



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

**Tuesday 19 May 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:			
1			
2			
3			
4			
5			
Total			

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

- 1 Fig. 1 shows a nail clipper.

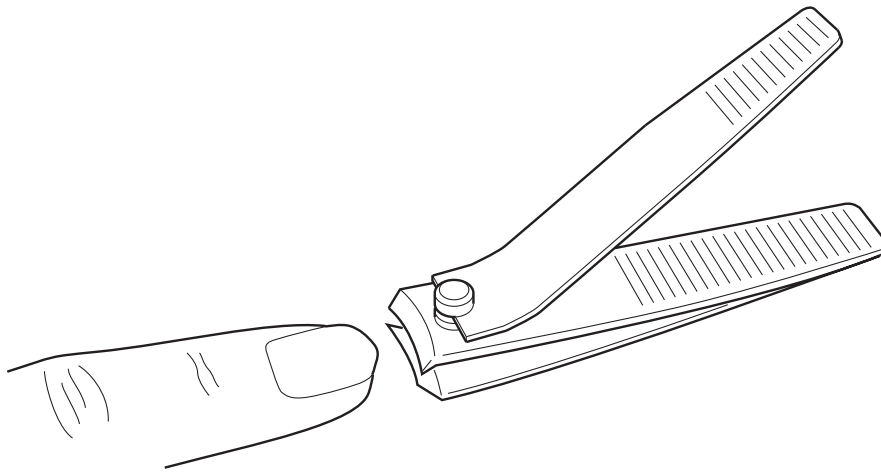


Fig. 1

- (a) Give **three** justified design requirements for a nail clipper.

1..... [1]

2..... [1]

3..... [1]

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

Example 1

[2]

Example 2

[2]

Example 3

[2]

(c) Give **three** reasons why some products may be designed to have a limited life expectancy.

1.....[1]

2.....

.....[1]

3.....

..... [1]

(d) Discuss the implications for the manufacturer of the packaging of products.

[illegible]

For Examiner's Use	
P	
Q	
S	

[6]

[Total: 18]

2 (a) Give **four** ways in which ICT can be used to model design ideas.

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

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

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

4.....
..... [1]

(b) Describe **two** ways ICT can be used in stock control.

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

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

(c) Describe **two** ways in which ICT can be used when carrying out quality control tests.

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

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

(d) Discuss the implications of the need to design products for ease of disassembly.

For Examiner's Use	
P	
Q	
S	

[6]

For Examiner's Use	
P	
Q	
S	

[6]

[Total: 18]

- 3 Fig. 2 shows a sports shirt used by school students.



Fig. 2

- (a) Give **three** justified design requirements for a sports shirt used by school students.

1.....
 [1]

2.....
 [1]

3.....
 [1]

- (b) Give **three** factors that influence the demand for a product.

1.....
 [1]

2.....
 [1]

3.....
 [1]

(c) Explain, using **three** different examples, the significance of colour in product design.

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

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

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

(d) Discuss the implications of using promotions to advertise products.

For Examiner's Use	
P	
Q	
S	

[6]

For Examiner's Use	
P	
Q	
S	

[6]

[Total: 18]

4 Fig. 3 shows a solar powered garden light.

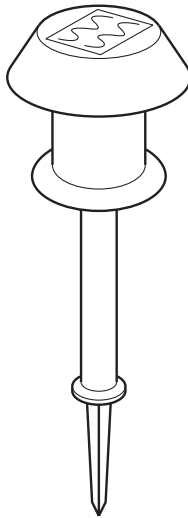


Fig. 3

(a) Give **three** justified design requirements for a solar powered garden light.

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

(b) Give **three** reasons why solar power is appropriate for a garden light.

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

(c) Give **three** factors that determine the size and shape of a solar powered garden light.

1..... [2]

2..... [2]

3.....

.....

..... [2]

(d) Discuss the implications of introducing solar powered systems.

For Examiner's Use	
P	
Q	
S	

For Examiner's Use	
P	
Q	
S	

[6]

[Total: 18]

Turn over

5 Fig. 4 shows a re-usable shopping bag.



Fig. 4

(a) Give **three** justified design requirements for a re-usable shopping bag.

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

(b) Give **three** ways in which manufacturers can make a positive environmental impact.

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

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