

Surname	Centre Number	Candidate Number
First name(s)		2



GCE AS

B601U10-1



MONDAY, 15 MAY 2023 – AFTERNOON

DESIGN AND TECHNOLOGY – AS component 1
Fashion and Textiles

2 hours 30 minutes

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	8	
2.	13	
3.	8	
4.	14	
5.	10	
6.	5	
7.	12	
8.	9	
9.	9	
10.	12	
Total	100	

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ADDITIONAL MATERIALS

You will need a ruler and 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(s) at the back of the booklet, taking care to number the question(s) correctly.

INFORMATION FOR CANDIDATES

When and where appropriate, answers should be amplified and illustrated with sketches and/or diagrams.

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 number of marks available is 100.

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

You may use a calculator in this examination.

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Answer **all** questions.

1. The trousers shown below are made from Gore-Tex.



- (a) Using notes and a diagram, explain how a breathable membrane (Gore-Tex) works. [6]

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- (b) Describe **one** advantage to the user of wearing trousers made from Gore-Tex. [2]

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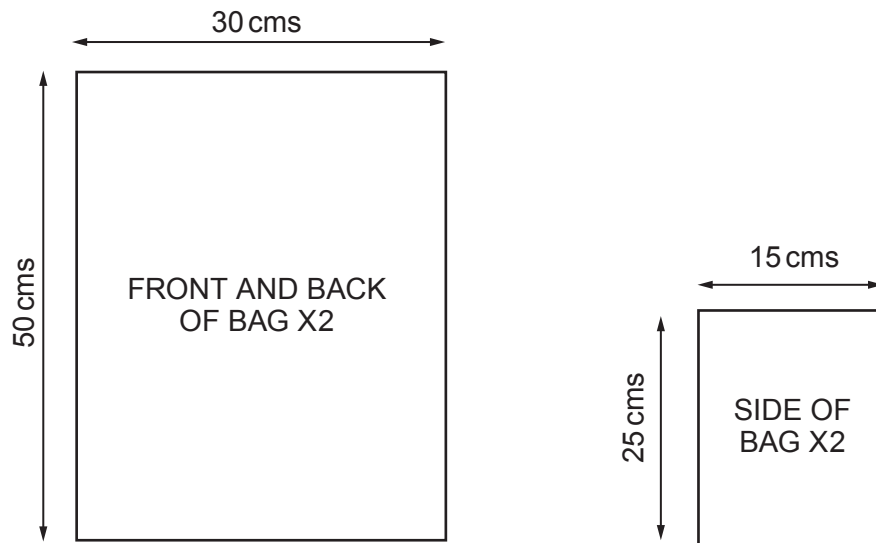
2. Advances in CAD/CAM technology have given rise to alternative methods of designing and manufacturing textile products.

- (a) The bag shown below has been digitally printed. Describe the advantages to the designer of using a digital printer to create pattern on material like the one shown. [4]



- (b) The digitally printed bag has been mass produced. Discuss the quality checks it would go through before going on sale. [4]

- (c) The front, back and sides of the bag are to be digitally printed.



- (i) Calculate the total surface area of the bag to be digitally printed. [2]

Show all calculations.

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- (ii) 100 ml of ink will cover an area of 700 cm^2 . Each 100 ml of ink cartridge costs £3.50. Calculate how much ink is needed to print the bag and the total cost of printing. [3]

Show all calculations.

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3. The denim jacket pictured below has been constructed using flat fell seams.



- (a) Using notes and sketches explain how you would construct and sew a flat fell seam. [4]

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- (b) The denim jacket has machine embroidered detail. Appliqué could also have been used as a decorative technique. Explain why the manufacturer might have used machine embroidery instead of appliqué. [4]

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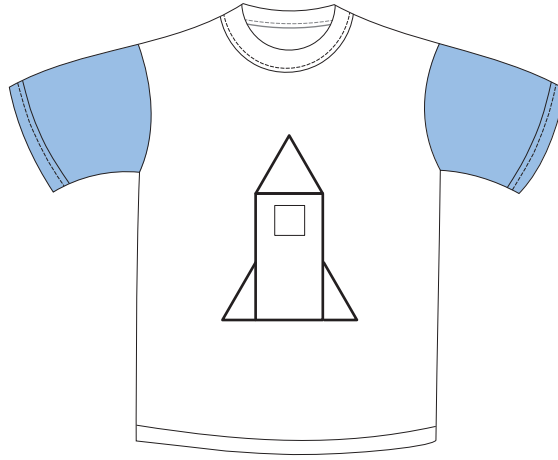
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4. A manufacturer is making a batch of 4000 tops.



