

GENERAL CERTIFICATE OF SECONDARY EDUCATION
DESIGN AND TECHNOLOGY (PRODUCT DESIGN)
PILOT
Unit 4 Designing Influences
FRIDAY 26 JANUARY 2007

B804

Afternoon

Time: 1 hour 30 minutes

Candidates answer on the question paper.
Additional materials: None



Candidate
Name

Centre
Number

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Candidate
Number

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

This document consists of **15** printed pages and **1** blank page.

SECTION A

You are advised to spend 45 minutes on this section.

1 Fig. 1 shows a television remote control.

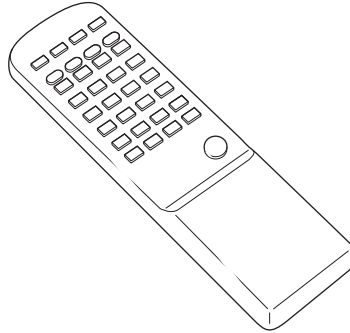


Fig. 1

(a) Give **three** design features of television remote controls.

Feature 1 _____ [1]

Feature 2 _____ [1]

Feature 3 _____ [1]

(b) (i) The television remote control has been designed with ergonomics in mind. Explain what is meant by the term 'ergonomics'.

_____ [2]

(ii) Give **two** pieces of anthropometric data that may have been used in the design of the television remote control.

1 _____ [1]

2 _____ [1]

3

- (c)** Electrical products such as televisions and DVD players are usually produced in either silver or black.
Explain why designers choose to use these colours.

[3]

[Total: 10]

2 Fig. 2 shows a DVD case with a paper insert.

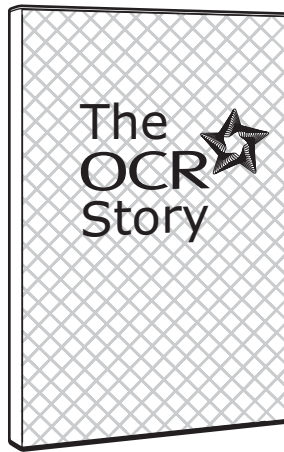


Fig. 2

(a) Give **two** reasons why paper inserts are used in the DVD case rather than printing directly onto the surface of the case.

Reason 1 _____ [1]

Reason 2 _____ [1]

(b) (i) State **three** functions of the DVD packaging.

1 _____ [1]

2 _____ [1]

3 _____ [1]

(ii) Choose **one** of your answers from (b)(i).

Function

Explain how the DVD packaging achieves this stated function.

_____ [2]

- (c) DVDs have become very popular in recent years and as a result some high street stores no longer sell video recorders.

Discuss the implications to consumers of DVDs replacing video recorders.

[3]

[Total: 10]

- 3 Fig. 3 shows a modern hairdryer and a hairdryer from the 1940's.

