



GCSE

3602U10-1

TUESDAY, 18 JUNE 2024 – MORNING

DESIGN AND TECHNOLOGY

Unit 1

FASHION AND TEXTILES

2 hours plus your additional time allowance

Surname _____

First name(s) _____

Centre Number _____

Candidate Number 0 _____

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

ADDITIONAL MATERIALS

A calculator.

INSTRUCTIONS TO CANDIDATES

Use black ink, black ball-point pen or your usual method.

Write your name, centre number and candidate number in the spaces provided on the front cover.

Answer ALL questions.

Additional space is provided for some questions within the booklet (if required). If further space is required for any question, you should use the lined page(s) at the end of this booklet. The question number(s) should be clearly shown.

(Turn over)

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 necessity for good English and orderly 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(b)(ii).

Answer ALL questions.

1. Weaving is one method of constructing textile materials.

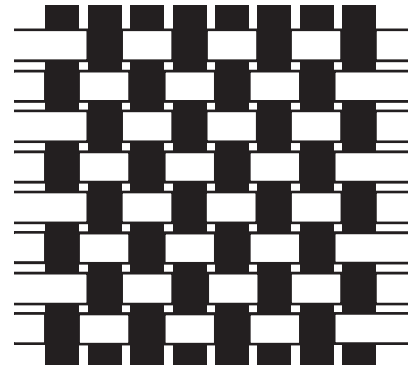
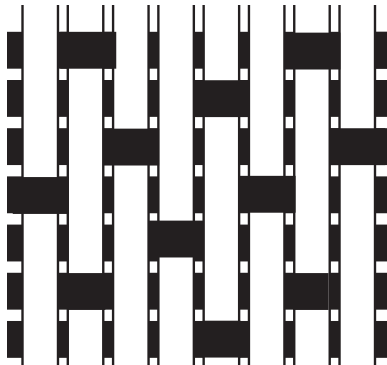
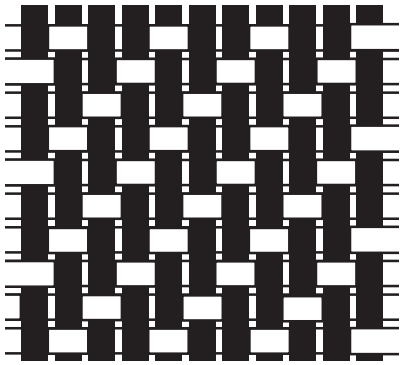
(a) (i) Select the correct name from the list below for each of the weave formations shown. 3 × [1 mark]

satin

herringbone

twill

plain



1 (a) (ii)

The party dress below has been made from a velvet material which has a pile weave construction.



Explain how a pile weave differs from the three weave formations pictured in (i). [2 marks]

(Turn over)

1 (b) (i)

When cutting out the party dress, all the template pieces are laid out in the same direction. Explain the importance of following this rule when using velvet material. [3 marks]

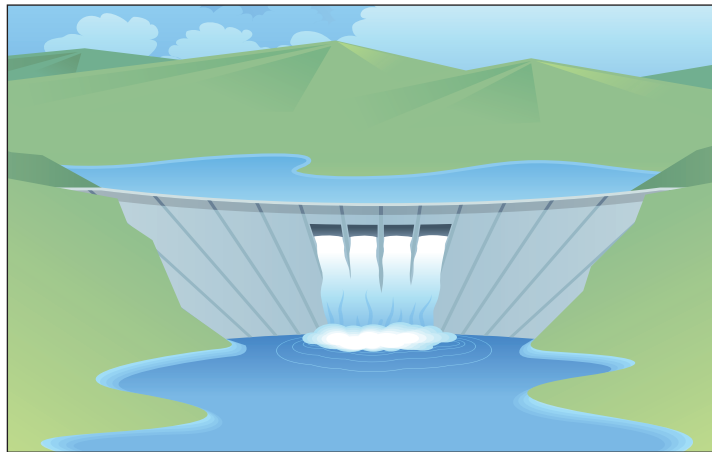
(ii) Describe ONE reason for choosing to use a velvet fabric for the party dress. [2 marks]

