

Surname	Centre Number	Candidate Number
Other Names		0

**GCSE**

4131/01



S15-4131-01

DESIGN AND TECHNOLOGY**UNIT 1****FOCUS AREA: Textile Technology**

A.M. TUESDAY, 19 May 2015

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	

4131
010001**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 book, 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.

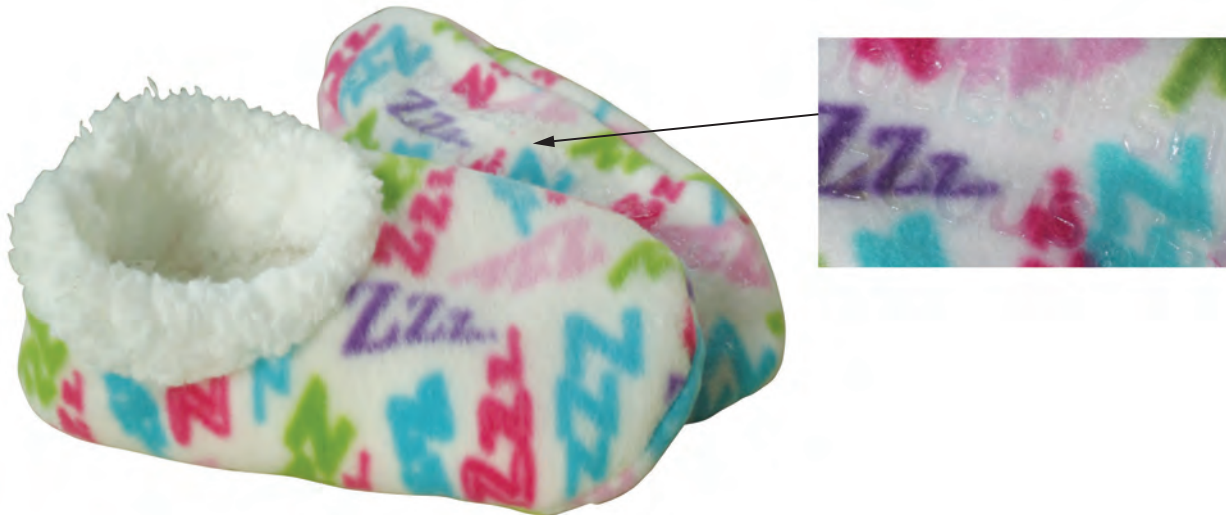
Section A

Marked out of 60 60 minutes

Examiner
only

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

The product shown below is a pair of printed slippers.



Product information:

- The outer material is a brushed fleece.
- The product is available in a range of colourful and fun printed patterns.
- They are lined with a soft warm sherpa fleece.
- They have a non-slip sole.
- They are machine washable at a low temperature.
- The product is available in a range of sizes from 3-4 small to 7-8 extra-large.
- The retail price is £13.99.

- (a) (i) Place a **tick** (✓) in the table below to identify the most likely target market for the slippers. [1]

Females under 10 years	Females from 10 years to adults

- (ii) Give **one** reason why the slippers would appeal to females. [1]

.....

.....

- (b) The slippers have one safety feature that is important to the wearer. Name the safety feature and describe its importance to the wearer.

Safety feature: [1]

Description:

..... [2]

- (c) (i) The main function of the slippers is to keep the wearer’s feet cosy and warm. Explain how this specification point has been met. [2]

.....

.....

- (ii) The specification for the slippers stated that the product should be easily affordable to the target market. Explain why this specification point **may not have been met**. [2]

.....

.....

