

Oxford Cambridge and RSA Examinations
General Certificate of Secondary Education

DESIGN AND TECHNOLOGY (FOOD TECHNOLOGY)
PAPER NUMBER 4
Higher Tier

1954/4

Specimen Paper 2003

Additional materials: None
Candidates answer on the question paper.

TIME 1 hour 15 minutes

Candidate Name	Centre Number	Candidate Number												
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; height: 20px;"></td> <td style="width: 15%; height: 20px;"></td> <td style="width: 15%; height: 20px;"></td> <td style="width: 15%; height: 20px;"></td> <td style="width: 15%; height: 20px;"></td> <td style="width: 15%; height: 20px;"></td> </tr> </table>							<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; height: 20px;"></td> <td style="width: 15%; height: 20px;"></td> <td style="width: 15%; height: 20px;"></td> <td style="width: 15%; height: 20px;"></td> <td style="width: 15%; height: 20px;"></td> <td style="width: 15%; height: 20px;"></td> </tr> </table>						

INSTRUCTIONS TO CANDIDATES

- Write your name in the space above.
- Write your Centre number and Candidate number in the boxes above.
- *Answer all the questions.*
- Write your answers, in blue or black ink, in the spaces provided on the question paper.
- Read each question carefully and make sure you know what you have to do before starting your answer.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **50**.
- *You will be awarded marks for the quality of written communication where an answer requires a piece of extended writing.*

Question number	For examiner's use only
1	
2	
3	
4	
5	
TOTAL	

1. In a factory making frozen Lasagne, particular care has to be taken in separating raw materials from the finished product.

(a) Give **three** reasons why this is necessary.

[3]

(b) A HACCP (Hazard Analysis and Critical Control Point) system is set up to ensure product safety.

List **three** HACCP checks that would be carried out during the production of the frozen Lasagne.

[3]

(c) Computer control is used by the manufacturer to ensure quality of the frozen Lasagne.

List **four** ways that computer systems can assist the manufacturer in this process.

[4]

Total [10]

2. A snackfood company currently uses hand tools to prepare food for its 'Healthy Snack' food outlet.

(a) Name a piece of electrical equipment that the company could use to prepare fresh vegetables.

_____ [1]

(b) Give **two** benefits to the catering company of using this equipment.

_____ [1]

_____ [1]

(c) As a Food Technologist, you have been asked to extend the range of healthy food products.

Choose **two** products, **one** of which must be a drink. For each product, give the name of a machine most likely to be used in its' manufacture.

New Product _____ [1]

Machine _____ [1]

New Drink _____ [1]

Machine _____ [1]

[Question 2 continued on next page]

Question 2 continued

- (d)** The profitability of the company will be affected if electrical equipment is misused.
Give an example of misuse and explain the implications to the company.

[3]

Total [10]

3. In-store bakeries have become very popular in Supermarkets.

- (a) (i) What commercial production method would be used to produce a basic loaf in an in-store bakery?

_____ [1]

- (ii) Explain this method of production.

_____ [2]

- (b) What is the function of the following ingredients when added to bread mixture?

Yeast _____

Warm Water _____ [2]

- (c) Name **two** ingredients that could be added to a basic bread mixture to improve the nutritional value.

_____ [2]

- (d) The chart below shows three breads that are on sale in many food outlets in Europe.

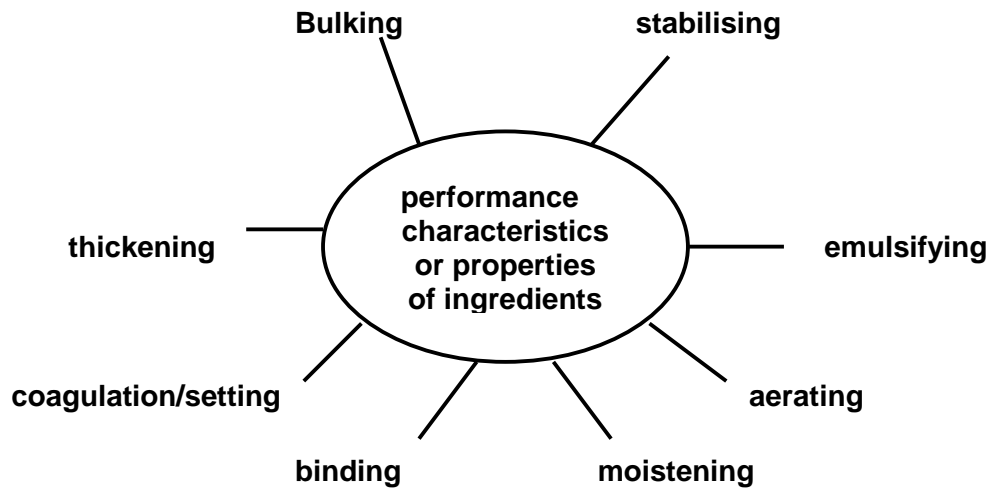
Name the country from which each bread originally comes.

