

**GENERAL CERTIFICATE OF SECONDARY EDUCATION**

**DESIGN AND TECHNOLOGY: FOOD TECHNOLOGY**

**J302**

Unit A525: Sustainability and technical aspects of designing and making

Candidates answer on the question paper  
 A calculator may be used for this paper

**OCR Supplied Materials:**

None

**Duration:** 1 hour 30 minutes

**Other Materials Required:**

- Pencil
- Ruler (cm/mm)

Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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**INSTRUCTIONS TO CANDIDATES**

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions in section A **and** section B.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.
- Do not write in Bar Codes.

**INFORMATION FOR CANDIDATES**

- Your quality of written communication is assessed in questions marked with an asterisk (\*).
- The number of marks for each question is given in brackets [ ] at the end of the question or part question.
- Dimensions are in millimetres unless stated otherwise.
- The total number of marks for this paper is **80**.
- This document consists of **16** pages. Any blank pages are indicated.

For Examiner's Use		
	Max	Mark
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	
9	1	
10	1	
11	1	
12	1	
13	1	
14	1	
15	1	
16	20	
17	15	
18	15	
19	15	
TOTAL	80	

**Section A**Answer **all** questions.On questions 1 – 5 **circle** your answer.

- 1 Which food can be sold as free range?  
(a) Fish  
(b) Eggs  
(c) Pork  
(d) Vegetables [1]
- 2 When are strawberries in season in the UK?  
(a) July  
(b) December  
(c) March  
(d) February [1]
- 3 Which of the following can be put into compost bins?  
(a) Egg shells  
(b) Cooked vegetables  
(c) Meat  
(d) Cake [1]
- 4 Which method of cooking retains the most vitamin C?  
(a) Steaming  
(b) Boiling  
(c) Frying  
(d) Poaching [1]
- 5 Processed foods usually contain less:  
(a) Sugar  
(b) Fat  
(c) Salt  
(d) Fibre [1]

6 State what is meant by biodegradable packaging.

..... [1]

7 How many portions of fruit and vegetables should you eat in a day?

..... [1]

8 The symbol shown stands for:



..... [1]

9 State what the initials GM stand for.

..... [1]

10 State how some manufacturers encourage consumers to recycle packaging.

..... [1]

**Turn over**

Decide whether each of the following statements is **true** or **false**.

**True** **False**

Tick [✓] the box to show your answer.

- |   |                          |                          |            |
|---|--------------------------|--------------------------|------------|
| <b>11</b> We should be reducing the amount of salt we eat         | <input type="checkbox"/> | <input type="checkbox"/> | <b>[1]</b> |
| <b>12</b> Glass can be recycled.                                  | <input type="checkbox"/> | <input type="checkbox"/> | <b>[1]</b> |
| <b>13</b> Reduced fat products are always low in calories.        | <input type="checkbox"/> | <input type="checkbox"/> | <b>[1]</b> |
| <b>14</b> Iron is needed to prevent scurvy.                       | <input type="checkbox"/> | <input type="checkbox"/> | <b>[1]</b> |
| <b>15</b> We are being encouraged to buy locally sourced products | <input type="checkbox"/> | <input type="checkbox"/> | <b>[1]</b> |

16 Fig. 1 shows the packaging materials used on a luxury savoury flan product.

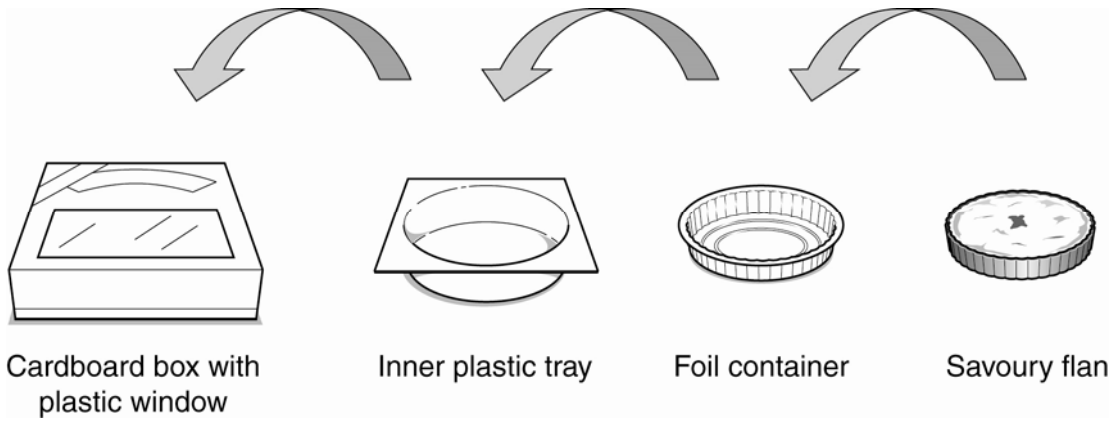


Fig. 1

(a) State **one** part of the packaging material used for the savoury flan which is biodegradable.