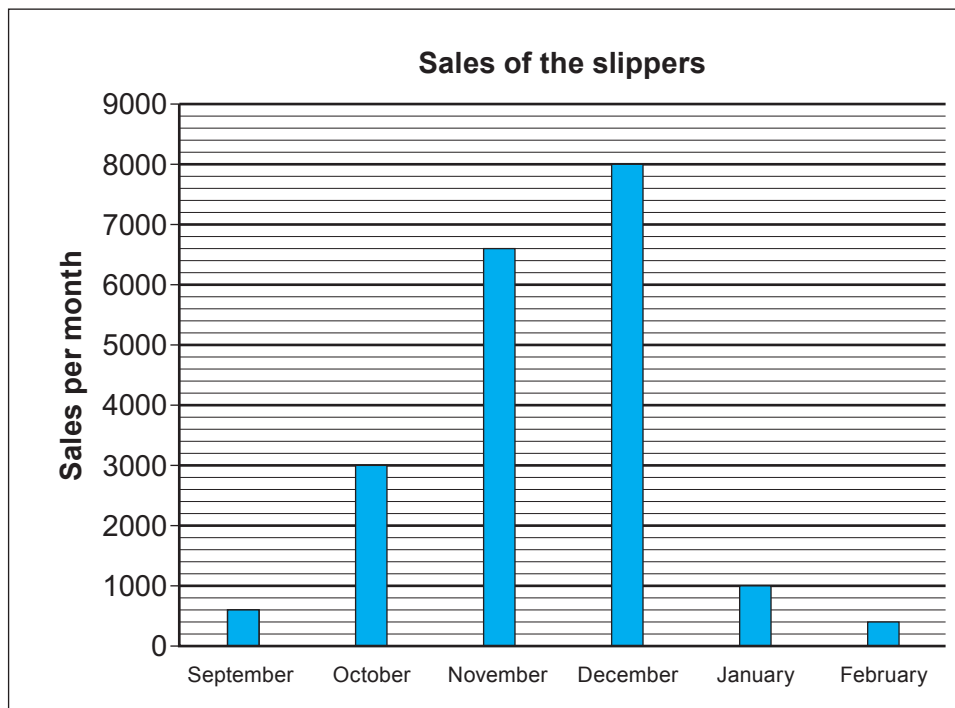
- (d) Explain why batch production would be the most suitable scale of production for these slippers. [3]

.....

.....

.....

- (e) Study the graph below which shows the sales of the slippers over a six month period.



- (i) Give **one** reason for the sharp increase in sales in November and December. [1]
-
- (ii) The retail price of a pair of printed slippers is £13.99. Calculate the value in pounds (£) of the total sales from October to December. [2]
(Show all your workings.)
-
-
-

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

(a) (i) State the full meaning of BSI. [1]

British S..... I.....

(ii) State the meaning of the following symbol. [1]



.....

(b) Complete the table below by inserting the correct R word which best represents each of the following statements. 3 × [1]

<i>R word</i>	<i>Statement</i>
	Make use of old components in new products.
	Try to mend a product before throwing it away.
	Don't buy a product unless there is a real need.

(c) (i) Explain what is meant by the term 'sustainable design'. [2]

.....

(ii) All textile products have an impact on the environment during their life cycle.

Explain what designers should consider at the design stage of a textile product in order to lessen the product's impact on the environment when it is no longer needed.

Exemplify your answer.

[3]

.....

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

- (a) (i) Complete the table below by matching the correct term in the list to the correct meaning. 3 × [1]

Prototype Primary research Analysis Target market

Term	Meaning
	A group of people that a product is aimed at.
	Gathering information yourself.
	The first accurate model of a product.

- (ii) State what is meant by the term 'design brief'. [1]

.....

.....

- (iii) Designers carry out detailed product analysis as part of their research. Explain how this process supports their work. [3]

