

Write your name here

Surname

Other names

**Pearson**  
**Edexcel GCSE**

Centre Number

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Candidate Number

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

Tuesday 23 May 2017 – Morning  
**Time: 1 hour 30 minutes**

Paper Reference

**5TT02/01**

**You do not need any other materials.**

Total Marks

### 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.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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Pearson

Answer ALL questions.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 How are fibres made into yarn?

- A spinning
- B rubbing
- C matting
- D knotting

(Total for Question 1 = 1 mark)

2 Which **one** of the following runs parallel to the selvedge?

- A warp
- B weft
- C bias
- D seam

(Total for Question 2 = 1 mark)

3 Most commercial paper patterns have a standard seam allowance measurement of:

- A 20mm/2cm
- B 10mm/1cm
- C 15mm/1.5cm
- D 25mm/2.5cm

(Total for Question 3 = 1 mark)

4 Which **one** of the following is a fabric with floating weft yarns over more than one warp yarn?

- A satin weave
- B pile weave
- C twill weave
- D plain weave

(Total for Question 4 = 1 mark)

2

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5 Which of the following best describes the **practise** of buying textile products for short-term use?

- A repairing textile products
- B creating a 'throwaway' culture
- C reducing textile production
- D recovering waste from textiles

(Total for Question 5 = 1 mark)

6 Which **one** of the following describes the appearance of filament yarns?

- A smooth
- B rough
- C wrinkly
- D velvety

(Total for Question 6 = 1 mark)

7 Which **one** of the following weaving methods is used to make denim?

- A plain
- B satin
- C twill
- D pile

(Total for Question 7 = 1 mark)

8 Which **one** of the following fibres is biodegradable?

- A **acrylic**
- B lycra<sup>®</sup>
- C linen
- D kevlar<sup>®</sup>

(Total for Question 8 = 1 mark)



9 Which **one** of the fabrics below has a complex woven pattern on the right and wrong side?

- A basket weave
- B gabardine weave
- C sateen weave
- D jacquard weave

(Total for Question 9 = 1 mark)

10 Which **one** of the following is a chromatic textile that reacts to moisture?

- A photochromatic
- B thermochromatic
- C solvation chromism
- D electrochromic

(Total for Question 10 = 1 mark)




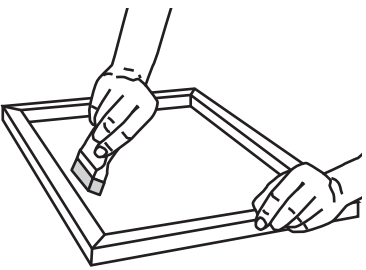

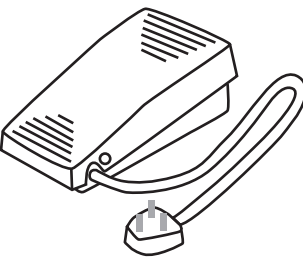
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11 (a) The table below shows some components and equipment.

Complete the table by giving the missing names and uses.

Components/Equipment	Name	Use
	Ironing board	(1)
	(1)	Used to print a design through a thin plastic sheet/mesh with a cut out design or plastic coating where a pigment can pass through
	Bobbin	(1)
	(1)	Used to adjust speed of a sewing machine



(b) A theatrical company is designing costumes for a performance. Calico is a cheap fabric that can be used for a prototype.

(i) Explain **one** reason, other than being cheap, why calico was used for the prototype.

(2)

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(ii) Muslin was used as an alternative to calico for this prototype. Explain **one** reason why muslin would be a suitable alternative.

(2)

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(iii) The theatrical company has decided to make its performance costumes out of viscose.

State **two** advantages of using viscose for theatrical costumes.

(2)

1 .....

2 .....

(iv) Explain **one** disadvantage of using viscose for theatrical costumes.

(2)

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(c) (i) State **one** method used on the seam allowance to create a deep curve.

(1)

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(ii) Describe why it is necessary to use this method on the seam allowance of a sewn deep curve.

(2)

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(iii) The theatrical company costumes all have collars. Interfacing is to be added to the collars.

State **two** quality control checks involving interfacing that can be carried out on the collars during manufacture. Justify your reasoning.

(4)

Quality control check

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Justification

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Quality control check

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Justification

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**(Total for Question 11 = 19 marks)**

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**12** A large retailer of baby products would like you to design and manufacture a play mat suitable for babies who are unable to walk.

