

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
3	
4	
TOTAL	



General Certificate of Secondary Education
June 2014

Design and Technology Short Course

45751

Unit 1 Written Paper

Friday 23 May 2014 1.30 pm to 2.30 pm

For this paper you must have:

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

Time allowed

- 1 hour

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 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 3(b).



J U N 1 4 4 5 7 5 1 0 1

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

Question 1 is about labelling on packaging.

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

1 (a) Consumers are increasingly concerned about where materials and products come from.

The table below shows symbols which may be found on the packaging of materials and products. Each of the symbols relates to one of the following issues;

Moral

Environmental

Health

Safety

Complete the table matching the symbol to its relating issue.
You should use each issue only once.

[3 marks]

Symbol	Issue
	<p>.....</p>
	<p>.....</p>
	<p>.....</p>
	<p>.....</p>



1 (b) (i) The following symbol might be found on packaging and relates to an environmental issue.



Explain the meaning of this symbol.

[2 marks]

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1 (b) (ii) The following symbol might be found on packaging and relates to a safety issue.



Explain the meaning of this symbol.

[2 marks]

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Turn over ▶



1 (b) (iii) The following symbol might be found on packaging and relates to a moral issue.



Certification Mark

Explain the meaning of this symbol.

[2 marks]

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9



Question 2 is about designing and making products.

You are advised to spend about 20 minutes on this question.

2 A mood board which represents oriental culture is shown below.



2 (a) Choose **two** images from the mood board. Describe why they fit an oriental theme.

[2 marks]

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Turn over ▶

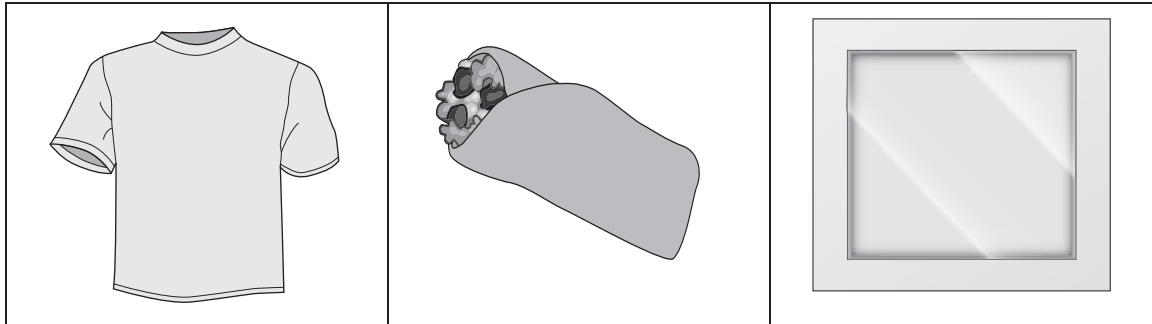


2 (b) Three outlines for products are shown below.

T-shirt

Sandwich Wrap

Mirror



On the page opposite, design **either** a T-shirt, **or** a sandwich wrap **or** a mirror with an oriental theme.

Use the mood board to help you with ideas.

Marks will be awarded for the following:

- Producing an idea with an oriental theme
- Creative use of the mood board imagery
- Adding notes to your design to explain the details of your design

The design must be possible to make using equipment and processes with which you are familiar.

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

[6 marks]



Product

Turn over ▶



0 7

2 (c) Produce a step by step plan to describe how you could make your idea in part (b) using resources at your school.

In your answer include the information below so that someone else could make your design.

- 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]**

Tools and equipment used

21



Question 3 is about the packaging of products.

You are advised to spend about 15 minutes on this question.

3 The image below shows the packaging materials for a chocolate product.



3 (a) Name the two materials labelled A and B and explain why they are used.

[4 marks]

Material	Why it is used
A
B

Turn over ▶



3 (b) Products such as chocolates and biscuits are often criticised as being over-packaged.
Discuss the environmental issues raised by the over packaging of products.

Quality of Written Communication will be assessed in this answer.