(Turn over)

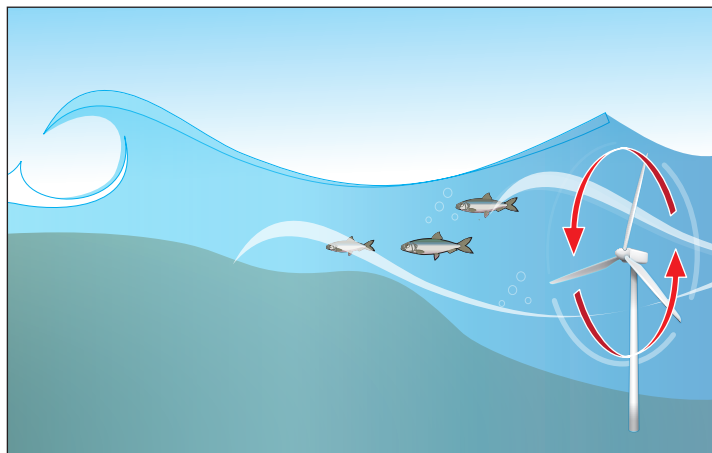
2. Fashion and textile manufacturers can reduce the industry's carbon footprint by adopting more sustainable ways of producing products.

(a) (i) Name the TWO different renewable energy sources indicated by the pictures below that could help reduce the industry's carbon footprint.

2 × [1 mark]



Source 1: _____



Source 2: _____

(Turn over)

2 (a) (ii)

Describe ONE disadvantage associated with the use of wind turbines as a sustainable way of producing energy. [1 mark]



(Turn over)

2 (b) Globalisation allows fashion and textile manufacturers to trade and operate on an international scale.

(i) Explain how globalisation has contributed to the increase in the fashion and textile industry's carbon footprint. [3 marks]

2 (b) (ii)

Describe TWO different examples of how manufacturers could operate more sustainably on a global scale, which would also help reduce the industry's carbon footprint.

Example 1: _____

_____ [2 marks]

Example 2: _____

_____ [2 marks]

3. Interactive and smart fibres and fabrics are used throughout fashion and textiles.

(a) Place a tick (✓) in the table below to indicate which statements are true or false. 3 × [1 mark]

Statement	True	False
Thermochromic fabrics respond to changes in light.		
SMA is the abbreviated term for shape memory alloy.		
Polymorph is a thermoplastic that can only be heated and set once.		

(b) (i) Explain what is meant by the term 'micro-encapsulation.' [2 marks]

(Turn over)

3 (b) (ii)

Explain how a micro-encapsulated fabric could be beneficial to a user in the following situations:

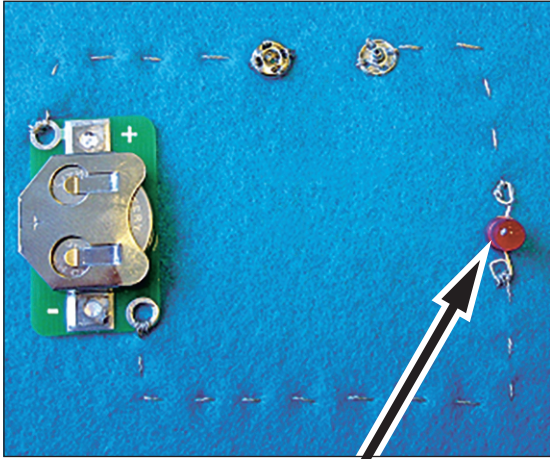
Dry skin condition for example, eczema

[2 marks]

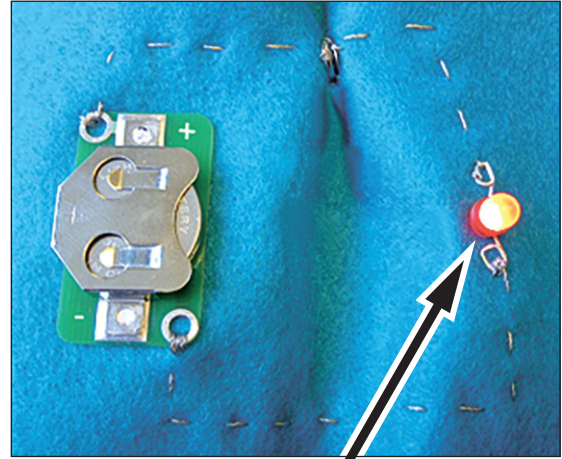
Medical dressings

[2 marks]

3 (c) The picture below shows a simple electronic circuit integrated into a textile material.



