



Please write clearly in block capitals.

Centre number

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Candidate number

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Surname

Forename(s)

Candidate signature

GCSE

DESIGN AND TECHNOLOGY: SHORT COURSE

Unit 1 Written Paper

Tuesday 24 May 2016

Morning

Time allowed: 1 hour

Materials

For this paper you must have:

- a black pen
- a pencil
- a ruler
- an eraser
- a pencil sharpener.

Instructions

- Use black ink or black ball-point pen. Use pencil only for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or 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 60.
- You are reminded of the need for good English and clear presentation in your answers. Quality of Written Communication will be assessed in Question 4 (c).



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

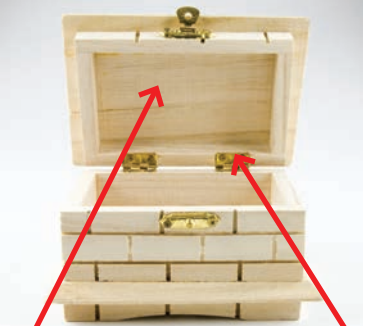


Question 1 is about materials/ingredients.

You are advised to spend about 10 minutes on this question.

1 (a) Three complete products are shown below.

Choose **two** products and state the specific materials/ingredients used for each part:

[4 marks]

<p>Wooden box</p>  <p>A B</p>	<p>Jeans and belt</p>  <p>C D</p>	<p>Pie</p>  <p>E F</p>
<p>A _____</p>	<p>C _____</p>	<p>E _____</p>
<p>B _____</p>	<p>D _____</p>	<p>F _____</p>

1 (b) Choose **one** of the products in part (a). Circle the product you have chosen below.

Wooden box

Jeans and belt

Pie

Explain why the materials/ingredients you have named are suitable for the product shown in the photograph.

[2 marks]



1 (c) State the type of dye used in this T-shirt.

[1 mark]



1 (d) What is the meaning of Nanotechnology?

Tick the box beside the correct answer.

[1 mark]

Products that use a microcontroller

The manipulation of matter on an atomic or molecular scale

The design of computer games

8

Turn over ►



Question 2 is about quality control.

You are advised to spend about 10 minutes on this question.

2 Study the pictures below. Choose **one** of the products to make as a batch.



Flapjack



Bird box



Finger puppet

2 (a) Product chosen _____

Name **two** checks you would make to ensure the materials/ingredients you buy are suitable for your chosen product.

[2 marks]