**Design specification**

The specification for the product is that it must:

- be suitable for babies lying on their front and back
- be educational
- support the baby's body
- be easy to care for
- have a visually recognisable theme
- include a decorative technique
- be easy to carry or store
- be safe to use.

In the spaces opposite, use sketches and, where appropriate, brief notes to show **two** different design ideas for the play mat 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.

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**PLEASE USE THE SPACES OPPOSITE FOR YOUR DESIGNS.**





**Design idea 1**

(8)

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**Design idea 2**

(8)

**(Total for Question 12 = 16 marks)**



**13** (a) A pair of trousers has been designed for a wheelchair-bound person with a disability. A zip has been used in the waistband to make the trousers easy to put on and take off.

(i) Give **one** other suitable textile fastening to use in these trousers. Justify your answer.

(2)

Fastening

Justification

(ii) Give **one** unsuitable textile fastening for use in these trousers. Justify your answer.

(2)

Fastening

Justification



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(b) Using notes and sketches, describe **one** method of inserting elastic around the waist of the trousers. Consider quality control.

(4)

(c) The trousers are lined down to the knees.  
Describe why this would be beneficial for the person wearing the trousers.

(2)

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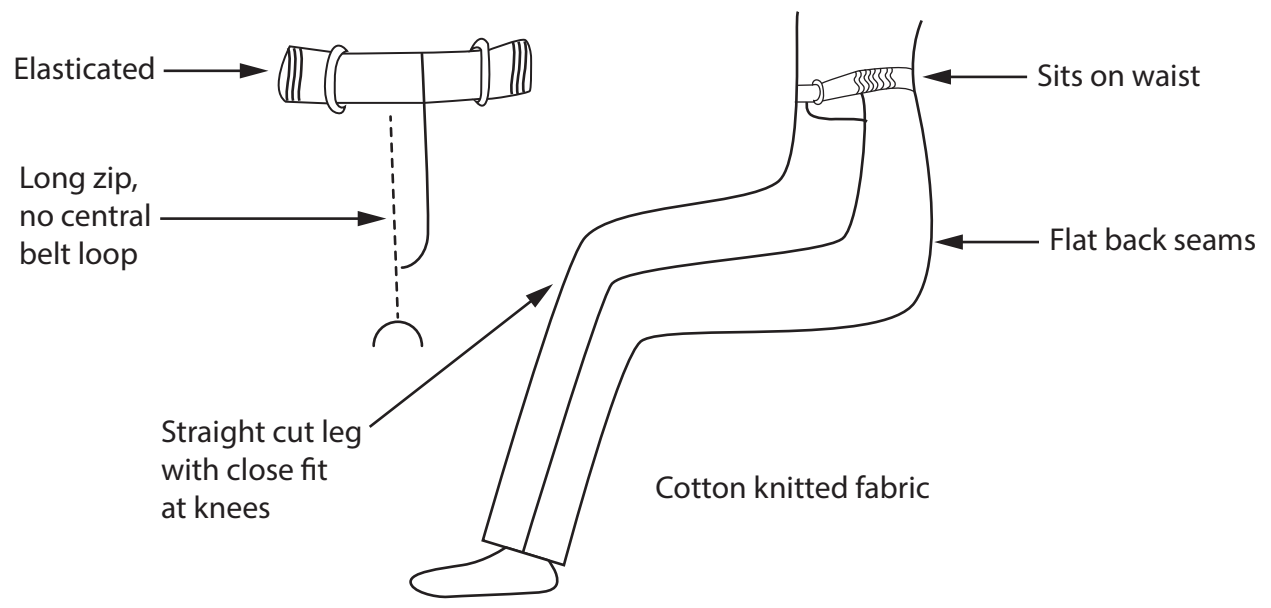
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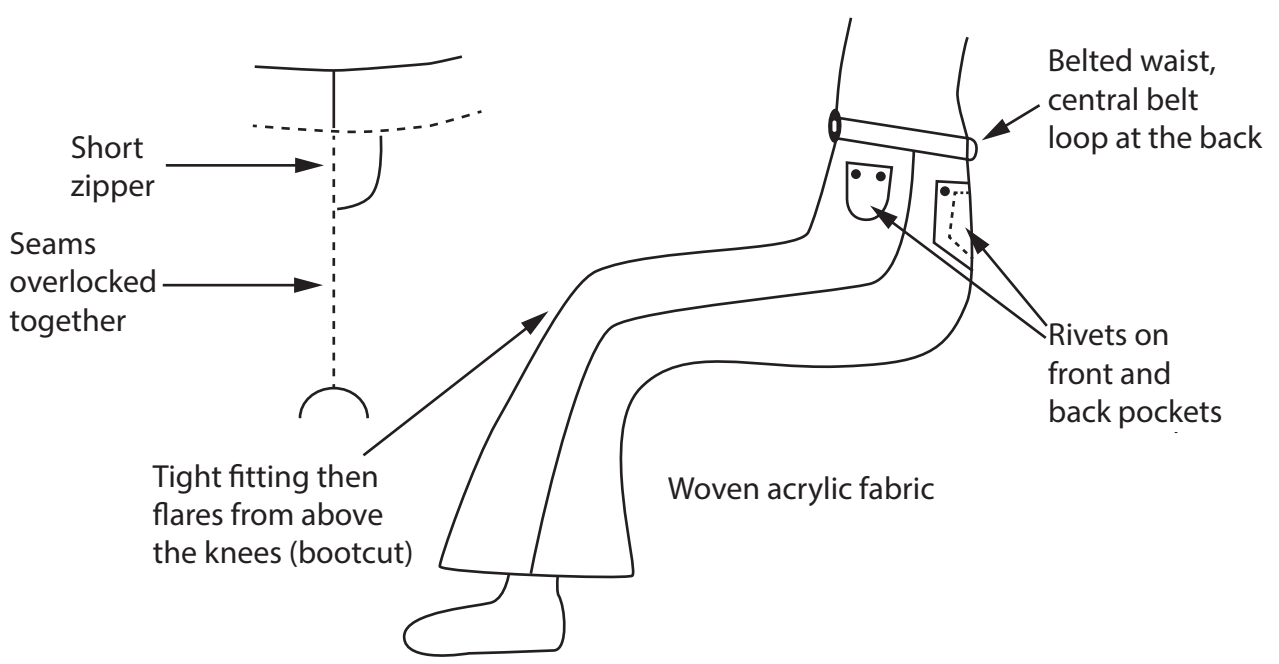
**QUESTION 13 CONTINUES ON THE NEXT PAGE.**



