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Oxford Cambridge and RSA

Tuesday 23 May 2017 – Morning**GCSE DESIGN AND TECHNOLOGY****Textiles Technology****A575/01** Sustainability and Technical Aspects of Designing and Making

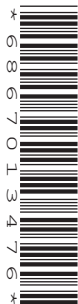
Candidates answer on the Question Paper.

OCR supplied materials:

None

Other materials required:

None

Duration: 1 hour 30 minutes

Candidate forename						Candidate surname					
Centre number						Candidate number					

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. If additional space is required, you should use the lined pages at the end of this booklet. The question number(s) must be clearly shown.
- Answer **all** the questions in Section A **and** Section B.
- Do **not** write in the barcodes.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **80**.
- Your quality of written communication is assessed in the questions marked with an asterisk (*).
- This document consists of **16** pages. Any blank pages are indicated.

SECTION A

Answer **all** the questions.

You are advised to spend about 40 minutes on this section.

On questions 1–5 **circle** your answer.

- 1 Photochromic ink changes colour with:
- (a) Light
 - (b) Heat
 - (c) Water
 - (d) Power
- [1]
- 2 Batch production is about producing:
- (a) Large quantities of garments
 - (b) Fixed quantities of garments
 - (c) Continuous quantities of garments
 - (d) Individual one-off garments
- [1]
- 3 Which of the following is **not** a source of sustainable raw materials?
- (a) Silk cocoon
 - (b) Cotton plantation
 - (c) Coal mine
 - (d) Flock of sheep
- [1]
- 4 Built-in obsolescence refers to when a product:
- (a) Fails after a certain time period
 - (b) Needs repairing
 - (c) Is passed to a charity shop
 - (d) Needs to be recycled
- [1]

3

5 The measures taken by a company to reduce its carbon footprint are termed:

- (a) Risk assessment
- (b) Carbon resetting
- (c) Carbon assessment
- (d) Carbon offsetting

[1]

6 State the term that means a product is designed to minimise its environmental impact.

..... [1]

7 Name the type of recycling that involves the breakdown of fibres from a product.

..... [1]

8 What is the correct term given to the symbol shown below?



..... [1]

9 Smart labelling refers to:

..... [1]

10 Complete the following to give the meaning of the abbreviation LCA.

L C Assessment [1]

4

Decide whether the following statements below are **True** or **False**.

Tick (✓) the box to show your answer.

- | | True | False | |
|---|--------------------------|--------------------------|-----|
| 11 Cotton woven fabrics are environmentally friendly. | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 12 Plastic bottles cannot be recycled. | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 13 A managed resource ensures that as a plant is harvested, a replacement is planted. | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 14 All dyeing processes produce toxic waste. | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 15 Smart materials can sense and react to environmental conditions. | <input type="checkbox"/> | <input type="checkbox"/> | [1] |

5

16 Fig. 1 shows an outdoor chair with fabric cushion seating.

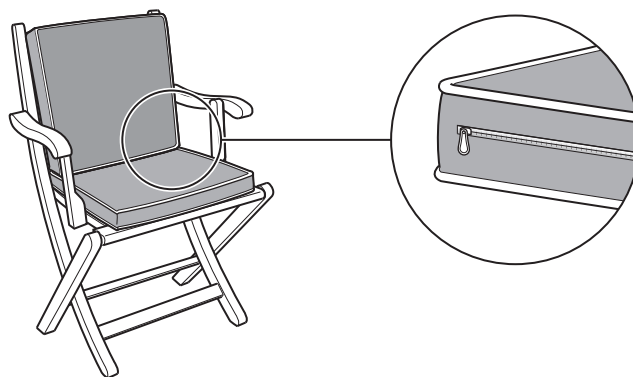


Fig. 1

(a) The fabric cushion seating is both functional and aesthetic.

(i) State **two** functional design features of the fabric cushion seating.

1

2 [2]

(ii) State **two** aesthetic design features of the fabric cushion seating.

1

2 [2]

(b) The fabric cushion seating is to be sold with a Fairtrade label attached.

Give **two** reasons why a consumer chooses to buy Fairtrade products.

1

.....

2

..... [2]

(c) The fabric cushion seating is to be manufactured in a factory that uses renewable energy sources.

Name **two** renewable energy sources.

1

.....

2

..... [2]

6

- (d) The fabric cushion seating is to be updated to appeal to the teenage market. In the space below, use sketches and notes to show a design for the new fabric cushion seating.

The fabric cushion seating must be:

- Easy to carry and store when not in use
- Decorative, to include at least **one** surface pattern.

Annotate your sketch to show all design and construction details.

[6]

(e)* Customers often tire of textile products before they reach the end of their life span.

Discuss ways in which textile products can be given a new lease of life.