..... [1]

(b) The manufacturer wants to improve the packaging to be more environmentally friendly.

Explain **three** ways this could be done.

1.....

.....

.....

.....

2.....

.....

.....

.....

3.....

.....

.....

..... [6]

Turn over

(c) Fig. 2 shows the nutritional labelling on the front of the savoury flan package.

Name this system.

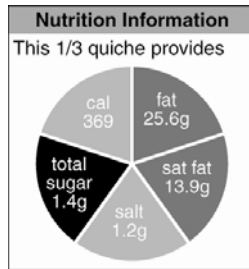


Fig. 2

..... [1]

(d) Fig. 3 shows the main ingredients used in the savoury flan.

Shortcrust pastry	Pesto. Tomato and Mozzarella Cheese filling	
<ul style="list-style-type: none"> <li>white flour</li> <li>butter</li> <li>water</li> <li>salt</li> </ul>	<ul style="list-style-type: none"> <li>double cream</li> <li>full fat milk</li> <li>eggs – free range</li> <li>cherry tomatoes</li> <li>mozzarella cheese</li> <li>cheddar cheese</li> </ul>	<ul style="list-style-type: none"> <li>onion</li> <li>corn flour</li> <li>garlic</li> <li>salt</li> <li>pepper</li> <li>pesto</li> </ul>

Fig.3

The savoury flan is to be changed so that it can be promoted as part of a healthier range of luxury food products.

Complete the chart below to show **two** different ways this could be done.

Ingredient in Savoury Flan	Ingredient changed to	Reason
1.....	..... .....[1]	..... .....[1]
2.....	..... .....[1]	..... .....[1]



(f) Allergy information is required on food labelling by law.

State **two** ingredients in the savoury flan which would be listed in the allergy information.

1.....

2..... [2]



**Section B**  
**Answer all questions**

17 Fig. 4 shows a fruit mousse.



**Fig. 4**

(a) State how the fruit mousse should be stored in the home.

..... [1]

(b) The fruit mousse is an example of a high risk food because it contains eggs and cream.

Explain **one** reason why this makes it a high risk food product.

.....  
 .....  
 .....  
 ..... [2]

(c) Name **two** nutrients found in eggs and state the dietary function of each.

Nutrient	Dietary function
1	
2	

[4]

**Turn over**



18 Fig.5 shows a batch of traditional sweet scones and the basic ingredients.



<p>Ingredients            200g Self Raising Flour            50g Margarine            50g Sugar            125ml Milk</p>
---

**Fig. 5**

(a) There is an increasing market for a new reduced calorie scone product.

The design specification for the new scone product includes;

- reduced calorie
- increased fibre
- attractive finish
- appeal to a wide age range

Use labelled sketches and/or notes to design a new scone that meets the specification.

State clearly how your design meets the specification points.

**Do not draw any packaging.**

**Name of product** .....

[6]

**Turn over**

(b) The number of obese people is increasing.  
State **two** health problems associated with obesity.

1.....  
.....  
2.....  
..... [2]

(c) Give **two** reasons why it is necessary for a manufacturer to identify a target group.

1.....  
.....  
2.....  
..... [2]

(d) The scones are baked in an oven.  
Name **one** method of heat transfer used when baking scones in the oven.

Method..... [1]  
State how the heat is transferred .....  
..... [1]

(e) Give **three** quality control checks that could be carried out during the production of a batch of scones.

1.....  
.....  
2.....  
.....  
3.....  
..... [3]

19 Fig.6 shows a child's packed lunch box.



Fig. 6

(a) The packed lunch in Fig.6 consists of :

- white bread ham sandwich
- packet of crisps
- chocolate bar
- flavoured fizzy drink.

Complete the chart below to show how this packed lunch could be changed to meet healthy eating guidelines.

