At the top of the page, write your surname and other names, your centre number, your candidate number and add your signature.

[Turn over]
For this paper you must have:
• a black pen
• a pencil.

INSTRUCTIONS

• Use black ink or black ball-point pen.

• Answer ALL questions.

• You must answer the questions in the spaces provided. Do not write on blank pages.

• Do all rough work in this answer book. Cross through any work you do not want to be marked.
INFORMATION

• The marks for questions are shown in brackets.

• The maximum mark for this paper is 100.

• You are reminded of the need for good English and clear presentation in your answers.

DO NOT TURN OVER UNTIL TOLD TO DO SO
SECTION A consists of multiple choice questions.

Answer ALL questions in this section.

There are 20 marks available.

Only ONE answer per question is allowed.

For each answer completely fill in the circle alongside the appropriate answer.

**CORRECT METHOD**

**WRONG METHODS**

If you want to change your answer you must cross out your original answer as shown.

If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown.
For each question you should shade in one box.

An example is shown below.

Which food is high in protein?

☐ A cabbage
☐ B cheese
☐ C oranges
☐ D cucumber

[Turn over]
Which one of the following is a micronutrient? [1 mark]

- A carbohydrate
- B fat
- C protein
- D vitamin

Coeliac disease is an intolerance to [1 mark]

- A eggs
- B meat
- C milk
- D wheat
Anaemia is caused by a diet deficient in which mineral? [1 mark]

A calcium  
B iodine  
C iron  
D sodium

The percentage of recommended energy from carbohydrates per day is [1 mark]

A 15%  
B 35%  
C 50%  
D 75%

[Turn over]
Which one of the following shows the danger zone temperatures? [1 mark]

A 0 °C to 35 °C
B 3 °C to 63 °C
C 4 °C to 75 °C
D 5 °C to 63 °C

Which one of the following is the correct storage condition for bananas? [1 mark]

A at room temperature
B in the chill cabinet
C in the freezer
D in the refrigerator
Which of the following methods of cooking are all water based? [1 mark]

A steaming, grilling, poaching
B boiling, frying, simmering
C baking, roasting, grilling
D simmering, boiling, poaching

Which one of the following is an example of bacterial contamination? [1 mark]

A a food worker sneezing when preparing food
B a fish bone in a fishcake
C cleaning agents left on a work surface
D a piece of plastic in a cake mixture

[Turn over]
Convection is the transfer of heat energy through

A direct heat rays
B liquids
C metals
D solids

Which one of the following are water soluble vitamins? [1 mark]

A vitamins A and C
B vitamins B and C
C vitamins B and D
D vitamins C and D
When heated, the colour of sugar changes from white to brown. This process is called [1 mark]

- A caramelisation
- B enzymic browning
- C gelatinisation
- D oxidation

Which vitamin helps the body absorb calcium? [1 mark]

- A vitamin A
- B vitamin B
- C vitamin C
- D vitamin D

[Turn over]
Which one of the following is an example of a primary processed food? [1 mark]

A  bananas
B  eggs
C  flour
D  tomatoes

Which one of the following CAN be an example of a free range food? [1 mark]

A  bananas
B  eggs
C  flour
D  tomatoes
Identify one food that has an extraction rate during production [1 mark]

A  bananas  
B  eggs  
C  flour  
D  tomatoes

Which fruit is affected by enzymic browning? [1 mark]

A  apples  
B  grapes  
C  oranges  
D  raspberries

[Turn over]
Which one of the following describes the distance food is transported from producer to consumer? [1 mark]

- A air miles
- B carbon footprint
- C fair trade
- D food miles

Which of the vitamins listed below is an antioxidant? [1 mark]

- A vitamin A
- B vitamin B
- C vitamin D
- D vitamin K
Which one of the following is not a legal requirement for food labelling? [1 mark]

- A cooking instructions
- B list of ingredients
- C serving suggestions
- D weight

What is added to foods when fortification takes place? [1 mark]

- A additives
- B emulsifiers
- C nutrients
- D preservatives

[Turn over]
SECTION B

Answer ALL questions in this section.

There are 80 marks available.

QUESTION 2 is about food safety.

02.1

Give FOUR personal hygiene rules that must be followed by people serving food. [4 marks]

1

2
State TWO food safety rules that must be used for each of the following. Explain why each rule is needed. [8 marks]

Storing fresh, cooked prawns.

<table>
<thead>
<tr>
<th>Food safety rule</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Food safety rule</td>
<td>Explanation</td>
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</tbody>
</table>

[Turn over]
Reheating cooked chicken.

