

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	
TOTAL	



General Certificate of Secondary Education  
June 2011

# Design and Technology: 45701 Textiles Technology

Unit 1 Written Paper

Wednesday 22 June 2011 9.00 am to 11.00 am

**For this paper you must have:**

- a black pen, a pencil, a ruler, an eraser, a pencil sharpener and coloured pencils.

**Time allowed**

- 2 hours

**Instructions**

- Use black ink or black ball-point pen. Use pencil and coloured pencils only for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the 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 120.
- The question in Section A relates to the context referred to in the Preliminary Material that was previously issued.
- You are reminded of the need for good English and clear presentation in your answers. Quality of Written Communication will be assessed in Question 3 (b).



J U N 1 1 4 5 7 0 1 0 1

## Section A

You should answer this question.

Question 1 is about design ideas for a bag.

You should spend about 35 minutes on this question.

### Design Brief

You have been asked to design a bag inspired by Art Deco that will be for sale in an art gallery shop.

The bag must:

- be based on the theme of Art Deco
- include some sustainable materials
- include one or more decorative textile technique.

Here are some images that you could use to help you.



**1 (a)** You have been asked to write a design specification for the bag. An example is given below.

*Example*

Must be based on the theme of Art Deco.

List **two** more points for the design specification.

1 .....

.....

2 .....

.....

(2 marks)

**Question 1 continues on the next page**

**Turn over ►**



**1 (b)** You need to sketch your first design ideas before you develop your final bag design.

**1 (b) (i)** Use a pencil to sketch and label **two** different design ideas based on the design brief.

For each design idea, marks will be given for the following:

- creativity and originality of idea based on Art Deco (3 marks)
- quality of notes and sketches (2 marks)
- use of some sustainable fabrics, components and techniques. (2 marks)

**Design Idea A**

**Design Idea B**



Choose **one** of your design ideas for development.

Tick the box to show the idea you have chosen to develop.

Design Idea **A**

Design Idea **B**

**1 (b) (ii)** Give **two** reasons why your chosen design idea will sell well in the art gallery shop.

1 .....

.....

2 .....

.....

*(2 marks)*

In part **(c)** you will be asked to develop your chosen idea.

**Question 1 continues on the next page**

**Turn over ►**



**1 (c)** Use sketches, labelling and notes to present a final design for your Art Deco bag.

Use this page and the next page to show your design in a presentation drawing.

Marks will be given for:

- use of the Art Deco theme *(2 marks)*
- creativity and quality of the design, including use of decorative techniques *(5 marks)*
- effective use of colour in the bag design *(3 marks)*
- use of some sustainable fabrics and components *(3 marks)*
- presentation of final idea, to show back, front and inside bag. *(2 marks)*



[Empty box for writing]

Question 1 continues on the next page

Turn over ►



**1 (d)** Designers are often asked to modify their designs.

Explain how you can change your design so that the bag is suitable for mass manufacture.

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.....

.....

(2 marks)

<b>35</b>





**Section B**

You should answer **all** questions in this section.

Question 2 is about fibres and fabrics.

You are advised to spend about 20 minutes on this question.

**2 (a)** Study the photograph of the athlete below.



**2 (a) (i)** Identify and explain **three** different pieces of information you would expect to see in the fabric specification for the clothing worn by the athlete.

An example is given below.

<b>Fabric specification</b> The fabric must:	<b>Explanation</b>
<i>Be brightly coloured</i>	<i>To identify each running team</i>
..... .....	..... .....
..... .....	..... .....
..... .....	..... .....

(6 marks)

**Turn over ►**



2 (a) (ii) Give **two** reasons why a 100% cotton fabric is a poor choice of fibre for the clothing worn by the athlete.

1 .....

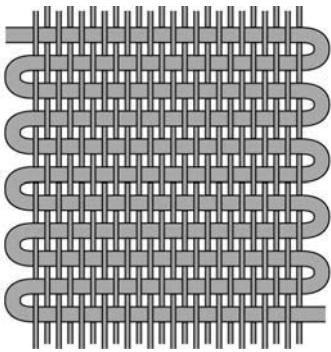
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2 .....