Bread on Sale in Europe	Country of Origin
Naan Bread	
Pitta Bread	
Ciabatta	

[3]

Total [10]

4. When designing an egg-based food product the performance characteristics or working properties of eggs must be considered.



- (a) From the diagram above select **one** characteristic of eggs and give examples of food products which use each characteristic.

Characteristic _____

Example 1 _____

Example 2 _____

[2]

[Question 4 continued on next page]

Question 4 continued

(b) Explain the performance characteristics (properties) of eggs during **aeration**.

[3]

(c) Explain the performance characteristics (properties) of eggs during **emulsification**.

[3]

(d) Why is powdered egg used in commercial food manufacture?

[2]

Total [10]

5. Evaluate the role that additives play in the manufacture of food in our diet.

(a) for the consumer:

[3]

(b) for the manufacturer:

[3]

(c) There has been a dramatic increase in recent years in the sale of organic foods. Using an example of your choice, explain what society considers to be the benefit of this method of production.

[4]

Total [10]

Oxford Cambridge and RSA Examinations

General Certificate of Secondary Education

DESIGN & TECHNOLOGY (FOOD TECHNOLOGY)

PAPER 4

HIGHER TIER

1954/4

MARK SCHEME

Specimen Paper 2003

Question	Answer	Total Marks Available
1(a)	To avoid cross contamination, to stop different flavours/ vegetables and meat cannot cross/ Dry and wet ingredients cannot mix.	3
(b)	Choose from: Check that meat is stored in a refrigerator/ check food handlers for hygiene/ check that equipment has been kept clean/ check work surfaces have been washed and dried/ check ingredients have been stored carefully/ check water quality.	3
(c)	Sensing temperature, control conveyor belts, quantity of ingredients (weighing), timing, information on labels.	4
		Total 10

2(a)	Food processor	1								
(b)	Saves time, saves labour costs, uniformity.	2 x 1								
(c)	<table border="0"> <tr> <td>Toasted sandwich</td> <td>Toasted sandwich maker</td> </tr> <tr> <td>Bread Rolls</td> <td>Bread Maker</td> </tr> <tr> <td>Yoghurt</td> <td>Yoghurt Maker</td> </tr> <tr> <td>Juice</td> <td>Juice extractor</td> </tr> </table>	Toasted sandwich	Toasted sandwich maker	Bread Rolls	Bread Maker	Yoghurt	Yoghurt Maker	Juice	Juice extractor	4 x 1
Toasted sandwich	Toasted sandwich maker									
Bread Rolls	Bread Maker									
Yoghurt	Yoghurt Maker									
Juice	Juice extractor									
(d)	No guards on electrical machinery – can catch fingers – the implication to the company is that it can be sued.	3								
		Total 10								

Question	Answer	Total Marks Available
3(a)	(i) Batch production.	1
	(ii) Using the same mixture and adding and removing ingredients. This is easily adaptable.	2
(b)	Yeast Rise	2
	Warm Water Gas release for Carbon Dioxide to work	
(c)	Sesame seeds, multigrain, onion.	2
(d)	Naan Bread India	3
	Pitta Bread Greece	
	Ciabatta Italy	
		Total 10

4(a)	Property	Food Product	2
	Thickening	Custards, Quiches, Soup	
	Binding	Bean Burgers, Noodles, Pasta	
	Emulsifying	Cakes, Mayonnaise	
	Aerating	Scrambled egg. Omelette	
	Stabiliser	Mayonnaise, Salad dressing	
	Coagulation	Baked cakes, Meringue	
	Bulking	Meringue, Souffles, Quiche	
	Moistening	Cakes	
(b)	Protein in the egg white stretches and traps tiny air bubbles which bulk the product up.		3
(c)	The egg helps to stabilise fat and sugar during cake making and to emulsify oil and vinegar when making mayonnaise. It prevents separating.		3
(d)	It cuts down on the risk of salmonella and helps to make food products safer to eat. It also helps to avoid cross-contamination from raw eggs.		2
			Total 10

Question	Answer	Total Marks Available
<p>5(a)</p> <p>(b)</p> <p>(c)</p>	<p>Preserves foods and gives them a longer shelf life.</p> <p>Can produce expected qualities in food e.g.: orange juice being orange.</p> <p>Able to provide quick, convenient meals.</p> <p>To help maintain product consistency.</p> <p>Restore original characteristics after processing e.g.: colour.</p> <p>To keep foods safer e.g.: stop oils from going rancid.</p> <p>Organic vegetables/fruit/bread.</p> <p>No artificial fertilisers, pesticides or intensive growing systems.</p> <p>Better taste.</p> <p>Better for the environment.</p>	<p>3</p> <p>3</p> <p>4</p>
		Total 10