\*(d) The pictures below show two pairs of trousers that have been designed for wheelchair users.



**Product A**



**Product B**

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Evaluate Product A against Product B in terms of function and user requirements.

(6)

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**(Total for Question 13 = 16 marks)**



P 4 8 5 9 2 A 0 1 3 2 0

14 (a) (i) State **two** risks associated with the use of dyes.

(2)

1 .....

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2 .....

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(ii) Describe **one** control measure used to minimise these risks.

(2)

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(b) Explain why cotton should be washed before garment manufacture.

(2)

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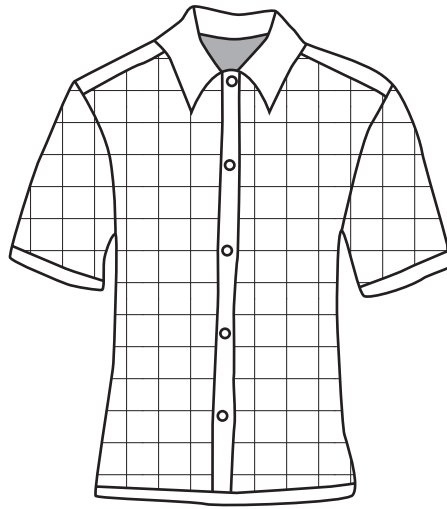
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The image below is of a cotton checked shirt. The buttonholes on the shirt are produced using computer numerically controlled (CNC) machinery.



(c) Give **one** disadvantage of lay planning on checked fabric compared to plain fabric. (1)

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(d) (i) Explain why a minimal tolerance is necessary when placing buttons and inserting buttonholes. (2)

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(ii) Describe **one** benefit of using computer numerically controlled (CNC) machinery when producing buttonholes for a large batch of shirts. (2)

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(iii) Explain **one** reason why the use of computer-integrated manufacture (CIM) benefits the shirt company.

(2)

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\*(e) Reducing transportation is one method of reducing emissions from textile manufacturing.

Discuss other ways that textile manufacturers can reduce emissions.

(6)

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(Total for Question 14 = 19 marks)

**TOTAL FOR PAPER = 80 MARKS**



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