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Centre Number						Candidate Number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

A522

DESIGN AND TECHNOLOGY

**Food Technology
Sustainable Design**

WEDNESDAY 23 JUNE 2010: Afternoon

DURATION: 1 hour

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the Question Paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

None

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.
- 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. Additional paper may be used if necessary but you must clearly show your Candidate Number, Centre Number and question number(s).

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 (*).

SECTION A

Answer ALL questions.

You are advised to spend 15 minutes on this section.

On questions 1 – 5 circle your answer.

- 1 Which of the following SHOULD NOT be put into compost bins?
- (a) Egg shells
 - (b) Vegetable peelings
 - (c) Polystyrene food packaging
 - (d) Cardboard [1]
- 2 Which of the following is NOT reusing?
- (a) Plastic carrier bags for bin liners
 - (b) Plastic cartons to store other products in
 - (c) Plastic carrier bags for shopping more than once
 - (d) Putting vegetables into compost bins [1]
- 3 HACCP is a:
- (a) Food safety system
 - (b) Quality control system
 - (c) Method of preserving foods
 - (d) Computer control system [1]

4 Which of the following could be produced 'free range'?

(a) Tomatoes

(b) Eggs

(c) Potatoes

(d) Cheese

[1]

5 Which food is a good source of iron?

(a) Chicken

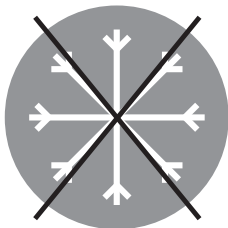
(b) Liver

(c) Oranges

(d) Potatoes

[1]

6 The symbol shown stands for:



_____ **[1]**

7 State what is meant by a product being recycled.

_____ **[1]**

8 Fig. 1 shows part of a label from a food package.

Fig. 1

STORAGE INSTRUCTIONS Keep refrigerated Once opened use immediately	
DISPLAY UNTIL 01 July	USE BY 02 July
PRODUCT CODE	
L8237 03:45 4N	

State ONE piece of information that is required by law.

_____ [1]

9 Name the piece of equipment used to ensure food is reheated to a safe temperature.

_____ [1]

10 State ONE function of protein in the diet.

_____ [1]

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

Write TRUE or FALSE against the following statements.

11 Organic food production does not use chemicals. _____ [1]

12 We should be reducing our intake of hydrogenated fats. _____ [1]

13 Canning is used to preserve foods. _____ [1]

14 There is an increase in the number of households recycling. _____ [1]

15 Food tins cannot be recycled. _____ [1]

Total [15]

SECTION B

Answer **ALL** questions.

You are advised to spend 45 minutes on this section.

16 Product analysis is important when developing new food products.

(a) Give THREE reasons why a manufacturer would carry out product analysis.

Reason 1 _____
_____ [1]

Reason 2 _____
_____ [1]

Reason 3 _____
_____ [1]

(b) Fig. 2 shows the packaging for a Chicken Tikka Masala Masala.

Fig. 2



(i) State the country this dish originated from.

_____ [1]

(ii) Give THREE reasons why consumers could choose products which come from other cultures.

Reason 1 _____

_____ [1]

Reason 2 _____

_____ [1]

Reason 3 _____

_____ [1]

(c) Information about the chicken farmer, where and how he farms is on the product label.

Give TWO reasons why food manufacturers put this information on product labels.

Reason 1 _____
_____ [1]

Reason 2 _____
_____ [1]

(d) Fig. 3 shows the ingredients used in the Chicken Tikka Masala.

Fig. 3

BASMATI RICE (42%);

TIKKA MASALA SAUCE (double cream, water, onion, tomato purée, full fat yoghurt, ginger, garlic, cornflour, paprika, salt, coriander, turmeric, chilli powder, cumin, cinnamon, clove, black pepper, bay leaf salt, garam masala, flavour enhancer E621 monosodium glutamate);

CHAR-GRILLED CHICKEN BREAST (18%) (Marinated in full fat yoghurt and paprika, coriander, salt and pepper)

The Chicken Tikka Masala is to be changed so it can be promoted as part of a healthier eating range of food products.

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

INGREDIENT IN CHICKEN TIKKA MASALA	INGREDIENT CHANGED TO	REASON
1. _____ _____	1. _____ _____	1. _____ _____
2. _____ _____	2. _____ _____	2. _____ _____

- (e) The manufacturer has decided to sell the Chicken Tikka Masala as a cook-chill product.**

Explain how this will affect the product's shelf life.

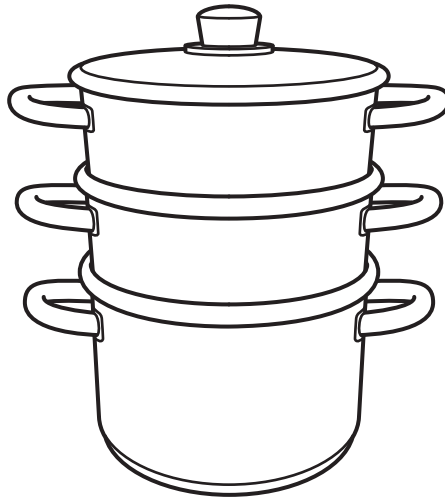
[2]

Total [15]

17 The energy costs to produce foods and food products are increasing.

Fig. 4 shows a steamer which could be used in the home.

Fig. 4



(a) Explain how using a steamer can reduce energy consumption when cooking meals.

[2]

(b) Give **THREE** ways other than using a steamer, a family could reduce their consumption of energy when cooking food.

1 _____ [1]

2 _____

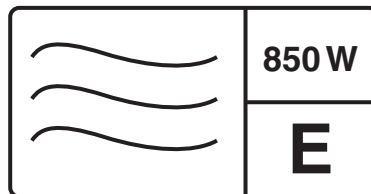
_____ [1]

3 _____

_____ [1]

(c) Fig. 5 shows a symbol from the front of a microwave.

Fig. 5



Give **TWO** reasons why this information is useful to the consumer when using a microwave.

Reason 1 _____

_____ [1]

Reason 2 _____

_____ [1]

(d) Explain why food manufacturers need to consider the amount of energy used to produce foods.

[4]

(e) Explain why some people choose not to purchase imported food products.

[4]

Total [15]

18 (a) Food manufacturers often put nutritional labelling on food packaging.

Give ONE reason for this.

[1]

(b) Fig. 6 shows the ingredients in two different yoghurt products.

Fig. 6

YOGHURT A	YOGHURT B
Semi-skimmed yoghurt Fresh strawberries	Skimmed milk yoghurt Strawberry flavouring Modified starch Sweetener – aspartame Artificial colourings

Explain why yoghurt A is more suitable for children aged 5 to 11 years.

[4]

(c) Explain why we should reduce the amount of the following foods in our diet.

(i) Fat _____

_____ [2]

(ii) Sugar _____

_____ [2]

(d*) Many men and women in the UK are overweight or obese.

Discuss how consumers can reduce their calorie intake.

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