

## **GCSE**

### **Design and Technology: Food Technology**

Unit **A525**: Sustainability and technical aspects of designing and making

General Certificate of Secondary Education

### **Mark Scheme for June 2015**

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

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## Annotations

1		1071	Caret	Caret sign to show omission
2		311	L1	Level 1
3		321	L2	Level 2
4		331	L3	Level 3
5		271	REP	Repeat
6		811	SEEN	Noted but no credit given
7		11	Tick	Tick

**Subject-specific Marking Instructions****Marking crossed out and duplicated answers**

OCR currently provides examiners with 'rules' for marking crossed out answers (which may be partially or wholly correct) and duplicated answers. Duplicated answers refer to two (or more) alternative responses to the same question, or responses to more optional questions than required within the paper rubric.

The rules are as follows:

***Crossed out answers***

- where a candidate crosses out an answer and provides an alternative response the crossed out response is not marked and gains no marks
- where a candidate crosses out an answer to a whole question, but makes no second attempt and the inclusion of the answer would not cause a rubric infringement, the assessor should attempt to mark the crossed out response and award marks appropriately.

***Duplicated answers***

- normally all responses are marked and the highest mark given
- where alternate answers are provided to a multiple choice question, no mark should be awarded (for example: following a request to tick one box, the candidate ticks two or more boxes)
- where the candidate provides contradictory responses, no mark should be awarded (for example: the candidate writes a statement such as 'water freezes at 0°C this means it is a liquid at -10°C'). The candidate, here, does not seem to understand the context of the 'question'
- where the candidate has adopted a 'scattergun' approach by providing multiple answers to a single response question, no mark should be awarded

## Section A

Question		Answer	Marks	Guidance
1		C	1	Paper
2		B	1	Prevents anaemia
3		A	1	Primary recycling
4		A	1	Eat more fibre
5		A	1	Ethical Trading Initiative
6		<ul style="list-style-type: none"> <li>• Allergic to wheat</li> <li>• Does not contain gluten</li> <li>• Gluten free</li> <li>• Suitable for coeliacs</li> <li>• Wheat free</li> </ul>	1	1 mark
7		Advertising on the packaging Suggesting ways packaging can be recycled / reused Mobius symbol Telling you to recycle it / instructions Use of symbols / recycling logo / logo	1	1 mark
8		Consumers don't understand what GM is / not a natural process Environmental issues e.g. how crops are affected / pollen may spread from plant to other crops Ethical reasons Lack of clear labelling / no labelling on animal feed on GM food Unintended harm to other organisms e.g. butterflies <b>Unknown</b> health risks / long term safety Welfare of animals may be affected	1	1 mark Do not accept reference to chemicals
9		<ul style="list-style-type: none"> <li>• Artichokes</li> <li>• Beetroot</li> <li>• Cabbage</li> <li>• Carrot</li> <li>• Cauliflower</li> <li>• Celeriac</li> <li>• Celery</li> <li>• Chicory</li> <li>• Fennel</li> <li>• Kale</li> </ul>	1	1 mark Accept any suitably named vegetable

Question	Answer	Marks	Guidance
	<ul style="list-style-type: none"> <li>• Leeks</li> <li>• Lettuce</li> <li>• Marrow</li> <li>• Mushrooms</li> <li>• Onion</li> <li>• Potatoes</li> <li>• Parsnips</li> <li>• Pumpkin</li> <li>• Rocket</li> <li>• Sorrel</li> <li>• Squashes</li> <li>• Swede</li> <li>• Sweetcorn</li> <li>• Sweet potato</li> <li>• Swiss chard</li> <li>• Tomatoes</li> <li>• Turnip</li> <li>• Watercress</li> </ul>		
<b>10</b>	Allergies Cause hyperactivity in children Side effects / harmful Want to eat natural foods / can mask poor quality ingredients	1	1 mark Do not accept reference to hyper Do not accept healthier
<b>11</b>	True	1	1 mark
<b>12</b>	False	1	1 mark
<b>13</b>	True	1	1 mark
<b>14</b>	True	1	1 mark
<b>15</b>	False	1	1 mark

