

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS**  
**GCSE**

**A554/01**

**DESIGN AND TECHNOLOGY**

**Product Design**

**Designing Influences**

**FRIDAY 14 JUNE 2013: Afternoon**

**DURATION: 1 hour 30 minutes**  
**plus your additional time allowance**

**MODIFIED ENLARGED**

|                               |  |                              |  |
|-------------------------------|--|------------------------------|--|
| <b>Candidate<br/>forename</b> |  | <b>Candidate<br/>surname</b> |  |
|-------------------------------|--|------------------------------|--|

|                          |  |  |  |  |  |                             |  |  |  |  |
|--------------------------|--|--|--|--|--|-----------------------------|--|--|--|--|
| <b>Centre<br/>number</b> |  |  |  |  |  | <b>Candidate<br/>number</b> |  |  |  |  |
|--------------------------|--|--|--|--|--|-----------------------------|--|--|--|--|

**Candidates answer on the Question Paper.**

**OCR SUPPLIED MATERIALS:**

**None**

**OTHER MATERIALS REQUIRED:**

**None**

**READ INSTRUCTIONS OVERLEAF**

## **INSTRUCTIONS TO CANDIDATES**

- **Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.**
- **Use black ink. HB pencil may be used for graphs and diagrams only.**
- **Answer ALL the questions in Section A AND B.**
- **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).**

## **INFORMATION FOR CANDIDATES**

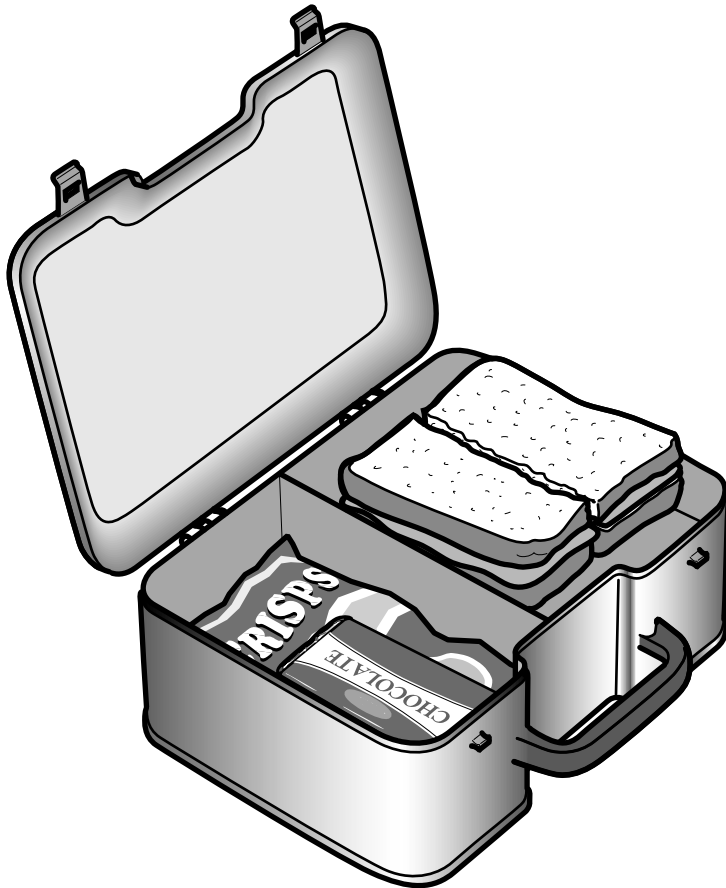
- The number of marks is given in brackets [ ] at the end of each question or part question.
- The total number of marks for this paper is 60.
- SECTION A is worth 30 MARKS. You are advised to spend no more than 45 minutes on it.
- SECTION B is worth 30 MARKS. You are advised to spend no more than 45 minutes on it.
- You will need to select from the tables in SECTION B when answering question 4 and question 5 of this paper. ‘Trendsetter’ and ‘Iconic product’ must be linked to the ‘Era or Movement’.
- Your Quality of Written Communication will be assessed in questions marked with an asterisk (\*).
- Any blank pages are indicated.