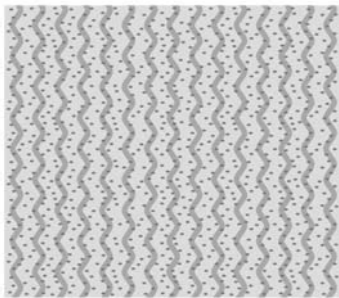
.....

(2 marks)

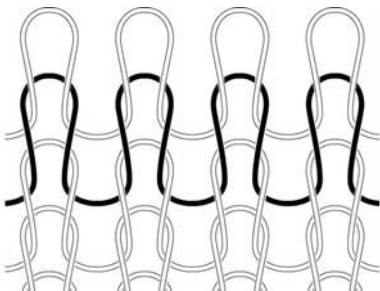
2 (b) (i) Look at the following diagrams.  
Name each type of fabric construction.



Fabric construction A .....



Fabric construction B .....



Fabric construction C .....

(3 marks)



2 (b) (ii) Circle a box below to show which method of fabric construction, A, B or C from part (b) (i), is best for the clothing worn by the athlete.

**A**

**B**

**C**

(1 mark)

2 (b) (iii) Explain why this fabric construction is most suitable.

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

(2 marks)

2 (c) (i) Each year new fabrics are developed by textile companies.

Name and describe a modern fabric which is water or stain resistant.

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.....

(2 marks)

2 (c) (ii) Give one technical reason why this fabric is water or stain resistant.

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.....  
.....

(2 marks)

Turn over for the next question

**18**

Turn over ►

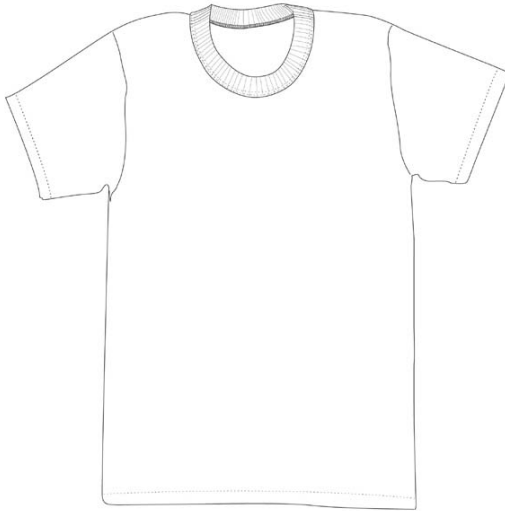


Question 3 is about decorative techniques.

You are advised to spend about 15 minutes on this question.

**3 (a)** Look at the plain white T-Shirt in the drawing below.

The T-Shirt is made from 50% polyester/50% cotton.



**3 (a) (i)** Name a printing method to add a design to the T-Shirt.

.....  
.....

(1 mark)



**3 (a) (ii)** Use notes and diagrams to explain the method of printing you have suggested in part (a) (i).

Marks will be given for:

- a list of equipment needed *(1 mark)*
- step-by-step instructions *(3 marks)*
- quality of notes and sketches. *(2 marks)*

**Turn over ►**



3 (b) Quality of written communication (QWC) will be assessed in this question.

Explain how computer technology could help in the textile industry when designing, colouring and decorating fabric.

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(8 marks)

15



Question 4 is about production methods and manufacturing techniques.

You are advised to spend about 15 minutes on this question.

**4** Production plans are written before a product can be manufactured.

**4 (a) (i)** What is a 'working drawing'?

.....  
.....

(1 mark)

**4 (a) (ii)** Give **three** pieces of information you would expect to find on a working drawing.

1 .....

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2 .....

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3 .....

.....

(3 marks)

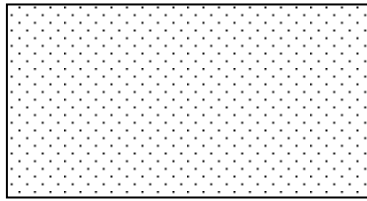
**Question 4 continues on the next page**

**Turn over ►**

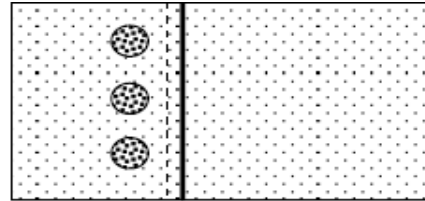



4 (b) (i) The flow chart below shows how to make a simple cushion cover.