Packed lunch	Changed to
White bread ham sandwich	..... .....
Packet of crisps	..... .....
Chocolate bar	..... .....
Flavoured fizzy drink	..... .....

[4]

Turn over

**(b)** Describe **one** sensory analysis test that could be carried out during the development of a new food product.

.....

.....

.....

..... [2]

**(c)** We all need energy from foods to keep us alive.  
State **three** factors that can affect our energy needs.

1.....

2.....

3..... [3]



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## Sample Assessment Material

**DESIGN AND TECHNOLOGY: FOOD TECHNOLOGY**

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

**MARK SCHEME**

**Duration:** 1 hour 30 minutes

**MAXIMUM MARK    80**

**DRAFT**

**This document consists of 17 pages**

## MARKING INSTRUCTIONS

PREPARATION FOR MARKING  
SCORIS

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *scoris assessor Online Training*; *OCR Essential Guide to Marking*.
2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are posted on the RM Cambridge Assessment Support Portal <http://www.rm.com/support/ca>
3. Log-in to scoris and mark the **required number** of practice responses (“scripts”) and the **number of required** standardisation responses

YOU MUST MARK 10 PRACTICE AND 10 STANDARDISATION RESPONSES BEFORE YOU CAN BE APPROVED TO MARK LIVE SCRIPTS.

## TRADITIONAL

Before the Standardisation meeting you must mark at least 10 scripts from several centres. For this preliminary marking you should use **pencil** and follow the **mark scheme**. Bring these **marked scripts** to the meeting.

## MARKING

1. Mark strictly to the mark scheme.
2. Marks awarded must relate directly to the marking criteria.
3. The schedule of dates is very important. It is essential that you meet the scoris 50% and 100% (traditional 40% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.
4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone or the scoris messaging system, or by email.
5. Work crossed out:
  - a. where a candidate crosses out an answer and provides an alternative response, the crossed out response is not marked and gains no marks
  - b. if a candidate crosses out an answer to a whole question and makes no second attempt, and if the inclusion of the answer does not cause a rubric infringement, the assessor should attempt to mark the crossed out answer and award marks appropriately.

6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add a tick to confirm that the work has been seen.
7. There is a NR (No Response) option. Award NR (No Response)
- if there is nothing written at all in the answer space
  - OR if there is a comment which does not in anyway relate to the question (e.g. 'can't do', 'don't know')
  - OR if there is a mark (e.g. a dash, a question mark) which isn't an attempt at the question
- Note: Award 0 marks - for an attempt that earns no credit (including copying out the question)
8. The scoris **comments box** is used by your team leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**  
If you have any questions or comments for your team leader, use the phone, the scoris messaging system, or e-mail.
9. Assistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.
10. For answers marked by levels of response:
- a. **To determine the level** – start at the highest level and work down until you reach the level that matches the answer
  - b. **To determine the mark within the level**, consider the following:

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

## Section A

Question		Answer	Marks	Guidance
1		(b) Eggs	1	
2		(a) July	1	
3		(a) Egg shells	1	
4		(a) Steaming	1	
5		(d) Fibre	1	
6		Decomposes Does not produce harmful gases	1	
7		5	1	1 mark
8		Compostable	1	1 mark
9		Genetically modified	1	1 mark
10		<ul style="list-style-type: none"> <li>• Putting on symbols</li> <li>• Mobius loop</li> <li>• Recycling symbols</li> </ul>	1	1 mark
11		True	1	1 mark
12		True	1	1 mark
13		False	1	1 mark
14		False	1	1 mark
15		True	1	1 mark
<b>Total</b>			<b>15</b>	

Question		Answer	Marks	Guidance
16	(a)	Cardboard outer box.	1	1 mark
	(b)	<ul style="list-style-type: none"> <li>• <b><u>Plastic window</u></b> – replace with a potato starch window – still clear so you can see the product – but it is biodegradable</li> <li>• <b><u>No window</u></b> – as plastic is difficult to recycle and have a good picture of the product on the front to show what it is like/serving suggestions</li> <li>• <b><u>No plastic tray inner</u></b> – this is not needed as the container the product is cooked in provides the necessary protection for the product</li> <li>• <b><u>Reduce the size of the packaging</u></b> – with no plastic inner – this will reduce the amount of packaging materials used/use a sleeve instead of a box</li> <li>• <b><u>Cook the product in heat – paperboard container/ovenable</u></b> – this has less co2 emissions/can come from renewable sources/is recyclable/foil trays are not always suitable for recycling</li> <li>• <b><u>Sustainable sources</u></b> – ensure that the cardboard packaging materials are obtained from well managed forests.</li> </ul>	6	3 x 1 mark for each point 3 x 1 mark for the development of each point  Do not credit the same point twice with reference to the plastic window/inner
	(c)	Traffic light.	1	1 mark