LED off



LED on

(i) Explain the function and significance of the thread and snap fasteners in this circuit. [3 marks]

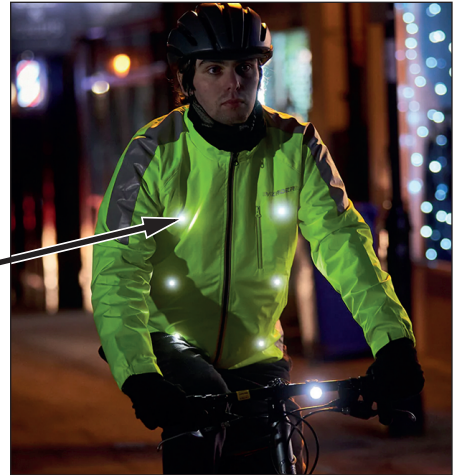
(Turn over)

3 (c) (ii)

The hi-vis jackets worn by the cyclists shown below have LEDs (light emitting diodes) integrated onto the front and back panels.



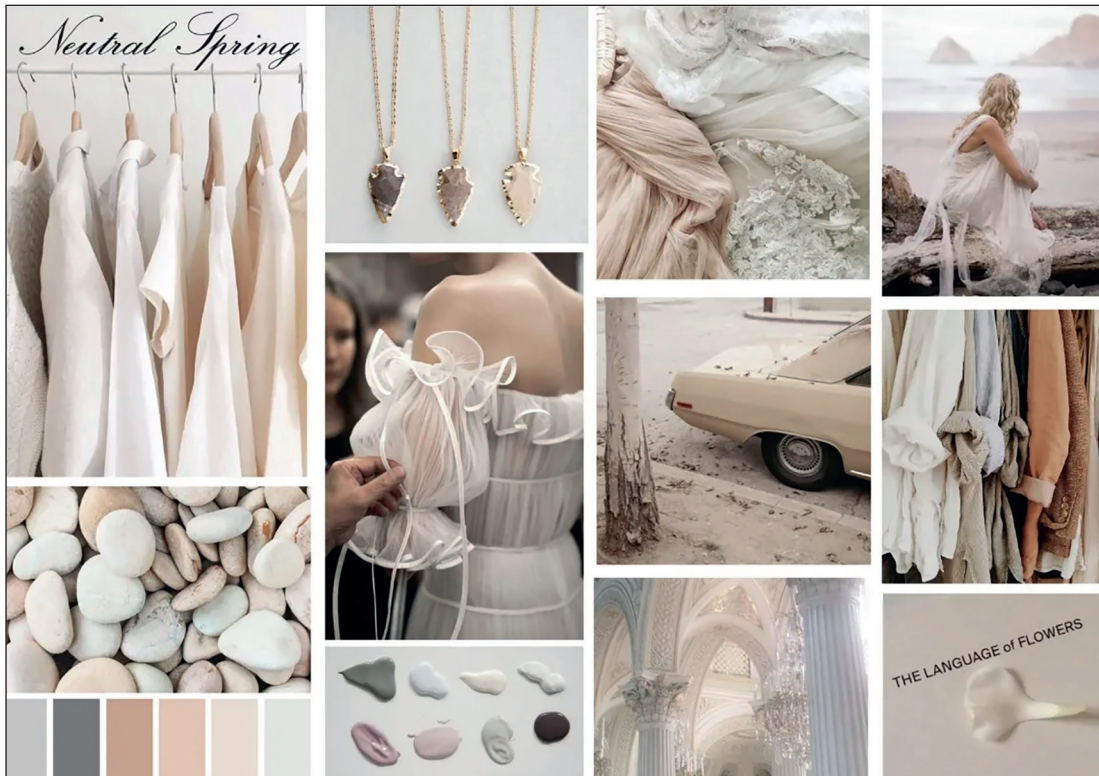
LEDs
(light emitting diodes)



