

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

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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.

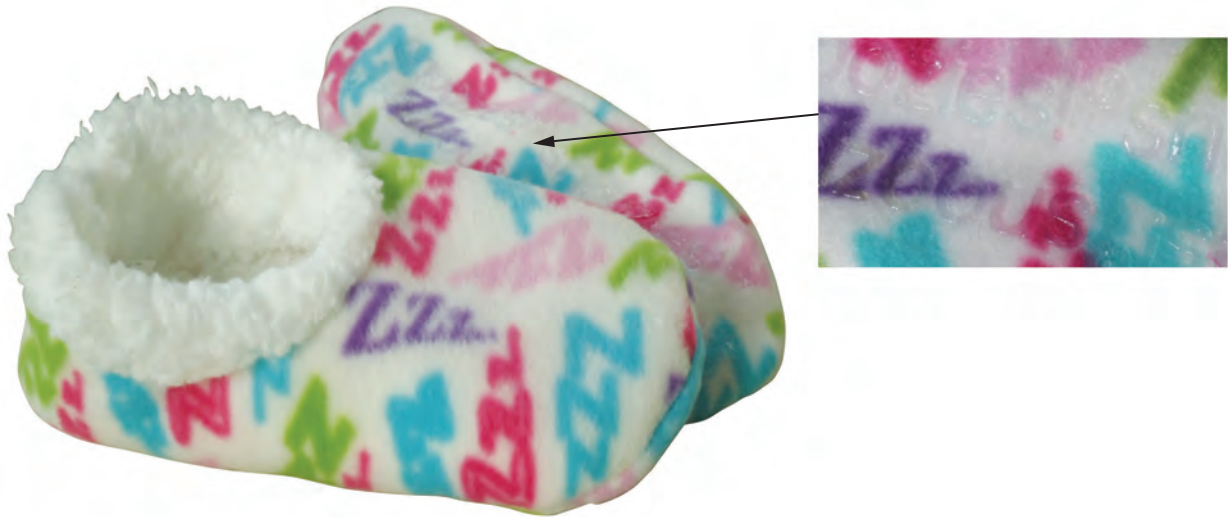
INFORMATION FOR CANDIDATES

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*

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]

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- (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]

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- (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]

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

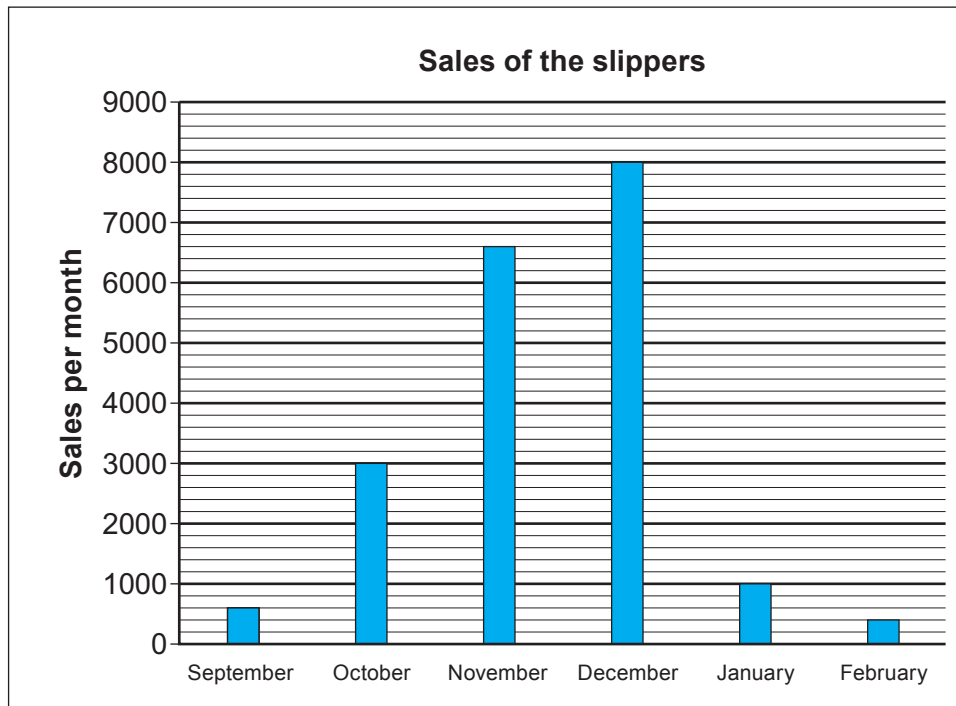
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- (e) Study the graph below which shows the sales of the slippers over a six month period.



