

Surname	Centre Number	Candidate Number
Other Names		0



GCSE

4131/01



DESIGN AND TECHNOLOGY

UNIT 1

FOCUS AREA: Textile Technology

WEDNESDAY, 23 MAY 2018 – MORNING

2 hours

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
Section A	1.	15
	2.	10
	3.	10
	4.	25
Section B	5.	10
	6.	15
	7.	20
	8.	15
Total	120	

ADDITIONAL MATERIALS

You will need basic drawing equipment, coloured pencils and a calculator for this examination.

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. Where the space is not sufficient for your answer, continue at the back of the booklet, taking care to number the continuation correctly.

You are reminded of the necessity for good English and orderly presentation in your answers.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

Section A

Marked out of 60 60 minutes

1. This question is about Product Analysis. It is worth a total of 15 marks.

The product shown below is a 'character' litter bin for use in a car.



Product Information:

- The character litter bin is always hungry – his tummy grows the more rubbish he eats!
- Available in 3 different characters.
- Main body of character litter bin is a velour material.
- Hand washable.
- Has a wipe-clean, proofed polyester pocket to collect rubbish.
- Retail price: £12.99.

(a) Place a **tick (✓)** in the table below to show the most likely target market for the character litter bin. [1]

<i>Children under 12 months</i>	<i>Children from 1 year upwards</i>

(b) Give **one** reason why the consumer would be prepared to pay £12.99 for this product. [2]

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(c) Explain why the following materials have been used for specific parts of the character litter bin.

(i) Velour:
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..... [2]

(ii) Proofed polyester:
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..... [2]

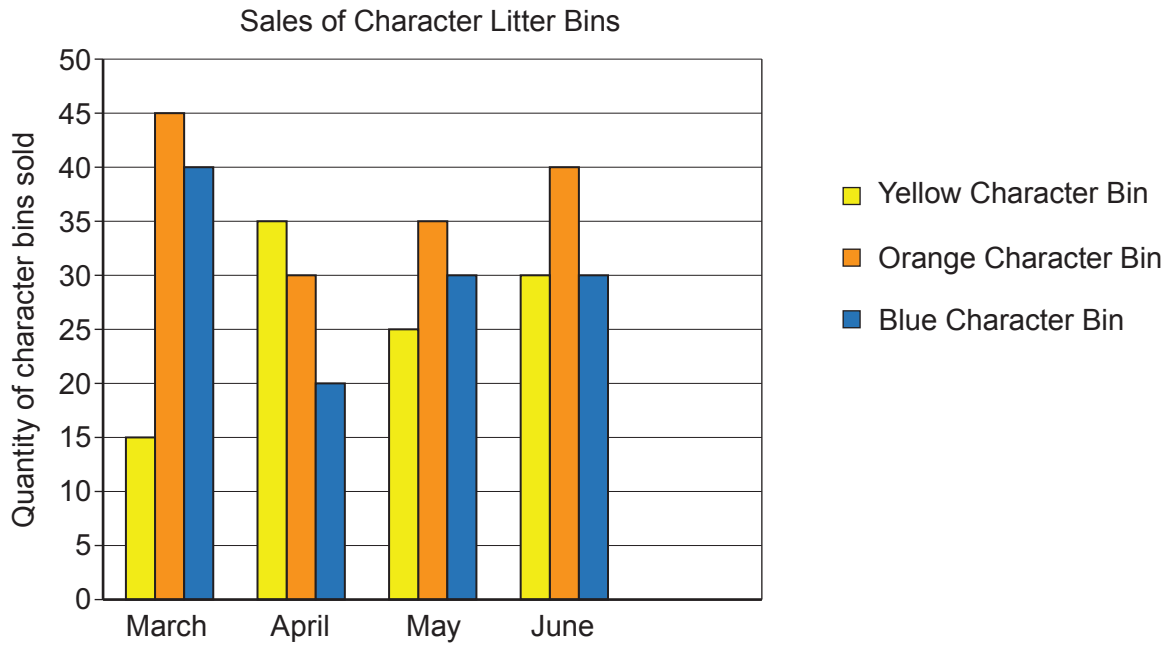
(d) (i) Outline the **two** main functions of the character litter bin. 2 × [1]

- I.
- II.