- (a) Bias binding has been used around the neck and the sleeves. Describe **two** reasons why bias binding has been used. [4]

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- (b) It takes 1 metre of white fabric at £11.50 per metre and 0.25 metre of blue fabric at £12.00 per metre to make one top.

- (i) Calculate the total cost of fabric needed to make a batch of 4000 tops. [3]

Show all calculations.

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- (ii) The bias binding for the sleeves and neckline costs 75p for each top. Calculate the percentage increase to the nearest whole number in the cost of materials for the batch of 4000 tops when the bias binding is added. [2]

Show all calculations.

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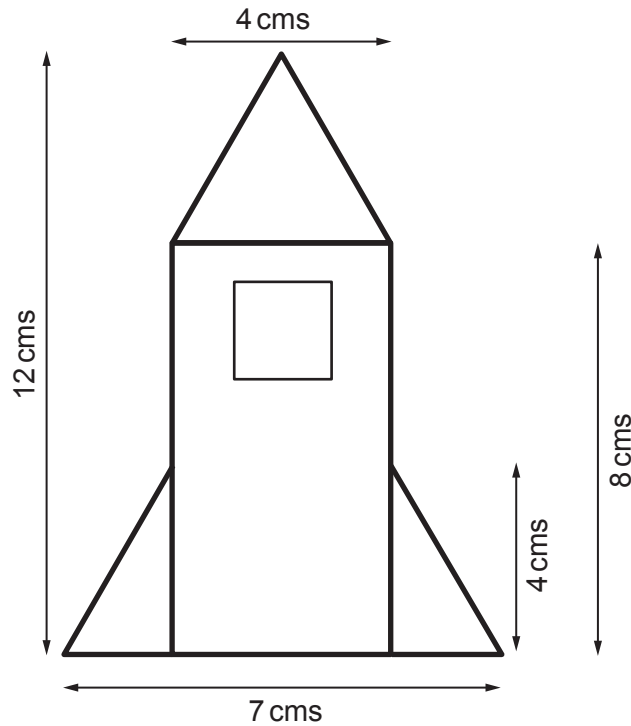
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- (c) The whole area of the rocket is embroidered onto the front of the top. The embroidery uses 80 mm of thread for every 10 mm stitched.

Calculate how much thread is needed to stitch the rocket shown in the diagram.

[5]



Show all calculations.

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5. The skirt shown below has been made from satin weave polyester which has been cut out on the bias.



- (a) Explain what is meant by cutting the material on the 'bias' and give the reason for this.

[5]

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- (b) Discuss the use of a satin weave polyester for the skirt shown above.

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6. A design specification will include measurable performance criteria to ensure a successful product.

Describe the importance of including measurable performance criteria in a design specification.

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Include specific examples in your answer.

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7. A designer might use reverse engineering/disassembly as part of the iterative process of design.

(a) Analyse the benefits of reverse engineering/disassembly to the designer.

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(b) Evaluate the use of secondary research when analysing existing products.

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8. Designers are now expected to produce eco-friendly products that are morally and ethically acceptable.

Analyse the ethical and sustainable factors that designers and manufacturers should consider when producing a new product. [9]

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9. Finishes are often applied to fabrics to ensure they are fit for purpose.

Evaluate the use of different mechanical finishes that are applied to fabrics to enhance their aesthetic qualities.

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10. Designers use anthropometric and ergonomic data to ensure that a product is comfortable and safe for use.



Explain how anthropometric and ergonomic data is used when designing a life jacket.

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END OF PAPER

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