

Candidate Name	Centre Number	Candidate Number

WELSH JOINT EDUCATION COMMITTEE
General Certificate of Secondary Education



CYD-BWYLLGOR ADDYSG CYMRU
Tystysgrif Gyffredinol Addysg Uwchradd

139/02

DESIGN AND TECHNOLOGY

PAPER 2

FOCUS AREA: FOOD TECHNOLOGY

(Foundation Tier – Grades G to C)

P.M. TUESDAY, 6 June 2006

(1½ hours)

	Leave Blank
Question 1	
Question 2	
Question 3	
Question 4	
Question 5	
TOTAL MARK	

ADDITIONAL MATERIALS

You will need coloured pencils for this examination.

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet. Where the space is not sufficient for your answer, continue the answer at the back of the book, taking care to number the continuation correctly.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

No certificate will be awarded to a candidate detected in any unfair practice during the examination.

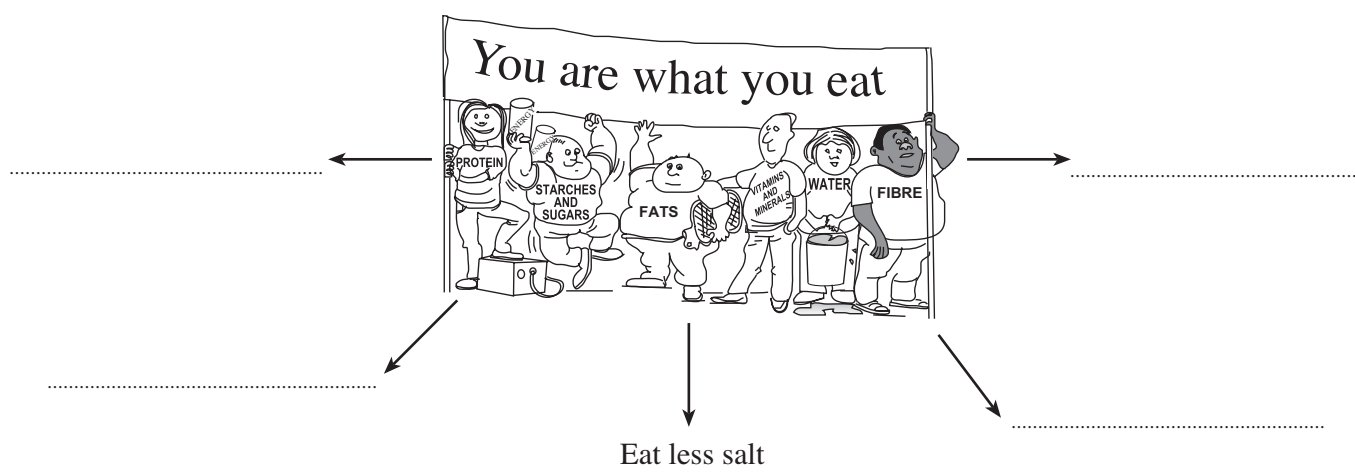
Answer **all** questions in the spaces provided.

1. Food products are often developed to promote healthy eating.

(a) **Complete** the diagram below to show the current main **healthy eating messages**.

An example has been done for you.

[4]



(b) A selection of nutrients is shown below.

Fat **Protein** ~~**Calcium**~~ **Carbohydrates** **Iron** **Vitamin C**


Complete the table below by selecting the nutrient which is contained in **each** of the following food groups. *An example has been done for you.*

[5]

<i>Food Groups</i>	<i>Nutrient</i>
Lemons, tomatoes, oranges.	
Bread, pasta, potatoes.	
Cheese, milk, yogurt.	<i>Calcium</i>
Vegetable oil, beef burgers, crisps.	
Spinach, apricots, red meat.	
Fish, pulses, meat.	

(c) Manufacturers produce special ranges of foods to encourage young children to eat healthier meals.

Study the nutrition information from the ‘Great for kids’ range shown below.



NUTRITION	
Typical Values	Per 200g Pack
Energy kj	880
Protein g	19.0
Carbohydrate g	23.4
of which sugars g	3.2
Fat g	4.2
Fibre g	1.8
Salt g	0.6

(i) **State** the salt content per 200g pack. [1]

.....

(ii) **State** the sugar content per 200g pack. [1]

.....

(d) **Study** the image shown below.



mince with pasta and vegetables

Great for kids

fun pasta shapes in tasty bolognese sauce with diced courgette and carrot-an easy way for kids to eat their veggies

- ✓ no added preservative
- ✓ no artificial colour or flavour
- ✓ controlled salt & fat

200ge

USE BY 05AUG

KEEP REFRIGERATED 0°C TO +5°C

Give two reasons why parents would want to buy this product for their children. 2 × [2]

Reason 1:

.....

Reason 2:

.....

2. The success of a food product depends on the correct choice of materials.

- (a) **List two** different types of flour and for **each one, state** a food product which can be made using the named flour. 2 × [2]
An example has been done for you.

