</b> <ul style="list-style-type: none"> <li>• A temperature probe/ food probe/probe/temperature sensor.</li> </ul>	Do not accept thermometer
2 (d)		<b>1x2 mark for correct explained answer.</b> <b>1x1 mark for brief statement.</b> <ul style="list-style-type: none"> <li>• The chilling process is when products are prepared (cooked if necessary) and chilled rapidly/ blast chilled.</li> <li>• Products must be cooled to between 0 and 8° C</li> <li>• In 90 minutes/quickly to slow down any bacterial growth.</li> <li>• The law states that chilled foods must be stored below 4° C.</li> </ul>	<b>Accept any temperature within the range.</b>

Q		Syllabus	Expected Answer	Rationale										
3	(a)		<p><b>4x1 mark</b>  <b>Description must clearly show how it meets the design specification.</b></p> <table border="1" data-bbox="472 336 1601 1088"> <thead> <tr> <th data-bbox="472 336 866 373">Specification point</th> <th data-bbox="866 336 1601 373">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="472 373 866 544">New improved flavour</td> <td data-bbox="866 373 1601 544">Addition of :- spices/other suitable named fresh fruits/dried fruits/brown sugar instead of white/wholemeal flour/nuts Use natural/organic ingredients/no added artificial colours/flavourings</td> </tr> <tr> <td data-bbox="472 544 866 683">Less pastry</td> <td data-bbox="866 544 1601 683">Choice of :- lattice top/open top (flan)/overlapping shapes of pastry/pastry rolled thinner/pie without pastry bottom/lid only. Change of topping eg meringue, cereals, cobbler, crumble</td> </tr> <tr> <td data-bbox="472 683 866 821">Variety of texture</td> <td data-bbox="866 683 1601 821">Addition of :- dried fruits/suitable raw chopped fruit/nuts/crumble topping/crisp sugar topping/puree with different sized fruits/crisper pastry eg puff pastry</td> </tr> <tr> <td data-bbox="472 821 866 1088">Appeal to families</td> <td data-bbox="866 821 1601 1088">Decorated top/family size/individual portion/individual wrapped portions/ready marked to divide into equal pieces/explanation of suitable cost/easy to reheat/nutritional content eg lower in fat/meets '5 a day'. Natural/organic ingredients -no added colours/flavourings. <b>Do not allow repeat answers.</b></td> </tr> </tbody> </table>	Specification point	Description	New improved flavour	Addition of :- spices/other suitable named fresh fruits/dried fruits/brown sugar instead of white/wholemeal flour/nuts Use natural/organic ingredients/no added artificial colours/flavourings	Less pastry	Choice of :- lattice top/open top (flan)/overlapping shapes of pastry/pastry rolled thinner/pie without pastry bottom/lid only. Change of topping eg meringue, cereals, cobbler, crumble	Variety of texture	Addition of :- dried fruits/suitable raw chopped fruit/nuts/crumble topping/crisp sugar topping/puree with different sized fruits/crisper pastry eg puff pastry	Appeal to families	Decorated top/family size/individual portion/individual wrapped portions/ready marked to divide into equal pieces/explanation of suitable cost/easy to reheat/nutritional content eg lower in fat/meets '5 a day'. Natural/organic ingredients -no added colours/flavourings. <b>Do not allow repeat answers.</b>	<p><b>Candidates must be designing a new product.</b></p> <p>Do not accept smaller apple pie.</p> <p>Must state the texture descriptor.</p> <p>Texture must come from a new change not a description of pastry and apple.</p> <p>Do not accept answers relating to packaging.</p>
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Q		Syllabus ref	Expected Answer	Rationale
3	(b)		<p><b>1x2 marks for fully explained answer</b>  <b>1 mark for statement</b>  <b>Less pastry:-</b></p> <ul style="list-style-type: none"> <li>• Pastry is a high fat food - consumers want lower fat food Products - could be sold in a lower fat range.</li> <li>• Less pastry will reduce the cost to the manufacturer - give higher profits - enable a special offer price.</li> <li>• The result of market research showed that customers wanted it - therefore may increase sales – meet consumer demand.</li> <li>• Result of product analysis decided to improve it – to meet consumer demand.</li> <li>• More appealing product to consumer - to meet dietary guidelines/current trends.</li> <li>• Ratio of fruit to pastry will be higher - taste improved.</li> </ul>	<p><b>Do not accept quicker, cheaper, easier, healthier and unless qualified.</b></p> <p><b>Reasons may be interchanged.</b></p>

