

Design & Technology (Food Technology)

General Certificate of Secondary Education **GCSE J302**

General Certificate of Secondary Education (Short Course) **GCSE J042**

Mark Schemes for the Units

January 2010

J042/J302/MS/R/10J

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Design and Technology (Food Technology) (J302)**

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A522 Sustainable design



Question	Expected Answers	Rationale	Marks
1	D Red	Red	[1]
		Total	[1]
2	C Use by	Use by	[1]
		Total	[1]
3	A More vitamin C is retained	More vitamin C is retained	[1]
		Total	[1]
4	A July	July	[1]
		Total	[1]
5	A Prevent syneresis	Prevent syneresis	[1]
		Total	[1]
6	1x1 mark <ul style="list-style-type: none"> Compostable food/packaging/compost Biodegradable plastic packaging Suitable for local authority compost collection. 	Accept just compost	[1]
		Total	[1]
7	1x1 mark <ul style="list-style-type: none"> Nutritional labelling/ Traffic light system Reference to nutritional content – eg low in fat/salt/sugar Reference to additives Specific reference to ingredients Reference suitable for special diets/health issues/healthy heart symbol Allergy information Telling them where it is made/carbon footprint of product Ethical issues eg Fair Trade/organic/not GM Weight/size/number of portions Clearly states a reduced amount of packaging 	1 mark	[1]
		Total	[1]

Question	Expected Answers	Rationale	Marks
8	1x1 mark <ul style="list-style-type: none"> • To prevent anaemia • To transport oxygen to all parts of the body • Helps maintain cell functions • Production of haemoglobin • Formation of red blood cells. 	1 mark Do not accept healthy blood Must make it clear that it states the function. Eg Do not accept 'blood cells' on its own.	[1]
		Total	[1]
9	1x1 mark Modified atmospheric packaging. Modified atmosphere packaging	1 mark Must have all three words correct – spelling does not need to be correct	[1]
		Total	[1]
10	1x1 mark <ul style="list-style-type: none"> • Use of recycling symbols • Stating on the packaging that it can be recycled. 	1 mark Do not accept 'recycle' unless in a sentence	[1]
		Total	[1]
11	True	1 mark	[1]
		Total	[1]
12	False	1 mark	[1]
		Total	[1]
13	True	1 mark	[1]
		Total	[1]
14	False	1 mark	[1]
		Total	[1]
15	True	1 mark	[1]
		Total	[1]

SECTION B

Question	Expected Answers	Rationale	Marks
16 (a)	2 x 1 mark <ul style="list-style-type: none"> • Buying local ingredients • Buy ingredients from the UK • Buy from countries nearer to the UK • Using foods in season where possible • Reduce the transport/air miles 	2 x 1 mark	[2]
(b)	3 x 1 mark <ul style="list-style-type: none"> • Grill the bacon/dry fry the bacon/microwave bacon/do not add fat to cook the bacon • Cut off excess fat/Use lean bacon • Use a low fat spread • Use reduced fat mayonnaise/light mayonnaise • Do not use butter. • Reduce the amount of butter/bacon/mayonnaise used • Don't use both mayonnaise and butter • Remove mayonnaise from the dish 	3 x 1 mark Do not accept low fat butter.	[3]
16 (c)	1 x 1 mark <ul style="list-style-type: none"> • Bacon • Mayonnaise. 	1 mark	[1]
(d)	1x1 mark <ul style="list-style-type: none"> • Composting • Use to feed animals. 	1 mark	[1]
(e)	4 x 1 mark 2 x 1 mark for statements 2 x 1 mark for detailed explanations <ul style="list-style-type: none"> • Ingredients sourced from reliable suppliers – who have a good food safety record. • Temperature of high risk foods checked on arrival – foods should be below 5°C/reference to growth of bacteria • Stored correctly before use – gives relevant example e.g. not storing cooked and raw meat together 	4 x 1 mark 2 marks for statements 2 marks for detailed explanations Do not accept reference to quality/germs/gone off Do not accept the same explanation twice.	

Question	Expected Answers	Rationale	Marks
	<ul style="list-style-type: none"> • Temperatures checked to ensure food is cooked correctly/thoroughly/reference to specific temperature/use food probe– meat is a high risk food • Foods chilled quickly after cooking – within 90 mins/to prevent growth of bacteria • Storage of the finished product at 5°C or below – out of the danger zone/bacterial growth slowed down • Micro biological checks/chemical carried out during production – to ensure no contamination • Cleaning of vegetables – chlorinated water to reduce bacterial and physical contamination • Temperature control reference to correct temperatures in different areas of production • Cleaning schedules – maintained/recorded /reduces opportunities for contamination • Training of the workforce – ref to qualifications/personal hygiene rules. • Scanning- for metal detection/physical contamination • Date marking - food should be used before its use by date reference to conditions for bacterial growth • Cross Contamination eg Different knives/boards/cloths / different areas for working in. • Ensure the packaging is correctly sealed – to prevent contamination • HACCP system in place- plus an example for above • Date marking/or storage instructions on package- reference to conditions for bacterial growth 		[4]

Question	Expected Answers	Rationale	Marks
16 (f)	<p>2 x 1 mark</p>  <p>Keep Britain Tidy/Litter man</p>  <p>Recycle/ Recycle now</p>	<p>2 x 1 mark Must have correct heading next to the symbol</p>	[2]
(g)	<p>2 marks 1 mark for brief response/statement 2 marks if an explanation is clear</p> <ul style="list-style-type: none"> • A source that can be replaced – with an appropriate example eg paper or card packaging used instead of plastic. • Cardboard packaging produced from managed forests – trees are usually replaced when they have been felled/have a replanting program. 	<p>1 mark for brief response/statement 2 marks if an explanation is clear</p>	[2]
		Total	[15]
17 (a)	<p>2 x 1 mark</p> <ul style="list-style-type: none"> • Uses local ingredients/lower carbon footprint/less food miles/lower eco footprint • Supporting the local economy • Range of local products/varieties • Different varieties of products to those in the supermarket • Can be 'fresher' than supermarket foods • Less likely to use additives and preservatives in food products • May be less expensive than supermarkets/shops. • May be closer than travelling to supermarkets • Personal service offered • Seasonal produce being sold • Less packaging materials are used • May sell organic foods 	<p>2 x 1 mark Fresher/cheaper must be qualified</p>	[2]

Question	Expected Answers	Rationale	Marks
(b)	2 x 1 mark 1 mark for brief explanation 2 marks for a detailed explanation <ul style="list-style-type: none"> • Provide outdoor space for roaming in addition to an indoor shelter – instead of being in a confined space • Indoor barns at night – for shelter • Follow EU regulations - about the amount of space per given number of hens • Move hens to new land every two years. 	2 x 1 mark 1 mark for brief explanation 2 marks for a detailed explanation Do not accept 'more space' unless qualified	[2]
(c)	2 x 1 mark <ul style="list-style-type: none"> • Lower in fat/saturated fats • Source of protein • Low in cholesterol • Low in salt/sodium • B vitamins 	2 x 1 mark Must be linked to nutrition	[2]
(d) (i)	2 x 1 mark <ul style="list-style-type: none"> • High profile campaigns to highlight cruelty • Poor conditions some poultry are kept in/better lifestyle for hens • Out breaks of diseases in large poultry productions • Some of the labelling on chickens indicates how they have been produced/(e.g. information on the farm/farmer) make more informed choices about purchases • Greater/more free range poultry for sale • Better flavour/taste/texture/colour than factory farmed 	2 x 1 mark One word answers will not be accepted	[2]
(ii)	1 mark <ul style="list-style-type: none"> • Cost more/dearer/more expensive • Not so readily available. 	1 mark	[1]

Question	Expected Answers	Rationale	Marks
(e)	2 x 1 marks 1 mark for statement 1 mark for the explanation <ul style="list-style-type: none"> • In a refrigerator – High risk food/growth of bacteria slowed down • Away from strong smelling food – porous shells – picks up flavour • Check eggs are not damaged/cracked – as dirt and bacteria might have got inside. • Blunt end uppermost – air sac at blunt end ensures that yolk does not touch the shell. 	2 x 1 marks 1 mark for statement 1 mark for the explanation	[2]
(f)	4 x 1 mark Up to 2 x1 mark for 2 different statements Up to 2 x2 marks for 2 statements which have detailed explanations <ul style="list-style-type: none"> • Enables the product or batch to be traced back to source/farm/factory – therefore can identify where any problems might have occurred • Know exactly who was involved in each stage of the production/links directly to the people who were working with the products at different stages - linked to incorrect procedures in the food chain/eg personal hygiene of staff. • Where different ingredients in the product were sourced from - accept reference to contaminated ingredients • If there is a problem with a product or it may be linked to a problem - all the relevant parts of the processes can be quickly checked and corrected and recalled 	4 x 1 mark Up to 2 marks for 2 different statements Up to 4 marks for 2 statements which have detailed explanations	[4]
			[15]