Question		Answer			Marks	Guidance																					
	(d)	<table border="1"> <thead> <tr> <th>Ingredient in savoury flan</th> <th>Ingredient changed to</th> <th>Reason</th> </tr> </thead> <tbody> <tr> <td><b>Butter</b></td> <td> <ul style="list-style-type: none"> <li>Vegetable margarine.</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Lower in saturated fat.</li> </ul> </td> </tr> <tr> <td><b>White flour</b></td> <td> <ul style="list-style-type: none"> <li>Wholemeal flour.</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Increase the fibre content.</li> </ul> </td> </tr> <tr> <td><b>Salt</b></td> <td> <ul style="list-style-type: none"> <li>Other herbs/seasonings</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Linked to high blood pressure/strokes/ heart disease</li> </ul> </td> </tr> <tr> <td><b>Double cream</b></td> <td> <ul style="list-style-type: none"> <li>Single cream</li> <li>Whipping cream</li> <li>Milk – any type</li> <li>Cream alternative eg Elmlea</li> <li>Yoghurt</li> <li>Reduced fat crème fraîche</li> <li>Fromage fraise.</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Lower fat content</li> <li>Reduce the saturated fat content</li> <li>Reduce the cholesterol.</li> </ul> </td> </tr> <tr> <td><b>Full fat milk</b></td> <td> <ul style="list-style-type: none"> <li>Skimmed or semi skimmed.</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Lower fat content</li> <li>Reduce the saturated fat content</li> <li>Reduce the cholesterol.</li> </ul> </td> </tr> <tr> <td><b>Cheeses</b></td> <td> <ul style="list-style-type: none"> <li>Reduce the amount</li> <li>Reduce the amount/and use stronger flavour cheese</li> <li>Use reduced fat/light varieties.</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Lower fat content</li> <li>Reduce the saturated fat content</li> <li>Reduce the cholesterol.</li> </ul> </td> </tr> </tbody> </table>			Ingredient in savoury flan	Ingredient changed to	Reason	<b>Butter</b>	<ul style="list-style-type: none"> <li>Vegetable margarine.</li> </ul>	<ul style="list-style-type: none"> <li>Lower in saturated fat.</li> </ul>	<b>White flour</b>	<ul style="list-style-type: none"> <li>Wholemeal flour.</li> </ul>	<ul style="list-style-type: none"> <li>Increase the fibre content.</li> </ul>	<b>Salt</b>	<ul style="list-style-type: none"> <li>Other herbs/seasonings</li> </ul>	<ul style="list-style-type: none"> <li>Linked to high blood pressure/strokes/ heart disease</li> </ul>	<b>Double cream</b>	<ul style="list-style-type: none"> <li>Single cream</li> <li>Whipping cream</li> <li>Milk – any type</li> <li>Cream alternative eg Elmlea</li> <li>Yoghurt</li> <li>Reduced fat crème fraîche</li> <li>Fromage fraise.</li> </ul>	<ul style="list-style-type: none"> <li>Lower fat content</li> <li>Reduce the saturated fat content</li> <li>Reduce the cholesterol.</li> </ul>	<b>Full fat milk</b>	<ul style="list-style-type: none"> <li>Skimmed or semi skimmed.</li> </ul>	<ul style="list-style-type: none"> <li>Lower fat content</li> <li>Reduce the saturated fat content</li> <li>Reduce the cholesterol.</li> </ul>	<b>Cheeses</b>	<ul style="list-style-type: none"> <li>Reduce the amount</li> <li>Reduce the amount/and use stronger flavour cheese</li> <li>Use reduced fat/light varieties.</li> </ul>	<ul style="list-style-type: none"> <li>Lower fat content</li> <li>Reduce the saturated fat content</li> <li>Reduce the cholesterol.</li> </ul>	<b>4</b>	4 x 1 mark Do not accept the same reason twice Do not accept low fat butter
Ingredient in savoury flan	Ingredient changed to	Reason																									
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Question	Answer	Marks	Guidance
(e)	<p><b>Discuss why a family may choose to buy organic products.</b>  <b>Points may include:</b>  <b>Moral issues</b></p> <ul style="list-style-type: none"> <li>• Objection to chemical fertilisers/pesticides</li> <li>• Do not want any GM foods</li> <li>• Concern about animal welfare</li> <li>• Objection to factory farmed foods</li> <li>• Do not like the way animals are being treated/ are being fed</li> <li>• Do not want antibiotics etc given to animals</li> <li>• Selective breeding has been used to increase yields</li> <li>• Happier that animals are allowed to forage /have continuous daytime access to vegetation</li> <li>• Organic foods taste better</li> <li>• Respect for the environment/soil structure and wildlife.</li> <li>• Organic foods avoid health risks associated with a combination of chemicals uses in pesticides and herbicides</li> <li>• Other issues:</li> <li>• No legal standards for any animal except chickens</li> <li>• Media esp Jamie Oliver has had an influence particularly on children</li> <li>• Recent studies show salmonella lower in free range eggs</li> </ul> <p>Technical terms – genetically modified/ pesticides/fertilisers/herbisides/anitibiotics</p>	6	<p><b>Level 3 (5-6 marks)</b>  Thorough discussion, showing detailed understanding of free range, the moral issues, costs implications and the alternatives.  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 discussion, showing some understanding of the implications  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 discussion, showing limited understanding of what a free range product is.  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>Technical terms – genetically modified/ pesticides/fertilisers/herbisides/anitibiotics</p> <p>0 marks = no response or no response worthy of credit</p>