Q		Syllabus ref	Expected Answer	Rationale
3	(c)		<p><b>2x2 marks for answers showing a clear understanding and explanation.</b>  <b>2x1 mark for a brief answer.</b></p> <ul style="list-style-type: none"> <li>• To test against the design specification – to ensure it appeals to the target market</li> <li>• Simulate production – to see if product is successful in larger scale</li> <li>• Smaller quantities of ingredients needed – reduces cost if not successful - less cost to the manufacturer - try out ideas economically.</li> <li>• Allows manufacturer to develop product fully - allows for adaptation/ modification/ improvement on a small scale</li> <li>• To train workers – so less mistakes are made</li> <li>• Allows for small batches to be made -small scale experiments with different ingredients can be made.</li> <li>• Allows for adaptation/modification/improvement on a small scale.</li> <li>• To enable taste testing to take place - the product can be developed further.</li> <li>• Accurate costs can be calculated – to predict selling price (profit margins).</li> <li>• To make decisions about ingredients that will be needed – type/amount/scaling up/shelf life of product.</li> <li>• To make decisions about equipment needed – to set up production systems.</li> <li>• To identify the controls that need to be put in place – HACCP to ensure a quality product.</li> <li>• So a product specification can be developed – to achieve a quality consistent product.</li> <li>• Test if profitable – rather than wasting product.</li> </ul>	<p>Do not accept anything linked to market research.</p> <p>Reasons could be interchangeable.</p>

Q		Syllabus ref	Expected Answer	Rationale
4	(a)		<p><b>1x2 marks for detailed explanation</b>  <b>1x1 mark for a brief statement</b></p> <ul style="list-style-type: none"> <li>• Cold temperature slows down the speed at which bacteria multiply does not destroy the bacteria in the food.</li> <li>• Bacteria are dormant whilst in the freezer – cannot multiply/cannot break down the product.</li> <li>• Bacteria need warmth to multiply- freezer temperature below 0.</li> <li>• Bacteria need moisture to multiply - water becomes unavailable for the bacteria to reproduce as it forms ice crystals.</li> <li>• Bacteria need the correct ph - chemical changes/enzyme activity in the food are slowed down because of the cold temperature.</li> </ul>	<p>Do not allow 'keeps food fresh' / 'going off' or germs.</p> <p>Do not accept sleep.</p>
4	(b)		<p><b>2x2 marks for fully explained answers.</b>  <b>2x1 mark for a brief statement – maximum two marks</b></p> <ul style="list-style-type: none"> <li>• Do not use bruised or damaged vegetables - vitamin C destroyed by enzymes.</li> <li>• Prepare just before you need them - vitamin C destroyed by enzymes when the surface is cut.</li> <li>• Do not peel/peel thinly - as a lot of vitamin C is just below the skin.</li> <li>• Store in a cool dark place/ minimum amount of time - vitamin C oxidation is increased in sunlight.</li> <li>• Don't cut into too small pieces - exposes more surface area to oxygen and then enzymes destroy the vitamin C.</li> <li>• Use a sharp knife - to avoid damaging the cells and releasing the enzyme.</li> <li>• Don't leave to stand in water - vitamin C will dissolve away.</li> <li>• Put straight into boiling water/blanch vegetables – maximum loss of vitamin C below boiling point. Boiling destroys the enzymes which oxidise the vitamin C.</li> <li>• Steam/microwave to use minimal water - to reduce loss of water soluble vitamin C.</li> <li>• Cook quickly do not overcook – vitamin C is unstable and is lost in water</li> <li>• Do not throw out the cooking liquid use for gravy/stock - the leached out vitamin C is then used.</li> <li>• Do not put bicarbonate of soda in the cooking liquid – this increases the loss of vitamin C.</li> <li>• Serve at once to prevent any further oxidation.</li> </ul>	

