

General Certificate of Education
January 2007
Advanced Subsidiary Examination



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

Wednesday 10 January 2007 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 **two** other questions.
- Use the Insert Sheet included to help you answer Question 1 and Question 2.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 100.
Four of these marks will be awarded for using good English, organising information clearly and using specialist vocabulary where appropriate.
- There are 40 marks for Question 1 and 28 for each of Questions 2 to 4.

Advice

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

Answer Question 1.

- 1** Study the photograph of the coat (**Figure 1**) shown on the Insert Sheet.
The coat is made from a 100% wool fabric with a raised nap.
- (a) (i) Explain what is meant by the term *raised nap*. (3 marks)
- (ii) Explain in detail the properties of this woollen fabric which make it suitable for a coat. (7 marks)
- (iii) What are the drawbacks of using this woollen fabric to make a coat? (4 marks)
- (b) The coat is lined with a polyester satin fabric.
- (i) Describe the structure of a satin fabric.
You may use a diagram. (4 marks)
- (ii) Explain why polyester satin fabric is suitable for lining this coat. (5 marks)
- (iii) Explain the reasons for lining this coat. (6 marks)
- (c) Some parts of the coat will be interfaced.
- (i) Name **two different** parts of the coat which will have interfacing. (2 marks)
- (ii) Explain the reasons why interfacing is needed in these parts of the coat. (2 × 3 marks)
- (d) Evaluate the suitability of the buttons used on the coat. (3 marks)

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

2 Study the photograph of the red patterned fabric (**Figure 2**) on the Insert Sheet.

- (a) (i) What is the name of this type of fabric? *(1 mark)*
- (ii) Name **two different** ways in which this patterned effect can be achieved on a fabric. *(2 marks)*
- (b) This fabric could be used to make an evening dress.
- (i) Name a fibre which could be used. *(1 mark)*
- (ii) Explain why the fibre you have named is suitable. *(5 marks)*
- (c) This fabric could also be used to make a skirt for everyday wear.
- (i) Name a fibre which could be used. *(1 mark)*
- (ii) Explain why the fibre you have named is suitable. *(5 marks)*
- (d) Using notes and diagrams, explain the ways in which a designer could maximise the effect of this fabric in garment design. *(6 marks)*
- (e) The full repeat of the pattern shown in **Figure 2** is 20 cm square. Explain the problems when designing and making products from this type of fabric. *(7 marks)*

Turn over for the next question

Turn over ►

3 Fibres are produced in either staple or filament form.

- (a) (i) What is the basic difference between staple and filament fibres? (2 marks)
- (ii) Name **two different** staple fibres. (2 marks)
- (iii) Name **two different** filament fibres. (2 marks)
- (b) Fibres are converted into yarns in order to make them into fabrics.
Using **one** example, explain the basic process of converting a staple fibre into yarn. (3 marks)
- (c) Compare the main qualities that a staple yarn gives to a fabric with those given by a filament yarn. (4 marks)
- (d) Fibres are often blended to make yarns.
- (i) Name **three** specific examples of blended yarns. (3 marks)
- (ii) For each of the examples you have named in part (i), explain the reasons for blending these fibres. (3 × 4 marks)

4 Knitted fabrics are popular for a range of applications.

- (a) (i) Explain the main differences in construction between a warp knit and a weft knit.
You may use diagrams. (6 marks)
- (ii) Describe the different qualities given to a fabric by these **two** types of knit construction. (6 marks)
- (b) What will a designer/manufacturer need to consider when choosing components for a product made from a knitted fabric? (4 marks)
- (c) Giving examples, explain the reasons why:
- (i) knitted fabrics are often used for winter garments (4 marks)
- (ii) knitted fabrics are frequently used for sportswear (4 marks)
- (iii) garments made from knitted fabrics are easy to pack. (4 marks)

END OF QUESTIONS

Insert

For use with Questions 1 and 2

Figure 1



Figure 2

Red patterned fabric



The full repeat of this pattern is 20 cm square.