Question		Answer	Marks	Guidance
	(f)	Any two ingredients, one mark each: <ul style="list-style-type: none"><li>• Milk</li><li>• Eggs</li><li>• Wheat/flour.</li></ul>	2	
			<b>Total</b>	<b>20</b>



## Section B

Question		Answer	Marks	Guidance
17	(a)	1 x 1 mark <ul style="list-style-type: none"> <li>• In a refrigerator</li> <li>• Between 0-8 C</li> </ul>	1	
	(b)	Max two marks for an accurate explanation: <ul style="list-style-type: none"> <li>• High risk food is high in protein and moisture and bacteria will grow quickly if not stored correctly</li> <li>• Eggs - a risk of Salmonella bacteria present which will cause food poisoning</li> <li>• Mousses not generally cooked therefore bacteria are still alive</li> </ul>	2	2 marks for answers showing a clear understanding and explanation 1 mark for a brief answer Do not give marks for stating that it is high in eggs and cream.
	(c)	<b>Protein</b> <ul style="list-style-type: none"> <li>• Body building /growth/muscles</li> <li>• Cell repair/maintenance</li> <li>• Source of energy</li> <li>• Enzyme and hormone formation</li> <li>• Transportation of minerals (iron)</li> </ul> <b>Fat</b> <ul style="list-style-type: none"> <li>• Concentrated source of energy</li> <li>• Essential in structure of body cells</li> <li>• Source of fat soluble vitamins</li> <li>• Acts as an insulator</li> <li>• Slow to digest so prevents hunger</li> </ul> <b>Iron</b> <ul style="list-style-type: none"> <li>• Formation of red blood cells</li> <li>• Carries oxygen around the body</li> </ul> <b>Phosphorus</b> <ul style="list-style-type: none"> <li>• Builds bones and teeth</li> <li>• Energy transfer</li> <li>• Metabolism</li> <li>• Blood formation</li> </ul>	4	1 x 1 mark for stating nutrient 1 x 1 mark for a Function