[6 marks]

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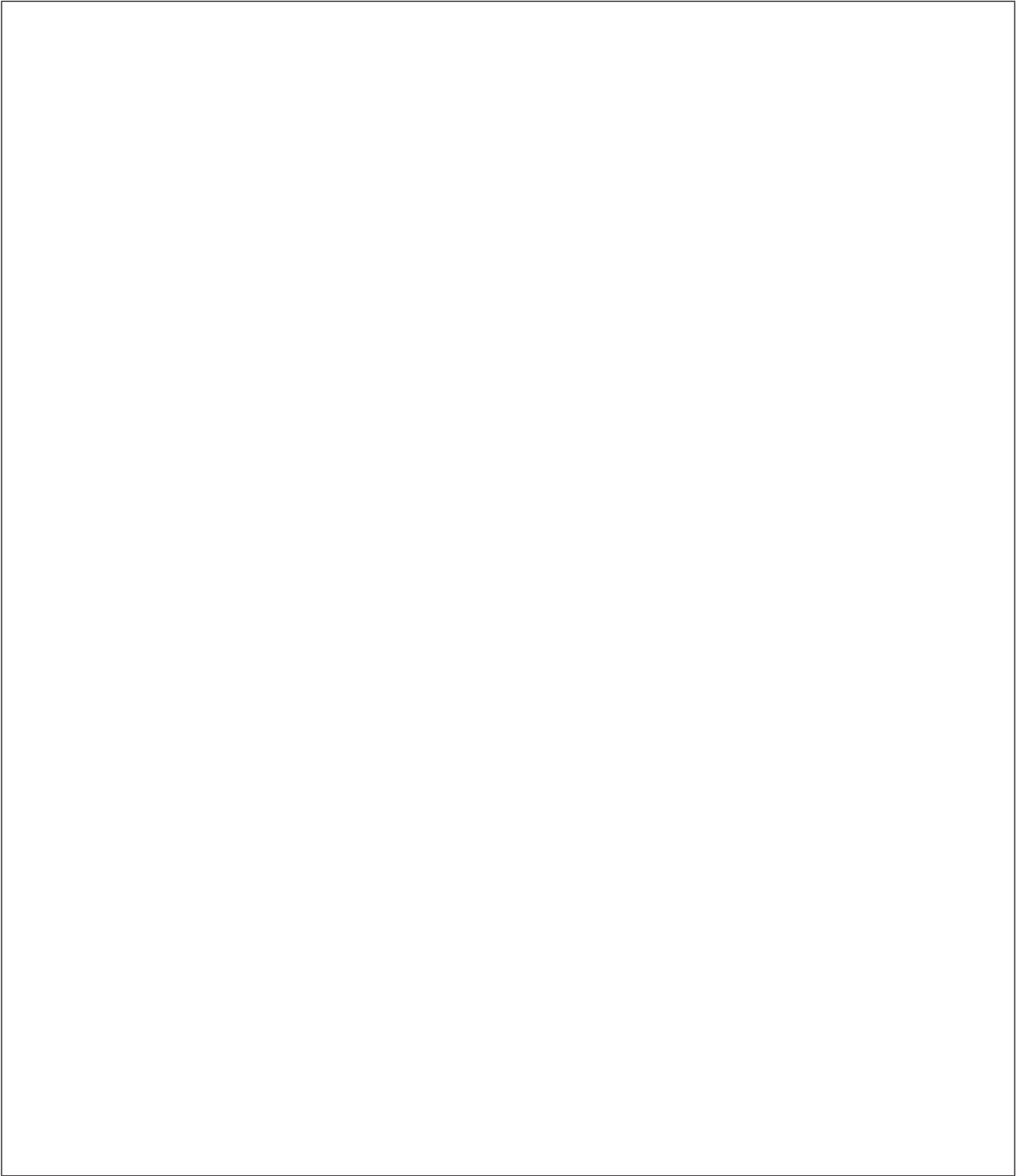
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- 3 (c)** Explain how you would redesign the package shown on page 9 using less material.
Use labelled drawings and/or notes in your answer.

