

Monday 23 January 2012 – Afternoon

GCSE DESIGN AND TECHNOLOGY Graphics

A532/01 Sustainable Design

Candidates answer on the Question Paper.

OCR supplied materials:

None

Other materials required:

None

Duration: 1 hour



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- 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).
- Answer **all** the questions in **Section A and Section B**.
- Do **not** write in the bar codes.

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 **circle** your answer.

- 1** Reforestation means:
- (a) Destruction of forests and woodlands
 - (b) Restocking of forests and woodlands
 - (c) Depletion of the ozone layer
 - (d) Repairing of forests and woodlands
- [1]**
- 2** Excess waste should be:
- (a) Cheap
 - (b) Thrown away
 - (c) Encouraged
 - (d) Reduced
- [1]**
- 3** Geothermal power is extracted from energy stored in:
- (a) The earth
 - (b) The sun
 - (c) The ocean
 - (d) The sky
- [1]**
- 4** Tertiary recycling means to:
- (a) Give a product to a charity shop
 - (b) Chemically break down a product completely
 - (c) Fix or mend a product
 - (d) Recycle a product three times
- [1]**

5 The term carbon footprint means measuring:

- (a) How much waste is recycled
- (b) How much it costs to recycle
- (c) How much greenhouse gas is produced by manufacture and transport
- (d) How much of the ozone layer is being destroyed

[1]

6 Name the symbol shown below:



..... [1]

7 State what is meant by the term sweatshop.

..... [1]

8 Which of the 6Rs describes how a product can be improved?

..... [1]

9 State what is meant by disassembly.

..... [1]

10 Chemicals that cause harm to the environment are called

..... [1]

4

Decide whether each of the following statements is **true** or **false**.
Tick (✓) the box to show your answer.

True

False

- | | | | | |
|-----------|--|--------------------------|--------------------------|------------|
| 11 | Oil is a sustainable energy source | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 12 | Newspapers are recycleable | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 13 | Single use disposable plastic products are good for the environment | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 14 | A tidyman symbol is printed on packaging to encourage consumers to throw rubbish on the ground | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 15 | Recycling is beneficial to the environment | <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 Fig. 1 shows a pop-up birthday card.



Fig. 1

(a) Give **four** eco-design requirements to be considered when designing the card.

- 1
 - 2
 - 3
 - 4
- [4]

(b) Fig. 2 below shows a symbol printed on the back of the card.

Give both the name of the symbol and its meaning.

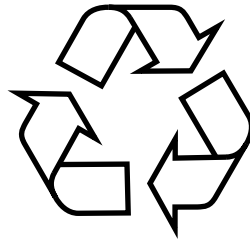


Fig. 2

Name

Meaning

.....

..... [2]

(c) A cut out of a balloon made from PVC foam is to be added to the design of the card.

Describe how this might affect the recycling of the birthday card.

.....

.....

.....

.....

.....

..... [3]

17 Fig. 3 shows an estate agent's sign made from Corriflute.

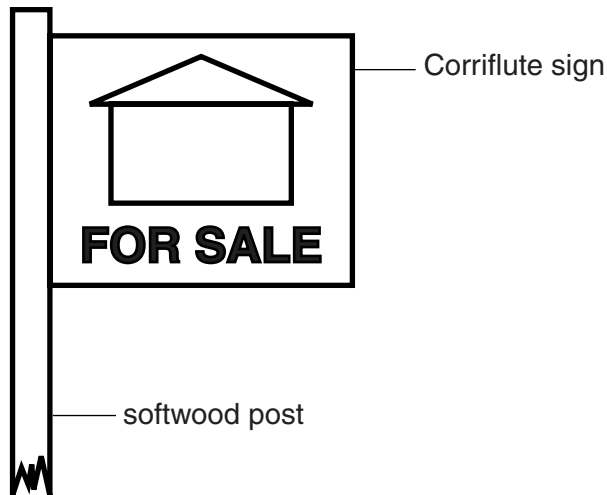


Fig. 3

(a) Give **one** performance characteristic of Corriflute that makes it suitable for use as a sign.

..... [1]

(b) Name **two** other pieces of information that need to be shown on the estate agent's sign.

1.....

2..... [2]

(c) Describe how the sign in Fig. 3 could address the following **three** aspects of the 6Rs.

Reuse

.....

.....

.....

Reduce

.....

.....

.....

Repair
.....
.....
..... [6]

(d) Name the term used to show when a company has balanced its carbon footprint.
..... [1]

(e) When designing graphic products, different cultural issues should be considered.
Give **two** reasons why this is important.
1.....
.....
2.....
..... [2]

(f) Using a sketch and notes, design a symbol which shows that a company has balanced its carbon footprint.
The symbol should be universally understood.

[3]

Total [15]

18 Fig. 4 shows a point of sale display stand.

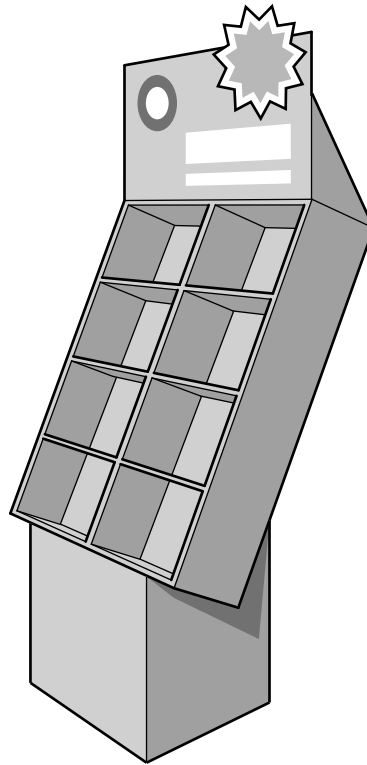


Fig. 4

(a) Give **two** reasons why corrugated card has been used for the point of sale display stand.

- 1
-
- 2
- [2]

(b) Identify **one** environmental benefit of using water based inks to print onto the point of sale display stand.

-
-
- [2]

(c) State **one** environmental impact of applying a U.V. varnish to the point of sale display stand.

-
-
- [2]

(d) The point of sale display stand is to be flat-packed.

Describe **two** environmental benefits of flat-packed products.

1

.....

.....

.....

2

.....

.....

..... [4]

(e) The point of sale display stand has been designed to last for a set period of time.

State the term used to describe this.

..... [1]

(f) Explain how anthropometrics and ergonomics have been used in the design of the point of sale display stand.

Anthropometrics

.....

.....

.....

.....

Ergonomics.....

.....

.....

.....

..... [4]

Total [15]

PLEASE DO NOT WRITE ON THIS PAGE



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