(ii) Explain how the appearance and features of the litter bin support the functions. [4]
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- (e) Study the graph below which shows the sales of the character litter bins over a four-month period.



Calculate the average sales of the most popular character litter bin over the four-month period. [2]

Show all your workings.

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2. This question is about the general issues of Design & Technology. It is worth a total of 10 marks.

(a) Underline the correct name for the logos shown below. 2 × [1]



Kite Logo / Kitemark



Mobius Hoop / Mobius Loop

(b) All textile products have an impact on the environment in terms of their carbon footprint.

Explain how textile manufacturers can lessen the carbon footprint of the products they produce with reference to:

(i) Energy:
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..... [2]

(ii) Transport:
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..... [3]

(iii) Materials:
.....
..... [3]

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4. This question is about the Design Process and how it is used. It is worth a total of 25 marks.

(a) Understanding the target market is important when designing new textile products. List **three** factors that are an essential part of knowing your target market. 3 × [1]

1.

2.

3.

(b) (i) Explain the difference between primary and secondary research. [2]

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(ii) Explain the purpose of a disassembly activity during research. [2]

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- (c) Study the mood board below and use it as inspiration to design an innovative soft furnishing product suitable for a young child's bedroom.



Sketch the front view and **one** other different view of your design in the spaces provided on the page opposite.

Specification

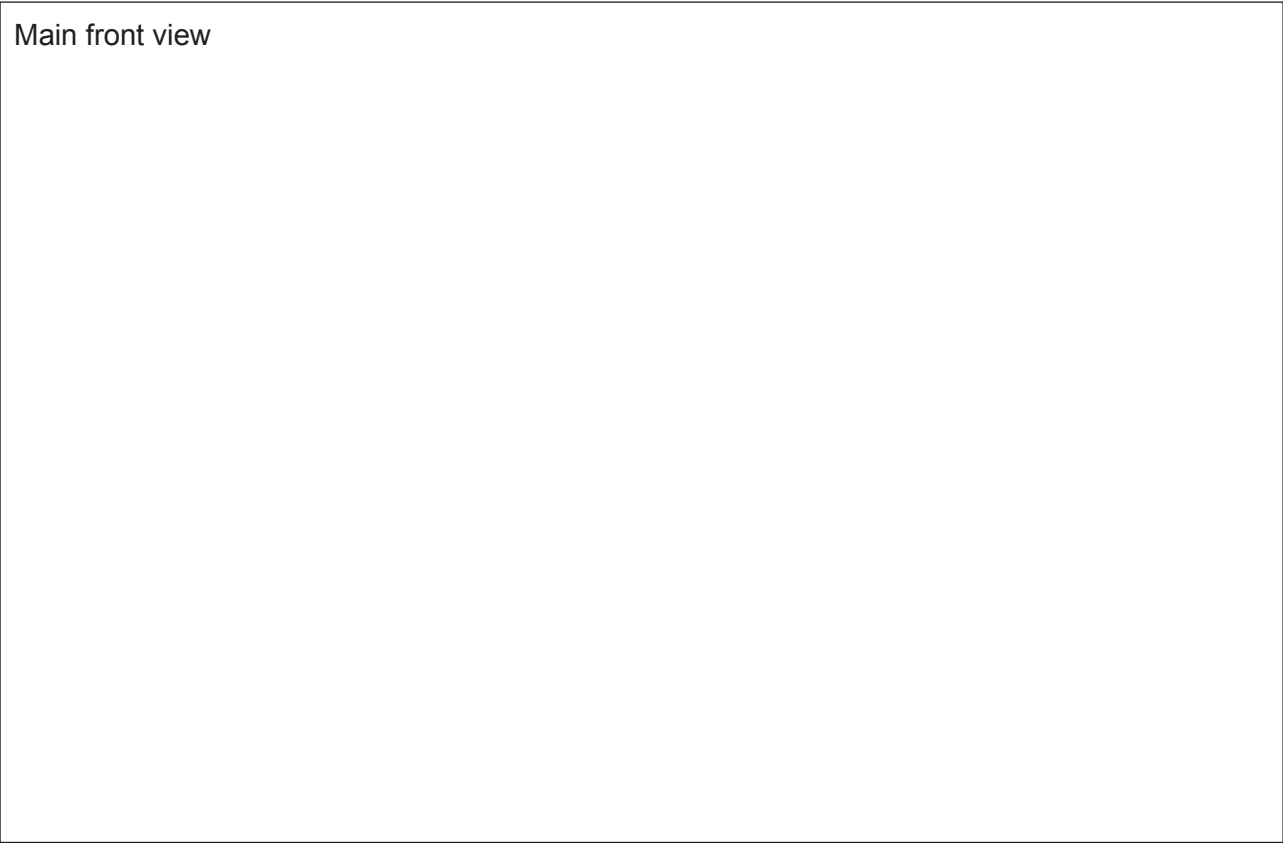
Your design must:

- be an innovative soft furnishing product;
- be suitable for use in a young child's bedroom;
- be inspired by the mood board;
- include specific named style details;
- be made from suitable named materials.

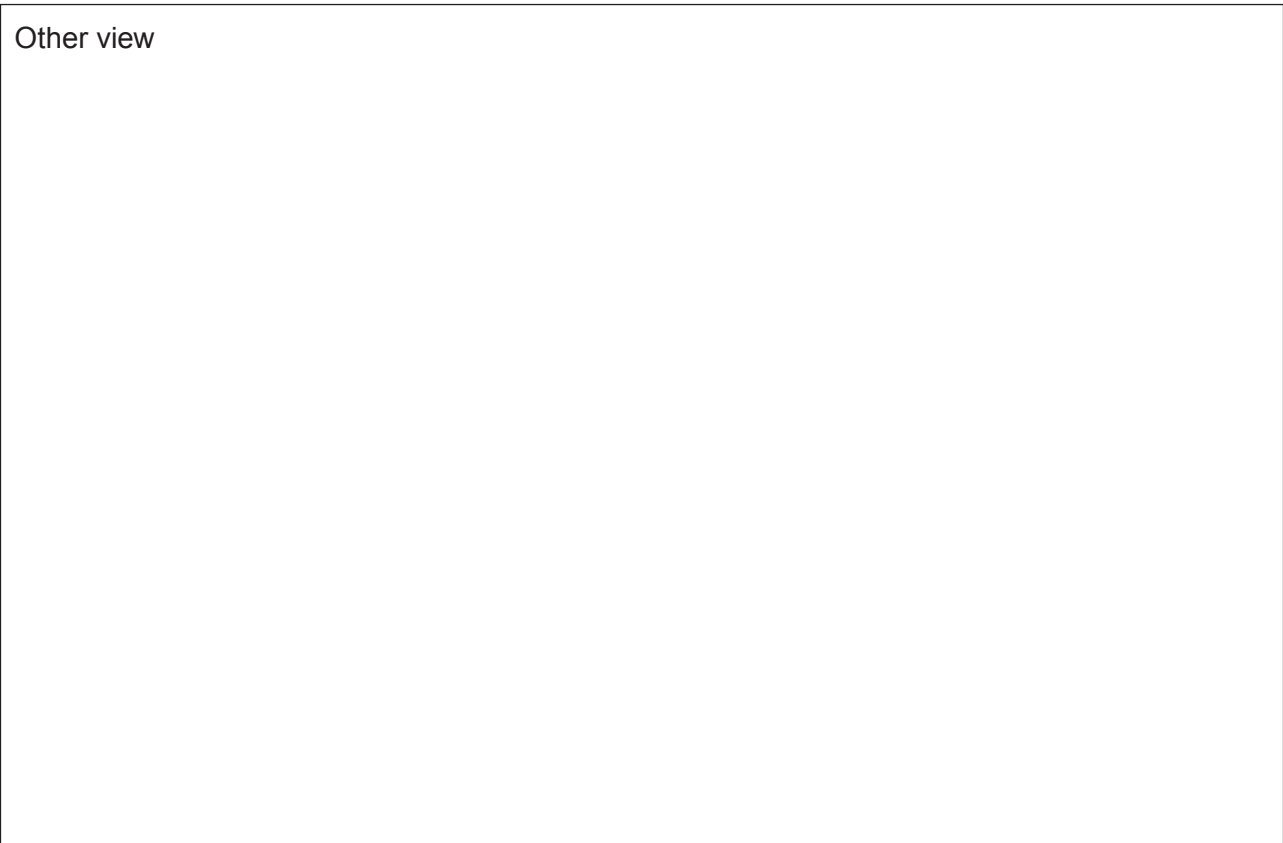
Marks will be awarded for:

