

Answer ALL the questions. Write your answers in the spaces provided.

1. (a) Fibres and filaments come from a variety of sources.

(i) Name a natural fibre made of cellulose.

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(1)

(ii) Give the name of the only natural filament.

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(1)

(b) The properties of fibres such as linen can be changed by adding finishes.

(i) State **two** properties of linen.

1
2
(2)

(ii) Name **one** type of finish which could be added to linen.

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(1)

(iii) State why the finish named in (b)(ii) would improve the performance of linen.

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(1)

(c) Explain why natural fibres are comfortable to wear.

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(2)





<p>(d) Certain fabrics are more likely to suffer from static than others.</p> <p>Explain why static is more likely to occur in synthetic fibres than in natural fibres.</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p style="text-align: right;">(2)</p> <p style="text-align: right;">(Total 10 marks)</p>	<p>Leave blank</p> <p style="text-align: center;">Q1</p> <table border="1" style="width: 100%; height: 20px;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;"></td> </tr> </table>		
Empty space for answer	Empty space for marks		



N 2 8 9 9 9 A 0 3 2 0



2. Figure 1 shows the melt spinning process which is used when producing synthetic fibres.

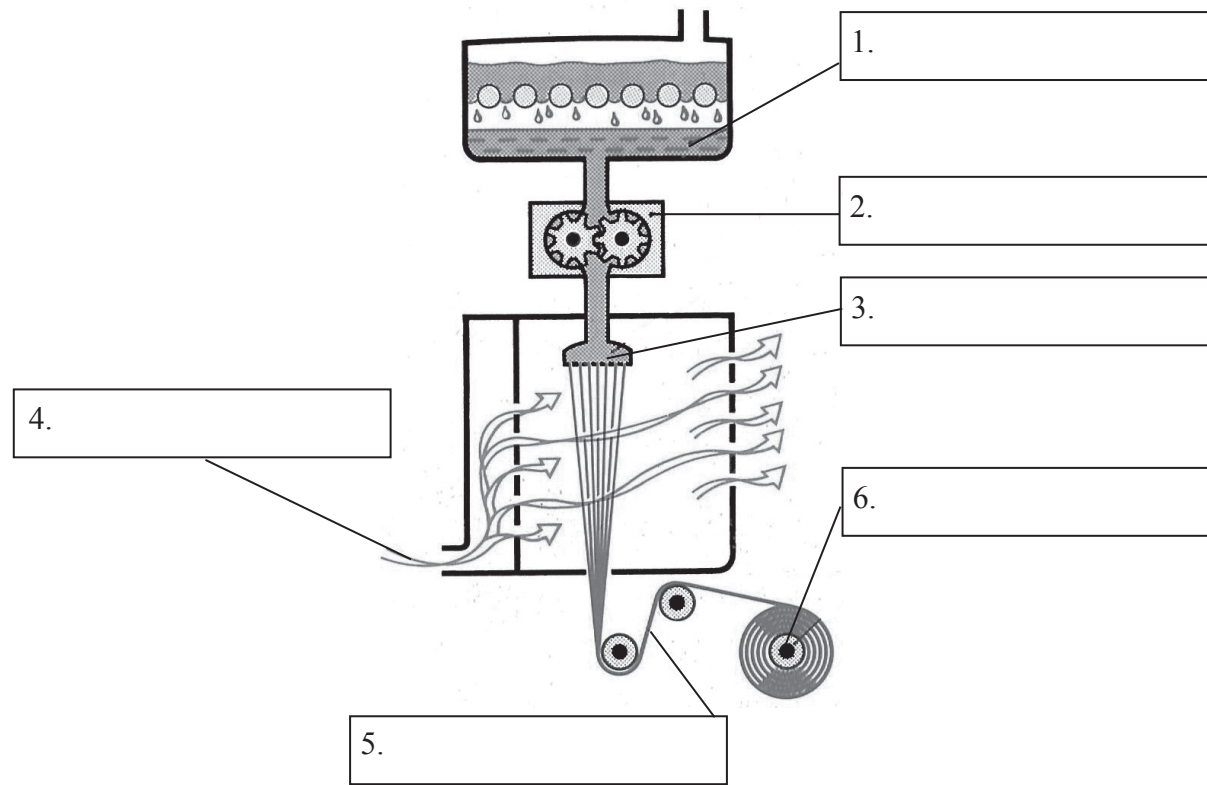


Figure 1

(a) Name the **six** parts of the melt spinning process identified in Figure 1 above. Put your answers in the boxes provided. **(6)**

