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| Candidate Forename | | | | | | Candidate Surname | | | | | |
| Centre Number | | | | | | Candidate Number | | | | | |

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

1954/04

DESIGN AND TECHNOLOGY

Food Technology

Paper 4 (Higher Tier)

WEDNESDAY 23 JUNE 2010: Afternoon

DURATION: 1 hour 15 minutes

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.
- 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 50.
- The marks allocated and the spaces provided for your answers are a good indication of the length of answers required.
- Question 2, Product Analysis, is based on the theme FISH AND FISH PRODUCTS.

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1 Fig. 1 shows a computer.

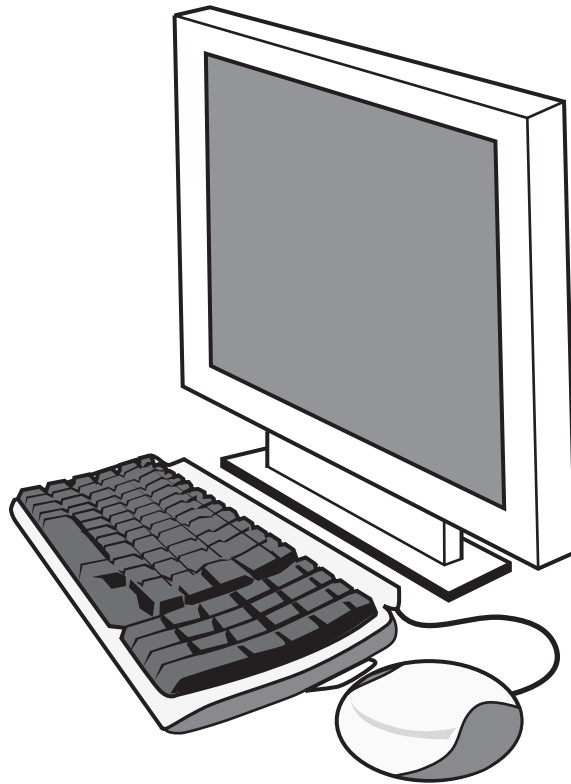


Fig. 1

(a) State TWO ways a manufacturer could use a computer in the development of a new ready meal product.

1 _____

2 _____

_____ [2]

- (b) A manufacturer is planning the production of a new ready meal.**

State TWO advantages to the manufacturer of using a Just in Time (JIT) production process for the ready meals.

Advantage 1 _____

Advantage 2 _____

_____ **[2]**

- (c) Oven chips are a food product which can be manufactured using continuous flow production.**

- (i) State ONE advantage of continuous flow production to the manufacturer.**

_____ **[1]**

- (ii) State ONE disadvantage of continuous flow production to the manufacturer.**

_____ **[1]**

(d) Sensors are used to control the quality of food products.

State TWO quality control checks that could be carried out by sensors.

1 _____

2 _____
_____ **[2]**

(e) Explain how the use of CAD and CAM has affected people employed in the food industry.

_____ **[2]**

[Total: 10]

2 Fish is an important part of a healthy diet.

Fig. 2 shows cod in batter portions.