<table>
<thead>
<tr>
<th>Food safety rule</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1________________</td>
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<td>Food safety rule</td>
<td>Explanation</td>
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<td>2</td>
<td>2</td>
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</tbody>
</table>

[Turn over]
**TABLE 1**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Choice A: Fish pie with broccoli and carrots</th>
<th>Choice B: Meat pie with roast potatoes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrient per portion</td>
<td>(Reference Intake)</td>
<td>(Reference Intake)</td>
</tr>
<tr>
<td>potatoes, milk, carrot, salmon, cod, broccoli,</td>
<td></td>
<td>beef steak, flour, onion, potatoes,</td>
</tr>
<tr>
<td>peas, tomato, flour, cheese, vegetable fat.</td>
<td></td>
<td>butter, oil, gravy, salt.</td>
</tr>
</tbody>
</table>

**QUESTION 3** is about nutrition, health and food science.

Information about two meals is given below. You should use this information when answering the question that follows.
<table>
<thead>
<tr>
<th>Energy</th>
<th>Carbohydrate</th>
<th>Total Sugars</th>
<th>Fat</th>
<th>Saturated fat</th>
<th>Salt</th>
<th>Vitamin A</th>
<th>Vitamin B12</th>
<th>Vitamin C</th>
<th>Vitamin D</th>
<th>Calcium</th>
<th>Iron</th>
</tr>
</thead>
<tbody>
<tr>
<td>408.0 kcal</td>
<td>31.0 g</td>
<td>11.0 g</td>
<td>11.0 g</td>
<td>4.0 g</td>
<td>0.5 g</td>
<td>1148.0 μg</td>
<td>2.5 μg</td>
<td>64 mg</td>
<td>2.6 μg</td>
<td>266.0 mg</td>
<td>2.7 mg</td>
</tr>
<tr>
<td>668.0 kcal</td>
<td>26.0 g</td>
<td>4.1 g</td>
<td>39.0 g</td>
<td>22.0 g</td>
<td>2.0 g</td>
<td>398.0 μg</td>
<td>1.6 μg</td>
<td>5.9 mg</td>
<td>0.9 μg</td>
<td>27.0 mg</td>
<td>2.0 mg</td>
</tr>
</tbody>
</table>

Energy 408.0 kcal 668.0 kcal
Energy 408 kcal 668 kcal
Energy % 33% 20%
Energy % 58% 24%
Energy % 24% 5%
Energy % 56% 56%
Energy % 21% 9%
Vitamin A μg 1148 398 μg
Vitamin B12 μg 2.5 1.6 μg
Vitamin C mg 64 5.9 mg
Vitamin D μg 2.6 0.9 μg
Calcium mg 266 27.0 mg
Iron mg 2.7 2.0 mg

[Turn over]
With reference to the ingredients, nutrient content and reference intake for each of the dishes, assess the suitability of each meal for an elderly person. Evaluate which meal is the healthier choice. Include justified reasons in your answer. [12 marks]

________________________________________________________________________________________________________________________________________

________________________________________________________________________________________________________________________________________

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[Turn over]
Explain why dietary fibre is important in the body. Suggest ways the meat pie and roast potatoes can be modified to include more dietary fibre. [6 marks]
Explain the function of the following ingredients when making shortcrust pastry. [4 marks]

Plain flour

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
QUESTION 4 is about food science.

0 4 . 1

Complete TABLE 2 below to match the sauce with the correct sauce making method. [3 marks]

Sauce making methods:
Starch based
Emulsion
Reduction

TABLE 2

<table>
<thead>
<tr>
<th>TYPE OF SAUCE</th>
<th>SAUCE MAKING METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hollandaise sauce</td>
<td></td>
</tr>
<tr>
<td>Roux/all in one sauce</td>
<td></td>
</tr>
<tr>
<td>Tomato pasta sauce</td>
<td></td>
</tr>
</tbody>
</table>

[Turn over]
04.2

Give THREE reasons why it is important to stir a flour based sauce. [3 marks]

________________________________________________________________________

________________________________________________________________________

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________________________________________________________________________
04.3

Explain how gelatinisation takes place when making a starch based sauce. [6 marks]
Describe how the following raising agents work. Give an example of a recipe that uses each method.

Name a chemical raising agent

Describe how it works
Example of a recipe using this chemical raising agent

[4 marks]

[Turn over]
Name a biological raising agent

Describe how it works
Example of a recipe using this biological raising agent

[4 marks]

[Turn over]
QUESTION 5 is about food choices.

Sales of organic food and drinks in the UK are growing.

Analyse and evaluate why an increasing number of consumers are choosing organic food and drinks. [8 marks]
Explain the advantages and disadvantages of Genetically Modified (GM) foods. [6 marks]

Advantages
Disadvantages
QUESTION 6.1 is about food processing and production.

06.1

TABLE 3

<table>
<thead>
<tr>
<th>Heat treatment of milk</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasteurisation</td>
<td>heated at 72 °C for 15 seconds</td>
</tr>
<tr>
<td>Sterilisation</td>
<td>heated at 110–130 °C for 30 minutes</td>
</tr>
<tr>
<td>Ultra heat treated (UHT)</td>
<td>heated at 135 °C for 1 second</td>
</tr>
</tbody>
</table>

[6 marks]

Using TABLE 3 above, explain how the different heat treatment methods:

allow milk to last longer

___________________________________

___________________________________

___________________________________
affect the nutrition, taste and appearance of milk
QUESTION 6.2 is about food additives.

Food additives are used in many processed foods. [6 marks]

Explain why additives are used in food processing.
Explain some of the concerns people have about their use.

[Turn over]
END OF QUESTIONS