Q		Syllabus ref	Expected Answers	Rationale																								
4	(c)		<p><b>2x2 marks for fully explained answers</b>  <b>2x1 mark for brief answers</b>  <b>For 2 marks the explanation should include detail of the specific dietary need of a vegan.</b>  <b>1 mark only awarded for nutrient and source.</b></p> <table border="1" data-bbox="472 438 1630 1316"> <tr> <td data-bbox="472 438 638 662">Protein</td> <td data-bbox="638 438 1070 662">diet lacking in HBV</td> <td data-bbox="1070 438 1630 662">met by cereals/ pulses/nuts/TVP (Soya) /Tofu NOT Quorn</td> </tr> <tr> <td data-bbox="472 662 638 726">Calcium</td> <td data-bbox="638 662 1070 726">eating a balance diet of plant foods will provide all the essential amino acids best source in dairy foods</td> <td data-bbox="1070 662 1630 726"> <ul style="list-style-type: none"> <li>met by Soya milk products/fortified bread/ cereals/lentils/beans</li> </ul> </td> </tr> <tr> <td data-bbox="472 726 638 790">Iron</td> <td data-bbox="638 726 1070 790">found in read meat</td> <td data-bbox="1070 726 1630 790"> <ul style="list-style-type: none"> <li>met by pulses/green vegetables/ cereals/ cocoa/dried fruit</li> </ul> </td> </tr> <tr> <td data-bbox="472 790 638 981">B12</td> <td data-bbox="638 790 1070 981">only found in animal products</td> <td data-bbox="1070 790 1630 981"> <ul style="list-style-type: none"> <li>is absent from plant foods</li> <li>met by a wide range of fortified foods yeast extract/ breakfast cereals/ vegetable margarine/ soya milk</li> </ul> </td> </tr> <tr> <td data-bbox="472 981 638 1045">Vitamin D</td> <td data-bbox="638 981 1070 1045">found in oily fish and dairy foods</td> <td data-bbox="1070 981 1630 1045"> <ul style="list-style-type: none"> <li>not found in plant foods</li> <li>soya milk, sunlight</li> </ul> </td> </tr> <tr> <td data-bbox="472 1045 638 1173">B (2)</td> <td data-bbox="638 1045 1070 1173">found in meat</td> <td data-bbox="1070 1045 1630 1173"> <ul style="list-style-type: none"> <li>met by whole grains, mushrooms, almonds, leafy green vegetables, yeast extract</li> </ul> </td> </tr> <tr> <td data-bbox="472 1173 638 1236">Iodine</td> <td data-bbox="638 1173 1070 1236">milk primary source in the UK diet met by</td> <td data-bbox="1070 1173 1630 1236">seaweeds, vegetables, grains</td> </tr> <tr> <td data-bbox="472 1236 638 1316">Essential fatty acids</td> <td data-bbox="638 1236 1070 1316">met by vegetable oils</td> <td data-bbox="1070 1236 1630 1316">Soyabean /rapeseed oil</td> </tr> </table> <p>Accept a named vitamin/mineral/protein supplement ( 1 mark only)  Vegans need a variety of foods to provide a balance of nutrients (iron and Vitamin C)</p>	Protein	diet lacking in HBV	met by cereals/ pulses/nuts/TVP (Soya) /Tofu NOT Quorn	Calcium	eating a balance diet of plant foods will provide all the essential amino acids best source in dairy foods	<ul style="list-style-type: none"> <li>met by Soya milk products/fortified bread/ cereals/lentils/beans</li> </ul>	Iron	found in read meat	<ul style="list-style-type: none"> <li>met by pulses/green vegetables/ cereals/ cocoa/dried fruit</li> </ul>	B12	only found in animal products	<ul style="list-style-type: none"> <li>is absent from plant foods</li> <li>met by a wide range of fortified foods yeast extract/ breakfast cereals/ vegetable margarine/ soya milk</li> </ul>	Vitamin D	found in oily fish and dairy foods	<ul style="list-style-type: none"> <li>not found in plant foods</li> <li>soya milk, sunlight</li> </ul>	B (2)	found in meat	<ul style="list-style-type: none"> <li>met by whole grains, mushrooms, almonds, leafy green vegetables, yeast extract</li> </ul>	Iodine	milk primary source in the UK diet met by	seaweeds, vegetables, grains	Essential fatty acids	met by vegetable oils	Soyabean /rapeseed oil	<p><b>Do not award marks for purely naming foods. The questio requires candidates to show what the nutritional needs are.</b></p> <p>Do not accept tablets / quorn.</p> <p>Candidates must name the nutrient.</p> <p>Do not accept carbohydrate/ fat.</p>
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Q		Syllabus ref	Expected Answer	Rationale
5	(a)		<p><b>2x1 marks for fully explained answers.</b>  <b>2x1 marks for brief answers.</b></p> <ul style="list-style-type: none"> <li>• Raw meat/fish are high risk foods – could already be contaminated with salmonella.</li> <li>• Barbeques are in summer high temperatures – bacteria will grow quickly.</li> <li>• Food often left to stand – this gives the bacteria time to multiply and/or the warmth.</li> <li>• Barbecues outside not cleaned properly-attract flies/insects./decaying food.</li> <li>• Raw products uncovered outside exposed to further contamination/flies/insects.</li> <li>• Limited facilities ie not near sink – cross contamination from utensils/ contamination by people eg staphylococci.</li> <li>• Do not change utensils/same utensils for raw and cooked foods – cross contamination occurs.</li> <li>• Barbeque not hot enough – the temperature is not high enough to destroy bacteria/if it is only warm the bacteria will multiply quickly.</li> <li>• More than one person cooking – greater risk of contamination not washed hands etc/not known how long the food has been cooking.</li> <li>• Food is cooked quickly on the outside but the inside may be undercooked – it must be thoroughly cooked on the inside to kill bacteria.</li> </ul>	<p>Warning: Do not just credit the words cross contamination as explanation may not be correct.  A high level response is required.</p>

