

Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GENERAL CERTIFICATE OF SECONDARY EDUCATION**

A532

DESIGN AND TECHNOLOGY

**Graphics
Sustainable Design**

FRIDAY 11 JUNE 2010: Afternoon

DURATION: 1 hour

SUITABLE FOR VISUALLY IMPAIRED CANDIDATES

Candidates answer on the Question Paper

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

None

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

- **Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes on the first page.**
- **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.**
- **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 (*).**

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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.


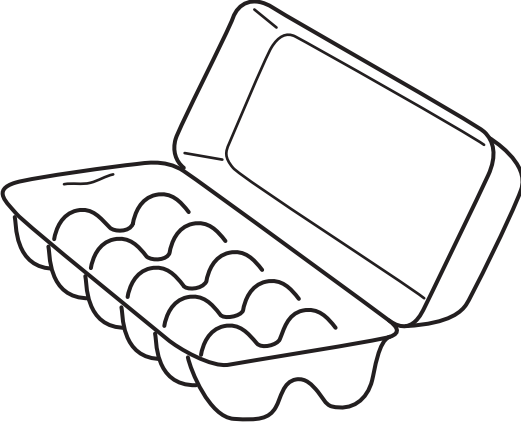
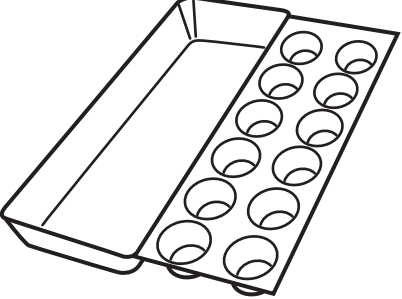
	TRUE	FALSE	
11 To approach a design problem in a different way is to rethink.	<input type="checkbox"/>	<input type="checkbox"/>	[1]
12 Good design can improve the quality of life for the user.	<input type="checkbox"/>	<input type="checkbox"/>	[1]
13 A toxic material is harmful to living things.	<input 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]	

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]

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

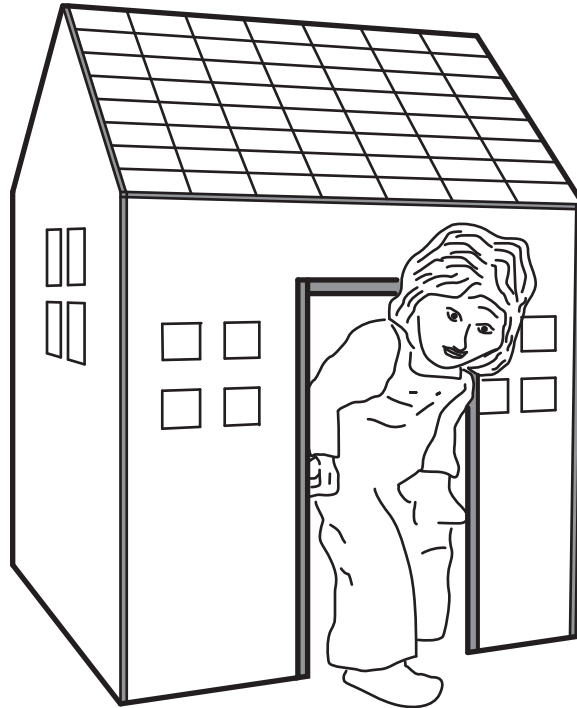


Fig. 1

(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.

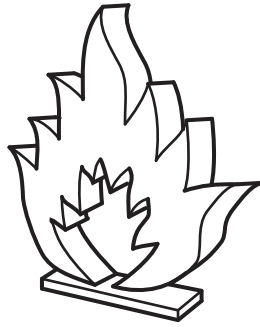


Fig. 2

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]

(b*) Discuss how some current methods of paper production can harm the environment.

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