

Write your name here

Surname

Other names

Centre Number

Candidate Number

Edexcel GCSE

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

Wednesday 22 June 2011 – 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.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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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 The diagram below shows a care label symbol.



Which **one** of the following does the diagram show?

- A Iron at a low temperature
- B Iron at a high temperature
- C Do not iron
- D Iron at a medium temperature

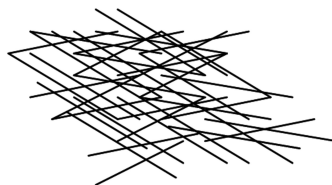
(Total for Question 1 = 1 mark)

2 Which **one** of the following products is mass produced?

- A Tights
- B Summer dress
- C Child's jacket
- D High fashion jumper

(Total for Question 2 = 1 mark)

3 The diagram below shows a web of fibres



Which **one** of the following uses this method of construction?

- A Weaving
- B Weft knitting
- C Felting
- D Warp knitting

(Total for Question 3 = 1 mark)



4 Which **one** of the following relates to cotton fibre?

- A Coarse
- B Itchy
- C Absorbent
- D Crease resistant

(Total for Question 4 = 1 mark)

5 Which **one** of the following do the letters CAM stand for?

- A Communication and manufacture
- B Computer aided manufacture
- C Communication and maintenance
- D Computer assisted monitoring

(Total for Question 5 = 1 mark)

6 At which **one** of the following settings is the gathering stitch on a sewing machine set?

- A The highest number setting of the stitch length
- B The highest number setting of the stitch width
- C The lowest number setting of the stitch length
- D The lowest number setting of the stitch width

(Total for Question 6 = 1 mark)

7 Which **one** of the following fibres is a regenerated cellulosic material?

- A Elastane
- B Polyester
- C Nylon
- D Tencel

(Total for Question 7 = 1 mark)



8 Which **one** of the following pieces of equipment is **not** used in the production of batik?

- A Squeegee
- B Iron
- C Tjanting tool
- D Wax pot

(Total for Question 8 = 1 mark)

9 Which **one** of the following statements does **not** give a benefit to society and the environment by minimising waste?

- A Use only new materials and products
- B Use recycled materials and products
- C Reduce materials and energy
- D Recover energy from waste

(Total for Question 9 = 1 mark)

10 Which **one** of the following does **not** describe a benefit of 3D virtual modelling?

- A Colours can be changed easily
- B The product can be viewed from one angle only
- C The product can be viewed from all directions
- D The product can be viewed in its natural setting

(Total for Question 10 = 1 mark)




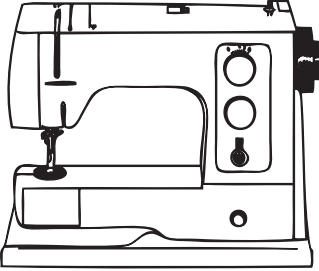
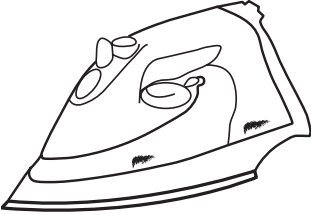
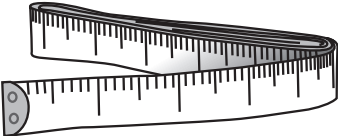
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Turn over for question 11



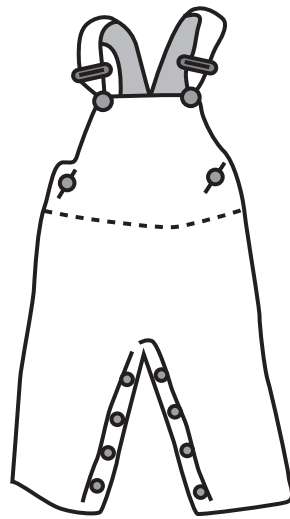
11 (a) The table below shows some tools and equipment.

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

Components/Equipment	Name	Use
	(1)	To open and close a product
	Sewing machine	(1)
	Iron	(1)
	(1)	Measuring



(b) The drawing below shows a child's dungarees made in corduroy fabric.



Give **one** characteristic of corduroy that makes it suitable for the child's dungarees.

For your characteristic, give **one** reason for your answer.

(2)

Characteristic

.....

.....

Reason

.....