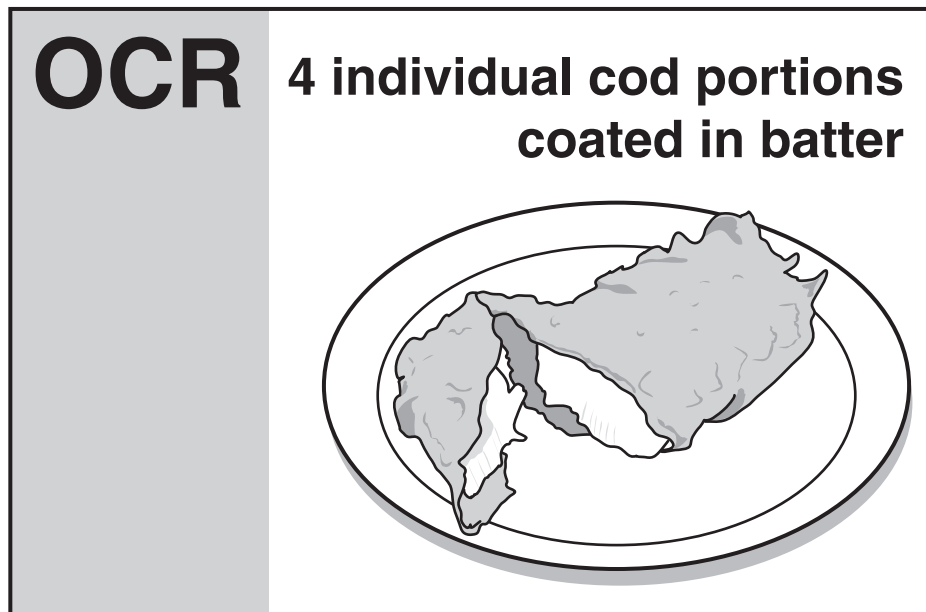


Fig. 2

(a) Suggest a target group this product may be suitable for.

State ONE reason for your choice.

Target group _____

Reason for choice _____ **[1]**

(b) State TWO nutrients found in fish.

1 _____

2 _____ **[2]**

(c) Cod in batter and chips is a popular meal.

Give THREE ways that you could change this meal to make it healthier.

1 _____

2 _____

3 _____

_____ **[3]**

(d) Explain the function of batter on the cod.

_____ **[2]**

(e) Food manufacturers use a variety of techniques to freeze fish products.

Describe ONE commercial method of freezing fish products.

[2]

[Total: 10]

3 The ingredients used in a test kitchen to make a four portion spicy tomato soup were:

onion
carrot
potato
chopped tomatoes
water
stock cube
dried chilli flakes
tomato puree

Fig. 3 shows the results from the tasting panel.

| | |
|-------------|----------|
| Key | |
| High | 5 |
| Low | 1 |

| Characteristics | Taster A | Taster B | Taster C | Taster D | Taster E | |
|------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--|
| Portion size | 5 | 5 | 5 | 5 | 5 | |
| Colour | 2 | 2 | 2 | 2 | 2 | |
| Smooth texture | 1 | 2 | 1 | 4 | 2 | |
| Tomato flavour | 5 | 5 | 5 | 5 | 5 | |
| Spiciness | 3 | 1 | 3 | 3 | 3 | |

Fig. 3

- (a) Identify THREE characteristics that need improving and state how this could be done.

Characteristic _____

Improvement _____

_____ [1]

Characteristic _____

Improvement _____

_____ [1]

Characteristic _____

Improvement _____

_____ [1]

- (b) State ONE reason why the manufacturer has not included salt in the soup recipe.

_____ [1]

- (c) Sauces and soups are often thickened by the process of gelatinisation.**

Explain the process of gelatinisation.

[2]

- (d) Sensory analysis is used in the food industry.**

Explain TWO WAYS the results of sensory testing can be used by manufacturers.

1

2

[4]

[Total: 10]

4 The food that we eat provides us with the energy we need for everyday activities.

Fig. 4 shows the EAR (Estimated Average Requirements) of Energy.

| Age | Males | Females |
|--------------------|--------------|----------------|
| 1–3 years | 1230 | 1165 |
| 4–6 years | 1715 | 1545 |
| 7–10 years | 1970 | 1740 |
| 11–14 years | 2220 | 1845 |
| 15–18 years | 2755 | 2110 |
| 19–50 years | 2550 | 1940 |
| 51–59 years | 2550 | 1900 |
| 60–64 years | 2380 | 1900 |
| 65–74 years | 2330 | 1900 |
| 85+ years | 2100 | 1810 |

Fig. 4

(a) Explain ONE reason why males have different energy needs to females.

[2]

(b) There are health risks if energy balance is not maintained in the diet.

Explain what may happen if a child's intake of food and the energy they use does not balance.

[2]

(c) Explain THREE different ways how schools are encouraging students to have healthy lifestyles.

1 _____

2 _____

3 _____

_____ **[6]**

[Total: 10]

5 (a) Many people have special dietary requirements.

(i) State what is meant by the term ‘lactose intolerant’.

_____ [1]

(ii) Give ONE alternative product that a lactose intolerant person could substitute in their diet.

_____ [1]

(b) Explain ONE problem that a coeliac may have when selecting food in a restaurant.

_____ [2]

(c) Explain how a vegan can ensure they have a balanced diet.

[illegible]

[Total: 10]

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