(iii) Explain how the LEDs improve the functionality of the hi-vis jackets. [3 marks]

4. The fashion industry impacts people's lives and the environment in different ways.

(a) (i) Explain why a designer might compile a mood board like the one pictured below. [2 marks]



(Turn over)

4 (a) (ii)

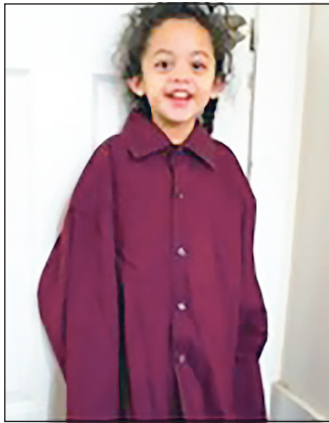
Explain the role of fashion forecasters in supporting fashion designers. [2 marks]

(iii) Explain what is meant by the term 'contemporary fashion'. [2 marks]





- 4 (c) **Upcycling garments as shown below, is one way of reducing fabric waste and extending the life of fashion and textile products.**



Before



After

In the space on the next page, draw an annotated sketch for a different idea for upcycling a man's shirt. [4 marks]

**Note: Include some key style details from the shirt on the upcycled design.
(The new design does not have to be clothing.)**

5. The product below is an environmentally-friendly hemp beach bag with an organic cotton lining.



- (a) (i) Explain why hemp is a suitable material for the beach bag. [2 marks]

5 (a) (ii)

Explain why lining the bag improves its functionality. [2 marks]

(iii) Explain how anthropometric data would have been used in the design of the beach bag. [2 marks]

- 5 (b) Appliqué has been used to apply the flower design to the front of the bag.**

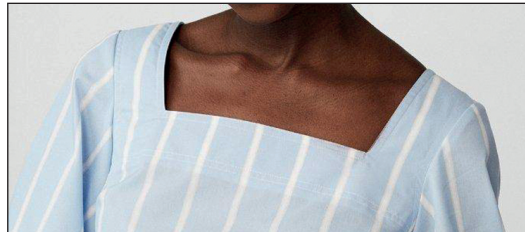
Using notes and sketches below and on the next page, describe the process of appliqué in stages that could be followed to apply the design to the beach bag. [4 marks]

6. A variety of processes and machinery are used to construct fashion and textile products.

(a) The neckline of the summer top pictured below has been finished using a facing.



Dart



Faced neckline



Gathered sleeve

(i) Explain why a facing is the most suitable method of finishing the edge of this neckline. [3 marks]

(Turn over)

6 (a) (ii)

Give ONE detailed reason why interfacing would have been used on the facing when constructing the top. [2 marks]

6 (a) (iii)

The edge of the sleeve has been gathered into a cuff. Using notes and sketches, explain how to gather the edge of the fabric before attaching it to the cuff. [4 marks]

6 (a) (iv)

Pattern markings were followed when cutting out the summer top. Explain the meaning of the pattern marks when found on the named pattern templates and why each must be followed.

PATTERN MARKING



EXPLANATION

Front template:

[2 marks]

(Turn over)

PATTERN MARKING



EXPLANATION

Back template:

[2 marks]

(Turn over)

6 (a) (v)

Explain the purpose of a dart when used on a summer top like the one pictured. [2 marks]

(b) (i) The summer top is made from a linen fabric. Describe the properties of linen that make it suitable for the summer top. [3 marks]

(Turn over)

6 (b) (ii)

Describe ONE disadvantage of using linen for the summer top. [1 mark]

(c) (i) In industry an overlocker would be used in the construction of the summer top. Explain what the overlocker would be used for and why. [3 marks]

6 (c) (ii)

Justify the use of batch production to manufacture the summer top. [3 marks]

END OF PAPER

(Turn over)