Q		Syllabus ref	Expected Answer			Rationale
5	(b)		<p><b>P 3 relevant points/issues</b> up to 3 marks  <b>Q Quality of Explanation of two issues</b> up to 2 marks  <b>S Specific example or evidence given</b> 1 mark  <b>Do not credit the same point twice.</b></p> <p><b>Candidates must cover both areas of packaging and labelling to gain maximum marks.</b></p> <p><b>It is not sufficient for candidates to just state the function of packaging and list the statutory requirements of labelling. Information must be accurate and specific.</b></p>			<p>This is an A* question. If marked accurately very few candidates should gain high marks. It is not possible to mark this question by picking out key words. Explanation must be detailed eg chilling temperature below 8C</p> <p>Maximum of three marks if only one area is covered.</p> <p>Examiners may find it useful to read response and select up to three points first, then go back to look for explanation (2) and evidence (1).</p>
P Relevant Points			Q Explanation		S Example/Evidence	
<b>Packaging</b>						
Protects product from damage			Contamination in transit from other foods/from weather/dirty conditions. Cross contamination.		Primary and secondary packaging	
Choice of material			To suit cooking/storage. Product remains sealed in packaging.		Microwave meals	
Impermeable materials			Airtight therefore bacteria cannot enter. Avoids cross contamination.		Vacuum packing, canning, UHT/long life.	
Packaging systems available to exchange air for other gases			So bacteria have no access to oxygen.		Vacuum packing MAP	
Foods that are packaged by heat treatment			Have a very long shelf life because all bacteria are destroyed.		Sterilisation/UHT/ Canning	
Foods that are packaged by heat treatment			Extended shelf life.		Pasteurisation	
Packaging materials extend shelf life			Glass – heat processed. Metal – heat processed. Plastic can be sealed to exclude air and bacteria		Cans/jars/ambient packing which does not require special storage.	