## SECTION A

You are advised to spend 45 minutes on this section.

1 Fig. 1 shows a plastic lunchbox for a child.

FIG. 1



(a) Give **THREE** design features of the plastic lunchbox shown in Fig. 1.

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_

[3]

**(b) Many lunch boxes for children are made in different colours and decorated with well-known film or television characters.**

**(i) Give TWO reasons why manufacturers use well-known film or television characters to decorate products aimed at children.**

**1** \_\_\_\_\_

\_\_\_\_\_

**2** \_\_\_\_\_

\_\_\_\_\_

**[2]**

**(ii) Explain why the choice of colour is important to the design of a children's lunchbox.**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**[2]**

**(c) Explain how laws affect the use of well-known film or television characters when designing products.**

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[3]

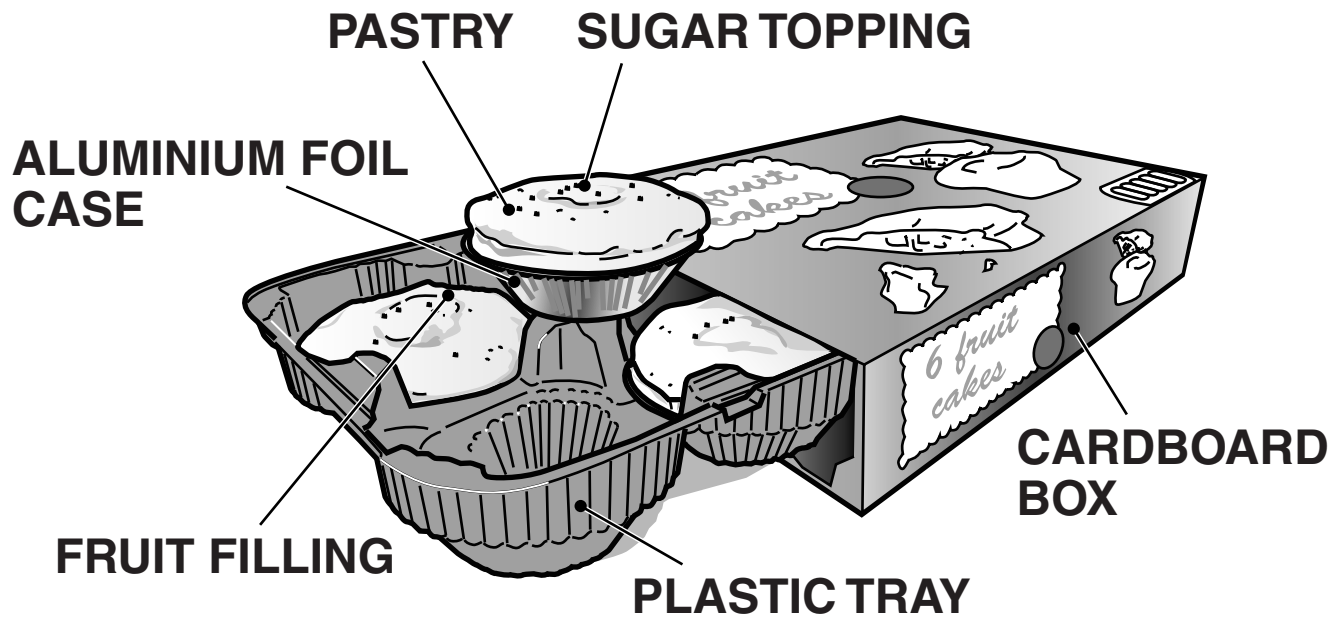
**[TOTAL: 10]**

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**QUESTION 2 BEGINS ON PAGE 8**

- 2 Fig. 2 shows a box of six fruit pies. Each pie is sitting in a foil case, the individual pies are held in a plastic tray, which is packed into a cardboard box.

FIG. 2





- (a) Complete the table below. Place a tick (✓) to identify the **FOUR** components of the product in Fig. 2. which are produced from renewable resources.

**Do NOT tick more than FOUR choices. [4]**

| <b>COMPONENT</b>           | <b>FROM RENEWABLE RESOURCES</b> |
|----------------------------|---------------------------------|
| <b>FRUIT FILLING</b>       |                                 |
| <b>SUGAR TOPPING</b>       |                                 |
| <b>PASTRY</b>              |                                 |
| <b>ALUMINIUM FOIL CASE</b> |                                 |
| <b>PLASTIC TRAY</b>        |                                 |
| <b>CARDBOARD BOX</b>       |                                 |

**One of the basic principles of sustainable technology is to make products which are reusable.**

**(b) Describe ONE other basic principle of sustainable technology.**

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**[2]**

**(c) Explain TWO benefits to a manufacturer of designing and making products in a way that reduces environmental impact.**

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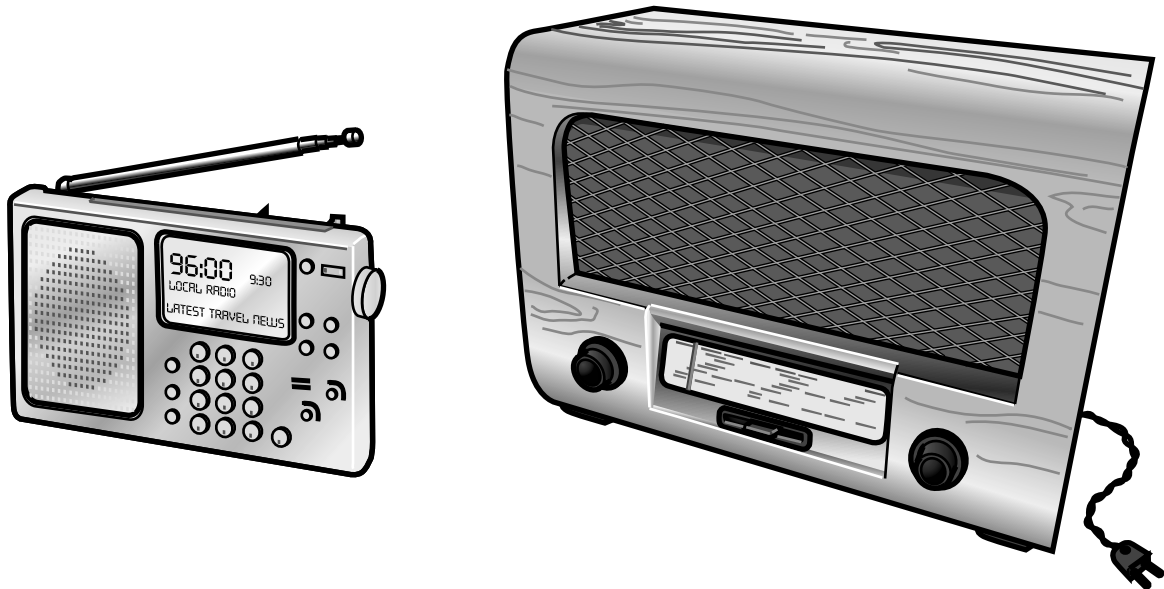
**[4]**

**[TOTAL: 10]**

- 3 Fig. 3 shows a modern digital radio and a valve radio from the 1940s.

