

General Certificate of Education
January 2006
Advanced Subsidiary Examination



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

Tuesday 10 January 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

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 **two** other questions.

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.
- The marks for questions 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 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 Jeans style trousers have been popular for many years.
They have recently been made from a variety of different fabrics including
- denim
 - velvet
 - satin.
- (a) (i) Describe the structure of denim **fabric**. *(4 marks)*
- (ii) Explain why it is suitable for jeans. *(6 marks)*
- (b) (i) Describe the structure of velvet **fabric**. *(3 marks)*
- (ii) Name a suitable **fibre** for velvet fabric to be used for jeans. *(1 mark)*
- (c) (i) Describe the structure of satin **fabric**. *(3 marks)*
- (ii) Name a suitable **fibre** for satin fabric to be used for jeans. *(1 mark)*
- (iii) Give **two** reasons why you think this **fibre** is suitable for jeans. *(2 marks)*
- (d) Evaluate the suitability of velvet and satin **fabrics** for fashion jeans. *(7 marks)*
- (e) The manufacture of denim jeans has recently been highlighted as causing environmental damage.
- (i) Explain the reasons why. *(8 marks)*
- (ii) How can the manufacture of denim jeans be made more environmentally friendly?
(5 marks)

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

2 Quilted fabrics have traditionally been used for a variety of fashion and furnishing products.

- (a) (i) Describe the structure of a typical quilted fabric. *(5 marks)*
- (ii) Explain how quilted fabrics are able to insulate. *(4 marks)*
- (iii) Polyester wadding is commonly used in quilted fabrics.
Explain the properties which make it appropriate for this use. *(6 marks)*
- (b) Polar fleece is often used in applications where quilted fabrics were once used.
- (i) Describe in detail polar fleece fabric. *(5 marks)*
- (ii) Explain the reasons for the popularity of polar fleece when compared with quilted fabrics. *(8 marks)*

3 There are many different types of zip available to manufacturers.

- (a) (i) Name **three** different types of zip. *(3 marks)*
- (ii) Suggest a use for each type of zip. *(3 marks)*
- (iii) Explain why each zip type is suitable for the product named in part (ii). *(3 × 2 marks)*
- (b) What will a designer/manufacturer need to consider when choosing fastenings for a product? *(8 marks)*
- (c) What quality control issues should a manufacturer consider when **applying** a fastening to a product?
- Give examples to explain the points you make. *(8 marks)*

Turn over for the next question

Turn over ▶

4 Two types of fashion sweater are currently in high street shops.

Sweater A is made from 100% acrylic fibre.

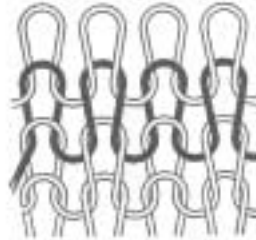
Sweater B is made from a blend of 60% cotton, 25% angora and 15% nylon fibres.

- (a) Describe the qualities of acrylic which make it suitable for a fashion sweater. (6 marks)
- (b) Explain how the blend of fibres used for **Sweater B** makes it suitable for a fashion sweater. (10 marks)
- (c) **Sweater A** is made from a plain weft knitted fabric.
Sweater B is made from a rib knitted fabric.
The construction of these two fabrics is shown below.

Plain weft knit



Rib knit



- (i) Explain the differences in the appearance of the two fabrics. (4 marks)
- (ii) Compare the qualities of the two fabrics. (4 marks)
- (d) Explain why it is recommended that **Sweater B** be washed by hand. (4 marks)

END OF QUESTIONS