Question	Expected Answers	Rationale	Marks
18 (a) (i)	1 x 1 mark <ul style="list-style-type: none"> • 0-8 °C • 5 °C. 	1 mark Accept if gives a figure between 0-8	[1]
(b)	6 x 1mark <u>Chicken</u> <ul style="list-style-type: none"> • Use in sandwiches • Soup • Named main meal dish eg curry/stir fry/pie/ etc <u>Mashed potatoes</u> <ul style="list-style-type: none"> • Topping for a savoury product-shepherd's pie/cottage pie/fish pie/ • Rissoles/Croquettes/fish cakes • Samosa • Potato cakes/Potato scones • Soup • Bubble and squeak <u>Sponge Cake</u> <ul style="list-style-type: none"> • Trifle • Tiramisu <u>Eating apples</u> <ul style="list-style-type: none"> • Scones/muffins • Apple cake • Crumble • Fruit salad • Added to a casserole eg pork and apple. • Apple fool/Baked apple <u>Banana</u> <ul style="list-style-type: none"> • Used in trifle • Banoffee pie • Banana cake/muffins/scones • Fruit smoothie • Used in bread and butter pudding. 	Each ingredient should be reused only once. Suggested list of dishes given-accept other recognisable dishes. Candidates should list all the additional ingredients to complete the dish effectively.	[6]

Question	Expected Answers	Rationale	Marks
	<p><u>Bread</u></p> <ul style="list-style-type: none"> • Stuffing – named type • Sweet or savoury bread and butter pudding. • Summer pudding • Named dishes using breadcrumbs eg coating fish cakes/topping a tuna bake <p><u>Carrots</u></p> <ul style="list-style-type: none"> • Soup • Scones/muffins • Cake. • Named carrot salad eg Cole slaw <p><u>Cauliflower</u></p> <ul style="list-style-type: none"> • Soup. • Vegetable curry • Named salad 		
18 (c)	<p>2 x 1 mark</p> <ul style="list-style-type: none"> • Landfill - Reduce the amount of waste going to land fill sites/prevent the increase of number of landfill sites • Life cycle analysis - Reference to any of the following which have been used to produce the food – the energy, water and packaging used in food production, transportation and storage • Pollution - As food decomposes it releases methane/CO2 /gases /greenhouse gases which can harm the environment. Leaching effect of pollution in to the surrounding soil and water. 	2 x 1 mark	[2]

Question	Expected Answers	Rationale	Marks
(d)	<p>Maximum 6 marks Banded marking</p> <p><u>Level 1 (0-2 marks)</u> Basic discussion, if candidates only write in point form a maximum of 2 marks should be awarded, showing some understanding of how food waste can be reduced. There will be little or no use of specialist terms. Answers may be ambiguous or unorganised. Errors of grammar, punctuation and spelling</p> <p><u>Level 2 (3-4 marks)</u> Adequate discussion, showing an understanding of how food waste can be reduced. There will be some use of specialist terms, although these may not always be used appropriately. The information will be presented for the most part in a structured format. There may be occasional errors in spelling, grammar and punctuation</p> <p><u>Level 3 (5-6 marks)</u> Thorough discussion, showing a clear understanding of how food waste can be reduced. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate can demonstrate the accurate use of spelling, punctuation and grammar</p> <ul style="list-style-type: none"> • Planning meals – organised shopping lists – buying only what is needed – may make reference to knowing how many catering for. • Checking the date marking on perishable foods – make sure you plan to use them before the use by/best before date has passed. • Temperature Control -Storing of food correctly – correct temperatures – may give specific details – give examples of foods which in the past were not stored in the fridge – eg tomato ketchup once opened • Preserving – eg If perishable food is to go past its use by date – freezing for use later. Freezing left over portions. 	<p>Do not credit the same reason being given for different points eg temperatures</p> <p>Do not credit candidates repeating ideas from 18b</p> <p>Level 1 (0-2 marks) Basic discussion, if candidates only write in point form a maximum of 2 marks should be awarded, showing some understanding of how food waste can be reduced. There will be little or no use of specialist terms. Answers may be ambiguous or unorganised. Errors of grammar, punctuation and spelling</p> <p>Level 2 (3-4 marks) Adequate discussion, showing an understanding of how food waste can be reduced. There will be some use of specialist terms, although these may not always be used appropriately. The information will be presented for the most part in a structured format. There may be occasional errors in spelling, grammar and punctuation</p> <p>Level 3 (5-6 marks) Thorough discussion, showing a clear understanding of how food waste can be reduced. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate can demonstrate the accurate use of spelling, punctuation and grammar</p> <p><u>Specialist terms to look out for:</u> Perishable Food spoilage bacteria/yeasts/moulds/enzymes Micro organisms Correct temperatures Deteriorate</p>	

Question	Expected Answers	Rationale	Marks
	<ul style="list-style-type: none"> • Storing of foods in fridge – eg fruit and vegetables will keep longer – food spoilage bacteria slowed down when between 0 -5 °C. • Finding recipes to reuse left over food/gives examples of how to reuse foods/mention ‘cook one eat twice campaign’ (sign up – recipes for left overs) Love food hate waste. • Preparing foods in the correct quantities – eg weighing out foods in portion sizes eg pasta and rice • Special offers- Don't be tempted by special offers unless you are able to use the food or freeze it. 	Total	[15]

A524 Technical Aspects of Designing and Making

Question		Expected Answers	Marks	Rationale
(a)	(i)	One mark for correct answer. 5-10 servings	[1]	Accept any number between 5 and 10
	(ii)	One mark for each correct answer. Two required. <ul style="list-style-type: none"> • Part of a balanced diet • Vitamins • Minerals • Fibre (NSP) • Add colour/ variety/ texture/ flavour to diet • Low in fat • Lower in calories. Fill you up but lower in calories. • Antioxidants- protect against cancers /coronary heart disease/disease 	[2]	Do not accept keep us healthy, good for you, maintains good health.
(b)		One mark for each correct answer. Two required. <ul style="list-style-type: none"> • Attractive colourful display • Friendly personal service/lively environment • Wide selection • Seasonal products • Competitive prices-often cheaper than supermarkets • Local produce/support local companies • Easy to see if fresh • Environmentally friendly/buy loose/ Very little packaging 	[2]	

Question		Expected Answers	Marks	Rationale
	(c)	<p>One mark for each correct answer. Two required.</p> <ul style="list-style-type: none"> • To disguise them in other foods eg carrot cake • Use as decoration/garnish • Serve them in a fun/attractive way/fruit kebabs/fruit in chocolate/veg sticks and dips • Add to sauces/soups/burgers/bolognaise • Put in fruit/jelly/smoothies/yoghurt/milk shakes/juices • Add fruit to cereals • Add dried fruit to cookies/biscuits • Add fruit to puddings/cakes • Freeze fruit juice in lollies 	[2]	Answer must show how the fruit and vegetable have been made appealing or have been disguised
	(d)	<p>One mark for a correct answer. Two required</p> <ul style="list-style-type: none"> • Freeze them in slices/Freeze as a puree/stew them and freeze • Make apple pies/apple products and freeze them • Use them in jams / jellies with other fruits • Use them in Chutneys 	[2]	Do not accept drying them Do not accept a repeat of the same method unless another process is involved. Eg Accept -Freeze in slices Cook apple pies and freeze
	(e) (i)	<p>One mark for method</p> <ul style="list-style-type: none"> • Putting in water/sugar syrup • Adding lemon juice • Packing in a vacuum pack/MAP packaging • Blanching in boiling water 	[1]	

Question	Expected Answers	Marks	Rationale
	<p>(ii) One mark for statement or two marks for detailed explanation</p> <p>Putting in water/sugar syrup</p> <ul style="list-style-type: none"> • This excludes the air/oxygen which causes the apples to turn dark - caused by tannin compounds(1 mark) in the presence of enzymes.(1 mark) <p>Adding lemon juice</p> <ul style="list-style-type: none"> • By changing the ph to acidity this prevents the enzymes from causing oxidation <p>Packing in a vacuum pack/MAP packaging</p> <ul style="list-style-type: none"> • Browning can be reduced by by removing oxygen which causes the formation of tannins <p>Blanching</p> <ul style="list-style-type: none"> • the heat destroys the enzymes that cause the browning 	[2]	This is an A grade answer. Detail is required for 2 marks
	Total	[12]	

Question		Expected Answers	Marks	Rationale
2	(a)	<p>One mark for a correct answer. Two required</p> <ul style="list-style-type: none"> • Protein • Fat • Carbohydrate • Calcium • Fibre • Vitamins A • Vitamin D 	[2]	
	(b)	<p>One mark for each correct answer. Two required.</p> <ul style="list-style-type: none"> • Less time to spend on cooking preparation/quicker to prepare them than from scratch • Families eating at different times • Differing lifestyles, likes, dislikes of family members • Increased influence of advertising • Easy to store • Handy stand by /buy frozen to use later • Use microwave • Inadequate cooking facilities • Cheaper 'one off' meals • Opportunity to try a new dish • Reduces washing up and clearing away • Appeals to a wide range of ages of children 	[2]	

Question	Expected Answers	Marks	Rationale
(c)	<p>One mark for correct answer</p> <ul style="list-style-type: none"> • Any suitable colourful garnish eg tomato/parsley • Darker coloured cheese grated • Grilled top • Crunchy topping of breadcrumbs /crisps/ grilled • Serve with salad/named colourful vegetable 	[1]	
(d) (i)	<p>One mark for correct answer</p> <ul style="list-style-type: none"> • Cornflour • Plain flour/flour • Starch/ modified starch 	[1]	
(ii)	<p>Four marks for four clear stages</p> <p>Cold water mixed with the starch/cornflower/flour</p> <ul style="list-style-type: none"> • Starch grains gradually swell • When heated with a liquid the starch grains swell rapidly • Starch grains burst when the sauce is boiled/reaches 100C • Makes a gel. • The proportion of starch to liquid affects the thickness of the gel • If not stirred the sauce will go lumpy • If not boiled it may taste raw • The final sauce is a smooth opaque gel 	[4]	<p>Do not allow marks for stating the thickening agent. Credit temperatures</p>

Question		Expected Answers	Marks	Rationale
	(e)	<p>One mark for a statement. Two marks for a full explanation of one issue</p> <ul style="list-style-type: none"> • Animal rights • Environmental factors/carbon footprint/food miles/ • Fair trade • Employment issues • Organic /use of pesticides/growth promoters/fertilisers • GM foods • Economic factors eg product pricing/single portions/economy range • Quality of ingredients/ buying farm assured ingredients • Responsibility re the health of the nation • Packaging 	[2]	This is an a grade response for 2 marks
		Total	[12]	

Question		Expected Answers	Marks	Rationale
3	(a)	<p>One mark for ticking the correct box</p> <ul style="list-style-type: none"> Meat must be on a low shelf and fresh cream cake must be above the meat. 	[1]	There is only one answer for this
	(b)	<p>One mark for each correct condition. Three marks.</p> <ul style="list-style-type: none"> Warmth Food Moisture/damp Time Correct ph 	[3]	
	(c)	<p>One mark for correct answer</p> <ul style="list-style-type: none"> Bacteria is transferred/passed from one food to another Bacteria is transferred from raw food to cooked food. Bacteria are carried on a knife/chopping board for one food to another Raw food touching cooked food. 	[1]	
	(d)	<p>One mark for the correct answer</p> <p>A high risk food is one that in which:</p> <ul style="list-style-type: none"> harmful bacteria can grow quickly high moisture/nutrient content high protein/nutrient content perishable food food stored in the freezer/refrigerator 	[1]	

Question	Expected Answers	Marks	Rationale																								
(e)	<p>Discussion could include any of the following points</p> <table border="1"> <thead> <tr> <th>Point</th> <th>Explanation</th> <th>Specific Example</th> </tr> </thead> <tbody> <tr> <td>List of ingredients</td> <td>To identify high risk foods</td> <td>Raw eggs cream shell fish</td> </tr> <tr> <td>Gives correct storage conditions information. Tells you to store in a refrigerator</td> <td>Refrigerator temperature Freezing Dry/ambient</td> <td>1-5° C Below 18° C For packets in a food cupboard</td> </tr> <tr> <td>Information on the length of time that food can be stored</td> <td>Bacteria need time to grow</td> <td>Use by date</td> </tr> <tr> <td>Information on safe cooking temperatures and times</td> <td>Bacteria killed at 100° C Pasteurisation at 72 ° C Danger zone</td> <td>Eggs/meat. Reheating chilled foods</td> </tr> <tr> <td>Warnings. When a food is not suitable for freezing</td> <td>It may have been previously frozen. May contain too much water and would spoil.</td> <td>Fish products Salad products</td> </tr> <tr> <td>Reheating/preparation instructions</td> <td>Microwave times and temperatures. Food must be above 72 ° C</td> <td>Often states food must be piping hot.</td> </tr> <tr> <td>Microwave reheating instructions</td> <td>May have information on use of colour reactive/heat sensitive indicators</td> <td>Ready meals</td> </tr> </tbody> </table>	Point	Explanation	Specific Example	List of ingredients	To identify high risk foods	Raw eggs cream shell fish	Gives correct storage conditions information. Tells you to store in a refrigerator	Refrigerator temperature Freezing Dry/ambient	1-5° C Below 18° C For packets in a food cupboard	Information on the length of time that food can be stored	Bacteria need time to grow	Use by date	Information on safe cooking temperatures and times	Bacteria killed at 100° C Pasteurisation at 72 ° C Danger zone	Eggs/meat. Reheating chilled foods	Warnings. When a food is not suitable for freezing	It may have been previously frozen. May contain too much water and would spoil.	Fish products Salad products	Reheating/preparation instructions	Microwave times and temperatures. Food must be above 72 ° C	Often states food must be piping hot.	Microwave reheating instructions	May have information on use of colour reactive/heat sensitive indicators	Ready meals	<p>Banded answer</p> <p>Level 1 (0-2 marks) Basic discussion, showing limited understanding of the information and its implications on the use and storage of high risk foods. There will be little or no use of specialist terms. Answers may be ambiguous or disorganised. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Level 2 (3-4 marks) Adequate discussion, showing some understanding of the implications of labelling the use and storage of on high risk foods. There will be some use of specialist terms, although these may not always be used appropriately. The information will be presented for the most part in a structured format. There may be occasional errors in spelling, grammar and punctuation</p> <p>Level 3 (5-6 marks) Thorough discussion, showing detailed understanding of the implications of labelling the use and storage of on high risk foods. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate can demonstrate the accurate use of spelling, punctuation and grammar.</p> <p>[6]</p>	<p>Total</p> <p>[12]</p>
Point	Explanation	Specific Example																									
List of ingredients	To identify high risk foods	Raw eggs cream shell fish																									
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Question			Expected Answers	Marks	Rationale
4	(a)	(i)	One mark for correct answer <ul style="list-style-type: none"> • 1.8g salt 	[1]	Accept 30%
		(ii)	One mark for one correct answer <ul style="list-style-type: none"> • Reduce risk of heart disease/strokes • Reduce high blood pressure • Kidney damage • Demineralisation of bones 	[1]	
		(iii)	One mark for each correct answer. Two required. <ul style="list-style-type: none"> • Herbs • Spices • Lemon Juice/lime juice • Salt substitutes • Oils • Vinegar • Stock • Wine/alcohol • Strong flavoured vegetable • Seasoning mix • Garlic • Tomato puree 	[2]	

Question	Expected Answers	Marks	Rationale
(b)	<p>One mark for each correct group. Two required One mark for each correct example. Two required given for correct example.</p> <p>Group- White fish</p> <ul style="list-style-type: none"> • Cod/Haddock/Plaice/Skate/Coley/Pollock <p>Group –Oily Fish</p> <ul style="list-style-type: none"> • Herring/Mackerel/Salmon/Trout/Tuna 	[4]	If nothing in the groups box but examples of each type of fish are given then one mark can be for each
(c)	<p>Two x Two marks for detailed explanation of suitable tests</p> <p><u>Ranking test</u></p> <ul style="list-style-type: none"> • Five different prawn masala would be labelled A/B/C/D/E or given symbols. • The taster could be asked to taste and rank the order of 5 different prawn masala's. Starting with the one they liked to best. <p><u>Rating Test</u></p> <ul style="list-style-type: none"> • The prawn masala's are each given a score of a scale eg 1-5. The scale could be from dislike a lot- to like a lot. <p><u>Star profile</u></p> <ul style="list-style-type: none"> • This can show the sensory descriptors for the product. • People on the tasting panel can rate each sensory quality to give a profile. • Results can be compared to see what different people think about b the prawn masala <p><u>Triangle testing</u></p> <ul style="list-style-type: none"> • This could be used to see if the panel could recognise their brand of prawn masala • Tasters are given 3 samples to try and they have to tell the difference between brands. <p>The following points may be used in the descriptions.</p> <ul style="list-style-type: none"> • Testing must take place in a controlled environment eg lighting, temperature, presentation of food on identical sized and shaped plates. • 	[4]	Candidates must clearly state which type of testing they are describing.