**Cushion cover front**

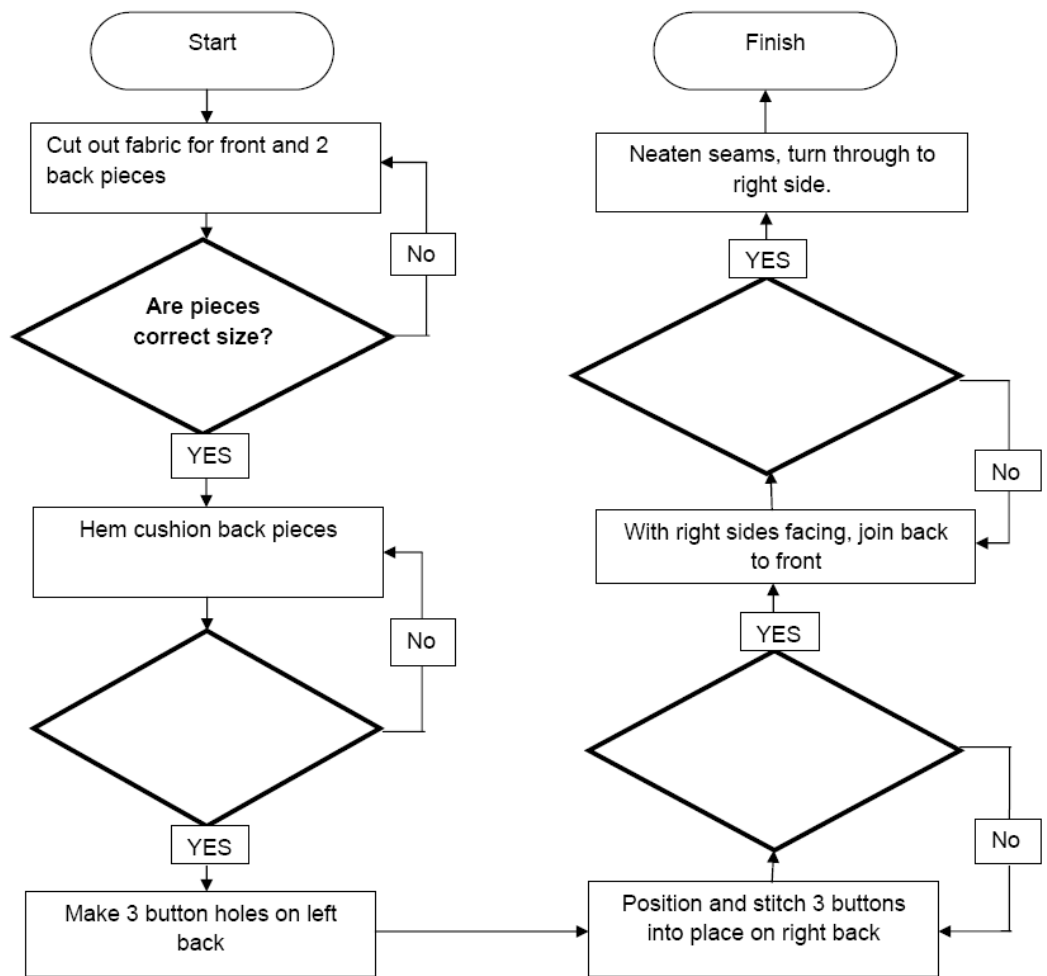


**Cushion cover back**



Complete the flow chart to explain the quality control checks in the  boxes.

The first one has been done for you.



(3 marks)





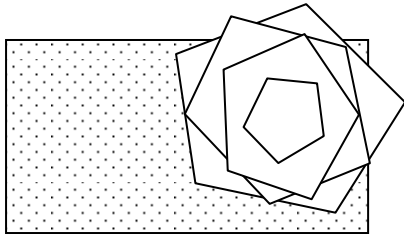
4 (b) (ii) Give **three** different reasons why flow charts are used during product manufacture.

- 1 .....
- .....
- 2 .....
- .....
- 3 .....
- .....

