SPECIMEN

OXFORD CAMBRIDGE AND RSA EXAMINATIONS

General Certificate of Secondary Education

DESIGN AND TECHNOLOGY (PRODUCT DESIGN) PILOT

UNIT B804 Designing Influences

B804

| **JUNE 2006** | Afternoon | 1 hour 30 minutes |

Candidates answer on the question paper.
Additional materials: None

| Candidate Name | |

| Centre Number | | | | | | | | Candidate Number | | | | |

TIME 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

- Write your name, Centre number and candidate number in the spaces provided.
- You must answer **all** questions.
- Write your answers, in blue or black ink, in the answer booklet provided.
- Only use blue or black ink or dark pencil (HB) when sketching.
- Read each question carefully and make sure you know what to do before starting your answer.
- Do not write in the bar code. Do not write in the grey area between the pages.
- **DO NOT** WRITE IN THE AREA **OUTSIDE** THE BOX BORDERING EACH PAGE. ANY WRITING IN THIS AREA WILL NOT BE MARKED.

INFORMATION FOR CANDIDATES

- 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 this section.
- **Section B is worth 30 marks.** You are advised to spend no more than 45 minutes on this section.
- The number of marks is given in brackets [ ] at the end of each question or part question.
- You will need to select **one** trendsetter or designer from the table when answering Section B of this paper. The 'Trend setter' and 'Iconic product' must be linked to **one** material area.

This question paper consists of 13 printed pages and 3 blank pages.

[Turn over

SECTION A

You are advised to spend 45 minutes on this section.

1 Fig. 1 shows the packaging for some biscuits.
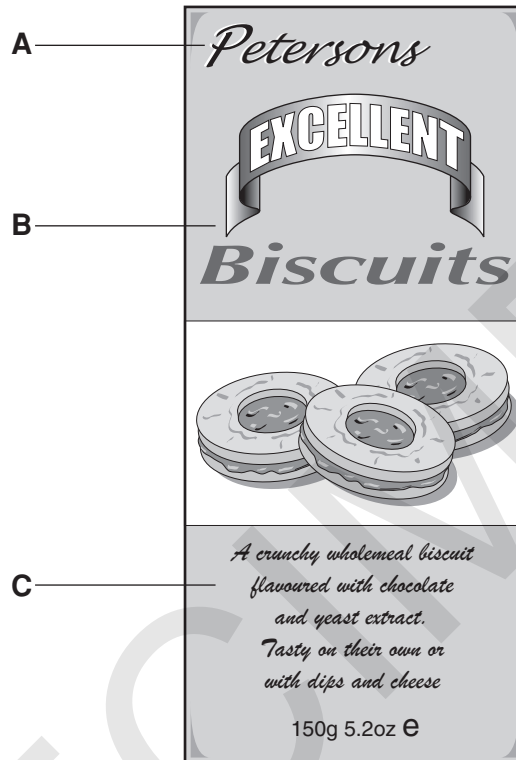   The packaging uses different text layout styles.

Fig. 1

(a) Complete the table below to identify the types of text layout on the biscuit packaging.
   The first one has been done for you.

	Type of text layout
A	Left justified text
B	
C	

[2]

(b) Give **two** properties that the packaging material for the biscuits should have.

Property 1 _____[1]

Property 2 _____[1]

(c) List **three** pieces of information that all food packaging is required to have by law.

1 _____[1]

2 _____[1]

3 _____[1]

(d) Write a short evaluation of the aesthetics of the biscuit packaging.

_____

_____

_____

_____

_____

_____[3]

[Total: 10]

[Turn over

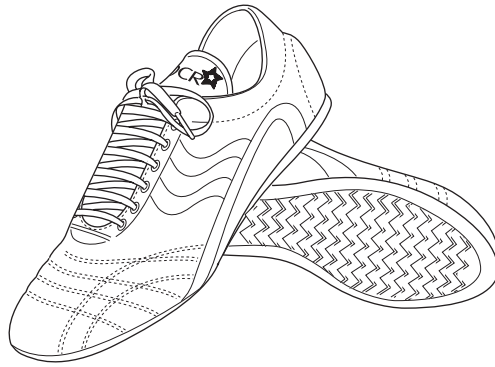**2** Fig. 2 shows a pair of training shoes.

Fig. 2

(a) State **three** design features of training shoes.

Feature 1 _____[1]

Feature 2 _____[1]

Feature 3 _____[1]

(b) Give **two** reasons why companies use logos or trademarks on their products.