## Section B

Question		Answer	Marks	Guidance
16	(a)	<p><b>Cooked meat</b></p> <ul style="list-style-type: none"> <li>• Fridge / 0-8°C</li> <li>• Freezer / -18 to -22°C</li> </ul> <p><b>Scone</b></p> <ul style="list-style-type: none"> <li>• Airtight container / container</li> <li>• Freeze</li> <li>• Wrapped</li> </ul>	2	<p>2x 1 mark</p> <p>Do not accept near the bottom / bottom of fridge</p> <p>Do not accept cool / dry / dark place</p>
16	(b)	<p><b>Grated carrots</b></p> <ul style="list-style-type: none"> <li>• Carrot cake</li> <li>• Coleslaw</li> <li>• Part of a meal</li> <li>• Soup</li> </ul> <p><b>Cooked potato</b></p> <ul style="list-style-type: none"> <li>• Bubble and squeak</li> <li>• Potato cakes / Potato scones</li> <li>• Potato salad</li> <li>• Rissoles / Croquettes / fish cakes</li> <li>• Samosa</li> <li>• Soup</li> <li>• Topping for a shepherd's / cottage / fish pie</li> </ul> <p><b>Half a tub of cream cheese</b></p> <ul style="list-style-type: none"> <li>• In a cheesecake</li> <li>• In a pasta bake</li> <li>• Topping on carrot cake or other cakes</li> <li>• Used in a sauce</li> </ul> <p><b>Filo pastry</b></p> <ul style="list-style-type: none"> <li>• Named suitable dish</li> <li>• Samosa</li> <li>• Spring rolls</li> <li>• Topping for pies</li> </ul> <p><b>Grated cheese</b></p> <ul style="list-style-type: none"> <li>• Any cheese sauce based dish</li> </ul>	6	<p>6x1 mark</p> <p><b>Must be one sweet and one savoury dish</b></p> <p>Each ingredient should be reused only once.</p> <p>Suggested list of dishes given-accept other recognisable dishes.</p> <p>Candidates should list all the additional ingredients to complete the dish effectively,</p> <p>If a candidate successfully makes a dish without the need for additional ingredients and states this in the bottom box give credit.</p> <p><b>Do not accept strawberry cake - using the stale cake</b></p>

Question	Answer	Marks	Guidance
	<ul style="list-style-type: none"> <li>• Cheese flan / quiche / pie / pasty / pizza</li> <li>• Cheese scones</li> <li>• Cheese soufflé</li> <li>• Cheese sandwich (not using the stale bread)</li> </ul> <p><b>Lemon</b></p> <ul style="list-style-type: none"> <li>• Any lemon based dessert</li> <li>• Lemon cake / muffins</li> </ul> <p><b>Half an onion</b></p> <ul style="list-style-type: none"> <li>• In any savoury product e.g. pies, pasta bakes, shepherd's pie, lasagne etc.</li> </ul> <p><b>Stale sponge cake</b></p> <ul style="list-style-type: none"> <li>• Tiramisu</li> <li>• Trifle</li> </ul> <p><b>Chopped strawberries</b></p> <ul style="list-style-type: none"> <li>• Any suitable dessert e.g. cheesecake, pie, flan, crumble</li> <li>• As part of a cake product e.g. in muffins,</li> <li>• Decoration on a cake / cheese-cake</li> </ul> <p><b>Stale bread</b></p> <ul style="list-style-type: none"> <li>• Breadcrumbs used to coat any named product</li> <li>• Breadcrumbs in meat loaf / burgers</li> <li>• Cinnamon / French toast</li> <li>• Queen of Puddings</li> <li>• Summer Pudding</li> <li>• Sweet or savoury bread and butter pudding</li> <li>• Topping on a pasta bake</li> <li>• Treacle tart</li> </ul> <p><b>Cooked Chicken</b></p> <ul style="list-style-type: none"> <li>• Chicken sandwich (not using the stale bread)</li> <li>• Pasta bake</li> <li>• Pie</li> </ul>		



Question	Answer	Marks	Guidance
	<ul style="list-style-type: none"> <li>• Vol-au-vent</li> </ul> <p><b>Cooked pasta</b></p> <ul style="list-style-type: none"> <li>• Pasta bake</li> <li>• Pasta salad</li> </ul>		