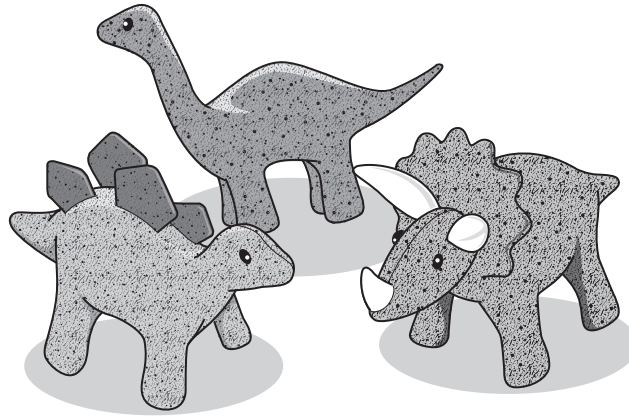
[6]

8

SECTION BAnswer **all** the questions.

You are advised to spend 50 minutes on this section.

- 17 Fig. 2 shows some toys made from woollen felt fabric.

**Fig. 2**

- (a) Using notes and/or sketches, explain how woollen felt fabrics are made.

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[3]

9

- (b) The felt toys are made using a sewing machine.

Fig. 3 shows an incorrect sewing machine stitch.

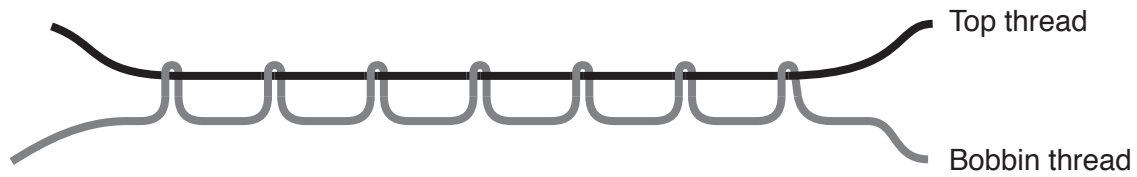


Fig. 3

Give **one** reason for the faulty stitching shown in Fig. 3.

.....

.....

[1]

- (c) Name **two** other tools or pieces of equipment needed to make the felt toys.

1

2

[2]

- (d) Describe **three** electrical safety checks that should be carried out before using a sewing machine.

1

.....

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2

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3

.....

.....

[3]

(e)* Explain the **advantages** of using non-woven fabrics, like felt, when manufacturing textile products.

..... [6]

11

18 Fig. 4 shows a jacket decorated using batik.



Fig. 4

(a) Describe, using notes and/or diagrams, how to work batik.

[6]

(b) Explain **two** advantages of using the batch production system to manufacture the batik jacket.

1

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2

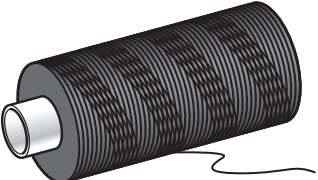
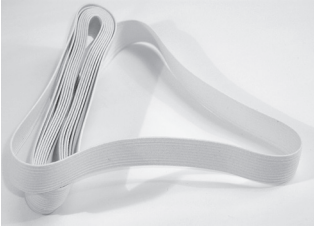
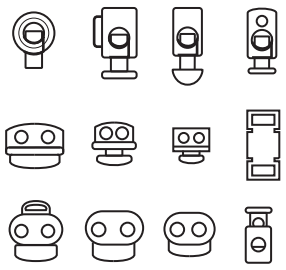
.....

.....

[4]

(c) Pre-manufactured components are used to make the jacket.

Complete the chart below by naming the pre-manufactured components shown.

Pre-manufactured Component	Name
	
	
	

[3]

(d) Give **two** pieces of information you would expect to find on a label in the batik jacket.

1

2

[2]

- 19** A pre-school requires a set of aprons for the children to wear when taking part in craft activities.

The apron must:

- include the pre-school's logo, worked using a computerised sewing machine
- protect the children's clothes
- be easy to put on and take off
- be suitable for children aged 18 months to 3 years.

- (a)** In the space below, sketch a design for the apron.

Annotate your sketch to show all design and construction details.

[6]

14

- (b) The pre-school logo will be stitched onto each apron using a computerised sewing machine.

Complete the table below to outline this process.

Stage	Method
Preparing the machine	
Preparing the fabric	
Working	
Finishing	
Quality check	

[5]

- (c) Give **two** examples of how microencapsulation can be used in textile products.

Example 1

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Example 2

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[4]

This image shows a blank sheet of white paper designed for writing. It features a series of evenly spaced horizontal blue lines across its entire width. A single vertical blue line runs down the left side, creating a narrow margin. The paper is otherwise empty, with no text or markings.

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