Reason 1 _____

_____[1]

Reason 2 _____

_____[1]

(c) Many products sold in the United Kingdom are manufactured overseas.

Give **two** reasons why companies choose to manufacture their products overseas.

Reason 1 _____

_____[1]

Reason 2 _____

_____[1]

(d) Explain why some people think it is unethical for companies to manufacture products overseas.

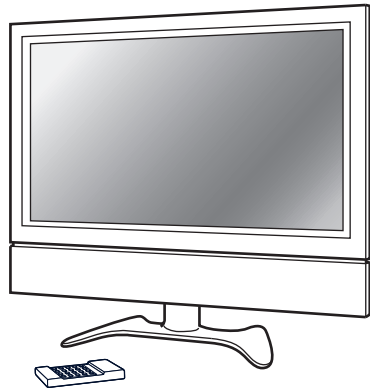_____

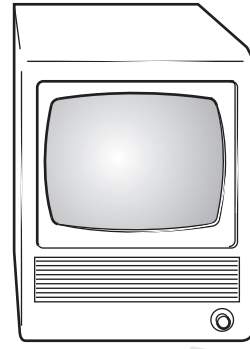_____

_____

_____

_____

_____ [3]

[Total: 10]

3 Fig. 3 shows a modern television and a television from the 1950's.

Modern television   1950's television

Fig. 3

(a) Complete the diagram below by adding **three** other successful features of the Modern Television.

The television is very thin

What are the successful features of the Modern Television?

[3]

(b) Explain why **two** of the features you have identified have made the modern television successful. An example has been done for you.

Point 1 The television is very thin.

Explanation: Advances in technology have meant that the screen of the television is much thinner so it takes up less space in the room.

Point 2 _____

Explanation

_____

_____

_____[2]

Point 3 _____

Explanation

_____

_____

_____[2]

(c) Explain why many people replace electrical products even when they are still working.

_____

_____

_____

_____

_____[3]

[Total: 10]

[Turn over

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.

	Material area	Eras and Movements	Examples of Trend setter products and designers	Examples of Iconic products from this area
1	**Resistant Materials**	30s and 40s	Bakelite	Radio, TV or other domestic product made predominately in Bakelite
2	**Graphics**	30s	Harry Beck	London Underground map
3	**Electronics**	90s	Microchips	Mobile phone
4	**Textiles**	90s	Goretex	Sports clothing
5	**Food**	40s	British Government	War time rationing

(a) Trend setter or designer chosen from the table above ....

Explain the importance of this trend setter or designer.

_____

_____

_____

_____

_____

_____

_____[4]

(b) Iconic product chosen from the table ....

Explain why the product you have chosen has been so influential.
Make specific reference to design, innovation and function.

_____

_____

_____

_____

_____

_____

_____

_____

_____[6]

[Total: 10]

[Turn over

10
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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.

	Design need	✔
Resistant Materials	A company that produces mirrors and shelving units wants to produce a wall mounted mirror in the style of 30s and 40s bakelite products.	
Graphics	An invitation to a school's 'prom' based upon the 1930's. The invitation must reflect the graphic style of the era.	
Electronics	A mobile phone producer requires an audible 'attack' alarm that can be attached to a mobile phone in order to improve an individual's personal safety. The device will be sold as an accessory. Details of the electronic system must be given.	
Textiles	A 'Goretex' hat to be used by athletes during training.	
Food	A nutritious and appetising 'war time' meal is needed for year 9 pupils as part of a project on the second world war.	

(a) Identify **four** design specification points for your chosen design need.

1 _____[1]

2 _____[1]

3 _____[1]

4 _____[1]

[Turn over

(b) Use sketches and notes to show your initial ideas.

[5]

(c) Use sketches and notes to develop **one** of your initial ideas.

[5]

[Turn over

(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]

15

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OXFORD CAMBRIDGE AND RSA EXAMINATIONS
General Certificate of Secondary Education

DESIGN & TECHNOLOGY   **B804**
Product Design

Designing Influences

MARK SCHEME

                              JUNE 2006   Afternoon   1 hour 30 minutes

Post Standardisation Version

CONFIDENTIAL	
MAXIMUM MARK	**60**

IMPORTANT NOTICE

This Mark Scheme is a **CONFIDENTIAL** document issued to Examiners for the sole purpose of marking Examination Scripts. Examiners will be expected to record any agreed changes made at the Standardisation meeting.

After the completion of script marking, the document should be kept safe in case the Examiner is required to re-mark scripts at a later date (e.g. as a result of OCR's Enquiry Service Provision).