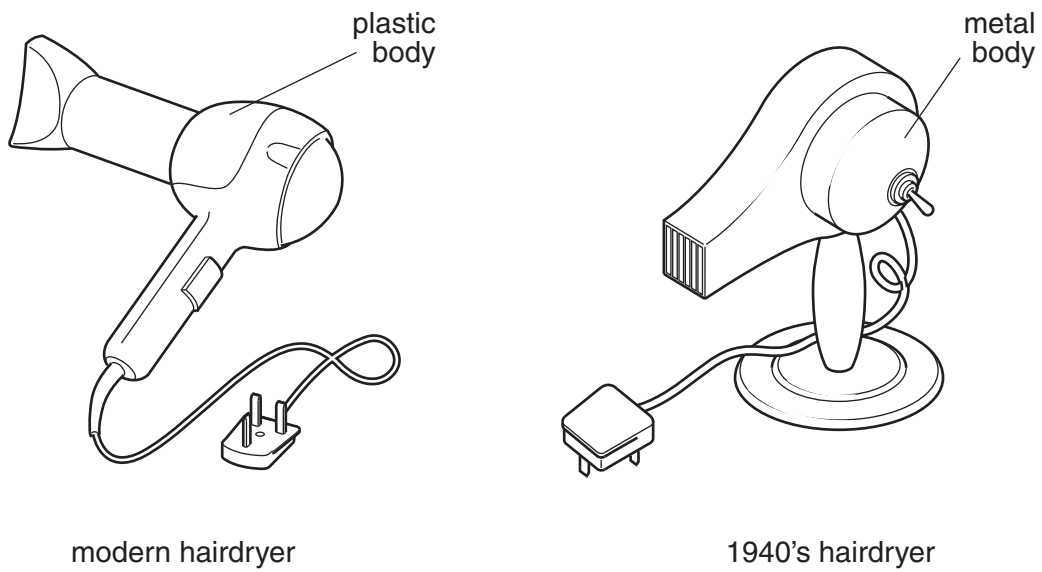
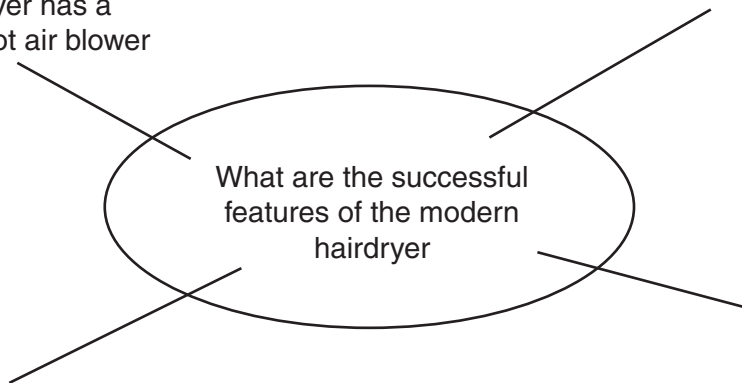


Fig. 3

- (a) Complete the diagram below by adding a further three successful features of the modern hairdryer.

The hairdryer has a powerful hot air blower



[3]

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

Point 1 The hairdryer has a powerful hot air blower.

Explanation: The hot air is blown with much greater force making it more effective at drying the hair.

- (i) *Point 2* _____

Explanation

_____ [2]

- (ii) *Point 3* _____

Explanation

_____ [2]

- (c) The two hairdryers shown in Fig. 3 both have the same basic function, however, their designs are very different.

Explain why the design of the hairdryer has changed over the years.

_____ [3]

[Total: 10]

SECTION B

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.

Era or Movement	Trend setter	Iconic product	✓
30s and 40s	Bakelite	Radio, TV or other domestic products made predominately in Bakelite	
30s	Harry Beck	London Underground map	
90s	Microchips	Mobile phone	
90s	Goretex	Sports clothing	
40s	British Government	War time rationing	

(a) Trend setter chosen

Explain the importance of this trend setter.

[4]

(b) Iconic product chosen

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

[6]

[Total: 10]

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	✓	
Food	Using some or all of the ingredients given from the war time ration (below) design a two course meal for a family of six.		
	Bacon and ham	4 oz (100 g)	
	Meat	6 oz (150 g) + 4 Sausages	
	Cheese	2 oz (50 g)	
	Margarine	4 oz (100 g)	
	Butter	2 oz (50 g)	
	Milk	3 pints (1800 ml)	
	Sugar	9 oz (225 g)	
	Jam	2 oz (50 g)	
	Tea	2 oz (50 g)	
	Eggs	1 fresh egg Dried egg powder (equivalent to 3 eggs)	
	Flour and yeast	Freely available	
	Vegetables + fruit	Any home grown fruit and vegetables freely used when in season	
Textiles	A pair of 'Goretex' gloves for a sport of your choice.		
Graphics	A point of sale display (POSD) is required to publicise a 1930's murder mystery evening. The POSD must reflect the graphic style of the era.		
Resistant materials	A company that produces office equipment requires a design for a desk tidy based upon 30s and 40s bakelite products.		
Electronics	An electronic product for teaching young children about 'AND' and 'OR' gates is required. The product must include lights and buzzers. Details of the electronic system must be given.		

(a) Identify the **four** most important design specification points for your chosen problem.

1 _____
_____ [1]

2 _____
_____ [1]

3 _____
_____ [1]

4 _____
_____ [1]

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

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

[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]

15
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