Question	Answer	Marks	Guidance	
			Content	Levels of response
16 (c)	<ul style="list-style-type: none"> <li>• <b>Buy frozen foods</b> - you can just use the amount needed</li> <li>• <b>Check date marking</b> on foods – plan to use them before the use by/best before date has passed / rotate stock / choose foods with longest use by date when shopping. .</li> <li>• <b>Composting</b></li> <li>• <b>Donating to food banks / shelters</b></li> <li>• <b>Feeding waste food to animals</b></li> <li>• <b>Planning meals</b> – shopping lists – buying only what is needed – knowing how many catering for / what is in fridge, freezer, cupboards / ready meals e.g. for single portions</li> <li>• <b>Preserving</b> – e.g. If perishable food is to go past its use by date – freezing for use later. Mention of any method of preservation suitable for making use of gluts of food</li> <li>• <b>Special offers</b>- Don't be tempted by special offers unless you are able to use the food or freeze it.</li> <li>• <b>Storing of food correctly</b> – correct temperatures / following manufacturer instructions for storing foods</li> <li>• <b>Storing of food in freezer</b> – if it is suitable for the food – so that it will last</li> </ul>	6	<p>If candidates list in bullet form – maximum 2 marks</p> <p>This question is about the buying, storing and preparing food</p> <p>Do not credit responses making reference to the reusing of cooked food / freezing of left overs</p> <p>Candidates must refer to correct date marks</p> <p>If awarding 0 marks you must put SEEN next to the response instead of a level</p>	<p><b>Level 3 (5-6 marks)</b> Thorough explanation, showing a clear understanding of how consumers can reduce the amount of food they throw away. 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><b>Level 2 (3-4 marks)</b> Adequate explanation, showing an understanding of how consumers can reduce the amount of food they throw away. 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><b>Level 1 (1-2 marks)</b> Basic explanation, if candidates only write in point form a maximum of 2 marks should be awarded,</p>

Question			Answer	Marks	Guidance	
					Content	Levels of response
			<p>longer / -18°C / bacteria dormant.</p> <ul style="list-style-type: none"> <li>• <b>Storing of foods in fridge</b> – e.g. fruit and vegetables will keep longer – food spoilage bacteria slowed down when between 0 -5 °C.</li> <li>• <b>Using the correct quantities</b> – weighing out foods in portion sizes e.g. pasta and rice</li> </ul>			<p>showing some understanding of how consumers can reduce the amount of food they throw away. There will be little or no use of specialist terms. Answers may be ambiguous or disorganized. Errors of grammar, punctuation and spelling</p> <p><b>0=no response worthy of credit</b></p>

Question			Answer	Marks	Guidance
16	(d)		<p>Fresher</p> <p>Less food miles</p> <p>Reduced carbon footprint / Less energy used in transporting</p> <p>Supports local farmers / UK farmers</p>	2	<p>2x1 mark</p> <p>Do not accept - knows where it is coming from</p>
16	(e)		<p>Reference to family traditions</p> <p>Traditions / celebrations</p> <p>Religion – eat certain foods e.g. Hindu do not eat beef, Muslims do not eat pork / reference to halal meat, Jews do not eat pork / shell fish/ meat and dairy not eaten at the same time / reference to kosher foods, Buddhists – do not eat meat</p> <p>Use ingredients linked to where family originally came from e.g. spices for a particular country / staple foods</p>	2	<p>2 x 1 mark</p> <p>Can credit up to two religions with appropriate food laws</p>
16	(f)		<p>Better working conditions</p> <p>Comparable in taste and flavour</p> <p>Ethical / moral reasons - supporting less well off people</p> <p>Producers get paid a fair price / reduce poverty / increases earnings</p> <p>Supports educational programmes in underdeveloped countries</p> <p>Supports health programmes in under developed countries</p> <p>Wide range of products available</p>	2	<p>2 x 1 mark</p> <p>Tastes better must be qualified</p>

