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	
TOTAL	

AQA

General Certificate of Education
Advanced Subsidiary Examination
June 2014

Design and Technology: Product Design (Textiles) TEXT1

Unit 1 Materials, Components and Application

Wednesday 14 May 2014 9.00 am to 11.00 am

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

Time allowed
- 2 hours

A

Instructions
- Use black ink or black ball-point pen. Use pencil 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 6 or Question 7.
- Answer Section C.
- You must answer all questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- 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.
- There are 20 marks for Section A, 20 marks for Section B and 40 marks for Section C.

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 Complete **Table 1** by putting an item from the list below next to the correct description.

You should not use any of the items more than once.

Vilene® Calico Teflon® Bouclé Wool

Velcro Tencel® Woolmark Tactel®

[7 marks]

Table 1

Description	Item
A fancy yarn	
A synthetic fibre	
A stain resistant finish	
A natural protein fibre	
A mark of Quality Assurance	
A regenerated fibre	
A non-woven fabric	

7

2 Name **two** stages when dye can be applied to a textile product during production.

[2 marks]

.....

.....

.....

.....

2

3 Explain the meaning of each of the following manufacturing systems:

3 (a) One-off

[2 marks]

.....

.....

.....

3 (b) Just in time (JIT)

[2 marks]

.....

.....

.....

4

4 Designers often have a sketch book of images and materials.

Give **three** different types of information that might be put in a sketch book to help designers to develop ideas for new products.

[3 marks]

.....

.....

.....

.....

.....

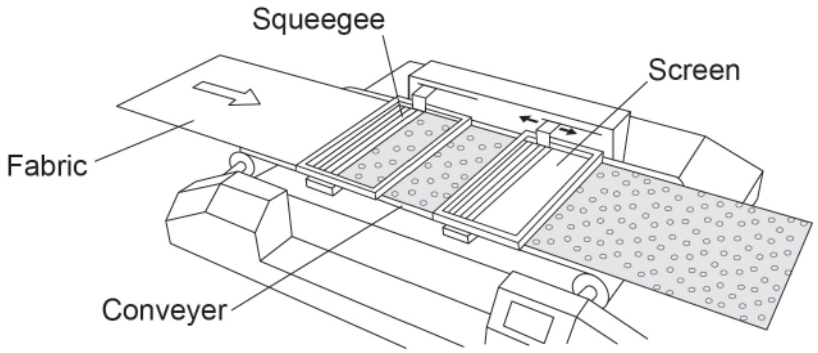
.....

3

Turn over for the next question

5 (a) What is the name of the process shown below?

[1 mark]



Name of process .....

5 (b) Explain briefly how this process is carried out.

[3 marks]

.....

.....

.....

.....

.....

.....

.....

.....

4

Turn over for the next question

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED

Section B

Answer **either** Question 6 **or** Question 7.

6 Look at the photographs of the rucksack shown in **Figure 1**.

The rucksack is made from a plain weave fabric using polyamide (nylon) fibres.

Figure 1

Front view

Back view

6 (a) Analyse the reasons why the plain weave polyamide (nylon) fabric is suitable for a rucksack.

[6 marks]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

6 (b) Explain why a water-repellent finish needs to be applied to the fabric of the rucksack.

[2 marks]

.....

.....

.....

.....

6 (c) Give **two** reasons why piping has been used on some of the rucksack edges.

[2 marks]

.....

.....

.....

.....

6 (d) Describe **two** different quality control checks which will be needed when manufacturing the rucksack.

[4 marks]

.....

.....

.....

.....

.....

.....

.....

.....

6 (e) Describe how **two** modern technical materials or smart materials or systems could be used to enhance the performance of a rucksack.

[2 x 3 marks]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

20

Do **not** answer this question if you have answered Question 6.

7 Use your knowledge and understanding of fibres and fabrics, together with the information given in **Table 2**, to answer the questions which follow.

Table 2

Fabric type	**Typical uses**
Denim made from a blend of 98% cotton and 2% elastane fibres	Jeans
Warp knitted fabric made from 100% polyamide microfibre (nylon)	Sportswear, lingerie
Satin fabric made from 100% silk fibre	Evening dresses, men's ties

7 (a) (i) Describe the structure of a denim fabric. You may use a diagram.

[4 marks]

.....

.....

.....

.....

7 (a) (ii) Explain why only 2% of elastane fibre is included in the blend.

[2 marks]

.....

.....

.....

.....

7 (b) (i) Explain why **warp knitted** fabrics are used for sportswear and lingerie.

[3 marks]

.....

.....

.....

.....

.....

.....

7 (b) (ii) What is meant by the term microfibre?

[1 mark]

.....

7 (b) (iii) Why are polyamide (nylon) microfibres used for sportswear and lingerie fabrics?

[4 marks]

.....

.....

.....

.....

.....

.....

.....

.....

Do not write outside the box

7 (c) Critically evaluate the use of satin fabrics made from silk for evening dresses and men's ties.

[6 marks]

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

....

20

Turn over ▶

Section C

Answer this question.

8 Look at the photographs of the all-in-one sleepsuit in **Figure 2**.

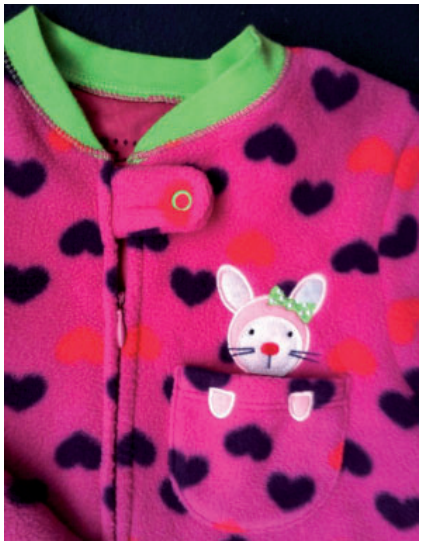
It is made from a polyester fleece fabric.

Figure 2

Front of all-in-one sleepsuit

Back of all-in-one sleepsuit

Logo on pocket on front of all-in-one sleepsuit



8 (a) Describe the structure of polyester fleece fabric.

[3 marks]

.....

.....

.....

.....

.....

.....

8 (b) Evaluate the suitability of polyester fleece fabric for an all-in-one sleepsuit.

[6 marks]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

8 (c) Describe **three** components needed to make the all-in-one sleepsuit.

[3 marks]

.....

.....

.....

.....

.....

.....

8 (d) Explain the laundry care needed for the all-in-one sleepsuit.

[6 marks]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

8 (e) The label states that the garment has **Low flammability** to **BS5722**.

Explain what **BS** refers to and why it is important for this garment.

[2 marks]

.....

.....

8 (f) These all-in-one sleepsuits have been made in a range of different sizes and colours for girls.

Explain how computerised processes would be used in **each** of the following areas of manufacture.

8 (f) (i) Designing the fabric print

[3 marks]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

8 (f) (ii) Making the all-in-one sleepsuit pattern templates

[3 marks]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

8 (f) (iii) Creating the lay plan

[3 marks]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

8 (f) (iv) Attaching the pocket to the all-in-one sleepsuit

[3 marks]

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

8 (g) The logo is designed for the pocket of a girl's all-in-one sleepsuit.

Using the specification given below, show your idea for a different logo which could be used on a boy's all-in-one sleepsuit.

The logo must:

- appeal to boys between the ages of 3 and 6 years
- use at least four different colours
- use at least two different manufacturing techniques.

Annotate your design to show the fabric and features and explain why they are appropriate.

[8 marks]

40

END OF QUESTIONS

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED

There are no questions printed on this page

DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED