

General Certificate of Education  
Summer 2003  
Advanced Subsidiary Examination



**DESIGN AND TECHNOLOGY: PRODUCT DESIGN (TEXTILES)** **5551**  
**Unit 1 Materials and Components (PD1T)**

Tuesday 3 June 2003 Morning Session

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

- an unlined answer book (7024) 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 be used only 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 PD1T.
- Answer Question 1 and any **two** of Questions 2 to 4.

**Information**

- The maximum mark for this paper is 100.
- 40 marks are allocated to Question 1, 28 marks to each of Questions 2 to 4, and 4 marks overall 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.

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Answer Question 1 and any **two** of Questions 2 to 4.

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1 Study the photograph below.

- (a) Explain how the designer has used denim fabric with pre-manufactured components to create an effect. (12 marks)
- (b) Describe the properties and qualities of denim which make it an ever popular fabric. (12 marks)
- (c) (i) Discuss the need for interfacings and linings in this jacket. (8 marks)
- (ii) Suggest suitable materials which could be used for interfacing and lining. Give reasons for your choices. (8 marks)



Source: Photographer Joshua Jordan courtesy of *Elle* magazine.

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- 2 (a) Explain what is meant by
- (i) staple yarn; (3 marks)
  - (ii) filament yarn. (3 marks)
  - (iii) Give **two** examples of **each** type of yarn. (2 x 2 marks)
- (b) Explain how these different types of *yarn* can affect the properties of fabrics made from them. (6 marks)
- (c) (i) Explain what is meant by *warp and weft* yarns as used when producing woven fabrics. (4 marks)
- (ii) Describe **two** ways in which warp and weft yarns can be interlaced to produce different woven fabrics. (2 x 4 marks)
- 3 A *fibre's* ability to absorb moisture is an important property.
- (a) (i) What is meant by *standard moisture regain*? (4 marks)
- (ii) Compare the moisture absorbency properties of wool, cotton and polyester. (6 marks)
- (b) Explain how moisture absorbency affects
- (i) comfort factors; (9 marks)
  - (ii) the care of different fabrics. (9 marks)
- 4 Elastomeric fibres such as Lycra are used extensively in a range of fabrics for clothing products.
- (a) (i) Describe the structure of elastomeric fibres. (2 marks)
- (ii) Explain the properties of elastomeric fibres. (8 marks)
- (b) (i) Elastomeric fibres are always used with other fibres. Explain why this is necessary. (4 marks)
- (ii) Name **two** fibres which can be blended with Lycra and suggest, with reasons, an application for **each** of the blends. (2 x 5 marks)
- (c) What care should be taken when washing garments containing Lycra? (4 marks)

**END OF QUESTIONS**