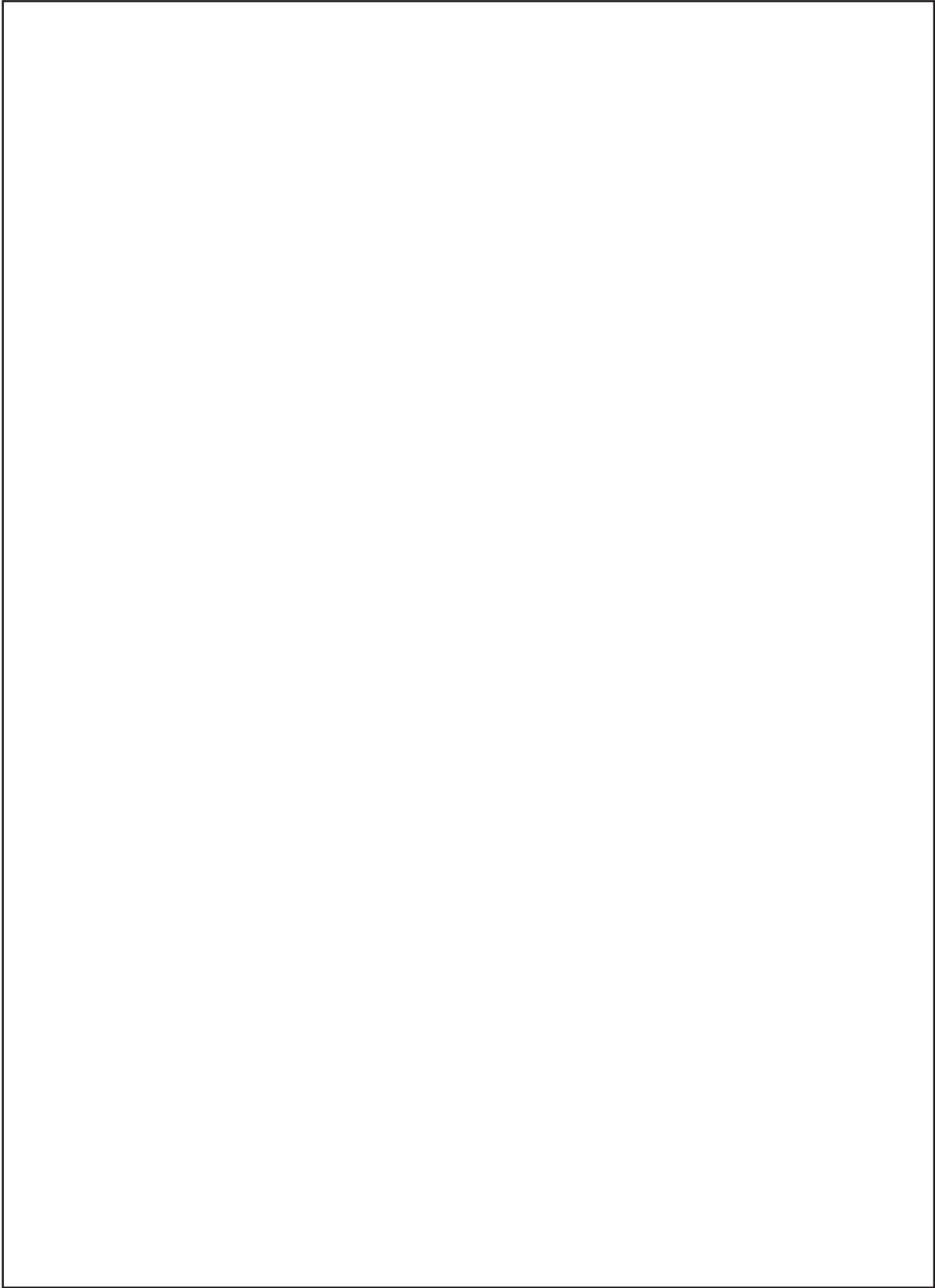
Check 1

Check 2



- 2 (b)** Using notes and sketches, explain how you would make sure that all of the products in the batch are the same size and look similar.

[6 marks]



8

Turn over ►



Question 3 is about design development.

You are advised to spend about 25 minutes on this question.

3 A designer wishes to develop products with an Italian theme.

Images related to Italy are shown below.



3 (a) (i) Choose and circle **one** of the following products to develop:

A Drawstring bag

B Pizza

C Desk tidy

Describe what other research you may need to do before starting your design.

[3 marks]

3 (a) (ii) Explain how you could use a computer in different ways to help gather and sort research information.

[3 marks]

Turn over ►



3 (b) In the space below, design either a drawstring bag, a pizza or a desk tidy.

Use the images from the mood board to help you with your ideas.

Marks will be awarded for:

- producing an idea with an Italian theme
- creative use of the mood board imagery
- adding notes to your design to explain the details of your design.

It must be possible to make the design using equipment with which you are familiar.

You will describe in more detail how you would make this product in part (c) of this question.

[8 marks]

Product _____



3 (c) Produce a step-by-step plan to explain how you could make your idea in part (b).

In your answer include the information below.

- Dimensions, size or quantities **[2 marks]**
- Materials or ingredients **[2 marks]**
- Processes for making, assembling and finishing **[6 marks]**
- Names of tools and equipment used. **[3 marks]**



Question 4 is about packaging.

You are advised to spend about 10 minutes on this question.

4 (a) One of the functions of packaging is to protect the contents.

Circle a design feature on the egg box packaging shown below and explain how it helps protect the eggs.

[2 marks]

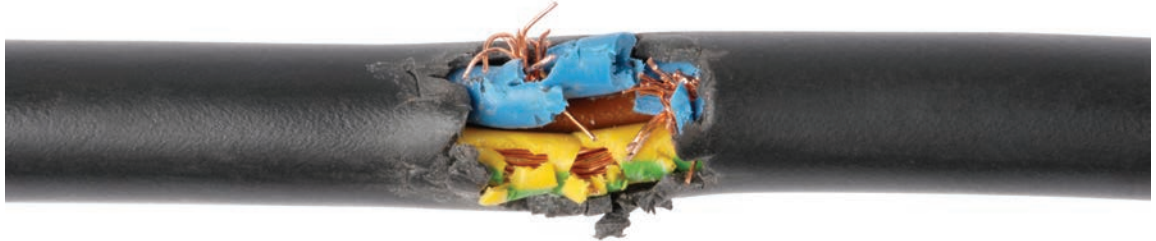




Question 5 is about working safely.

You are advised to spend about 10 minutes on this question.

5 Study the photograph of a power lead shown below.



5 (a) (i) Explain why it would be unsafe to use any electrical device with a power lead in this condition.

[1 mark]

5 (a) (ii) What should you do if you find an electrical device with its power lead in this condition at school?

[2 marks]



5 (b) Look at the photograph of a refrigerator below.

The display shows the internal temperature of the refrigerator in degrees Celsius (centigrade).

Explain why this is required.

[2 marks]



Turn over ▶



5 (c) Study the photograph below.



Loaf of bread

Explain how you would decide if this product is safe to eat.

[2 marks]

7

END OF QUESTIONS



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