

General Certificate of Education
June 2004
Advanced Subsidiary Examination



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

Wednesday 9 June 2004 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 A 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

- Your answers should be illustrated 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.

- 1 (a) Outline the safety factors a designer would take into account when designing features for a play area suitable for children under 12 years of age. *(10 marks)*
- (b) Describe **two** tests that could be carried out to ensure the safety of children using play equipment. *(2×5 marks)*

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.

2 You are required to design a climbing frame for a small play area in a new playground. The climbing frame should meet the following specification:

- Be a suitable height for children under 12 years of age.
- Not exceed a floor area of 3 metres \times 3 metres.
- Be manufactured from durable materials.
- Require little or no maintenance.
- Have a range of play features.
- Be finished in bright colours.
- Consider the safety of the children.

You should produce a range of annotated initial ideas.

You should develop a final solution to the climbing frame to include the following:

- Drawings to show details of construction and assembly.
- Details of materials, components and finishes.
- A final presentation drawing showing dimensions of the climbing frame and details that show the specification has been met.

Marks will be awarded for:

- | | |
|---|-------------------|
| (a) Quality of communication | <i>(10 marks)</i> |
| (b) Range of ideas | <i>(15 marks)</i> |
| (c) Originality/innovation of product | <i>(15 marks)</i> |
| (d) Appropriateness of materials and components | <i>(10 marks)</i> |
| (e) Methods of construction | <i>(10 marks)</i> |
| (f) Dimensions and dimensioning | <i>(5 marks)</i> |
| (g) Specification criteria met | <i>(5 marks)</i> |
| (h) Details of finish | <i>(6 marks)</i> |

(Total 76 marks)

END OF QUESTIONS

THERE ARE NO QUESTIONS PRINTED ON THIS PAGE