

General Certificate of Education
June 2006
Advanced Subsidiary Examination



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

Tuesday 6 June 2006 9.00 am to 10.30 am

For this paper you must have:

- a lined answer book (AB08) which is provided separately
- normal writing and drawing instruments
- a colour Insert Sheet (enclosed)

Time allowed: 1 hour 30 minutes

Instructions

- Use blue or black ink or ball-point pen. Use pencil and coloured pencils 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 **three** questions.
- Answer Question 1 and any **two** of Questions 2 to 4.
- Use the Insert Sheet included to help you answer **Question 1**.

Information

- The maximum mark for this paper is 100.
4 of these marks are for the Quality of Written Communication.
- 40 marks are allocated to Question 1 and 28 to each of Questions 2 to 4.
- The marks for questions are shown in brackets.
- You are reminded of the need for good English and clear presentation in your answers. Quality of Written Communication will be assessed in all answers.

Advice

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

Answer Question 1.

1 Study the photographs of the bag on the Insert Sheet.

- (a) Explain the different ways the designer has used fabrics and components to create interest. *(6 marks)*
- (b) (i) The main fabric used is a plain weave cotton.
Explain the **properties** of plain weave cotton which make it appropriate for the bag.
Refer to both the fibre content and the plain weave. *(8 marks)*
- (ii) Describe how a plain weave is made. *(3 marks)*
- (c) The bag is fastened with a magnetic stud.
- (i) Suggest **two** other fastenings which could have been used. *(2 marks)*
- (ii) Evaluate the suitability for this bag of the magnetic stud and the two fastenings you have suggested in part (i). *(3 × 3 marks)*
- (iii) Name and describe in detail **two** other components needed to make the bag. *(2 × 3 marks)*
- (d) Explain why this bag has been lined. *(6 marks)*

Answer any **two** questions from 2, 3 and 4.

2 Many fabrics are required to be water-repellent.

- (a) Name **two** textile products which need to be water-repellent. *(2 marks)*
- (b) The diagram below shows some equipment set up for an experiment you could use to test the water-repellency of fabrics.

The diagram referred to in this question cannot be shown as copyright permission for access on the internet has not been granted.

- (i) Explain how you could carry out an experiment using this equipment. *(5 marks)*
- (ii) Explain how you would interpret your results. *(4 marks)*
- (c) (i) Describe a modern fabric used to make garments for wear in extreme conditions. *(5 marks)*
- (ii) Name a specific garment which could be made from the fabric you have described in part (i). Explain how the special properties of the fabric make it appropriate for this garment to be used in extreme conditions. *(7 marks)*
- (iii) Compare modern fabrics designed for extreme conditions with those used in the past. *(5 marks)*

Turn over for the next question

Turn over ▶

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- 3 Elastane fibres, such as Lycra, have revolutionized sportswear fabrics.
- (a) Explain the reasons for this. *(7 marks)*
 - (b)
 - (i) Why are elastane fibres never used on their own to make fabrics? *(3 marks)*
 - (ii) Explain **one** way in which elastane fibres are combined with other fibres. *(5 marks)*
 - (iii) Fabrics containing elastane are used for products other than sportswear.
State the percentage of elastane and other fibre(s) used in **three** different blends.
Give an application for each blend. *(3 × 3 marks)*
 - (c) What needs to be considered when using and caring for fabrics containing elastane fibres? *(4 marks)*
- 4 (a) Explain each of the following. Give examples where appropriate.
- (i) The production of felt from woollen fibres. *(6 marks)*
 - (ii) The use of non-woven fabrics for interfacings. *(5 marks)*
 - (iii) The use of non-woven fabrics in disposable products. *(7 marks)*
- (b) Describe the factors affecting the flammability of textile products. *(10 marks)*

END OF QUESTIONS