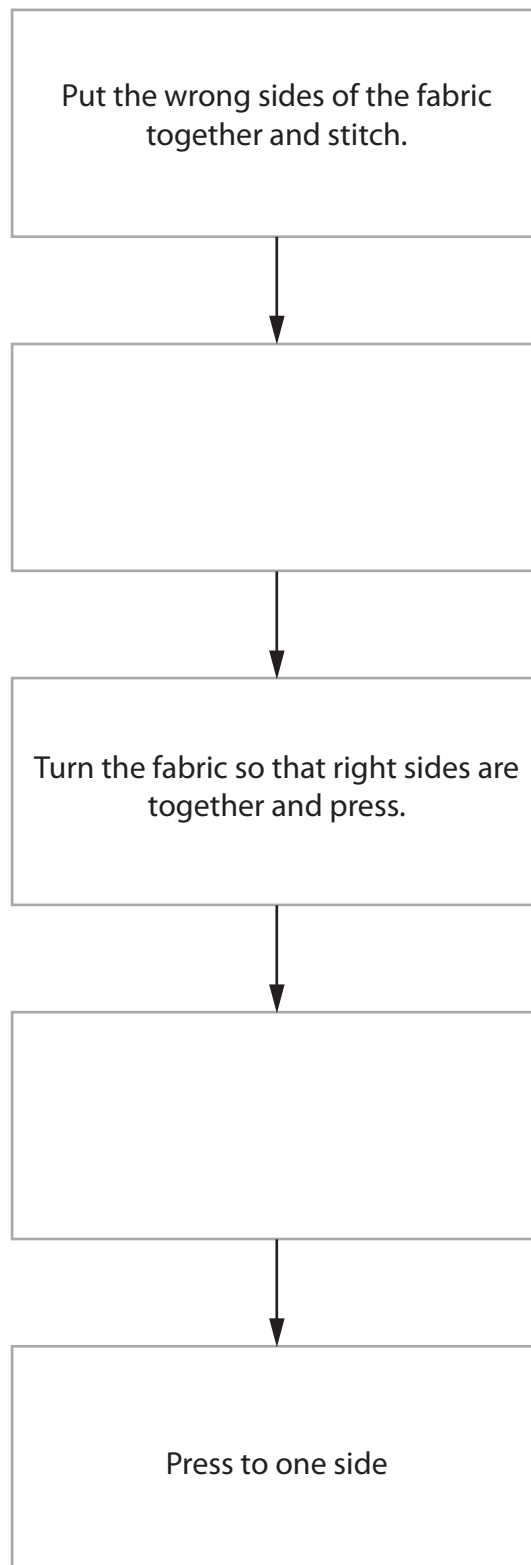
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(c) (i) Complete the block diagram below to show the main stages and correct sequence of the construction of a French seam.

Three stages have been done for you.

(2)



(ii) French seams and plain seams are both suitable construction methods to make a child's garment.

Explain **one** advantage that a French seam has over a plain seam in a child's garment.

(2)

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.....

.....

(d) Bleaching is a chemical finishing process used on fabrics.

Name **two** other chemical finishing processes used on fabrics.

(2)

1

2

(e) Give **two** reasons why quality control is needed in manufacturing.

(2)

1

.....

2

.....



(f) Give **two** reasons why the layplan of a garment made from patterned fabric has to be carefully considered.

(2)

1

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2

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(g) Give **three** benefits of batch production for the manufacturer.

(3)

1

.....

2

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3

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(Total for Question 11 = 19 mark)



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Turn over for question 12



12 A school play has been based on caring for the environment. You have been asked to design a costume for this play.

The specification for the costume is that it must:

- be suitable for 14-16 year olds
- clearly reflect the theme
- be cheap to make
- be safe to wear
- be easy to put on and take off
- use decorative techniques
- consist of two separate garments
- be suitable for one-off production in the classroom.

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

PLEASE DO NOT WRITE OR DRAW IN THIS SPACE.

PLEASE USE THE SPACES OPPOSITE FOR YOUR DESIGNS.



Design idea 1

(8)