Flour type: Wholemeal plain flour

Product: Digestive biscuits

Flour type:

Product:

Flour type:

Product:

- (b) When developing food products, designers need to know the **function** of food materials. Some of these are shown below.

Flavouring Binding Raising agent Shortening Bulking Sweetening

Complete the table below by stating the **main** function of **each** food material in a bread product. *Use each function only once.* [5]

<i>Food material</i>	<i>Function in a bread product</i>
Flour	
Yeast	
Margarine	
Salt	
Water	

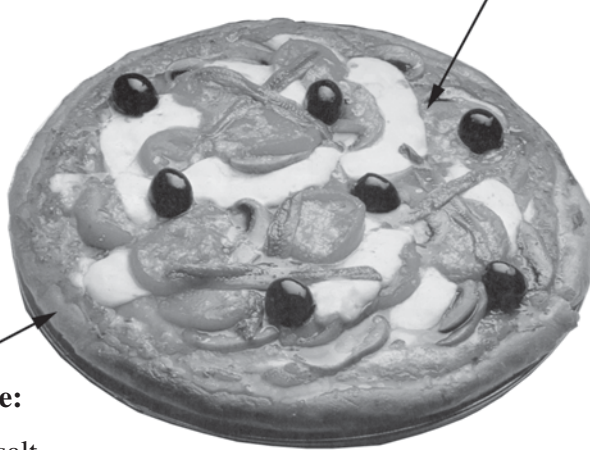
- (c) The table below shows the stages in the production of a bread product. **Complete** the table by writing a number alongside **each** stage to show the correct order of production. *The first stage has been done for you.* [6]

<i>Stage in bread production</i>	<i>Order of production</i>
Mixing	
Cooling	
Kneading	
Baking	
Weighing and measuring ingredients	1
Shaping	
Proving	

- (d) Food manufacturers design products to fit the specific needs of the consumer. **Complete** the panels below by giving **two** changes to show how this pizza can be modified to meet different consumer needs. 3 × [2]

Food materials in the topping:

Tomato pureé, onion, cheese, ham, black olives, dried herbs.



Food materials in the base:

Flour, yeast, butter, water, salt.

Changes for a *vegetarian* pizza

.....

.....

.....

.....

Changes for a *lower cost* pizza

.....

.....

.....

.....

Changes for a *healthy option* pizza

.....

.....

.....

.....

3. (a) State the **three** different methods *manufacturers* use to increase the shelf life of soup. [3]

Method 1:

Method 2:

Method 3:

(b) Use the label from a carton of soup shown below to answer the following questions.



(i) Give the date the soup must be used by. [1]

.....

(ii) State how the soup should be stored at home. [2]

Short term:

Long term:

(iii) **Give** details of the main steps you would take to get the soup ready for serving. [2]

.....

.....

.....

(iv) **State** the meaning of these symbols which appear on the label. [2]



(I)



(II)

- (c) A food manufacturer is responding to the growing market of snack foods that can fit into a child's school lunch box.