(b) Name **one** of the fibres that would be made using the melt spinning process.
..... **(1)**

(c) Explain how the melt spinning process produces filaments.
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..... **(3)**



(d) The properties of a single fibre can be improved by adding it to another fibre. This can be achieved by either mixing or blending them.

Describe how a fabric mixture is produced.

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(2)

(Total 12 marks)

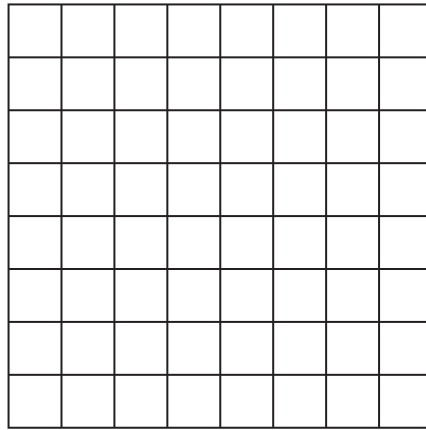
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Q2



3. Fabric construction can determine some of the properties of a fabric.

(a) Use the grid below to show the construction of a herringbone twill weave.



(2)

(b) By adding a finishing process to a fabric, the properties of that fabric can be improved or enhanced.

Describe **two** of the following textile finishing processes:

- Mercerising
- Raising
- Piece dyeing

Finishing process 1

Description

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(3)



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4. All the workers in a textile factory need to be aware of the safety issues that may arise.

(a) Outline **three** safety procedures which could be implemented during the assembly process in a textile factory and briefly describe how they could prevent accidents.

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(6)



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(b) Specifications and tolerances play a major part in any manufacturing process.

Explain how **one** of the following is used to produce a quality textiles product:

- Specification
- Tolerance

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(4)

Q4

(Total 10 marks)

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5. Figure 2 shows a child's jacket. The jacket is made of ripstop nylon and fastened with a plastic zip.



Figure 2

- (a) Give **three** reasons why ripstop nylon fabric is an appropriate material for the child's jacket.

1

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2

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3

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(3)



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(b) Give **three** reasons why a plastic zip is an appropriate component for the child's jacket.

1

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3

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(3)

(c) Name **one** piece of equipment which would be used during the assembly process for this jacket.

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(1)

(d) Describe **one** quality check that would be performed during the assembly of this jacket.

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(2)

(e) Explain how Computer Aided Design (CAD) would be used to make sure that the minimum amount of fabric was used in cutting out the pattern pieces.

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(3)

(Total 12 marks)

Q5

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6. Materials handling is a vital part of production planning.

(a) Explain **two** ways in which ICT can make the ordering and moving of materials more efficient.

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(4)

(b) Explain **two** ways in which computers are used in the control of materials in a textile factory.

1

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(4)

Q6

(Total 8 marks)



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7. Many products can be identified according to the design movements which have inspired their design.

(a) Select **one** of the following design movements and discuss **three** of the identifying characteristics for this design movement.

- Arts and Crafts
- Art Nouveau
- Art Deco

Name of your selected design movement.

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(6)



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(b) New fibres and fabrics are constantly being developed. These include modern smart materials.

Explain the term 'smart material'.

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(2)

(c) Explain how Microencapsulation can be used in **one** of the following textiles products:

- Underwear
- Medical textiles

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(2)

(d) Explain how Thermochromic dyes can be used in **one** of the following textiles products:

- T-shirts
- Expedition wear

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(2)

(Total 12 marks)

Q7

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