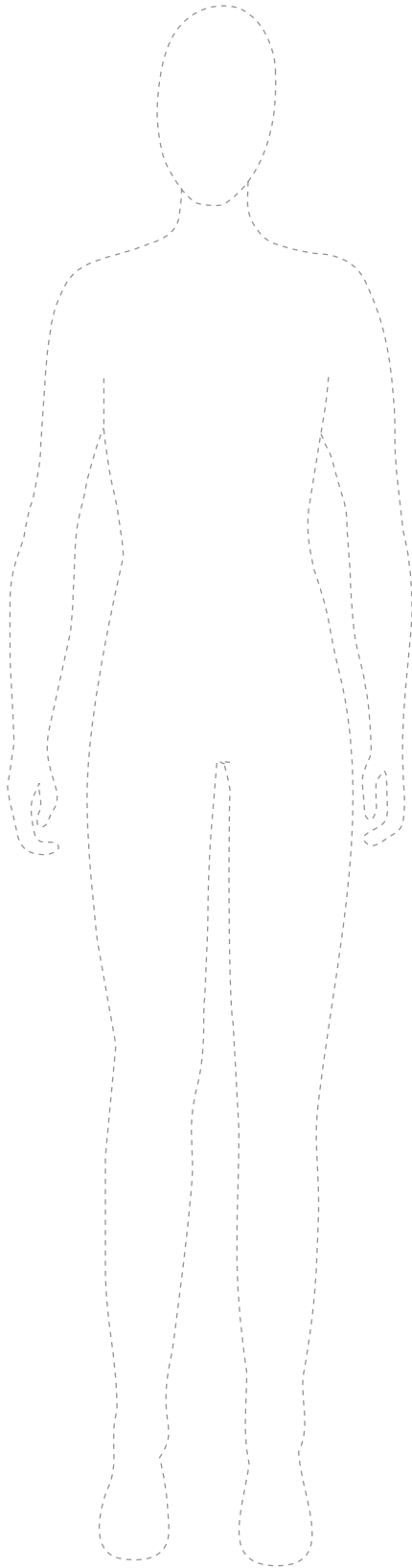
.....

.....

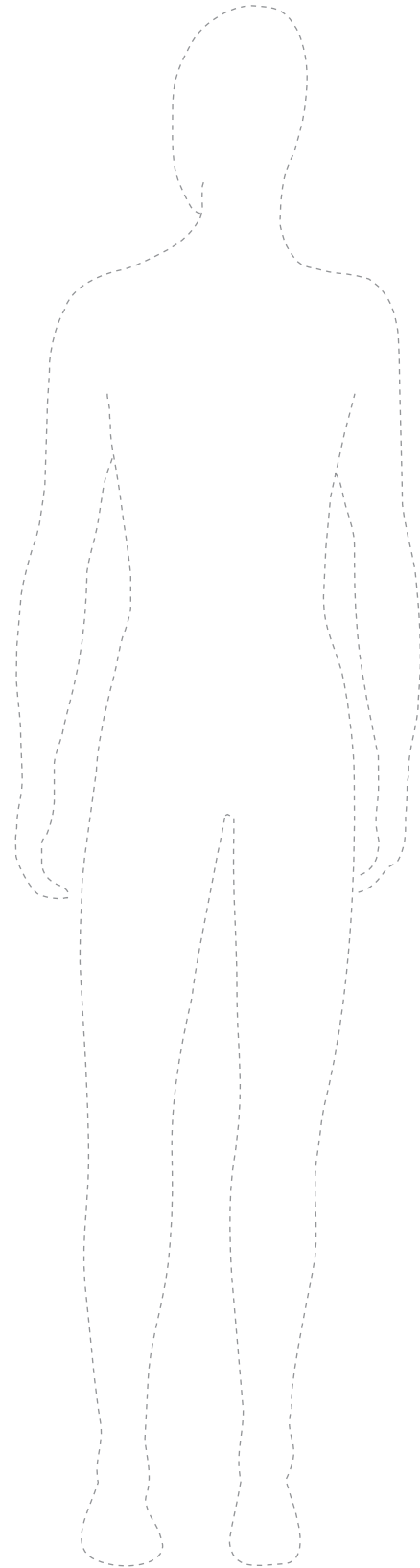
.....

.....

Front View



Back View



4131
010009

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) (i) Place a **tick** (✓) in the table below to match the production term to the correct description. 3 × [1]

<i>Description</i>	<i>Just-in-time (JIT)</i>	<i>Bespoke production</i>	<i>Continual flow production</i>
A single product made for an individual client's requirements.			
Volume production working 24 hours a day and is never shut down.			
A stock control system of ordering materials for use in the production line.			

(ii) Mass produced clothing has both advantages and disadvantages for the customer. Describe **one** advantage and **one** disadvantage to the customer of mass produced clothes.

Advantage:

..... [1]

Disadvantage:

..... [1]

(b) (i) Describe the main difference between a mood board and a story board. [2]

.....

