



ADVANCED SUBSIDIARY GCE DESIGN AND TECHNOLOGY

Unit 3: Product Design 1

2520/01

Papers 2520/01 and 2520/02 should both be available to candidates for the full 2 hour examination session.

Candidates answer on the question paper

OCR Supplied Materials:

None

Other Materials Required:

None

**Thursday 8 January 2009
Morning**

Duration: 1 hour 12 minutes



Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use 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.
- **This paper is to be taken with 2520/02 in the same examination session of 2 hours.**
- This paper contains five questions – you are to answer any **three** questions.
- Do **not** write in the bar codes.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.

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 **54**.
- Please note that the instruction 'discuss' denotes that you should:
 - identify **three** relevant issues/points raised by the question;
 - explain why you consider **two** of these issues/points to be relevant;
 - use a specific example/evidence to support your answer.
- All dimensions are in millimetres.
- This document consists of **16** pages. Any blank pages are indicated.

Examiner's Use Only:	
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2	
3	
4	
5	
Total	

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

- 1 Fig. 1 shows a flat screen television.

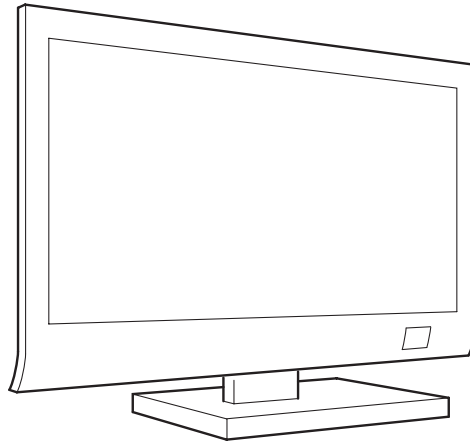


Fig. 1

- (a) Give **three** justified design requirements for a flat screen television.

1..... [1]

2..... [1]

3..... [1]

- (b) Describe, using sketches and notes where appropriate, **three** examples where ergonomics has influenced the design of the flat screen television in Fig. 1.

Example 1

[2]

Example 2

[2]

Example 3

[2]

2 The energy consumption of manufacturing industries continues to grow.

(a) Give **four** ways in which the manufacturers of products can reduce their energy consumption.

1.....

..... [1]

2.....

..... [1]

3.....

..... [1]

4.....

..... [1]

- (b) Describe, using sketches and notes, **two** ways in which useful energy can be obtained from water.

1.

[4]

2.

[4]

(c) Discuss the implications for society when products are transported.

For Examiner's Use	
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[6]

For Examiner's Use	
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[Total: 18]

- 3 Fig. 2 shows a version of the Wassily Chair, designed by Marcel Breuer. This chair is designed for use by a luxury hotel group in their reception lounges.

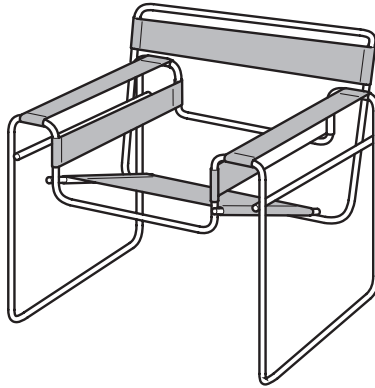


Fig. 2

- (a) Give **three** justified design requirements for a chair that is to be used in the reception lounge of a luxury hotel.

1.....
..... [1]

2.....
..... [1]

3.....
..... [1]

- (b) Give **three** reasons why the chair shown in Fig.2 would be suitable for high volume production.

1.....
..... [1]

2.....
..... [1]

3.....
..... [1]

- (c) Explain **three** factors that a manufacturer would consider when advertising luxury furniture products.

1.....

.....

..... [2]

2.....

.....

..... [2]

3.....

.....

..... [2]

For Examiner's Use	
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[Total: 18]

- 4 Fig. 3 shows a drawstring shoe bag used by primary school pupils.

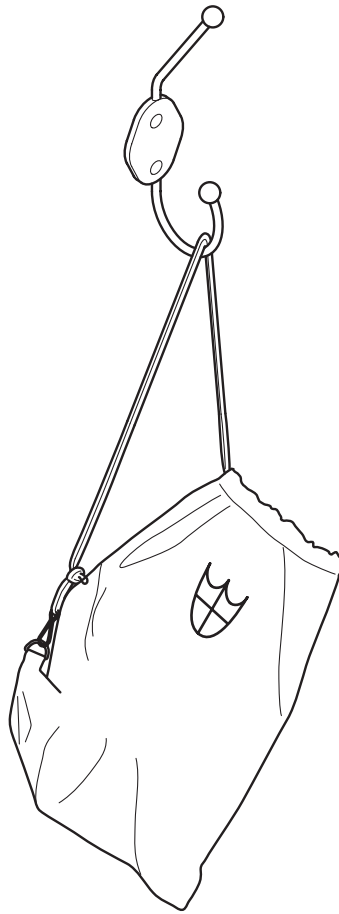


Fig. 3

- (a) Give **three** justified design requirements for a drawstring shoe bag used by primary school pupils.

- 1.....
 [1]
- 2.....
 [1]
- 3.....
 [1]

- (b) Describe **three** quality control checks that would be carried out in the manufacture of a drawstring shoe bag.

1.....

.....

..... [2]

2.....

.....

..... [2]

3.....

.....

..... [2]

- (c) Give **three** ways in which a primary school can promote products for use by their pupils.

1.....

..... [1]

2.....

..... [1]

3.....

..... [1]

- (d)** Discuss the implications for the manufacturer of using bought-in parts when manufacturing products.

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

For Examiner's Use	
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[6]

[Total: 18]

5 Fig. 4 shows a stapler.

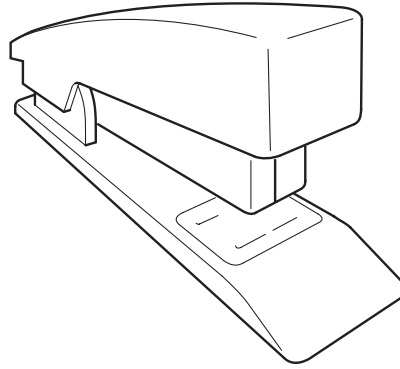


Fig. 4

(a) Give **three** justified design requirements for a stapler.

- 1..... [1]
- 2..... [1]
- 3..... [1]

(b) Give **three** factors in the design of a stapler that would keep manufacturing costs low.

- 1..... [1]
- 2..... [1]
- 3..... [1]

(c) Explain **three** ways in which the quality of a product can be assessed.

1.....
.....
..... [2]

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

3.....
.....
..... [2]

- (d)** Discuss the implications of introducing a Research and Development department in a manufacturing company.

This image shows a full page of white paper with horizontal dashed lines, typical of primary school writing paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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