

**GENERAL CERTIFICATE OF SECONDARY EDUCATION
 DESIGN AND TECHNOLOGY
 PRODUCT DESIGN**

B804

Unit 4: Designing Influences

THURSDAY 19 JUNE 2008

Afternoon
 Time: 1 hour 30 minutes

Candidates answer on the question paper

Additional materials: No additional materials are required



Candidate
Forename

Candidate
Surname

Centre
Number

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Candidate
Number

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INSTRUCTIONS TO CANDIDATES

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided.

INFORMATION FOR CANDIDATES

- The number of marks for each question 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. 'Trend setter' and 'Iconic product' must be linked to 'Eras and movements'.

FOR EXAMINER'S USE	
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TOTAL	

This document consists of **14** printed pages and **2** blank pages.

SECTION A

You are advised to spend 45 minutes on this section.

1 Fig. 1 shows a mobile phone.



Fig. 1

(a) Give **three** important design features of mobile phones.

Feature 1

Feature 2

Feature 3[3]

(b) Mobile phones are designed with ergonomics in mind.

(i) Explain what is meant by the term ergonomics.

.....

.....

.....[2]

(ii) Give **two** pieces of anthropometric data that help in the design of mobile phones.

1

.....

2

.....[2]

(c) Many people argue that mobile phones are classic examples of planned obsolescence. Explain why people may have come to this view.

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.....[3]

[Total: 10]

2 Fig. 2 shows a specially designed corkscrew made from metal.

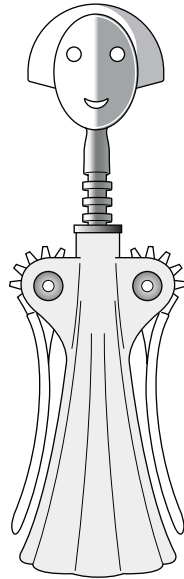


Fig. 2

(a) Give **two** properties of the metal used for the corkscrew.

1

2[2]

The corkscrew uses a rack and pinion.

(b) Add labels to Fig. 2 to show the **rack** and **pinion**. [2]

(c) Explain why people are prepared to pay more for 'designer' products.

.....
.....
.....
.....
.....[3]

(d) Explain how designers can protect their designs against 'cheap' imitations.

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.....[3]

[Total: 10]

- 3 Fig. 3 shows two different methods of packaging milk, a modern plastic container and a traditional glass bottle.



Modern plastic container

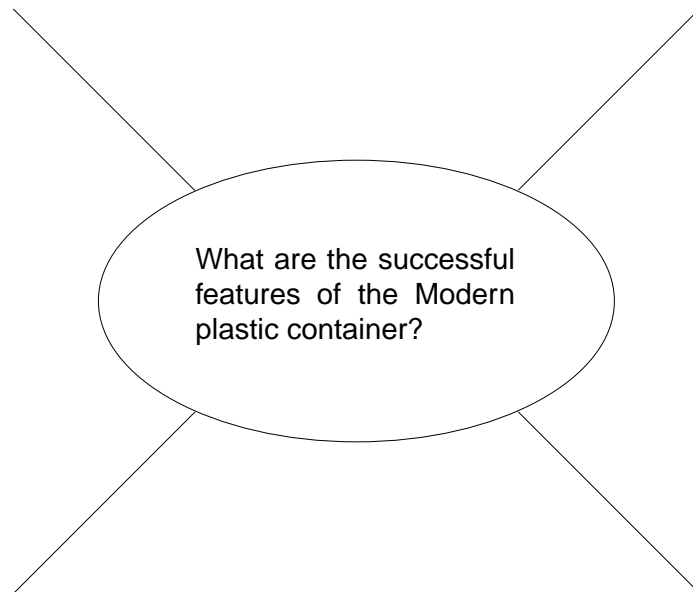


Traditional glass bottle

Fig. 3

- (a) Complete the diagram by adding a further **three** successful features of the Modern plastic container.

The packaging is
lightweight.



[3]

(b) Explain why **two** of the features you have identified have made the Modern plastic container successful.

An example has been done for you.

Point 1: The Modern plastic container is lightweight.

Explanation: Advances in technology have meant that thin yet rigid plastic containers can be produced cheaply.

Point 2:

Explanation:

.....
.....
.....
.....[2]

Point 3:

Explanation:

.....
.....
.....
.....[2]

(c) Explain why glass packaging is still used rather than plastic packaging for some foods.

.....
.....
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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.

Era or Movement	Trend setter	Iconic Product	✓
Art Nouveau	Charles Rennie Macintosh	Macintosh Chair	
30s – 60s	Raymond Loewy	Shell logo	
50s	Transistors	Bush TR82 Transistor radio	
60s	Mary Quant	Mini skirt	
70s	Processed foods	Pot Noodle	

(a) Trend setter chosen

Give **two** reasons, each with an explanation for the importance of this trend setter.

Reason 1

.....

.....

Reason 2

.....

.....[4]

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 situations are given below.

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

design situations	✓
A food chopping board in the Charles Rennie Macintosh style.	
A logo for a company called 'Leaf Construction'.	
A device that activates an alarm when a fridge temperature rises above a set point. Details of the electronic system must be given.	
A hat in the Mary Quant style of the 1960s.	
A 1970s style nutritionally balanced 'processed' meal for one.	

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

1

.....

2

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3

.....

4

.....[4]

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

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

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

[6]

[Total: 20]

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Copyright Acknowledgements:

Fig. 2 Line drawing of the 'Anna G' corkscrew by Alessi™ (designed by Alessandro Mendini, 1994).

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