

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**  
**GCSE**

**A522/01**

**DESIGN AND TECHNOLOGY**

**Food Technology**

**Sustainable Design**

**FRIDAY 11 JANUARY 2013: Afternoon**

**DURATION: 1 hour**  
**plus your additional time allowance**

**MODIFIED ENLARGED 18pt**

<b>Candidate forename</b>		<b>Candidate surname</b>	
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<b>Centre number</b>						<b>Candidate number</b>				
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**Candidates answer on the Question Paper.**

**OCR SUPPLIED MATERIALS:**

**None**

**OTHER MATERIALS REQUIRED:**

**None**

**READ INSTRUCTIONS OVERLEAF**

## **INSTRUCTIONS TO CANDIDATES**

- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. HB pencil may be used for graphs and diagrams only.**
- **Answer ALL the questions in Section A AND Section B.**
- **Read each question carefully. Make sure you know what you have to do before starting your answer.**
- **Write your answer to each question in the space provided. If additional space is required, you should use the lined pages at the end of this booklet. The question number(s) must be clearly shown.**

## **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 60.**
- **Your quality of written communication is assessed in the question marked with an asterisk (\*).**

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## **SECTION A**

**Answer ALL questions.**

**You are advised to spend about 15 minutes on this section.**

**On questions 1 – 5 circle your answer.**

**1 The following information is not required on packaging by law:**

**(a) Ingredients**

**(b) Bar code**

**(c) Date marking**

**(d) Storage information**

**[1]**

**2 Life cycle analysis means:**

**(a) The stages of developing a food product from concept to disposal**

**(b) Disposal of the product**

**(c) The stages of developing a food product from manufacturing to disposal**

**(d) Recycling the product**

**[1]**

- 3 Supermarkets encourage consumers to use ‘bags for life’ to:**
- (a) Increase the amount of plastic bags going to landfill sites**
  - (b) Increase the amount of non-sustainable resources used**
  - (c) Reduce the amount of plastic packaging going to landfill sites**
  - (d) Increase their sales of food** **[1]**
- 4 Most left over foods will need to be used within:**
- (a) 45 minutes**
  - (b) 1 week**
  - (c) 24 hours**
  - (d) 1 month** **[1]**

**5 The carbon footprint of food is the:**

**(a) Amount of carbon emissions produced when growing, processing and transporting food**

**(b) Gas produced when growing food**

**(c) Amount of energy used to cook the food**

**(d) Amount of food thrown away** [1]

**6 The symbol shown stands for:**



\_\_\_\_\_ [1]

**7 Name ONE Fairtrade food product.**

\_\_\_\_\_ [1]

**8 State the name of the gas produced when food waste rots in landfill sites.**

\_\_\_\_\_ [1]

**9 State ONE British vegetable in season in winter.**

\_\_\_\_\_ [1]

**10 State ONE reason why we should eat less sugar.**

\_\_\_\_\_ [1]

**Decide whether each of the following statements is TRUE or FALSE.**

**Tick (✓) the box to show your answer.**

	<b>TRUE</b>	<b>FALSE</b>	
<b>11 We should buy foods which have lots of plastic packaging.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<b>[1]</b>
<b>12 A microwave can reduce the amount of fuel used when cooking food.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<b>[1]</b>
<b>13 Chemical pesticides can be used on organic foods.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<b>[1]</b>
<b>14 Aluminium cans can be recycled.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<b>[1]</b>
<b>15 Composting is an example of secondary recycling.</b>	<input type="checkbox"/>	<input type="checkbox"/>	<b>[1]</b>

**TOTAL [15]**



## SECTION B

Answer ALL questions.

You are advised to spend about 45 minutes on this section.

16 Fig. 1 shows a logo used on fish products.



FIG. 1

(a) Give TWO reasons why a consumer would choose to purchase sustainably sourced fish products.