Q		Syllabus ref	Expected Answer			Rationale
			<b>Labelling</b>			
			List of ingredients	To identify high risk foods.	Meats/fish/prawns/raw eggs	
			Gives information on the correct storage conditions.	Temperature below 8°C to reduce bacterial growth. Freezing temperature -18 C	Chilled foods.  Frozen foods/star marking	
			Gives information on the correct length of time that foods can be stored.	Customers confused by the dates, do not read the dates or ignore the dates.	Best before/use by date.	
			Information on safe cooking	Time and temperature detailed. Products must be reheated to a minimum of 70°C. Cooked for the correct length of time to destroy bacteria.	Frozen and chilled products.	
			Warnings	Not suitable for freezing. Not suitable for microwaving.	Chilled products eg prawns or fish that has previously been frozen.	

# Grade Thresholds

General Certificate of Secondary Education  
D&T Food Technology Short Course (Specification Code 1054)  
June 2008 Examination Series

## Component Threshold Marks

Component	Max Mark	A*	A	B	C	D	E	F	G
Paper 1	50				31	27	23	20	17
Paper 2	50		29	24	20	15			
Coursework	105		84	73	62	50	39	28	17

## Specification Options

### Foundation Tier

	Max Mark	A*	A	B	C	D	E	F	G
Overall Threshold Marks	175				98	84	70	56	42
Percentage in Grade					17.1	24.7	25.7	19.0	7.6
Cumulative Percentage in Grade					17.1	41.9	67.6	86.6	94.3

The total entry for the examination was 153

### Higher Tier

	Max Mark	A*	A	B	C	D	E	F	G
Overall Threshold Marks	175	135	120	105	90	65	52		
Percentage in Grade		4.7	4.7	19.0	52.3	14.3	4.7		
Cumulative Percentage in Grade		4.7	9.5	28.5	80.9	95.2	100		

The total entry for the examination was 42

### Overall

	A*	A	B	C	D	E	F	G
Percentage in Grade	0.8	0.8	3.1	23.0	23.0	22.2	15.8	6.3
Cumulative Percentage in Grade	0.8	1.6	4.7	27.7	50.8	73.0	88.8	95.2

The total entry for the examination was 195

Statistics are correct at the time of publication.



**General Certificate of Secondary Education  
D&T Food Technology (Specification Code 1954)  
June 2008 Examination Series**

**Component Threshold Marks**

<b>Component</b>	<b>Max Mark</b>	<b>A*</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
Paper 1	50				31	27	23	20	17
Paper 2	50		29	24	20	15			
Paper 3	50				30	26	22	18	14
Paper 4	50		30	25	21	15			
Coursework	105		84	73	62	50	39	28	17

**Specification Options**

**Foundation Tier**

	<b>Max Mark</b>	<b>A*</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
Overall Threshold Marks	175				102	86	70	55	40
Percentage in Grade					27.5	27.2	20.6	13.6	6.4
Cumulative Percentage in Grade					27.5	54.7	75.4	88.9	95.3

The total entry for the examination was 8693

**Higher Tier**

	<b>Max Mark</b>	<b>A*</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
Overall Threshold Marks	175	136	121	106	92	71	60		
Percentage in Grade		11.6	22.1	29.6	21.6	12.2	1.4		
Cumulative Percentage in Grade		11.6	33.8	63.5	85.2	97.4	98.8		

The total entry for the examination was 8972

**Overall**

	<b>A*</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
Percentage in Grade	5.9	11.3	15.1	24.5	19.6	10.8	6.6	3.1
Cumulative Percentage in Grade	5.9	17.2	32.3	56.9	76.5	87.3	93.9	97.1

The total entry for the examination was 17665

Statistics are correct at the time of publication.

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