[5 marks]



15

Turn over for the next question

Turn over ▶



Question 4 is about planning batch production.

You are advised to spend about 15 minutes on this question.

- 4** A group of 10 students have decided to make necklaces for a fund raising event. The design is for an acrylic pendant suspended from a leather necklace. They plan to make 50 necklaces with pendants.

Stages of production	
A Cut pendant shape	E Sand and polish edges
B Drill a hole in pendant	F Mark out pendant shape
C Tie knot in leather necklace	G Package
D Cut leather necklace to length	H Thread pendant onto leather necklace

- 4 (a)** Insert the stages of production in the correct order on the flowchart.

[3 marks]

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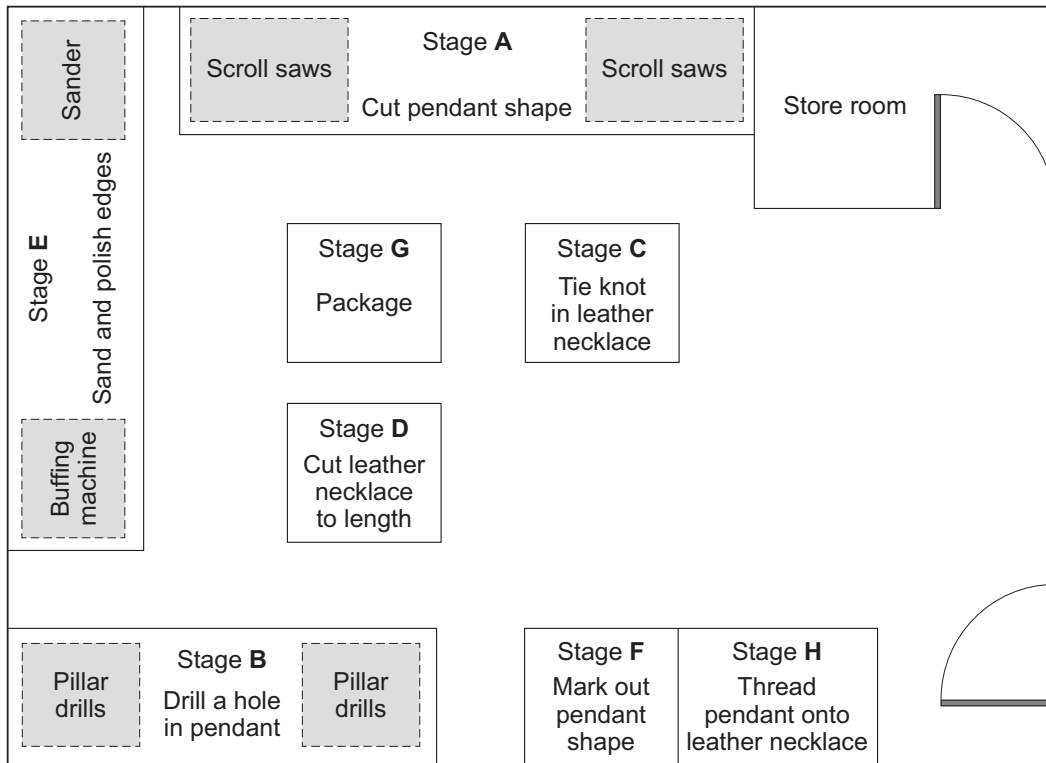
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4 (b) The floor plan shows how the students have arranged their workspace to make the necklaces.



Study the diagram above. Describe **two** problems with the layout.

[4 marks]

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Turn over ▶



4 (c) The students had the following problems when making the necklace.
Complete the table to show a cause for each problem.
Explain how each problem could be prevented.

[6 marks]

	Cause	Prevented by
<p>Problem 1</p> <p>The necklaces are all different lengths</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>Problem 2</p> <p>The edges of the pendant are sharp</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>Problem 3</p> <p>The leather will not thread onto the pendant</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>

4 (d) The students could have used CAD/CAM to produce the pendant part of the necklace.
Describe the advantages of using CAD/CAM for batch produced products.

[2 marks]

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END OF QUESTIONS



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