Surname	Centre Number	Candidate Number
First name(s)		0

GCSE

3602U10-1

S23-3602U10-1

MONDAY, 19 JUNE 2023 – MORNING

DESIGN AND TECHNOLOGY

Unit 1
FASHION AND TEXTILES

2 hours

For Examiner's use only		
Question	**Maximum Mark**	**Mark Awarded**
1.	**10**	
2.	**10**	
3.	**15**	
4.	**20**	
5.	**20**	
6.	**25**	
Total	**100**	

3602U101
01

ADDITIONAL MATERIALS

In addition to this examination paper, you will need a calculator.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen.

Write your name, centre number and candidate number in the spaces at the top of this page.

Answer **all** questions.

Write your answers in the spaces provided in this booklet. If you run out of space, use the continuation page at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question. You are advised to divide your time accordingly.

The total number of marks available is 100.

You are reminded of the need for good English and orderly, clear presentation in your answers.

The quality of your written communication, including appropriate use of punctuation and grammar, will be assessed in your answer to question **4**(d).

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Answer **all** questions.

1. Textile fibres come from a variety of sources.

(a) (i) State the fibre that comes from **each** source pictured below: 3 × [1]

Name of fibre:	Name of fibre:	Name of fibre: .....

(ii) Describe the environmental benefits that all the fibres featured above have in common. [3]

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(b) Bamboo fibre is increasingly used in the manufacture of clothing.
State **one** property of bamboo and explain what makes it suitable for clothes.

Property: ..... [1]

Explanation: .....

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..... [2]

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(c) Fibres are spun in different ways to make them into useable yarns.
Underline the correct name for the textured yarn shown below: [1]

chenille / bouclé

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2. Fashion and textile products are manufactured using different scales of production.

(a) (i) Explain why the products shown below would be manufactured using the stated scale of production.

Product	Scale of production
Thermal cool bag	Batch production: .... [2]
T-shirt	Mass production: .... [2]

(ii) Standard stock components are used in the manufacture of fashion and textile products. Explain why this is beneficial to the manufacturer. [2]

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(b) The thermal cool bag was designed with the needs and wants of the users taken into consideration.

Explain how the bag meets the functional requirements of the user. [4]

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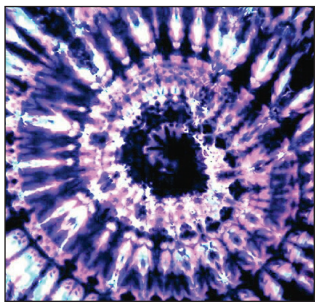
3. Fashion and textile products can be embellished using a variety of techniques and processes.

(a) Complete the table below by briefly explaining the following processes.

Tie and dye 	Explanation: .... [2]
Stencilling	Explanation: .... [2]

(b) The make-up bag shown below has a 'sheep' appliqué design on the front.

(i) Before stitching the sheep appliqué design in place on the make-up bag, the fabric for the sheep would have been reinforced.
Explain why this is necessary. [3]

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(ii) Appliqué and patchwork are highly creative forms of embellishing textile products and are an effective means of reducing waste.

Discuss this statement with reference to the environmental benefits. [4]

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(c) The Laura Ashley Company is renowned for co-ordinated ranges of print fabrics for the home.

Explain what the term 'co-ordinated' means with reference to Laura Ashley's furnishing fabrics. [4]

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4. The polyester fleece gilet shown below is suitable for use in cooler months. The fleece fabric has been made from recycled plastic bottles.

Close-up of blue bound edge

(a) (i) The neckline, armholes and front edge have a contrasting blue binding to finish the edges of the fleece gilet, as shown above.

Explain why this is a suitable finish for the fleece fabric. [2]

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(ii) Using notes and sketches, show how a binding could be attached to the edge of the fabric. [3]
Note: a simple annotated cross section could be used.

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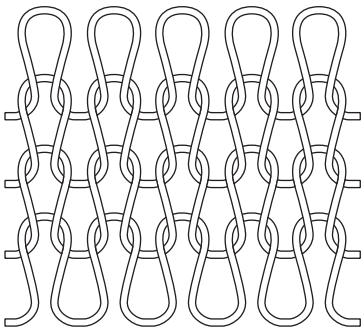
(b) The fleece fabric is a knitted construction.

