Design and Technology: Textiles Technology
Unit 2: Knowledge and Understanding of Textiles Technology

Friday 23 May 2014 – Afternoon
Time: 1 hour 30 minutes

Instructions
- Use black ink or ball-point pen.
- If pencil is used for diagrams/sketches it must be dark (HB or B). Coloured pens, pencils and highlighter pens must not be used.
- Fill in the boxes at the top of this page with your name, centre number and candidate number.
- Answer all questions.
- Answer the questions in the spaces provided – there may be more space than you need.

Information
- The total mark for this paper is 80.
- The marks for each question are shown in brackets – use this as a guide as to how much time to spend on each question.
- Questions labelled with an asterisk (*) are ones where the quality of your written communication will be assessed – you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.

Advice
- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over
Answer ALL the questions.

For each question 1 to 10, choose an answer A, B, C or D. Put a cross in the box indicating the answer you have chosen ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 Which one of the following fabrics stretches the most?
   - ☐ A Felted
   - ☐ B Bonded
   - ☐ C Woven
   - ☐ D Knitted

   (Total for Question 1 = 1 mark)

2 Which one of the following scales of production produces the greatest volume of products?
   - ☐ A One-off
   - ☐ B Batch
   - ☐ C Job
   - ☐ D Mass

   (Total for Question 2 = 1 mark)

3 Regenerated fabrics are made from:
   - ☐ A chemical sources
   - ☐ B natural sources
   - ☐ C chemical and natural sources
   - ☐ D minerals only

   (Total for Question 3 = 1 mark)
4 What is the source of linen fibre?
- A Flax
- B Cotton
- C Wood
- D Paper

(Total for Question 4 = 1 mark)

5 The diagram below shows a commercial pattern marking.

Which one of the following does the diagram show?
- A Balance mark
- B Grain line
- C Place on the fold
- D Notch

(Total for Question 5 = 1 mark)

6 A chain-mail glove is commonly worn when using which one of the following types of machinery?
- A Industrial sewing machine
- B Cutting machine
- C Heat press
- D Embroidery machine

(Total for Question 6 = 1 mark)

7 Which one of the following is a modern material?
- A Acetate
- B Viscose
- C Kevlar®
- D Acrylic

(Total for Question 7 = 1 mark)
8 The diagram below shows a weave.

Which one of the following does the diagram show?

- A Herringbone
- B Plain
- C Twill
- D Satin

(Total for Question 8 = 1 mark)

9 Transfer printing applies colour to:

- A the surface of the fabric
- B the fabric using stitching
- C both sides of the fabric at the same time
- D the fabric using wax

(Total for Question 9 = 1 mark)

10 Which one of these fabrics snags easily?

- A Plain
- B Twill
- C Satin
- D Velvet

(Total for Question 10 = 1 mark)
The table below shows some tools and equipment.

Complete the table below by giving the missing names and uses.

<table>
<thead>
<tr>
<th>Tools/Equipment</th>
<th>Name</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Image" /></td>
<td>Needle</td>
<td>（1）Stops fraying, creates decorative edge.</td>
</tr>
<tr>
<td><img src="image2" alt="Image" /></td>
<td>Zipper foot</td>
<td>（1）For holding fabric taut/flat/stretched when applying decorative stitching.</td>
</tr>
</tbody>
</table>

(1)
(b) The picture shows a school shirt made from 100% cotton.

(i) Name three benefits of cotton fibre. (3)

1. ..........................................................

2. ..........................................................

3. ..........................................................

(ii) Describe one reason why the cotton fibres of school shirts are commonly blended with polyester. (2)

..........................................................................................................................

..........................................................................................................................

..........................................................................................................................

..........................................................................................................................
(c) Name a suitable technique for constructing the seams of the school shirt. (1)

(d) The following symbols have been used on the school shirt’s care label. State the meaning of the symbols:

![Symbol 1] (40C) (3)

![Symbol 2] (3)

![Symbol 3] (3)

![Symbol 4] (3)

![Symbol 5] (3)

(e) The school shirts have been batch produced for a number of schools. Describe one benefit to schools of shirts being produced using the batch production process. (2)
(f) The designers have decided to make the school shirt out of organic cotton.

   Explain **one** benefit to the environment and **one** ethical benefit to the consumer or manufacturer when considering the use of organic cotton.

   Environmental benefit

   

   

   

   

   Ethical benefit

   

   

   

   

   

   (Total for Question 11 = 19 marks)
A designer has been commissioned to design and make an outfit for a television presenter to wear to a film premiere that will raise awareness of an animal welfare charity.

The specification for the outfit is that it must:

- consist of one item
- highlight the charity's cause
- include a way to carry small personal items
- be easy to put on and take off
- use a construction technique to give it shape or fitting
- include a fabric with a shine or sheen
- include a decorative technique
- be suitable for one-off production.

In the spaces opposite, use sketches and, where appropriate, brief notes to show two different design ideas for the outfit that meet the specification points above.

Candidates are reminded that if a pencil is used for diagrams/sketches it must be dark (HB or B).

Coloured pens, pencils and highlighter pens must not be used.
Design idea 1

Design idea 2

(Total for Question 12 = 16 marks)
13 (a) The drawing shows a cushion cover which is made from 100% lambswool felted fabric.

(i) Name one property of lambswool that makes it a suitable fibre for the cushion cover and provide a reason why.

<table>
<thead>
<tr>
<th>Property</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(ii) Name one property or characteristic of lambswool which makes it an unsuitable fibre for the cushion cover and provide a reason why.

<table>
<thead>
<tr>
<th>Property or characteristic</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(iii) Describe two reasons why felted fabric has been used for the cushion cover.

1

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

2

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................

(b) Explain why the cushion cover is successful in meeting the following specification point:

Attractive to users

..........................................................................................................................
..........................................................................................................................
..........................................................................................................................
..........................................................................................................................
*The drawings below show two different types of cushion.*

**Cushion A**
- Felted wool fabric
- Securely hand-sewn sequins and embroidery
- Silk trimming
- Non-removable cover

**Cushion B**
- Plain woven polyester fabric
- Removable cover with concealed zip
- Piping
- Machine embroidery
Evaluate cushion A compared with cushion B in terms of ‘function’ and ‘scale of production’.

(Total for Question 13 = 16 marks)
14 (a) The drawing below shows a tent.

The fabric of the tent is made from 100% polyester.

(i) Name two characteristics of polyester fabric that make it suitable for a tent.

For each characteristic, give one reason for your answer.

(4)

Characteristic 1

Reason

Characteristic 2

Reason

(ii) Polyester yarn is made from filament fibres.

State what is meant by a filament fibre.

(1)
The tent has a modern coating.

(iii) Name two modern coatings that are suitable for an outdoor product.

For each coating, give one reason for your answer.

(4)

Coating 1

Reason

Coating 2

Reason

(b) Explain one benefit of using bonded seams on the tent.

(2)

(c) Outdoor garments are often lined.

Explain one advantage of lining an outdoor garment.

(2)
*(d) Integrated electronics are often used in the outdoor textiles industry. Discuss the advantages and disadvantages to consumers of integrated electronics in outdoor textiles.*

(Total for Question 14 = 19 marks)