This document consists of 9 pages

INSTRUCTIONS ON MARKING SCRIPTS

All page references relate to the Instructions to Examiner booklet (revised June 2006)

For many question papers there will also be subject or paper specific instructions which supplement these general instructions. The paper specific instructions follow these generic ones.

1   Before the Standardisation Meeting

Before the Standardisation Meeting you must mark a selection of at least 10 scripts.
The selection should be drawn from several Centres. The preliminary marking should be carried out **in pencil** in strict accordance with the mark scheme. In order to help identify any marking issues which might subsequently be encountered in carrying out your duties, **the marked scripts must be brought to the meeting**. *(Section 5c, page 4)*

2   After the standardisation meeting

a)   Scripts must be marked in **red**, including those initially marked in pencil for the Standardisation Meeting.

b)   All scripts must be marked in accordance with the version of the mark scheme agreed at the Standardisation Meeting.

c)   **Annotation of scripts**

The purpose of annotation is to enable examiners to indicate clearly where a mark is earned or why it has not been awarded. Annotation can, therefore, help examiners, checkers, and those remarking scripts to understand how the script has been marked.

Annotation consists of:

- the use of ticks and crosses against responses to show where marks have been earned or not earned;
- the use of specific words or phrases as agreed at standardisation and as contained in the final mark scheme either to confirm why a mark has been earned or indicate why a mark has not been earned (e.g. indicate an omission);
- the use of standard abbreviations e.g. for follow through, special case etc.

Scripts may be returned to Centres. Therefore, any comments should be kept to a minimum and should always be specifically related to the award of a mark or marks and be taken (if appropriate) from statements in the mark scheme. General comments on a candidate's work must be avoided.

Where annotations are put onto the candidates' script evidence, it should normally be recorded in the body of the answer or in the margin immediately adjacent to the point where the decision is made to award or not award the mark.

d) **Recording of marking: the scripts**

i) Marked scripts must give a clear indication of how marks have been awarded, as instructed in the mark scheme.
ii) All numerical marks for responses to part questions should be recorded un-ringed in the right-hand margin. The total for each question (or, in specified cases, for each page) should be shown as a single ringed mark in the right-hand margin at the end of each question.
iii) The ringed totals should be transferred to the front page of the script, where they should be totalled.
iv) Every page of a script on which the candidate has made a response should show evidence that the work has been seen.
v) Every blank page should be crossed through to indicate that it has been seen.
(Section 8a – d, page 6)

e) **Handling of unexpected answers**

The standardisation meeting will include a discussion of marking issues, including:

- a full consideration of the mark scheme in the context of achieving a clear and common understanding of the range of acceptable responses and the marks appropriate to them, and comparable marking standards for optional questions;
- the handling of unexpected, yet acceptable answers.
(Section 6a, bullet point 5, page 4)

There will be times when you may not be clear how the mark scheme should be applied to a particular response. In these circumstances, a telephone call to the Team Leader should produce a speedy resolution to the problem.
(Appendix 5, para 17, page 25)

1   (a)   B = fully justified (centred)   **[1]**
            C = centred   **[1]**

     (b)   e.g. strength, any protective function such as moisture proof, air tight, easy to print
            onto, lightweight, low cost, flexible - 1 mark for each   **[2]**

     (c)   any three from :
            company name; address; best before date; sell by/use by date; bar code; weight; list
            of ingredients; country of origin, nutrition, storage details, vegetarian/dietary info,
            health/allergy details, contents   **[3]**

     (d)   evaluation: answers must link to the principle elements of design such as line, layout
            elements, shape, colour, form, symmetry, balance, proportion, composition, impact
            of these, typography - 1 mark for any of these points linked to the packaging   **[3]**

                                                                                        10 marks

2   (a)   design features: style, shape, comfort, lightweight, fashionable, waterproof, aesthetics, logo, functional aspects such as grip, fastenings, breathable stiching/padding to the back relating to comfort, LED's, Velcro, Laces, colour and appearance.   **[3]**

        (b)   reasons could include: corporate identity, promotion/increasing sales, creating an image, advertising, customer recognition, giving the appearance of quality, as a fashion/icon, copyright protection, can sell for more
symbol - 1 mark for each   **[2]**

        (c)   could include: lower production cost, higher profits, abundance of workers/materials/lower cost in terms of land/rental/taxation, fair-trade/altruism cheap/er must be qualified   **[2]**

