

General Certificate of Education  
June 2005  
Advanced Subsidiary Examination



**DESIGN AND TECHNOLOGY: PRODUCT DESIGN PD3D  
(3D DESIGN)  
Unit 3 Design and Market Influences**

Tuesday 7 June 2005 Morning Session

**In addition to this paper you will require:**

- a lined answer book (AB08) which is provided separately;
- normal writing and drawing instruments.

Time allowed: 1 hour 30 minutes

**Instructions**

- Use blue or black ink or ball-point pen. Pencil and coloured pencils should only be used for drawing.
- Write the information required on the front of your answer book. The *Examining Body* for this paper is AQA. The *Paper Reference* is PD3D.
- Answer **both** questions.
- Two sheets of A3 paper are provided for use with **Question 2**. *No further sheets are to be used.*

**Information**

- The maximum mark for this paper is 100, 4 marks of which are for quality of written communication.
- Mark allocations are shown in brackets.
- This paper carries 30 per cent of the total marks for AS and 15 per cent for Advanced Level.
- You are reminded of the need for good English and clear presentation. The quality of your written communication will be assessed across all questions.

**Advice**

- Illustrate your answers with sketches and/or diagrams wherever you feel it is appropriate.

Answer **both** questions.

**You should spend about 20 minutes on Question 1 and about 1 hour 10 minutes on Question 2.**

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- 1 (a) Define what is meant by the term “ergonomics”. *(2 marks)*
- (b) Define what is meant by the term “anthropometrics”. *(2 marks)*
- (c) List the ergonomic and anthropometric requirements of a computer workstation. *(10 marks)*
- (d) Explain how a designer of a computer workstation might evaluate the ergonomic qualities of the product before it went into full production. *(6 marks)*

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Use the two separate A3 sheets provided to answer Question 2 where appropriate.

Clearly indicate the sections of the question you answer on the sheets.

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2 You have been asked to produce a design for a task lamp that would be used on a computer workstation. Your designs should meet the following specification:

- Be suitable for a modern office interior
- Incorporate additional features including a desk tidy
- Adjustable to allow change of height/light angle etc.
- Shaded to prevent screen glare.

(a) On Sheet 1 produce a range of annotated initial ideas. *(15 marks)*

(b) On Sheet 2 develop a final solution for the lamp to include the following:

- Details of construction
- Details of materials and components
- Appropriate dimensions
- A final presentation drawing.

*(61 marks)*

Marks will be awarded for:

- |   |                   |
|---|-------------------|
| (i) Quality of communication                      | <i>(10 marks)</i> |
| (ii) Originality/innovation of product            | <i>(15 marks)</i> |
| (iii) Appropriateness of materials and components | <i>(10 marks)</i> |
| (iv) Methods of construction                      | <i>(10 marks)</i> |
| (v) Dimensions and dimensioning                   | <i>(6 marks)</i>  |
| (vi) Suitability of finish                        | <i>(5 marks)</i>  |
| (vii) Specification criteria met                  | <i>(5 marks)</i>  |

**END OF QUESTIONS**

**THERE ARE NO QUESTIONS PRINTED ON THIS PAGE**