Question	Answer	Marks	Guidance																					
	<p><b>Fat soluble vitamins A, D,E,K</b></p> <p><b>A</b> Increase ability to see in dim light Cells in eyes/lungs/respiratory tract</p> <p><b>D</b> Teeth and bone formation Quicker healing of bones Absorption of calcium</p> <p><b>E</b> Anti oxidant</p> <p><b>K</b> Clotting of blood</p> <p><b>B Group vitamin</b> Aids in the metabolism of proteins/fats and carbohydrates</p>																							
(d)	<p>2 x 2 marks</p> <table border="1"> <thead> <tr> <th>Property</th> <th>Explanation</th> <th>Example</th> </tr> </thead> <tbody> <tr> <td>Thickening</td> <td>Coagulation of protein thickens a sauce</td> <td>Custard/Quiche</td> </tr> <tr> <td>Binding</td> <td>Egg coagulates and sticks the dry ingredients together</td> <td>Burgers</td> </tr> <tr> <td>Coating</td> <td>Egg coagulates and provides a strong coating to hold the product together.</td> <td>Fried fish</td> </tr> <tr> <td>Forms a foam /Lightening</td> <td>Egg white can trap air when it is beaten. The mixture sets when it is heated</td> <td>Swiss Roll, Meringues</td> </tr> <tr> <td>Emulsifier</td> <td>Eggs help to stabilize fat and sugar in the creaming method. Eggs hold oil and vinegar in a finely emulsified form.</td> <td>Creamed cakes Mayonnaise</td> </tr> <tr> <td>Glaze</td> <td>During baking egg glaze turns brown to give an attractive finish to products.</td> <td>Pastries and pies</td> </tr> </tbody> </table>	Property	Explanation	Example	Thickening	Coagulation of protein thickens a sauce	Custard/Quiche	Binding	Egg coagulates and sticks the dry ingredients together	Burgers	Coating	Egg coagulates and provides a strong coating to hold the product together.	Fried fish	Forms a foam /Lightening	Egg white can trap air when it is beaten. The mixture sets when it is heated	Swiss Roll, Meringues	Emulsifier	Eggs help to stabilize fat and sugar in the creaming method. Eggs hold oil and vinegar in a finely emulsified form.	Creamed cakes Mayonnaise	Glaze	During baking egg glaze turns brown to give an attractive finish to products.	Pastries and pies	4	<p>2 x 2 marks for answers showing a function and a clear explanation. The explanation must be specific, do not allow repetition.</p> <p>1x 1 mark for a brief answers/function only</p>
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Question		Answer	Marks	Guidance
	(e)	<ul style="list-style-type: none"> <li>• Part of a balanced diet</li> <li>• Vitamins</li> <li>• Minerals</li> <li>• Fibre (NSP)</li> <li>• Add colour/variety/ texture/ flavour to diet</li> <li>• Low in fat</li> <li>• Lower in calories. Fill you up but lower in calories.</li> <li>• Antioxidants - protect against cancers /coronary heart disease/disease</li> </ul>	<b>2</b>	One mark for each correct answer. <b>Two required.</b>
	(f)	<p>Freeze them in slices/Freeze as a puree/stew them and freeze</p> <ul style="list-style-type: none"> <li>• Make apple pies/apple products and freeze them</li> <li>• Use them in jams / jellies with other fruits</li> <li>• Use them in Chutneys</li> </ul>	<b>2</b>	<b>One</b> mark for a correct answer. <b>Two required</b>
		<b>Total</b>	<b>15</b>	

Question		Answer	Marks	Guidance										
18	(a)	<table border="1"> <thead> <tr> <th>Specification point</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> <li>Reduced calorie</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Must show evidence of including low calorie ingredients eg skimmed/semi skimmed milk</li> <li>Low fat cheese/half fat/lowering the fat</li> <li>Omitting sugar</li> </ul> </td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>Increased fibre</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Wholemeal flour</li> <li>Addition of named vegetable/fruit</li> <li>Bran/Oats</li> <li>Do not allow nuts and seeds</li> </ul> </td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>Attractive finish</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Lattice top/decorated top/overlapping shapes of dough</li> <li>Use of glaze/egg glaze/milk glaze</li> <li>Sprinkled with grated cheese/herbs</li> </ul> </td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>Appeal to a wide age range</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>Any suitable shape-layers/rolled/parcel</li> <li>Flavour-low fat cheese/sundried tomatoes/olives /herbs/ onion/chopped vegetables/chopped meat.</li> <li>Cost</li> <li>Family size/individually wrapped</li> </ul> </td> </tr> </tbody> </table> <p style="text-align: right;"><b>6 x 1 mark</b></p>	Specification point	Description	<ul style="list-style-type: none"> <li>Reduced calorie</li> </ul>	<ul style="list-style-type: none"> <li>Must show evidence of including low calorie ingredients eg skimmed/semi skimmed milk</li> <li>Low fat cheese/half fat/lowering the fat</li> <li>Omitting sugar</li> </ul>	<ul style="list-style-type: none"> <li>Increased fibre</li> </ul>	<ul style="list-style-type: none"> <li>Wholemeal flour</li> <li>Addition of named vegetable/fruit</li> <li>Bran/Oats</li> <li>Do not allow nuts and seeds</li> </ul>	<ul style="list-style-type: none"> <li>Attractive finish</li> </ul>	<ul style="list-style-type: none"> <li>Lattice top/decorated top/overlapping shapes of dough</li> <li>Use of glaze/egg glaze/milk glaze</li> <li>Sprinkled with grated cheese/herbs</li> </ul>	<ul style="list-style-type: none"> <li>Appeal to a wide age range</li> </ul>	<ul style="list-style-type: none"> <li>Any suitable shape-layers/rolled/parcel</li> <li>Flavour-low fat cheese/sundried tomatoes/olives /herbs/ onion/chopped vegetables/chopped meat.</li> <li>Cost</li> <li>Family size/individually wrapped</li> </ul>	6	Up to four marks for how the design meets the four specification points 2 marks for description Explanation must clearly show how it meets the design specification
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	(b)	<p>Any two health problems, one mark each:</p> <ul style="list-style-type: none"> <li>High blood pressure</li> <li>Diabetes</li> <li>Breathlessness</li> <li>Heart disease</li> <li>Cancers</li> </ul>	2											