        (d)   explanation should include: exploitation of workers through low pay, poor working conditions, employment of minors/children, taking jobs away from UK, limited workers rights/unions, carbon footprints – miles travelled to store. 1 mark for each point (up to two) plus 1 mark for quality of explanation.   **[3]**

                                                               10 marks

3   (a)   e.g. better quality picture, aesthetically pleasing, more features e.g. teletext, may have enhanced 3D image, good sound quality, takes up less space, colour, remote control, large screen lighter, more channels, can be wall mounted, has a stand - any three.   **[3]**

       (b)   an explanation of **<u>two different</u>** points that justifiy the choice above. One mark for a simple explanation such as a clear picture that is easier to watch, two marks for a detailed explanation such as a clear screen with high resolution/wide screen effects

                                                                     [2 x 2]   **[4]**

       (c)   Explanation should include: technological developments, improvement in materials and production, fashion/trends, taste, energy efficiency 1 mark for each point (up to two) plus 1 mark for justification.   **[3]**

                                                                      10 marks

4   (a)   A clear explanation that identifies any **two** reasons from influence, innovation, use of materials or impact of the design.
           1 mark for each point, 1 mark for each explanation.

	Influence (legacy)	Innovation	Use of materials	Impact
Bakelite	Birth of plastics, formed new shapes beyond the age	New technology, opened up the improvement of electrical safety in products	Created design opportunities	Lower cost products, more people to have products
Harry Beck	Graphic information systems around the world based upon design principles	Simplification, user friendly	Primary colours, horizontal and vertical lines, consistent angles	People travel easier, design reproduced in many different media
Microchips	Semiconductor technology enabled smaller, lighter products – social benefits such as medical, internet, travel communications	Telephony, communication use of semi-conductors such as silicon ⟶		Portable products and standalone, complex products manufactured cheaply – huge increase in technological obsolescence – led to greater efficiency
Goretex	New product produced – leisure industry and clothing	Breathable – use of composites and laminated textiles	Clothing, footwear	High efficiency textiles, greater hygiene, lightweight clothing and products for leisure pursuits and sports
Food	Rationing – 'dig for victory' campaigns, recipes provided, people to be responsible for health, basic nutritional guidelines	Creative use of a limited range of food	No waste, re-using of food materials for stock, broth etc	Nations health good – (obesity), publicity to promote food preparation

[4]

(b)   1 mark for each point (design, innovation, function) + 1 mark for each justification

	Design	Innovation	Function
Radio TVs etc	Fashion/trends Desirability, smaller	Moulding methods that enabled new products and designs to be created	Electrical insulation, easy to clean, self finished, Improved communication, made people's lives easier
Underground map	Simple, easy to follow , representation Rather than accuracy – user focused	Clear, equal spacing of stations, use of colour, sans serif typeface	Improved the lives of travellers by making routes easy to distinguish/follow,
Mobile phone	Fashion/trends, use of colour/style, multiple use eg music, texting etc	Technology enables phones to be used for a variety of purposes,	Ease of use/communication
Sports clothing	Fashionable, lightweight, youth culture	Used in a range of different environments including extreme conditions,	Keeps the wearer cool/warm and dry,
War time rationing	It forced people to be innovative and self efficient, required them use initiative, focused upon nutrition, simple basic menus	Use of powdered ingredients for the mass market, use of preservatives	Reduced waste, improved nutrition, to ensure the health and well being of the nation, social implications – caring for one another

[6]

10 marks

5 (a) 1 mark for each key specification point – no marks awarded for points identified in the question **[4]**

(b) **initial ideas**
Only one sketched solution with no accompanying notes [1]
1 sketched solution with notes [2]
More than 1 sketched solution with notes [3]
A range of different ideas that address at least two specification points [4]
A creative approach to designing [5] **[5]**

(c) **development of ideas – <u>must</u> reflect the product focus**
One sketched solution showing an idea from the initial ideas with some development - no notes [1]
1 developed idea with notes [2]
Clear development if an idea with supporting sketches [3]
Notes that link to at least two specification points [4]
A range of developed sketches with notes that link to at least 3 specification points [5] **[5]**

(d) **final proposal**
A simple solution with limited detail/notes (1)
A solution with details of all components/parts (2) [2]

Notes/clear sketches showing how the design meets their specification point 1 [1]
Notes/clear sketches showing how the design meets their specification point 2 [1]
Notes/clear sketches showing how the design meets their specification point 3 [1]
Notes/clear sketches showing how the design meets their specification point 4 [1]

[6]

20 marks