

GENERAL CERTIFICATE OF SECONDARY EDUCATION

DESIGN AND TECHNOLOGY

1954/04

Food Technology

Paper 4 (Higher Tier)

Candidates answer on the Question Paper

OCR Supplied Materials:

None

Other Materials Required:

None

Wednesday 23 June 2010

Afternoon

Duration: 1 hour 15 minutes



Candidate
Forename

Candidate
Surname

Centre Number

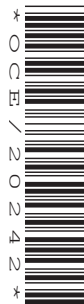
Candidate Number

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.
- Do **not** write in the bar codes.
- 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**.
- This document consists of **12** pages. Any blank pages are indicated.



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.

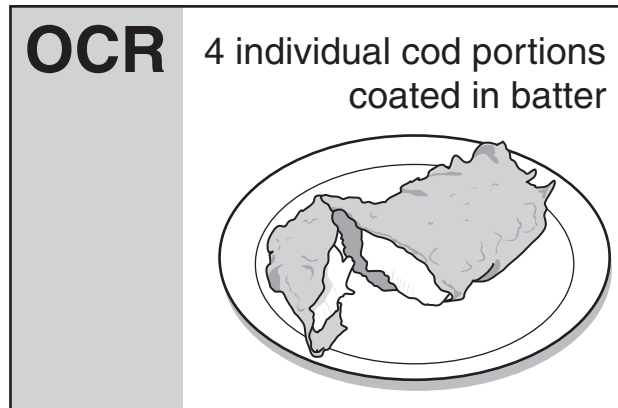


Fig. 2

(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.

..... [6]

[Total: 10]

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