

**Monday 5 June 2017 – Afternoon**

**GCSE DESIGN AND TECHNOLOGY Food Technology**

**A525/01 Sustainability and Technical Aspects of Designing and Making**

Candidates answer on the Question Paper.

**OCR supplied materials:**

None

**Other materials required:**

None

**Duration:** 1 hour 30 minutes



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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### INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. 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 page(s) at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the barcodes.

### 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 **80**.
- Your quality of written communication is assessed in the questions marked with an asterisk (\*).
- This document consists of **16** pages. Any blank pages are indicated.

## SECTION A

Answer **all** the questions.

You are advised to spend about 40 minutes on this section.

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

- 1 A function of water in the diet is to:
- (a) Provide protein
  - (b) Prevent diverticular disease
  - (c) Prevent rickets
  - (d) Prevent dehydration [1]
- 2 Too much salt in the diet causes:
- (a) Obesity
  - (b) High cholesterol
  - (c) Poor eye sight
  - (d) High blood pressure [1]
- 3 UK grown courgettes are in season in:
- (a) Winter
  - (b) Spring
  - (c) Summer
  - (d) Autumn [1]
- 4 An example of nanotechnology in the food industry is:
- (a) Freezing food
  - (b) UHT treatment of fruit juice
  - (c) Adding slow release nutrients to foods
  - (d) Putting recycling information on packaging [1]

5 Jewish people do not eat:

(a) Beef

(b) Dairy products

(c) Chicken

(d) Pork

[1]

6 Give **one** reason why we should buy foods with little or no packaging.

..... [1]

7 The symbol shown stands for:



..... [1]

8 State **one** dish which could be made using left over roast chicken.

..... [1]

9 Give **one** reason why we should reduce our sugar intake.

..... [1]

10 Give **one** example of primary recycling.

..... [1]

Decide whether the statements below are **true** or **false**.

Tick (✓) the box to show your answer.

	True	False	
11 Raw vegetables cannot be composted.	<input type="checkbox"/>	<input type="checkbox"/>	[1]
12 Storing food at the correct temperature helps to reduce food waste.	<input type="checkbox"/>	<input type="checkbox"/>	[1]
13 Microwaving foods can help to reduce energy costs.	<input type="checkbox"/>	<input type="checkbox"/>	[1]
14 We should be increasing the amount of fibre we eat.	<input type="checkbox"/>	<input type="checkbox"/>	[1]
15 Product globalisation refers to food that is available throughout the world.	<input type="checkbox"/>	<input type="checkbox"/>	[1]



(b) Additives are used in many food products.  
Give **one** function of:

(i) Preservatives

.....  
..... [1]

(ii) Colours

.....  
..... [1]

(iii) Emulsifiers

.....  
..... [1]

(c) Explain **two** ways a consumer can make sustainable choices when choosing vegetables.

1 .....

.....

.....

.....

.....

.....

.....

.....

..... [4]

(d) Green vegetables are a good source of vitamin C.  
Give **three** functions of vitamin C in the diet.

1 .....

2 .....

3 .....

[3]

(e) Many children do not like eating fruit and vegetables.  
Explain **two** ways fruits and vegetables can be introduced into a child's diet.

1 .....

.....

.....

.....

2 .....

.....

.....

.....

.....

[4]

## SECTION B

Answer **all** the questions.

You are advised to spend 50 minutes on this section.

- 17 A food manufacturer produces a range of pastry products.  
Fig. 2 shows a lemon meringue pie.



Fig. 2

- (a) State **one** function for each of the following ingredients used in making the lemon meringue pie.

Ingredient	Function of the ingredient in the lemon meringue pie
Plain white flour in the pastry	
Butter in the pastry	
Sugar in the meringue	

[3]

(b) Give **two** reasons why the manufacturer uses computer aided manufacture (CAM) when making the lemon meringue pies.

1 .....

.....

2 .....

.....

[2]

(c) Pastry can be bought as a pre-manufactured component.  
Give **two** advantages of using pastry as a pre-manufactured component.

1 .....

.....

2 .....

.....

[2]

(d) Name **two** nutrients used to fortify white flour by law.

1 .....

2 .....

[2]



(e) The manufacturer wants to develop a new **savoury** pastry product.  
The design specification points for the product are:

- to be suitable for ovo-lacto vegetarians
- to include a variety of textures
- to be attractive in appearance
- to be suitable for a celebration meal.

Use labelled sketches and/or notes to design a new product that meets the design specification.

State clearly how your design meets the specification points.

**Do not draw any packaging.**

**Name of product** .....

- 18 Meat is often eaten as part of a balanced diet.  
Fig. 3 shows the nutritional value per 100g of three types of meat.

Nutrients	Braising steak (Beef)	Chicken breast	Bacon
Energy (kJ)	670 kJ	496 kJ	891 kJ
Energy (kcal)	160 kcal	118 kcal	215 kcal
Fat	8.6 g	2.8 g	16.5 g
of which saturates	3.8 g	0.8 g	6.2 g
Protein	20.7 g	23.0 g	16.5 g
Iron	1.4 mg	0.4 mg	0.4 mg
Riboflavin (Vitamin B2)	0.27 mg	0.11 mg	0.11 mg
Sodium	60 mg	90 mg	1540 mg

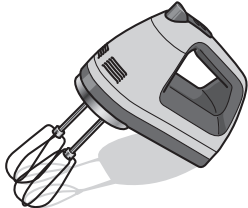


Fig. 3

- (a) (i) State the meat which contains the most protein.  
..... [1]
- (ii) State **one** function of protein in the diet.  
..... [1]
- (iii) Give **one** reason why the energy value of the bacon is higher than the braising steak and chicken breast.  
..... [1]
- (iv) The braising steak is a good source of iron.  
State **one** function of iron in the diet.  
..... [1]
- (v) State the meat which contains the most riboflavin.  
..... [1]
- (vi) State **one** function of riboflavin in the diet.  
..... [1]
- (b) Bacon contains the most sodium.  
Give **one** reason why bacon contains the most sodium.  
.....  
..... [1]



19 There is a wide variety of electrical kitchen equipment available.

(a) Complete the table below by naming the piece of equipment shown and giving a different use for each piece of equipment when preparing food.

Equipment	Name	Use
		
		
		

[6]

(b) Give **two** safety rules which should be followed when using electrical equipment.

- 1 .....
- .....
- 2 .....
- .....

[2]

- (c) Give **one** advantage and **one** disadvantage of using electrical equipment when preparing food.

Advantage

.....  
.....

Disadvantage

.....  
.....

[2]

- (d) A food manufacturer uses the HACCP system to ensure food is produced safely. State what the letters HACCP stand for.

.....  
.....

[1]

- (e) Explain why temperature control is important in food storage.

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

[2]

- (f) Explain how the information on food labels can be used to ensure food is safe to eat.

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

[2]

**END OF QUESTION PAPER**

**ADDITIONAL ANSWER SPACE**

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

A large area of lined paper for writing. It features a vertical margin line on the left side and horizontal dotted lines for writing. The lines are evenly spaced and extend across the width of the page.



A large rectangular area with a solid vertical line on the left side and horizontal dotted lines extending across the page, providing a space for writing answers.



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