Question	Answer	Marks	Guidance
(c)	Any two reasons, one mark each: <ul style="list-style-type: none"> <li>• To identify the needs of a consumer/likes/dislikes</li> <li>• To decide where it will be sold</li> <li>• Decide how it will be promoted /marketed/advertised</li> <li>• To identify a gap in the market for a specific group</li> <li>• To know the price a target group will pay for a product</li> <li>• To be able to adapt recipes to suit needs</li> <li>• To identify what consumer trends are</li> <li>• To be competitive / be able to sell their product</li> </ul>	2	
(d)	Method <ul style="list-style-type: none"> <li>• Conduction</li> <li>• Convection</li> </ul> Explanation <ul style="list-style-type: none"> <li>• Conduction: heat is passed through the baking sheet to the scones. Metals conduct heat quickly and easily.</li> <li>• Convection: heat travels around the air by currents in the oven.</li> </ul>	2	1 mark for method and 1 mark for explanation
(e)	Any three quality control checks, one mark each: <ul style="list-style-type: none"> <li>• Weighing ingredients</li> <li>• Consistency of dough</li> <li>• Thickness of dough</li> <li>• Cutting dough into accurate portions/use of extruder</li> <li>• Temperature control during cooking</li> <li>• Time control during cooking</li> <li>• Colour sensor</li> <li>• Cooling time</li> <li>• Sealing packages</li> <li>• Metal detector</li> <li>• Weight of finished scones</li> </ul>	3	
	<b>Total</b>	<b>15</b>	

Question	Answer	Marks	Guidance
19 (a)	<p><u>Ham Sandwiches</u></p> <ul style="list-style-type: none"> <li>• Wholemeal bread or buns or pitta or wraps or pizza. (Wholemeal)</li> <li>• Change ham to chicken/turkey/eggs/reduced salt bread/reduced fat ham/tuna in oil or water</li> <li>• Use low fat spread</li> <li>• Add any suitable named vegetable/tomatoes/cucumber</li> </ul> <p><u>Crisps</u></p> <ul style="list-style-type: none"> <li>• Change to nuts/rice cakes/popcorn/pretzels/twiglets/bread sticks. Low fat/baked/low salt varieties</li> <li>• Any named fruit. Do not accept 'fruit'</li> <li>• Vegetable sticks e.g. carrots/any suitable vegetable.</li> <li>• Vegetable crisps( low fat)</li> </ul> <p><u>Chocolate bar</u></p> <ul style="list-style-type: none"> <li>• Dried fruit</li> <li>• Cereal bar</li> <li>• Yoghurt</li> <li>• Reduced sugar or fat cake or biscuit eg scone/fruit bread</li> <li>• Any named fruit</li> </ul> <p><u>Fizzy drink</u></p> <ul style="list-style-type: none"> <li>• Unsweetened fruit juices</li> <li>• Milk</li> <li>• Yoghurt drink</li> <li>• Water/flavoured water</li> <li>• Fruit smoothie</li> <li>• Sugar free/diet dizzy drink</li> </ul>	4	One mark for each correct answer. Four required

