

Write your name here

Surname

Other names

**Pearson**  
**Edexcel GCE**

Centre Number

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Candidate Number

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# Design and Technology

**Food Technology**

**Advanced**

**Unit 3: Food Products, Nutrition and Product Development**

Friday 10 June 2016 – Morning

**Time: 2 hours**

Paper Reference

**6FT03/01**

**You do not need any other materials.**

Total Marks

## Instructions

- Use **black** ink or ball-point pen.
- If pencil is used for diagrams/sketches it must be dark (HB or B). Coloured pens, pencils and highlighter pens must **not** be used.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*

## Information

- The total mark for this paper is 70.
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed  
– *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*

## Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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**PEARSON**

**Answer ALL questions. Write your answers in the spaces provided.**

**1** Genetic modification is a technology used in the development of new food products.

(a) State **four** advantages of genetically modifying crops.

(4)

1 .....

2 .....

3 .....

4 .....

(b) Explain **two** disadvantages of genetically modifying crops.

(4)

1 .....

2 .....

**(Total for Question 1 = 8 marks)**

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2 (a) Describe, using notes and/or sketches, the structural composition of meat.

(4)

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(b) Evaluate the nutritional contribution of red meat to the diet.

(4)

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**(Total for Question 2 = 8 marks)**

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**3** Outline the changes that occur during the following stages of the cheese making process.

(a) Pasteurisation of the milk

(2)

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(b) Addition of the starter culture

(2)

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(c) Addition of the rennet

(2)

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(d) Maturing of the cheese

(2)

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**(Total for Question 3 = 8 marks)**



4 (a) Identify the Dietary Reference Value used for energy in the UK.

(1)

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(b) Define the term 'Basal Metabolic Rate'.

(3)

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(c) Evaluate the provision of energy in the diet from the following macro-nutrients.

(i) Protein

(2)

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(ii) Fat

(2)

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(iii) Carbohydrate

(2)

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**(Total for Question 4 = 10 marks)**



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5 (a) Outline the following conditions which require special diets.

(i) Coeliac disease

(2)

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(ii) Lactose intolerance

(2)

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\*(b) Coronary heart disease is a diet-related disease.

Discuss the dietary guidelines you would give to somebody wishing to improve their diet to help prevent coronary heart disease.

(8)

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(Total for Question 5 = 12 marks)



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6 Explain the effect of the following factors on the ripening of fruit during commercial storage.

(a) Controlled atmosphere

(3)

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(b) Presence of ethylene

(3)

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(c) Atmospheric pressure

(3)

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(d) Temperature

(3)

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**(Total for Question 6 = 12 marks)**

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7 (a) Explain the term 'biodegradable packaging'.

(3)

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\*(b) Discuss the relationship between food miles and sustainability.

(9)

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**(Total for Question 7 = 12 marks)**

**TOTAL FOR PAPER = 70 MARKS**



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