Question			Answer	Marks	Guidance
17	(a)	(i)	Whole milk	1	1 x 1 mark
17	(a)	(ii)	Energy Healthy hair and skin Insulates the body / maintains body temperature / warmth Part of the structure of cells Protect vital organs / protect from outside impact Provides essential fatty acids Responsible for formation of hormones Source of fat soluble vitamins	1	1 x1 mark
17	(a)	(iii)	Vitamin D is a fat soluble vitamin There is less fat in the milk	1	1 x1 mark
17	(a)	(iv)	120mg	1	1 x1 mark Must put the mg after the number
17	(a)	(v)	Enzyme formation Formation / growth of bones / teeth Heart regulation / keep normal heartbeat Muscle contraction / relaxation Prevents rickets Prevents stunted growth Regulating blood pressure / Clotting blood Release of hormones Sending / receiving nerve signals Strong / maintenance of bones / teeth To prevent osteoporosis	1	1x1 mark
17	(b)		<ul style="list-style-type: none"> <li>• Almond milk</li> <li>• Anchovies</li> <li>• Bread</li> <li>• Buffalo milk, cheese</li> <li>• Soya milks, yoghurts, tofu, cheeses</li> <li>• Coconut milk</li> <li>• Dried apricots, dates and figs</li> <li>• Goats milk, yoghurt, cheese</li> <li>• Green leafy vegetables / broccoli / Brussels sprouts / chard / calabrese / kale /collard / spinach / spring</li> </ul>	2	2x1 mark  Do not accept lactose free milk / dairy free

Question		Answer	Marks	Guidance
		cabbage <ul style="list-style-type: none"> <li>• Nuts</li> <li>• Oat milk</li> <li>• Pulses</li> <li>• Rice milk</li> <li>• Sardines</li> <li>• Seeds</li> <li>• Sheep, milk, yoghurt, cheese</li> <li>• Tinned salmon</li> <li>• Whitebait</li> </ul>		
17	(c)	<ul style="list-style-type: none"> <li>• Canning / evaporated / condensed</li> <li>• Dried / powdered</li> <li>• Pasteurised</li> <li>• Sterilised</li> <li>• UHT / Ultra Heat treated</li> <li>• Filtered milk</li> </ul>	2	2 x 1 mark  Do not accept homogenised Do not accept frozen milk - whole milk cannot be frozen successfully
17	(d)	<p><b>To include a dairy ingredient</b> – clearly includes any of the following:</p> <ul style="list-style-type: none"> <li>• Milk</li> <li>• Cheese</li> <li>• Cream</li> <li>• Crème Fraiche</li> <li>• Yoghurt</li> </ul> <p><b>Suitable dessert</b></p> <ul style="list-style-type: none"> <li>• Names dish</li> <li>• Shows clearly that it is a sweet product</li> </ul> <p><b>To be attractive to children</b></p> <ul style="list-style-type: none"> <li>• By the drawing shows how it is appealing to children –</li> <li>• Colourful</li> <li>• Decoration</li> </ul> <p><b>To contain a variety of textures-</b></p> <ul style="list-style-type: none"> <li>• Clearly states the textures in the dish</li> </ul>	6	6x1 mark  4 marks available providing you can clearly see the criteria have been met  2 x 1 mark for additional information in the labelling / stating clearly how it meets the specification Award up to 2 marks for naming two different textures  Do not accept bars of chocolate / sweets as a dessert

Question		Answer	Marks	Guidance
18	(a)	Fruit and vegetables Starchy foods (bread, rice, potato, pasta) Starchy carbohydrates	2	2x1 mark  Do not accept carbohydrates on its own
18	(b)	Angina Blood cholesterol / cholesterol levels Breathlessness Cancer Clog / block / narrow arteries Diabetes Heart disease / CHD High blood pressure Increase in obesity / overweight Osteoarthritis Strokes Varicose veins	2	2x1 mark  Do not accept reference to heart attack / problems

Question		Answer	Marks	Guidance	
				Content	Levels of response
18	(c)	<ul style="list-style-type: none"> <li>Calcium and vitamin D for her own and baby's bone and tooth development. Look for fortified foods.</li> <li>Consider methods of cooking in order to retain vital nutrients e.g. steaming to retain vitamin C</li> <li>Drinks lots of water</li> <li>Folic acid – make new cells in the developing baby - taken as supplements during early pregnancy</li> <li>Good supply of fruit and vegetables to provide fibre and vitamin C – to avoid bleeding gums</li> <li>Increase fibre to prevent constipation – bowels can become sluggish</li> <li>Iron – baby developing blood supply</li> <li>Not too many fatty and sugary foods</li> </ul>	6	<p>If candidates list in bullet form – maximum 2 marks If just refers to the Eatwell plate maximum 2 marks</p> <p>If awarding 0 marks you must put SEEN next to the response instead of a level</p>	<p><b>0=no response worthy of credit</b> <b>Level 1 (1-2 marks)</b> Basic discussion, if candidates only write in point form a maximum of 2 marks should be awarded, showing some understanding of the requirements of a pregnant woman There will be little or no use of specialist terms. Answers may be ambiguous or disorganized. Errors of grammar, punctuation and spelling</p> <p><b>Level 2 (3-4 marks)</b> Adequate discussion, showing an understanding of how the dietary requirements of a pregnant woman. There will be some use of specialist terms, although these may not always be used appropriately. The</p>