Question			Expected Answers	Marks	Rationale
			<ul style="list-style-type: none"> • Separate compartments/booths so that each tester is not affected by others. • Small number of samples at one time so the tester do not become overwhelmed or forget what they have tasted. • Samples are coded randomly so that the tester cannot guess the result. Drinking water/plain biscuits should be eaten to clear the mouth. • Clear instruction given for the testers. 		
			Total	[12]	

Question		Expected Answers	Marks	Rationale
5	(a) (i)	<p>One mark for correct function</p> <ul style="list-style-type: none"> • Strong teeth • Strong bones • Prevention of rickets/collagen formation/prevents osteoporosis 	[1]	
	(b)	<p>One mark for correct target group</p> <ul style="list-style-type: none"> • Babies • Young children • Teenagers • Pregnant women • Breast feeding mothers 	[1]	
	(c)	<p>Four marks for clearly describing how they have met the specification</p> <p>Use milk or milk products</p> <ul style="list-style-type: none"> • Milk/Cream/yoghurt/fromage frais/crème fraiche <p>Be easy to serve as single portions</p> <ul style="list-style-type: none"> • Show a single portion container/give weight/label dimensions. • Show how a larger product could be cut into portions/divided <p>Contain some fibre</p> <ul style="list-style-type: none"> • Includes/fruit/nuts/ • Wholemeal bread or biscuits • Wholemeal flour/use of bran <p>Appeal to an elderly person</p> <ul style="list-style-type: none"> • Have an attractive finish/texture • Be easy to eat (false teeth) • Portion size • Traditional flavour • Low Cost • Easy to prepare and cook 	[4]	<p>Candidates must clearly show how the specification has been met. They cannot simply write –cheap—without naming a specific low cost ingredient. The combination must create a realistic product.</p>

Question	Expected Answers			Marks	Rationale
(d)	Discussion might include any of these points:				<p>Level 1 (0-2 marks) Basic discussion, showing limited understanding of the implications to the manufacturer . There will be little or no use of specialist terms. Answers may be ambiguous or disorganised. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Level 2 (3-4 marks) Adequate discussion, showing some understanding of the implications to the manufacturer . There will be some use of specialist terms, although these may not always be used appropriately. The information will be presented for the most part in a structured format. There may be occasional errors in spelling, grammar and punctuation</p> <p>Level 3 (5-6 marks) Thorough discussion, showing detailed understanding of the implications to the manufacturer. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate can demonstrate the accurate use of spelling, punctuation and grammar.</p>
Point	Explanation	Specific examples			
Statutory requirement / it is the law and so everyone must comply	All food handlers to be trained Recorded temperature controls	Food Hygiene qualification Food safety Reg 1995			
Equipment maintenance/repair must comply with the law	This relies on correct use and maintenance by staff Less risk of cross contamination	Meals will be hot (over 63 C)			
Premises must comply with law	Has resulted in better working conditions for staff	Elderly know that the food is safe to eat			
Risk assessment must be carried out regularly	Temperature control to prevent bacterial growth Health and safety of the workers	No cross contamination/pests/ Correct storage rotation of stock			
Manufacturer has to provide better working conditions for staff	Staff are trained well Conditions are better Staff are happier	Better safe food due to hygiene of staff			
Environmental Health officers	Makes regular spot checks to ensure that standards are maintained	Can close down the premises, or impose a heavy fine			
Increased cost to manufacturer	Extra training/equipment increase the cost to the manufacturer	Better reputation High quality products			
				[6]	
				Total	[12]
				Paper Total	[60]

Grade Thresholds

General Certificate of Secondary Education
Design and Technology (Food Technology) (J042) (J302)
January 2010 Examination Series

Unit Threshold Marks

Unit		Maximum Mark	a*	a	b	c	d	e	f	g	u
A521	Raw	60	54	48	42	36	30	24	18	12	0
	UMS	120	108	96	84	72	60	48	36	24	0
A522	Raw	60	50	44	38	33	27	21	16	11	0
	UMS	80	72	64	56	48	40	32	24	16	0

Total number of entries for A521 were 1118

Total number of entries for A522 were 68

There were no entries for A523 and A524

Statistics are correct at the time of publication.

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