- | | |
|---|-----|
| (i) designing an innovative soft furnishing item suitable for use in a child's bedroom; | [3] |
| (ii) an inspirational design based on the images of the mood board; | [4] |
| (iii) the creative use of colour based on the mood board; | [3] |
| (iv) labelling two correctly drawn style details; | [2] |
| (v) labelling two appropriate materials suitable for soft furnishings; | [2] |
| (vi) quality of communication. | [4] |

Main front view



Other view



Section B*Marked out of 60 60 minutes*

5. This question is about Commercial Manufacturing Processes. It is worth a total of 10 marks.

- (a) Place a **tick (✓)** in the correct box to indicate whether the following statements are true or false. 3 × [1]

Statements	True	False
Job-production requires workers to be highly skilled and versatile.	<input type="checkbox"/>	<input type="checkbox"/>
Mass produced products are expensive and have intricate design details.	<input type="checkbox"/>	<input type="checkbox"/>
Batch production is usually used to manufacture seasonal products.	<input type="checkbox"/>	<input type="checkbox"/>

(b) Just-in-time (JIT) is a stock control system used to manage materials and components.

- (i) Give **one** detailed advantage of the Just-in-time (JIT) system of stock control. [1]

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- (ii) Describe **one** disadvantage of the Just-in-time (JIT) system of stock control. [1]

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(c) Complete the following sentences by adding the most appropriate missing words: [2]

A specification contains important details for the manufacturer to follow to make a number of identical products. As well as listing the materials, tools and processes to be used it also states all critical that are needed to make products that are identical and made to a set standard.

- (d) Textile products are made using different scales of production. Discuss the factors that might influence a manufacturer to choose one scale of production over a different scale. [3]

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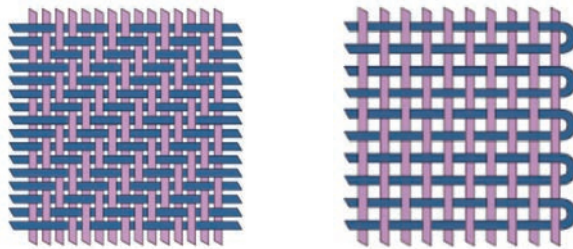
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6. This question is about Materials and Components. It is worth a total of 15 marks.

- (a) (i) Place a **tick (✓)** in the correct box to show whether the following statements are true or false. 4 × [1]

<i>Statement</i>	<i>True</i>	<i>False</i>
Woven materials are strongest along the grain line.		
Woven materials unravel if cut.		
Woven materials have high elasticity and can stretch easily.		
Woven materials have a selvedge edge.		

- (ii) Materials can be woven in different ways as shown in the pictures below. Give **one** reason for weaving yarns in different ways. [1]



Reason:

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- (b) (i) Describe the difference between warp and weft knitting. [2]

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- (ii) Explain why knitted materials are considered warmer to wear. [2]

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(c) Finishes are applied to materials to improve them in different ways.

Choose **one** of the finishes listed below, describe the finish and explain how it improves the material.