**FIG. 3**

**MODERN DIGITAL RADIO    VALVE RADIO FROM THE 1940s**



- (a) Complete the diagram opposite by identifying a further **THREE** design features of the modern digital radio which make it different from the radio of the 1940s. [3]

**It has a digital LCD display screen**



**Design features of a  
modern digital radio**

- (b) Explain why TWO of the design features of the modern digital radio you have identified are popular with consumers.**

**An example has been done for you.**

**Point 1: It has a digital LCD display screen.**

**Explanation: This shows precisely the frequency to which the radio is tuned which makes tuning easier and more accurate for the listener.**

**Point 2: \_\_\_\_\_**

**Explanation:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ **[2]**

**Point 3: \_\_\_\_\_**

**Explanation:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ **[2]**

**(c) Explain why the design of electronic products, like radios, changes over time.**

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**[3]**

**[TOTAL: 10]**

## SECTION B

You are advised to spend 45 minutes on this section.

**THIS QUESTION DRAWS UPON THE RESEARCH YOU CARRIED OUT AS PART OF YOUR EXAMINATION PREPARATION.**

- 4 The table below shows the eras, trend setters and iconic products for this examination.**

**Please indicate using a [✓] the era or movement you have studied.**

| <b>✓</b> | <b>ERA OR MOVEMENT</b>      | <b>TREND SETTER</b>       | <b>ICONIC PRODUCT</b>  |
|----------|-----------------------------|---------------------------|--|
|          | <b>1980s to the present</b> | <b>Philippe Starck</b>    | <b>Juicy Salif lemon squeezer</b>  |
|          | <b>1960s/1970s</b>          | <b>Laura Ashley</b>       | <b>Floral furnishing fabric</b>  |
|          | <b>1980s/1990s</b>          | <b>Alan Fletcher</b>      | <b>Corporate identity for the Victoria &amp; Albert Museum (V&amp;A)</b> |
|          | <b>1970s/1980s</b>          | <b>Sir Clive Sinclair</b> | <b>ZX Spectrum programmable computer</b>                                 |
|          | <b>1990s</b>                | <b>Linda McCartney</b>    | <b>Linda McCartney Frozen Vegetarian Sausages</b>                        |



**(a)\* Trend setter chosen** \_\_\_\_\_

**Explain why this trend setter has been so influential.**

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**[6]**

**(b) Iconic product chosen** \_\_\_\_\_

**Give TWO reasons why the product you have chosen has been so influential.**

**1** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**2** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**[4]**

**[TOTAL: 10]**

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**QUESTION 5 BEGINS ON PAGE 20**

**5 THIS QUESTION DRAWS UPON THE RESEARCH YOU CARRIED OUT AS PART OF YOUR EXAMINATION PREPARATION.**

**You will need to:**

**Write a specification**

**Produce a range of initial ideas**

**Develop ONE idea**

**Give details of the final proposal**

**Five different design needs are given below.**

**Please indicate using a [✓] one design need you are going to consider.**

| <b>DESIGN NEED</b>  | <b>✓</b> |
|---|----------|
| <b>A device in the style of Philippe Starck for weighing ingredients.</b>   |          |
| <b>A bag in the Laura Ashley floral style.</b>  |          |
| <b>A leaflet in the style of Alan Fletcher's corporate identity for the Victoria &amp; Albert Museum (V&amp;A) to promote a club or activity at your school or college.</b> |          |
| <b>A programmable device that can be used to control classroom temperature.</b>   |          |
| <b>A food product for a picnic in the style of Linda McCartney.</b>   |          |

- (a) Identify FOUR important design specification points for your chosen design need. These must specify key design requirements other than those detailed in the design need above.**

**1** \_\_\_\_\_

\_\_\_\_\_

**2** \_\_\_\_\_

\_\_\_\_\_

**3** \_\_\_\_\_

\_\_\_\_\_

**4** \_\_\_\_\_

\_\_\_\_\_

**[4]**

**(b) Use sketches and notes to produce a range of initial ideas that meet your specification. [5]**



**(c) Use sketches and notes to develop ONE of your initial ideas to meet the original design need. [5]**





**(d) Give details of your final proposal showing how it meets the four design specification points you identified in part (a) of this question. [6]**

**[TOTAL: 20]**

**END OF QUESTION PAPER**

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