Question			Answer	Marks	Guidance	
					Content	Levels of response
			<p>– so that she does not put on weight</p> <ul style="list-style-type: none"> <li>• Not too many salty foods as this can result in sweating or pre-eclampsia</li> <li>• Protein for growth of the baby</li> <li>• Reference to Eatwell Plate</li> <li>• Varied balanced diet</li> </ul>			<p>information will be presented for the most part in a structured format. There may be occasional errors in spelling, grammar and punctuation</p> <p><b>Level 3 (5-6 marks)</b></p> <p>Thorough discussion, showing a clear understanding of the requirements of a pregnant woman. 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>

Question		Answer	Marks	Guidance
18	(d)	Children / babies Elderly People with immune deficiencies / illness	2	2 x 1 mark
18	(e)	<ul style="list-style-type: none"> <li>• Colour coded equipment</li> <li>• Cover cuts</li> <li>• Don't cough or sneeze over food</li> <li>• Hair tied back</li> <li>• Keep bins covered / throw rubbish away straight away</li> <li>• Keep pets / flies away from food preparation areas</li> <li>• Keep raw and cooked food separate</li> <li>• Keep working surfaces and equipment clean</li> <li>• Jewellery removed</li> <li>• Short nails / no nail varnish / false nails</li> <li>• Use different equipment to prepare raw and cooked food</li> <li>• Wash hands / before / between handling different types of food / using toilet / blowing nose / emptying bins or after cleaning / touching hair or raw eggs</li> </ul>	3	3 x1 mark

Question		Answer	Marks	Guidance
		<ul style="list-style-type: none"> <li>Wash surfaces / utensils between tasks</li> <li>Wear protective clothing</li> </ul>		
19	(a)	All-in-one Blended Roux	2	2 x 1 mark
19	(b)	Starch grains / flour not able to dissolve in the liquid As <b>heat</b> is applied the starch grains swell – absorb liquid As more <b>heat</b> is applied starch grains burst As they burst it causes the sauce to thicken / thickens	2	2 x 1 mark
19	(c)	All ingredients combined together Evenly cooked Sticking and burning on base of pan To prevent lumps forming	1	1 mark
19	(d)	Food should be identical in size / presented in the same way Have charts for testers to complete / record results Make sure testers know how to complete the charts Serve food at the correct temperature Served on identical plates Testers not allowed to communicate with each other / seat people separately Use clean spoons / forks for each product Use codes / not numbers / alphabetical order Water / lemon flavoured drink / cracker to clear palette after each food	4	4 x 1 mark
19	(e)	<ul style="list-style-type: none"> <li>A statement that tells the manufacturer exactly what <b>final</b> product should include</li> <li><b>Final</b> details for all aspects of the food product</li> <li><b>Give exact / precise details of the final product</b> - so that a replica of the <b>final</b> prototype can be produced</li> <li>Very specific details regarding the <b>final</b> product</li> </ul>	2	2 x 1 mark  1 explained point for two marks or two separate points  Example of 2 marks Provides the <b>final</b> details for all aspects of the food product (1 mark) for example size, ingredients (1 mark)
19	(f)	<ul style="list-style-type: none"> <li>Radiation / microwaves form of radiation</li> <li>Microwaves enter the food</li> </ul>	3	3 x 1 mark

Question		Answer	Marks	Guidance
		<ul style="list-style-type: none"><li>• Molecules of water in food vibrate</li><li>• The friction produces the heat</li><li>• The conduction of heat occurs during cooking and standing time</li><li>• There is a standing time as the molecules continue vibrating after food comes out of the microwave</li></ul>		
19	(g)	Freezer Refrigerator	1	1 x 1 mark



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