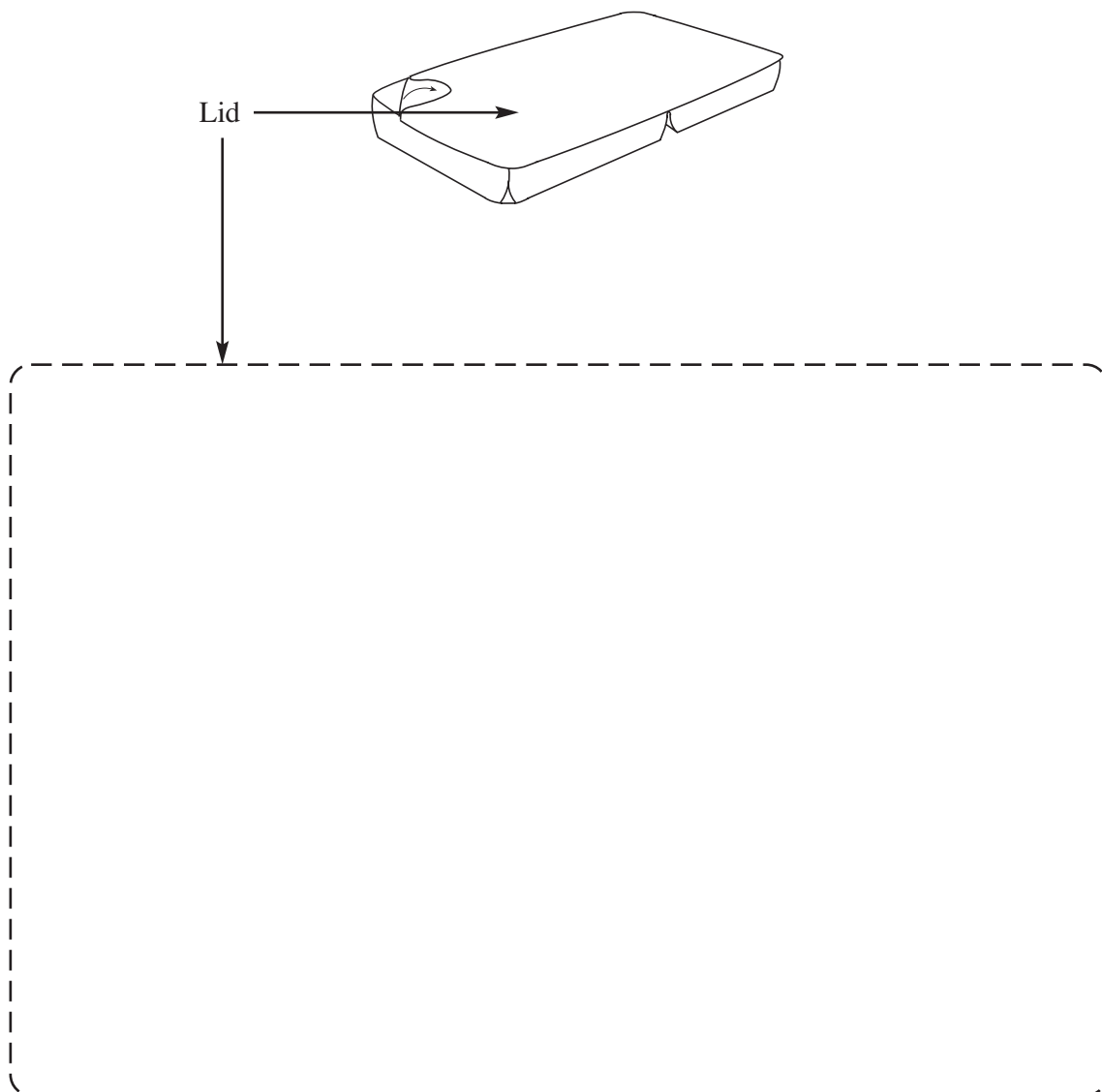
A new product containing savoury biscuits and a cheese based dip, is to be called *SNAC 2 GO*.

Design a suitable image to go on the lid of the package.

Draw your image on the outline shown below.

Marks will be awarded for:

- (i) a suitable image which includes the name of the product; [5]
- (ii) the use of colour and the quality of communication. [4]



4. Food manufacturers have to follow a quality assurance system. Good personal hygiene and the correct cleaning of equipment are essential when making food products.



- (a) **Describe**, with reasons, **four different** hygiene rules that must be followed by food workers. 4 × [2]

Rule 1:

.....

Rule 2:

.....

Rule 3:

.....

Rule 4:

.....

- (b) **Explain** why these rules are so important in large-scale food production. [2]

.....
.....
.....

(c) **State the four** conditions needed for all bacteria to grow. [4]

Condition 1:

Condition 2:

Condition 3:

Condition 4:

(d) When a product is being manufactured, several quality control checks will be carried out. **Two** types of quality control checks used in the manufacturing of a *biscuit* are listed below. **Describe** what these checks involve. 2 × [2]

(i) **Visual check:**

.....

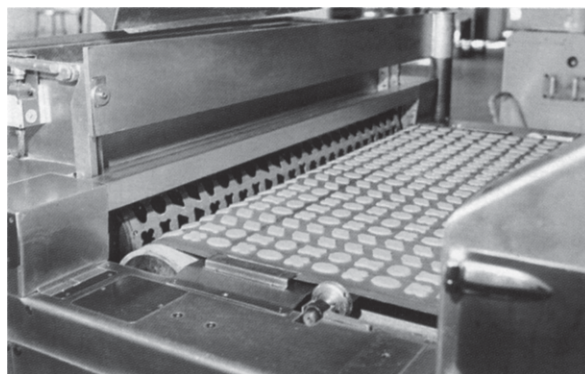
.....

(ii) **Physical contamination check:**

.....

.....

(e) Computer-controlled equipment is used in high volume production of food products such as biscuits. Rotary cutters are shown in the picture below.



Explain one advantage of using the equipment shown above. [2]

.....

.....

.....

5. A manufacturer of chilled desserts is planning to develop its range of traditional puddings. Research shows that customers would benefit from increased portions of fruit in their diet.



- (a) **Sketch, colour and label two different designs for a layered, fruit based dessert.**

The product must:

- be suitable for four people;
- have three or more layers;
- contain fruit;
- have an interesting casing or base.

Marks will be awarded for:

- (i) the design of an interesting, **layered dessert** containing **fruit**; 2 × [3]
- (ii) detailed labelling of **all** the food materials used to make the product; 2 × [4]
- (iii) quality of communication, including a **cross-section** of the product. 2 x [4]

Design 1	Do not draw the packaging	
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Design 2	Do not draw the packaging	
----------	---------------------------	--

Tick (✓) the box to show your **best** design.

Design 1

Design 2

(b) **State three** *sensory* reasons why your best idea would appeal to customers. [3]

Sensory reason 1:

Sensory reason 2:

Sensory reason 3:

