



GENERAL CERTIFICATE OF SECONDARY EDUCATION
DESIGN AND TECHNOLOGY
Graphics
 Sustainable Design

A532

Candidates answer on the Question Paper

OCR Supplied Materials:
None

Other Materials Required:
None

Friday 11 June 2010
Afternoon

Duration: 1 hour



Candidate Forename		Candidate Surname	
--------------------	--	-------------------	--

Centre Number						Candidate Number				
---------------	--	--	--	--	--	------------------	--	--	--	--

INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions in sections **A and B**.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your Candidate Number, Centre Number and question number(s).

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 **60**.
- Your Quality of Written Communication is assessed in questions marked with an asterisk (*).
- This document consists of **12** pages. Any blank pages are indicated.

Section A

Answer **all** questions.

You are advised to spend 15 minutes on this section.

On questions 1–5 **ring** your answer

- 1** To repair a product means to:
- (a) Return it to working order
 - (b) Improve the looks
 - (c) Change the packaging
 - (d) Reprint the instruction leaflet **[1]**
- 2** Providing good conditions for workers is:
- (a) Not important
 - (b) A moral issue
 - (c) A design issue
 - (d) A recycling issue **[1]**
- 3** Reducing material waste means:
- (a) Using different materials
 - (b) Buying extra materials
 - (c) Using CAM
 - (d) Using less materials **[1]**
- 4** A Mobius loop shows a product:
- (a) Cannot be recycled
 - (b) Is made in Europe
 - (c) Can be recycled
 - (d) Meets the relevant Health and Safety standards **[1]**

5 The symbol shown stands for:



- (a) Eye protection must be worn
- (b) Glasses must be removed
- (c) Sunglasses can be worn
- (d) Eye protection is available

[1]

6 Give the meaning of the term 'redundant' product.

..... [1]

7 State what is meant by a renewable material.

..... [1]

8 Give the meaning of the term 'disposal'.

..... [1]

9 Name the label used to advertise when a designer has used environmentally friendly methods.

..... [1]

10 Name **one** sustainable energy source.

..... [1]

Decide whether each of the following statements is **true** or **false**.

Tick (✓) the box to show your answer.

11 To approach a design problem in a different way is to rethink.

True	False
<input type="checkbox"/>	<input type="checkbox"/>

True	False
<input type="checkbox"/>	<input type="checkbox"/>

[1]

12 Good design can improve the quality of life for the user.

<input type="checkbox"/>

<input type="checkbox"/>

[1]

13 A toxic material is harmful to living things.

<input type="checkbox"/>

<input type="checkbox"/>

[1]

14 To reuse a product is when you avoid using it again.

<input type="checkbox"/>

<input type="checkbox"/>

[1]

15 Thermo chromic inks change colour due to varying light levels.

<input type="checkbox"/>

<input type="checkbox"/>

[1]

Total [15]

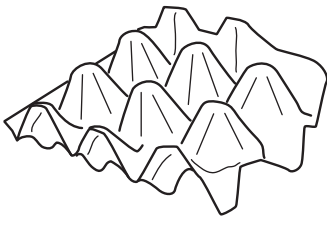
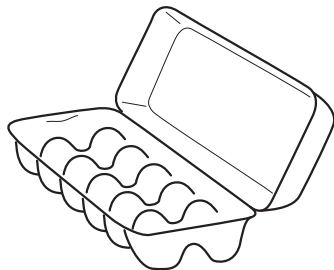
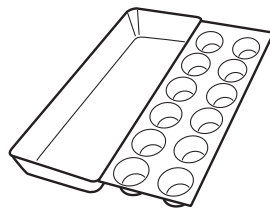
Turn over

Section B

Answer **all** questions

You are advised to spend 45 minutes on this section.

16 The table below shows three types of packaging for eggs.

 <p>pulp fibre tray</p>	 <p>polystyrene box</p>	 <p>vacuum formed tray with card insert</p>
<p>A</p>	<p>B</p>	<p>C</p>

(a) Package **A** is made from recycled pulp fibres.

Give **three** explanations of why this material is considered to be environmentally friendly.

1
.....
..... [2]

2
.....
..... [2]

3
.....
..... [2]

(b) Package **B** is made from expanded polystyrene.

Give **two** reasons why this material is suitable for egg packaging.

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

2
.....
..... [1]

(c) Give **two** reasons why customers might decide not to buy eggs in package **C**.

1
.....
..... [2]

2
.....
..... [2]

(d) The egg tray in package **C** is to be modified so that it is suitable for partially sighted customers.

In the space below use sketches and notes to explain how package **C** could be modified so that the size of the eggs would be clear to a partially sighted customer.

[3]

Total [15]

Turn over

17 A child's Eco-friendly playhouse is shown in Fig. 1.

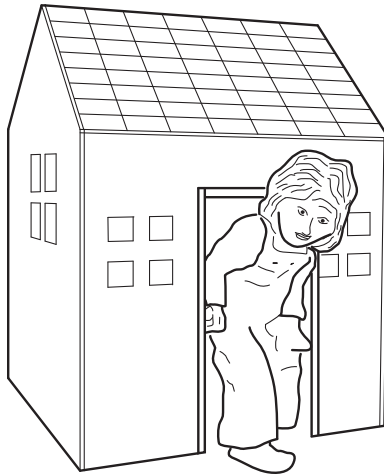


Fig. 1

(a) (i) Name a type of card that would be suitable for making the playhouse.

..... [1]

(ii) State **two** performance characteristics of the card.

1 [1]

2 [1]

(b) Fig. 2 shows a symbol found on the playhouse.



Fig. 2

Give the meaning of the symbol and explain why it would be important to the consumer.

..... [3]

(c) The playhouse is to be manufactured close to where it is sold.

Give **three** environmental advantages of manufacturing locally.

1 [1]

2 [1]

3 [1]

(d) Health and Safety is an important issue in the workplace.

Give and explain **three** examples of how Health and Safety regulations are intended to protect workers.

1 [2]

2 [2]

3 [2]

Total [15]

18 (a) There are three main ways of recycling graphics material.

Explain each type of recycling:

(i) Primary recycling

.....
.....
.....
.....
.....
..... [3]

(ii) Secondary recycling

.....
.....
.....
.....
.....
..... [3]

(iii) Tertiary recycling

.....
.....
.....
.....
.....
..... [3]

10
BLANK PAGE

PLEASE DO NOT WRITE ON THIS PAGE

11
BLANK PAGE

PLEASE DO NOT WRITE ON THIS PAGE

PLEASE DO NOT WRITE ON THIS PAGE



Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations, is given to all schools that receive assessment material and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GE.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.