

Candidate Name	Centre Number	Candidate Number
		0



**GCSE**

273/01

**DESIGN AND TECHNOLOGY**

**(SHORT COURSE)**

**FOCUS AREA:**

**SYSTEMS AND CONTROL TECHNOLOGY**

**Foundation Tier**

A.M. MONDAY, 2 June 2008

1 hour

	<b>Leave Blank</b>
<b>Question 1</b>	
<b>Question 2</b>	
<b>Question 3</b>	
<b>Question 4</b>	
<b>TOTAL MARK</b>	

**ADDITIONAL MATERIALS**

You will need basic drawing equipment, a calculator and coloured pencils for this examination.

**INSTRUCTIONS TO CANDIDATES**

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet. Where the space is not sufficient for your answer, continue the answer at the back of the book, taking care to number the continuation correctly.

**INFORMATION FOR CANDIDATES**

The number of marks is given in brackets at the end of each question or part-question.

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

1. (a) **Complete** the table below by placing these design process stages in the correct order. [4]  
*One has been completed for you.*

~~Final evaluation~~      **Development**      **Analysis**      **Design brief**      **Initial ideas**

<b>Design process stages</b>
Final evaluation

- (b) **Underline** the correct words to complete the sentences below.
- (i) Designers analyse **existing products** / **initial ideas** / **final ideas** to find out how they are made. [1]
  - (ii) Designers improve ideas in the **analysis** / **development** / **design brief** stage of the design process. [1]
  - (iii) Designers analyse the **development** / **final product** / **design brief** before starting their design ideas. [1]
- (c) Designers often make several prototypes or models before making the final product. **Give two** reasons why this is done. 2 × [2]

Reason 1: .....

.....

Reason 2: .....

.....

- (d) Complete the following paragraph by writing the correct word from the list below. [4]  
*Use each word only once.*

**retailer**

**designer**

**manufacturer**

**consumer**

In a company that designs and makes products the ..... designs  
a new product. It is then made by the ..... . Before selling the  
new product it may be tested to make sure it is safe for the .....  
to market, before it is sold to the .....

2. (a) Product packaging is usually labelled with information. An example of packaging is shown below.



(i) Name the symbol labelled A. [1]

.....

(ii) Give one reason why this symbol is used on packaging. [2]

.....

.....

(iii) State what symbol B means. [2]

.....

.....

(b) Give three reasons why products are packaged. 3 x [1]

Reason 1: .....

Reason 2: .....

Reason 3: .....

(c) (i) Give one advantage of recycling packaging. [2]

.....

.....

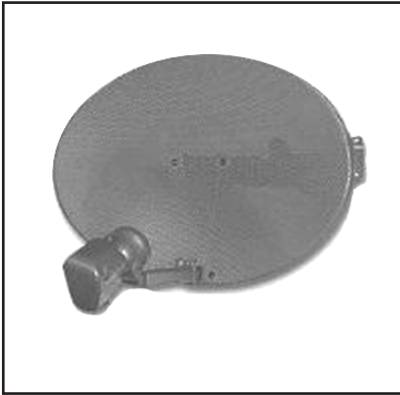
(ii) Give one reason why consumers might find it difficult to recycle product packaging. [2]

.....

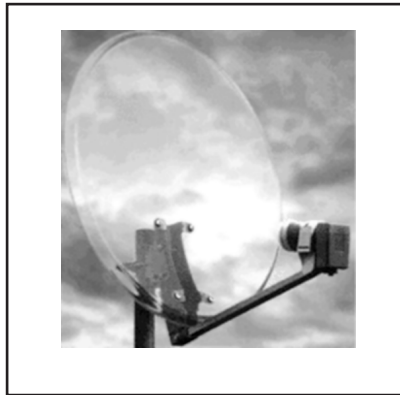
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3. (a) Satellite dishes are now available in a variety of colours as well as transparent.



*Standard black*



*Transparent*



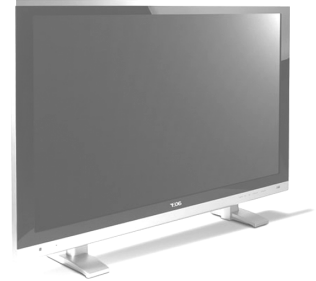
*Coloured*

**Describe one** positive effect that using *transparent* satellite dishes has on the environment. [2]

.....

.....

(b) The design of television sets has changed over time. Study the three television sets below.



- Television A**
- Single speaker.
  - Black plastic case.
  - Standard screen TV.

- Television B**
- Stereo speakers.
  - Silver plastic.
  - Widescreen TV.

- Television C**
- Surround sound.
  - Silver metal case.
  - LCD TV screen.

State two changes that have been made to the televisions, and then explain how each change has benefited or helped the consumer. One example has been completed for you:

Television: C

State what has changed: Television C is lighter to carry than television B

Explain how this change has benefited or helped the consumer: It is easier to move about.

(I) Television: .....

State what has changed: ..... [1]

Explain how this change has benefited or helped the consumer: .....

..... [2]

(II) Television: .....

State what has changed: ..... [1]

Explain how this change has benefited or helped the consumer: .....

..... [2]

4. A clown, who works as a children's entertainer, requires an animated / moving advertisement to promote his act.

### SPECIFICATION

#### The system must:

- start when a switch is pressed;
- be free standing, portable and battery powered;
- produce a fun / novelty movement to promote the entertainer.

**Sketch** your design in the boxes given.

#### Marks will be awarded for:

- |  |     |
|--|-----|
| (i) labelled sketch showing the front of the advertisement;                        | [5] |
| (ii) a labelled circuit diagram showing details of any electronic components used; | [4] |
| (iii) labelled details of the mechanical system used to create movement;           | [4] |
| (iv) including three important dimensions;   | [3] |
| (v) names of any materials used;   | [3] |
| (vi) quality of communication.   | [6] |

(i) Labelled sketch showing the front of the advertisement.



(ii) Labelled circuit diagram.

(iii) Labelled details of the mechanical system.