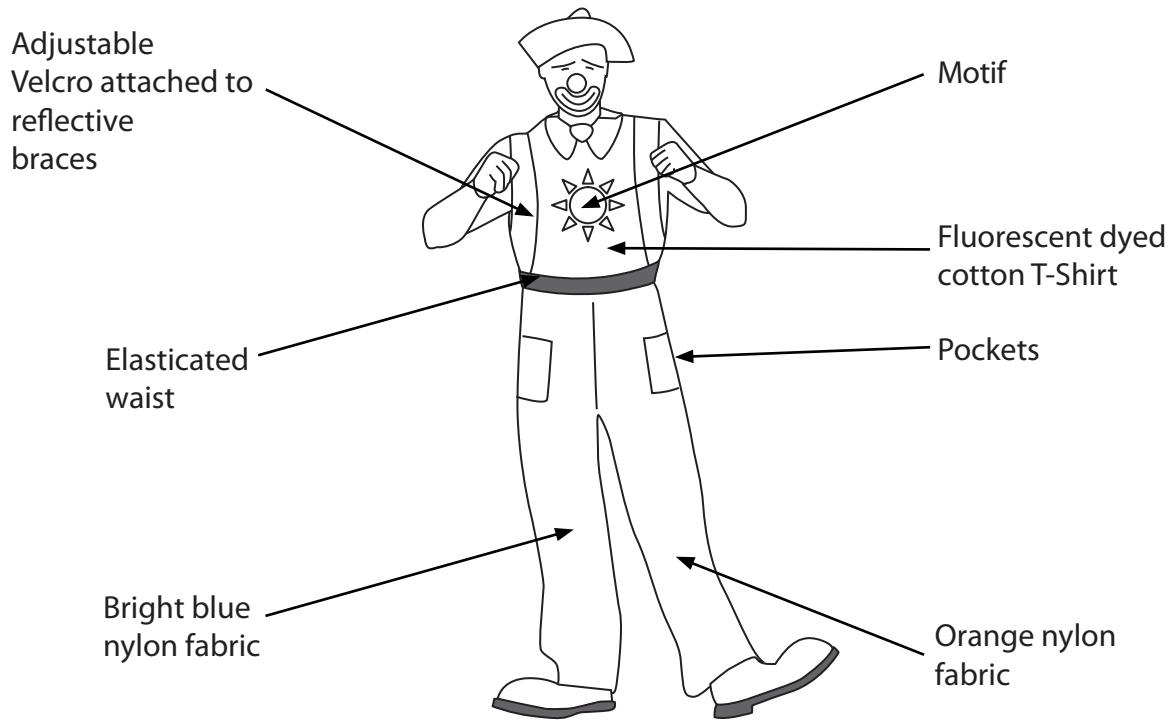
Design idea 2

(8)

(Total for Question 12 = 16 mark)



13 The drawing below shows a fancy dress outfit.



(a) Give **two** properties of nylon that make it a suitable fabric for the trousers.
For each property, justify your answer.

(4)

Property 1

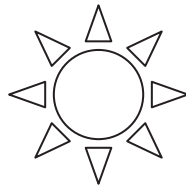
Justification

Property 2

Justification



The motif on the T-shirt has been made by the transfer printing method.



(b) Describe briefly how transfer printing is carried out.

(2)

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(c) Explain why the outfit is successful in meeting the following specification points:

(i) has high visibility

(2)

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(ii) is adjustable.

(2)

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.....



Outfits A and B have been adapted to test which **one** would be the most suitable as a fancy dress product.

Outfit A

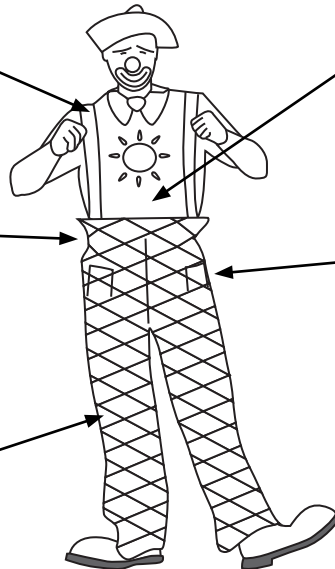
Adjustable
Velcro attached to
reflective
braces

Printed motif on a
cotton T-Shirt

Elasticated
waistband inside

Zipped pockets

Bright multi coloured pattern
cotton fabric



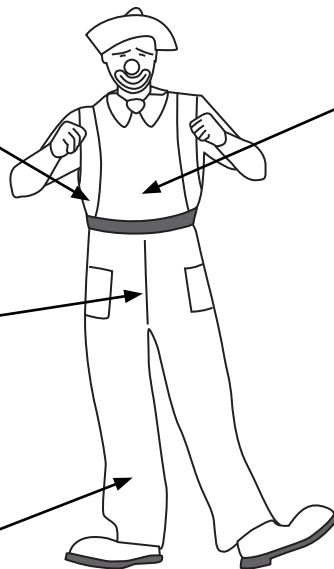
Outfit B

Adjustable button
attached to braces

Dark plain cotton
T-Shirt

Button down fly
opening

Pastel blue nylon fabric



*(d) Evaluate the suitability of Outfit A compared with Outfit B for use at a fancy dress party.

(6)

Dotted lines for writing the answer.

(Total for Question 13 = 16 mark)



14 The drawing below shows a face mask used in the medical profession. It is made of fabric.

The fibres of the mask and the coating on the surface of the mask have been created using nanotechnology.



(a) (i) State how the manufacturer of the mask could use CAD/CAM in the lay planning process.

(1)

.....

.....

(ii) Give **two** reasons why CAD/CAM is used in stock control.

(2)

1

.....

2

.....

(b) Describe how microencapsulation functions in fabric.

(2)

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.....



The dyeing of a product can be carried out at various stages of production.

(c) Explain **one** advantage and **one** disadvantage to the manufacturer of dyeing at **one** of the following stages of production:

- fibre stage
- fabric stage
- garment stage.

(4)

Dyeing stage

Advantage

Disadvantage

(d) Biological finishes are used on cellulose fibres.

Describe the biopolishing process.

(2)