.....

.....

(ii) Explain how the work of fashion forecasters supports designers when developing new collections. [3]

.....

.....

.....

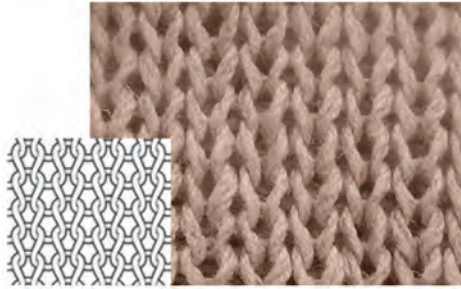
.....

.....

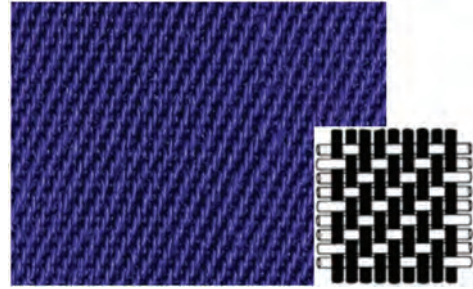
BLANK PAGE

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

- (a) (i) **Underline** the correct name for **each** type of material construction shown in the pictures below. 2 × [1]



Warp knitting / Weft knitting



Plain weave / Twill weave

- (ii) In the construction of a satin weave the weft yarns lie over a number of warp yarns as shown in the diagram below.



Describe **one** disadvantage of using a material with this type of construction. [1]

.....

.....

- (b) **Underline** the correct word to complete the sentences that follow.

(i) Cellulosic fibres come from animals / plants. [1]

(ii) Calendaring improves a material's drape / lustre. [1]

- (c) (i) Explain the difference between a mixed fibre and a blended fibre. [2]

.....

.....

.....

- (ii) Explain what a regenerated fibre is. [2]

.....

.....

.....

- (iii) Name **two** regenerated fibres. [2]

I: II:

- (d) Smart materials change their appearance in response to external conditions.

Name **two** smart materials and describe how **each** material changes its appearance.

Smart material name 1: [1]

Description:

..... [1]

Smart material name 2: [1]

Description:

..... [1]

Examiner
only

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

(a) (i) State the names of the following edge finishes often used on textile products.

3 × [1]

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

(ii) Give **two** reasons why an overlocker is used in the construction of a seam.

Reason 1:

..... [1]

Reason 2:

..... [1]

(iii) Explain why a designer might use a double stitched seam on a textile product like the one shown in the picture below. [2]



.....

.....

.....

.....

.....

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

- (a) (i) Place a **tick** (✓) in the table below to match the most suitable software package to use for each of the tasks listed. 3 × [1]

<i>Task</i>	<i>Spreadsheet</i>	<i>Power point</i>	<i>Word processor</i>
A written report on the latest fashion trends to hit the high street.			
A slide show displaying a range of design ideas.			
A breakdown of manufacturing costs between competitor products.			

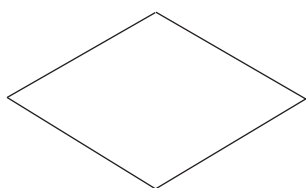
- (ii) Give **one** detailed reason for using ICT to present a report that includes charts and pictures. [2]

.....

.....

.....

- (b) The symbols shown below are used on flowcharts to show the main manufacturing stages of textile products. Describe the type of information that would be written in the following symbols.



- (i)
-
- [1]



- (ii)
-
- [1]

- (iii) Describe **one** other piece of information found in a flowchart and give a reason for its importance.

Information: [1]

Reason:

..... [1]

- (c) (i) Name **one** CAD programme that could be used to create patterns for materials like the designs shown below. [1]



.....

- (ii) Digital printers (CAM) linked to CAD programmes like the ones shown in the pictures below are increasingly used in the textile industry to print materials.



Describe the benefits to the designers of digital CAD/CAM printing processes. [3]

.....
.....
.....
.....
.....

- (iii) Explain why designers use ICT to create 3D designs. [2]

.....
.....
.....

END OF PAPER