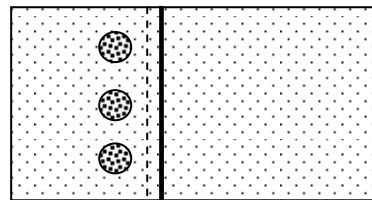
(3 marks)

4 (c) The cushion cover also has a fabric flower attached to the front.

**Cushion cover front**



**Cushion cover back**



The fabric flower is made as a sub-assembly.

Explain what is meant by the term 'sub-assembly'.

- .....
- .....
- .....

(2 marks)

4 (d) List **two** different methods of neatening seams.

Method 1 .....

Method 2 .....

(2 marks)




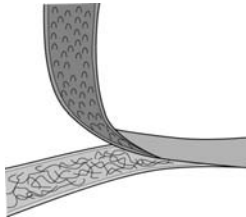
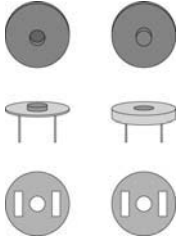
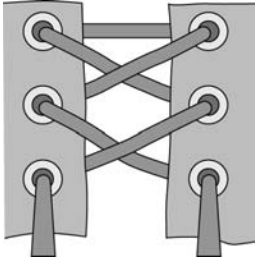
Question 5 is about manufactured components.

You are advised to spend about 15 minutes on this question.

**5** Designers must make sure that they choose suitable and safe components for products when in use.

**5 (a)** The table below shows different types of components used for fastenings.

Complete the table to give the name, advantage and disadvantage of each fastening. Some of the answers have been completed for you.

Type of fastening	Advantage	Disadvantage
 <input type="text"/>	<p><i>Quick and easy to undo</i></p>	<p><i>Can get stuck or jammed if fabric gets caught when fastening</i></p>
 <input type="text"/>	<p><i>Very simple fastening</i></p>	
 <input type="text" value="Magnetic Stud"/>	<p><i>Quick to fasten</i></p>	
 <input type="text" value="Lacing and eyelets"/>		<p><i>Can take a long time to fasten</i></p>

(5 marks)



**5 (b)** Fastenings are one type of component.

List **three** other types of components used when making textile products.

1 .....

2 .....

3 .....

*(3 marks)*

**5 (c) (i)** Describe how electronics can be used in modern textile products.

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*(3 marks)*

**5 (c) (ii)** Explain how the electronic technology you have described in part (c) (i) adds value to modern textile products.

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*(5 marks)*

**Turn over for the next question**

**Turn over ►**



Question 6 is about product design and social, cultural and moral issues.

You are advised to spend about 10 minutes on this question.

**6 (a)** Look at the fashionable coat in the photograph below.

The coat is made from animal fur.



**6 (a) (i)** Explain why some people are against the use of this type of material.

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(3 marks)

**6 (a) (ii)** Name a synthetic material which could be used to give a similar fur effect.

.....

(1 mark)



6 (b) Designers research existing products to get ideas for new designs.

Look at the clothing shown below made for wearing in cold conditions.



6 (b) (i) Identify and give **three** different reasons why this clothing is suitable for wearing in cold conditions.

Reason 1 .....

.....

Reason 2 .....

.....

Reason 3 .....

.....

(6 marks)

Question 6 continues on the next page

Turn over ►



**6 (b) (ii)** Look at the photograph on page 21. Give **three** different ideas a designer could take from this clothing when designing a new product.

Idea 1 .....

.....

Idea 2 .....

.....

Idea 3 .....

.....

(3 marks)

<b>13</b>



Question 7 is about Health and Safety.

You are advised to spend about 10 minutes on this question.

**7** Study the photograph of the textile factory worker. Answer the following questions.



**7 (a)** The textile factory worker in the photograph above is wearing ear defenders and a face mask.

Give **one** reason why these items are worn.

Ear defenders .....

Face mask .....

(2 marks)

**Question 7 continues on the next page**

**Turn over ►**



**7 (b)** Explain what is meant by the term 'risk assessment'.

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(2 marks)

**7 (c) (i)** Describe the dangers of working on an industrial sewing machine.

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(3 marks)

**7 (c) (ii)** List **two** safety measures that are used to help prevent injury to the sewing machinist.

Safety measure 1 .....

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.....

Safety measure 2 .....

.....

.....

(2 marks)

9

**END OF QUESTIONS**

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