Calendaring

Embossing

Finish:

Explanation:

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..... [3]

(d) Cotton material is often described as 'breathable'. Discuss this statement in respect to the properties of the raw cotton fibre. [3]

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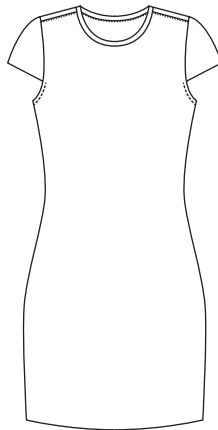
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7. This question is about Tools, Equipment and Making. It is worth a total of 20 marks.

(a) (i) State the correct name for the neckline style details shown below. 3 × [1]

		
<p>.....</p>	<p>.....</p>	<p>.....</p>

(ii) On the sketch below draw a pair of princess line seams in the correct position. [1]



(iii) Explain the purpose of a dart in clothing construction. [2]

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(iv) Explain what is meant by an open-ended zip and state the name of a suitable textile product it would be used on. [3]

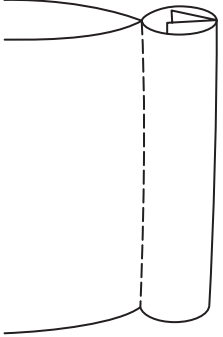
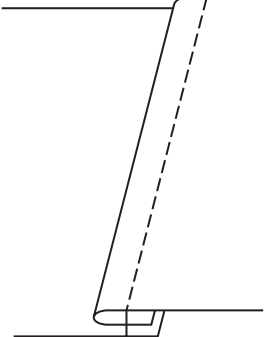
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(b) Complete the table below by fully explaining where the following seams would be most appropriately used on textile products. Include an example in your answer.

Seam	Explanation
<p>(i)</p>  <p>French Seam</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>..... [3]</p>
<p>(ii)</p>  <p>Lapped Seam</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>..... [3]</p>

- (c) A young fashion student wants to customise a skirt by adding **one** decorative technique.

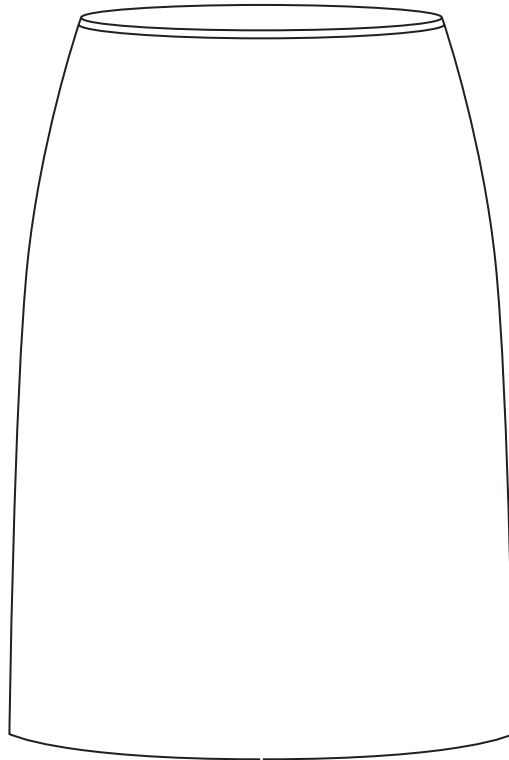
Draw your design on the outline below to show how this could be done using **one stitched method** of decoration or construction.

Marks will be awarded for:

- (i) a design that is stitched in place;
- (ii) detailed notes to explain how the design could be stitched in place.

[1]
[4]

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8. This question is about ICT, CAD/CAM, Systems and Processes. It is worth a total of 15 marks.

(a) Place **three ticks (✓)** in the table below to show which of the following statements are true. 3 × [1]

<i>Statement</i>	<i>True</i>
CIM stands for Computer Integrated Manufacture.	
Designs are developed using CAM.	
Fabric designs can be developed on screen and digitally printed directly onto materials.	
Machinery can be controlled by computers and is more efficient.	
CAD stands for Computer Aided Drawings.	

(b) The design shown below is to be used to make a stencil.



Describe **four** stages of using ICT to produce a stencil. [4]

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- (c) (i) Explain how ICT can support textile students when analysing a range of new design proposals. [3]

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- (ii) Evaluate the impact that designing using computers has had on professional fashion designers. [5]

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