Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use	
Examiner's Initials	
Question	Mark
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
TOTAL	

General Certificate of Education
Advanced Subsidiary Examination
January 2009

Design and Technology: Product Design (Textiles) TEXT1

Unit 1 Materials, Components and Application

Thursday 8 January 2009 9.00 am to 11.00 am

For this paper you must have:
- normal writing and drawing instruments
- an Insert Sheet.

Time allowed
- 2 hours

Instructions
- Use black ink or black ball-point pen.
- Use pencil and coloured pencils only for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions in Section A.
- Answer **one** question from Section B, **either** Question 8 **or** Question 9.
- Answer Section C.
- You must answer the questions in the spaces provided. Answers written in margins or on blank pages will not be marked.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information
- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- 20 marks are allocated to each of Sections A and B and 40 marks to Section C.
- You will be marked on your ability to:
  – use good English
  – organise information clearly
  – use specialist vocabulary where appropriate.

Advice
- Illustrate your answers with sketches and/or diagrams wherever you feel it is appropriate.
- You are advised to spend approximately 30 minutes on Section A, 30 minutes on Section B and one hour on Section C.

SECTION A

Answer **all** the questions in this section.

1 (a) Explain what is meant by the term *thermoplastic fibres*.

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(2 marks)

1 (b) Name **two** fibres which are thermoplastic.

1 .....

2 .....

(2 marks)

4

2 Give **two** reasons why wool fibres are carded before being spun into a yarn.

1 .....

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2 .....

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(2 marks)

2

3 Explain what causes *static electricity* to develop in some textile fabrics.

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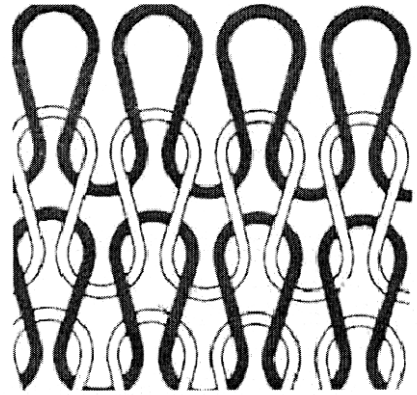
(2 marks)

2

4 Study the diagram of the fabric construction shown below.

Horizontal rows ⟶



Vertical rows ↓

4 (a) Name the construction method.

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(1 mark)

4 (b) Name the correct technical terms for the rows of horizontal and vertical loops.

Horizontal rows .....

Vertical rows .....

(2 marks)

3

5 (a) Give **two** ways in which a coloured pattern can be created in a knitted fabric.

1 .....

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2 .....

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(2 marks)

5 (b) Name **two** resist methods of applying colour to fabric.

1 .....

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2 .....

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(2 marks)

4

6 Give **two** reasons why a polyester sewing thread would be used to stitch the seams of a product made from a polyester/cotton fabric.

1 .....

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2 .....

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(2 marks)

2

7 The symbol shown below may be attached to a textile product.

7 (a) What is the symbol called?

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(1 mark)

7 (b) What does this symbol tell the consumer about the product?

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(2 marks)

3

SECTION B

Answer **one** question in this section, **either** Question 8 **or** Question 9

8 Study the photograph of the socks (**Figure 1**) shown on the Insert Sheet.
The socks are made from a blend containing 73% acrylic, 25% polyamide and 2% elastane fibres.

8 (a) (i) With reference to the socks, explain in detail the properties given by the acrylic and polyamide fibres.

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(7 marks)

Question 8 continues on the next page

8 (a) (ii) Justify the small percentage of elastane fibre in the blend used in the socks.

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(2 marks)

8 (b) The fabric used for the socks is a knitted towelling construction.

8 (b) (i) Explain the reasons for using this fabric construction.

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(5 marks)

8 (b) (ii) Describe **one** problem which may arise from using this fabric for the socks.

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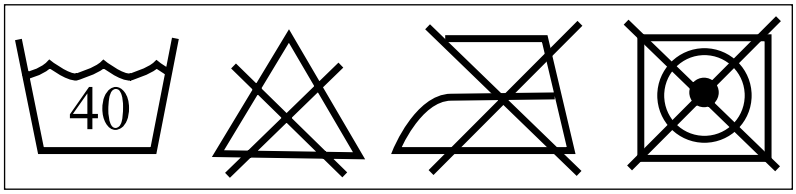
(2 marks)

8 (c) The care label shown below is attached to the socks.



Explain how the care recommended is relevant to the fabric used for the socks.

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(4 marks)

20

Turn over for the next question

9 Study the photographs of the two throws (**Figures 2** and **3**) shown on the Insert Sheet.

9 (a) (i) Throw X (**Figure 2**) is made from a 100% wool with a checked pattern woven into the fabric.

Explain how the checked pattern has been achieved. You may use a diagram.

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(3 marks)

9 (a) (ii) Critically evaluate the use of wool for Throw X.

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(6 marks)

Question 9 continues on the next page

9 (b) (i) Throw Y (**Figure 3**) is made from a polyester fleece fabric.
Describe polyester fleece fabric, including its construction.

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(3 marks)

9 (b) (ii) Explain how Throw Y is able to act as a thermal insulator.

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(3 marks)

9 (c) Explain the different ways in which the edges of the two throws have been finished.

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(5 marks)

20

Turn over for the next question

SECTION C

You must answer this section.

10 Study the photographs of the cropped trousers (**Figures 4**, **5** and **6**) shown on the Insert Sheet.

10 (a) The denim fabric is made from a *twill weave*.
Describe the structure of the twill weave. You may use a diagram.

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(3 marks)

10 (b) The label shown below is attached to the trousers.

Caution!
Please note that due to the nature of this fabric colour transfer may occur when in contact with light coloured fabrics and upholstery

Explain why the fabric colour is likely to transfer to lighter coloured fabrics.

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(2 marks)

10 (c) Justify the use of components in this style of trouser.

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(4 marks)

Question 10 continues on the next page

10 (d) Explain and justify **two** ways in which the design could be modified in order to make the trousers cheaper to manufacture. You may use diagrams.

10 (d) (i) Modification 1 .....

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(5 marks)

10 (d) (ii) Modification 2 .....

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(5 marks)

Question 10 continues on the next page

10 (e) Study the photograph of the trouser pocket (**Figure 6**) shown on the Insert Sheet. Quality Control (QC) will be important to ensure consistently high quality manufacture.

Describe **two** different QC checks that will be needed when making the pockets. For **each** of these, explain the consequences of inaccurate manufacture.

10 (e) (i) QC check 1 .....

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(3 marks)

10 (e) (ii) QC check 2 .....

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(3 marks)

10 (f) The trousers shown on the Insert Sheet are fashion trousers, made from cotton denim and sold at a low price in a supermarket.

Discuss some of the environmental and moral concerns associated with their manufacture and use.

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Question 10 continues on the next page

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(10 marks)

10 (g) Many fashion products are manufactured using a Just In Time (JIT) production system. Explain the benefits of this system for both manufacturer and retailer.

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(5 marks)

40

END OF QUESTIONS

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ANSWER IN THE SPACES PROVIDED

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Design and Technology: Product Design (Textiles) TEXT1

Unit 1 Materials, Components and Application

Insert

Figure 1 Socks

Figure 2 Throw X

Figure 3 Throw Y

Figure 4 Front of Cropped trousers

Figure 5 Back of Cropped Trousers

Figure 6 Pocket of Cropped Trousers

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There are no figures printed on this page

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