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

[2]

**(b) Tick (✓) the number of portions of fish we are advised to eat each week.**

<b>10</b>	<b>2</b>	<b>5</b>
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**[1]**

**(c) State ONE nutrient found in oily fish.**

\_\_\_\_\_ **[1]**

- (d) (i) A food manufacturer wants to introduce a new fish product for children.**

**The product must:**

**appeal to children  
include a casing  
use a named fish  
include a vegetable**

**Using notes and/or sketches show ONE idea  
for this product.  
Do not draw the packaging.**

**(ii) State ONE method of cooking the new fish product.**

\_\_\_\_\_ **[1]**

**(iii) Explain how the fish product you have designed should be stored at home.**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ **[2]**

**(e) Fresh fish is a high risk food.  
State FOUR food hygiene rules to be followed  
when preparing and cooking high risk foods.**

**1** \_\_\_\_\_  
\_\_\_\_\_  
**2** \_\_\_\_\_  
\_\_\_\_\_  
**3** \_\_\_\_\_  
\_\_\_\_\_  
**4** \_\_\_\_\_  
\_\_\_\_\_

**[4]**

**TOTAL [15]**

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17 Fig. 2 shows two advertisements encouraging consumers to shop locally or buy British produce.



FIG. 2

- (a)\* Discuss the advantages and disadvantages of purchasing foods which have been produced locally or in Britain.  
Marks will be awarded for the quality of written communication in your answer.

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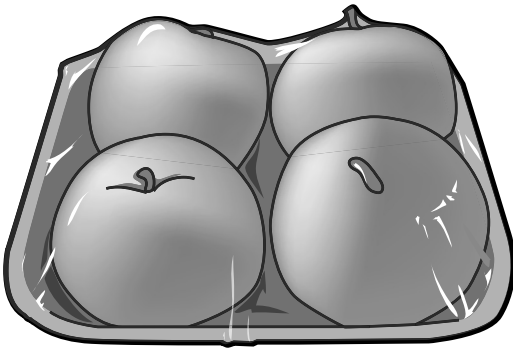
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[6]

- (b) Food producers have to consider packaging for their products.

Fig. 3 shows apples packed using cardboard and a clear potato starch film.



**FIG. 3**

- (i) Give TWO advantages of using cardboard as a packaging material.

1 \_\_\_\_\_

\_\_\_\_\_

2 \_\_\_\_\_

\_\_\_\_\_

[2]



**(ii) Give TWO advantages of using a potato starch film as a packaging material.**

**1** \_\_\_\_\_

\_\_\_\_\_

**2** \_\_\_\_\_

\_\_\_\_\_

**[2]**

**(c) State ONE method manufacturers use to show how packaging should be disposed.**

\_\_\_\_\_ **[1]**

**(d) Date marking is used on the packaging of food products.**

**Explain what is meant by a 'use by' and a 'best before' date.**

**Use by** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Best before** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**[4]**

**TOTAL [15]**

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18 Fig. 4 shows the ingredients in a luxury cottage pie.

MEAT SAUCE	MASHED POTATO	CRUNCHY TOPPING
Irish beef onion beef stock red wine carrot celery flour tomato puree Worcester sauce beef dripping cornflour pepper	Jersey potatoes double cream New Zealand butter salt pepper	Canadian cheddar cheese white bread

FIG. 4

**(a) State FOUR ways the fat content of the cottage pie could be reduced.**

**1** \_\_\_\_\_

\_\_\_\_\_

**2** \_\_\_\_\_

\_\_\_\_\_

**3** \_\_\_\_\_

\_\_\_\_\_

**4** \_\_\_\_\_

\_\_\_\_\_

**[4]**

**(b) Give TWO reasons why we are being encouraged to reduce the amount of fat we eat.**

**1** \_\_\_\_\_

\_\_\_\_\_

**2** \_\_\_\_\_

\_\_\_\_\_

**[2]**

- (c) The manufacturer wants to reduce the carbon footprint of the cottage pie.  
Give TWO ways the carbon footprint of the ingredients could be reduced.**

**1** \_\_\_\_\_

\_\_\_\_\_

**2** \_\_\_\_\_

\_\_\_\_\_

**[2]**

- (d) Current trends show the numbers of vegetarians are increasing.  
State THREE ways the cottage pie could be adapted for vegetarians.**

**1** \_\_\_\_\_

\_\_\_\_\_

**2** \_\_\_\_\_

\_\_\_\_\_

**3** \_\_\_\_\_

\_\_\_\_\_

**[3]**

**(e) Explain TWO reasons why the manufacturer of the cottage pie needs to consider the amount of energy used to produce the product.**

**1** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**2** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**[4]**

**TOTAL [15]**

**END OF QUESTION PAPER**

**ADDITIONAL ANSWER SPACE**

**If additional answer space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margins.**










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