(i) State the type of knitted construction shown in the diagram below. [1]



Knitted construction type: .....

(ii) Describe, in detail, **two** advantages to the user of wearing a gilet made from the knitted fabric.

Advantage 1: .....

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..... [2]

Advantage 2: .....

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(c) The fleece fabric used for the gilet has a brushed finish. Evaluate the effect of brushing the fleece and why it would support the function of the gilet. [5]

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(d) An average of twenty plastic bottles were recycled to make enough fleece for the gilet. Analyse the environmental impact of the fleece gilet during its life cycle. [5]
Marks will be awarded for the content of the answer and the quality of written communication.

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5. The colour palette shown below was inspired by nature.

(a) (i) Underline the correct term for taking inspiration from nature. [1]

biometrics biomimicry biodiversity

(ii) Name **two** other sources designers could use to gain inspiration. 2 × [1]

Source 1: .....

Source 2: .....

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(iii) The print on the dress below, inspired by nature, has been digitally printed.

Explain why a designer might find digitally printing fabric a more effective process when developing ideas for new prints. [3]

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(b) The fastening known as Velcro was inspired by nature. Analyse the effectiveness of Velcro as a fastening when used in fashion and textiles products. [5]

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(c) Nature has been the inspiration for many technical textile fabrics such as Gortex.

(i) Label the diagram below, by using the descriptors from the list provided, to show how the Gortex system works. [4]

- Hydrophilic membrane
- Wind and rain are repelled
- Water vapour (sweat) can pass through
- External fabric

(ii) Evaluate the benefits to the user of wearing clothing made from technical high-performance fabrics such as Gortex. [5]

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6. Study the picture below which shows a young girl's summer dress.

(a) (i) Underline the correct term from the lists provided for each of the style details labelled **A** and **B**. 2 × [1]

Style detail **A**:	boat neckline	round neckline	U neckline
Style detail **B**:	sleeveless	cap sleeve	short sleeve

(ii) A series of small pleats have been placed on the waist of the dress. Explain the purpose of the pleats. [2]

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(iii) Using notes and a sketch, explain how a pleat is formed. [3]

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(iv) Describe a suitable method for finishing the hemline. [2]

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(b) The designer has decided to enhance the flower print on the bodice of the summer dress, by machine embroidering over it using thermochromic threads.

(i) Complete the following sentence: 2 × [1]

Thermochromic dyes change ..... in response to a

.....

(ii) Describe a functional reason for using thermochromic threads on the dress. [2]

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(iii) The cotton fabric for the dress has a mercerised finish. Discuss the process of mercerisation and how it affects the aesthetic qualities of the fabric. [3]

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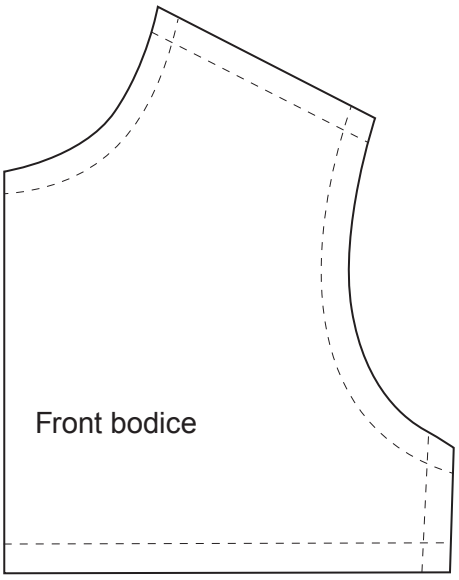
(c) The front bodice template for the summer dress is shown below.



(i) On the diagram above, draw the pattern mark in the correct position to indicate that the template needs to be cut on the fold. 2 × [1]

Marks will be awarded for the correct pattern mark and the correct placement of the mark.

(ii) Explain the purpose of the broken lines as indicated on the template. [2]

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(d) During the iterative process, designers produce a number of toiles for a new product. Explain the significance of this process when developing the girls' summer dress. [5]

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END OF PAPER

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