Question	Answer	Marks	Guidance
(b)	<p><u>Ranking test</u></p> <ul style="list-style-type: none"> <li>Five different products 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 products. Starting with the one they liked to best.</li> </ul> <p><u>Rating Test</u></p> <ul style="list-style-type: none"> <li>The products are each given a score of a scale eg 1-5. The scale could be from dislike a lot- to like a lot.</li> </ul> <p><u>Star profile</u></p> <ul style="list-style-type: none"> <li>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 the product.</li> </ul> <p><u>Triangle testing</u></p> <ul style="list-style-type: none"> <li>This could be used to see if the panel could recognise their specific brand of product</li> <li>Tasters are given 3 samples to try and they have to tell the difference between brands.</li> </ul> <p>The following points may be used in the descriptions.</p> <ul style="list-style-type: none"> <li>Testing must take place in a controlled environment eg lighting, temperature, presentation of food on identical sized and shaped plates.</li> <li>Separate compartments/booths so that each tester is not affected by others.</li> <li>Small number of samples at one time so the tester do not become overwhelmed or forget what they have tasted.</li> <li>Samples are coded randomly so that the tester cannot guess the result. Drinking water/plain biscuits should be eaten to clear the mouth.</li> <li>Clear instruction given for the testers.</li> </ul>	2	<p>1 x 1 mark for naming method 2 x 1 mark for further explanation</p>

Question	Answer	Marks	Guidance
(c)	Any three factors, one mark each: <ul style="list-style-type: none"> <li>• Age</li> <li>• Sex</li> <li>• Occupation/job</li> <li>• Physical activity/exercise</li> <li>• State of health</li> <li>• Time of year</li> <li>• Basal metabolic rate</li> </ul>	<b>3</b>	
(d)	Discussion of how schools are encouraging students to have healthy lifestyles. <ul style="list-style-type: none"> <li>• PE Lessons/ after school sports clubs/teams - encourages physical activity/develops good habits</li> <li>• Water fountains/water bottles in lessons - to maintain fluid levels</li> <li>• Food lessons/Licence to cook/Cooking clubs/Get Active kids award- develops knowledge on ‘health eating’</li> <li>• Healthy school meals/more fresh fruit – encourages good eating habits</li> <li>• Jamie Oliver’s influence/media influence/celebrity influence-raises our awareness to healthy eating in a fun way</li> <li>• PHSE/ Food Tech lessons on healthy eating - develops knowledge and understanding/teaches skills to use</li> <li>• No Fizzy drinks machines –replace with water fountains</li> <li>• Breakfast clubs- to encourage people to eat breakfast/most important meal of the day</li> <li>• Award systems for a healthier lunch choice-develops good eating habits</li> <li>• Walk to school-more fresh air/more exercise</li> <li>• PHSE/science lessons on dangers of smoking, drugs and alcohol</li> </ul>	<b>6</b>	<p><b>Level 3 (5-6 marks)</b> Thorough discussion, showing a clear understanding of the strategies that are used in school to encourage healthy life styles. 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 discussion, showing a good understanding of the strategies that are used in school to encourage healthy life styles. Some specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate may demonstrate occasional errors in spelling, punctuation and grammar</p> <p><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 strategies that are used in school to encourage healthy life styles. There will be little or no use of specialist terms. Answers may be ambiguous or disorganized. Errors of grammar, punctuation and spelling.</p> <p>0 marks = no response or no response worthy of credit.</p>
	<b>Total</b>	<b>15</b>	



Assessment Objective Grid					
GCSE Design & Technology: Food Technology					
		Recall, select and communicate	Apply knowledge, understanding and skills	Analyse and evaluate	
Question		A01	A02	A03	Mark
1		1			1
2			1		1
3			1		1
4		1			1
5				1	1
6			1		1
7		1			1
8			1		1
9		1			1
10			1		1
11		1			1
12		1			1
13		1			1
14		1			1
15		1			1
16 a		1			1
16 b			3	3	6
16 c		1			1
16 d			4		4
16 e*		3		3	6
16f		2			2
17 a		1			1
17 b		2			2
17 c		4			4
17 d		4			4
17 e		2			2
17f		2			2
18 a		4	2		6
18 b		2			2
18 c*		2			2
18 d		2			2
18e				3	3
19 a				4	4
19 b		2			2
19 c		3			3
19 d		6			6
<b>Total</b>		<b>52</b>	<b>14</b>	<b>14</b>	<b>80</b>