- (i) Give **one** reason for the sharp increase in sales in November and December. [1]
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- (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.)
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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]



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(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]

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(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]

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3. This question is about the Designers that you have studied. It is worth a total of 10 marks.

- (a) Complete the sentences that follow which relate to the work of Vivienne Westwood. [2]

Vivienne Westwood has been one of the most influential designers on the British fashion scene for many years. Westwood re-launched the which has been described as one of the most important fashion ideas of the 20th century. Her most successful commercial design is the

- (b) Write a short essay in the space below describing the signature style of Matthew Williamson and the influence his work has had on mainstream fashion. [8]

Marks will be awarded for the content of the answer and the quality of written communication.

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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) (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]

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

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- (b) Study the mood board below and use it as inspiration to design a winter coat suitable for young women who like to follow contemporary fashion trends.



Sketch the front and back views of your design on the page opposite using the silhouettes provided.

Specification

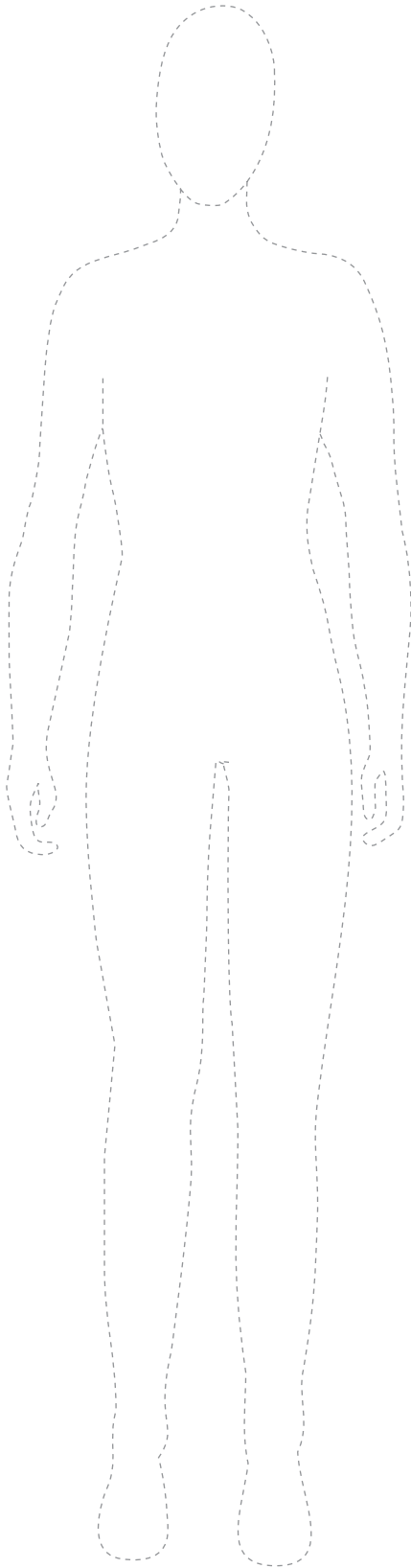
Your design must:

- be suitable for young women;
- be suitable for the winter season;
- be inspired by the theme and colours on the mood board;
- include specific named style details;
- be made of suitable specific named materials.

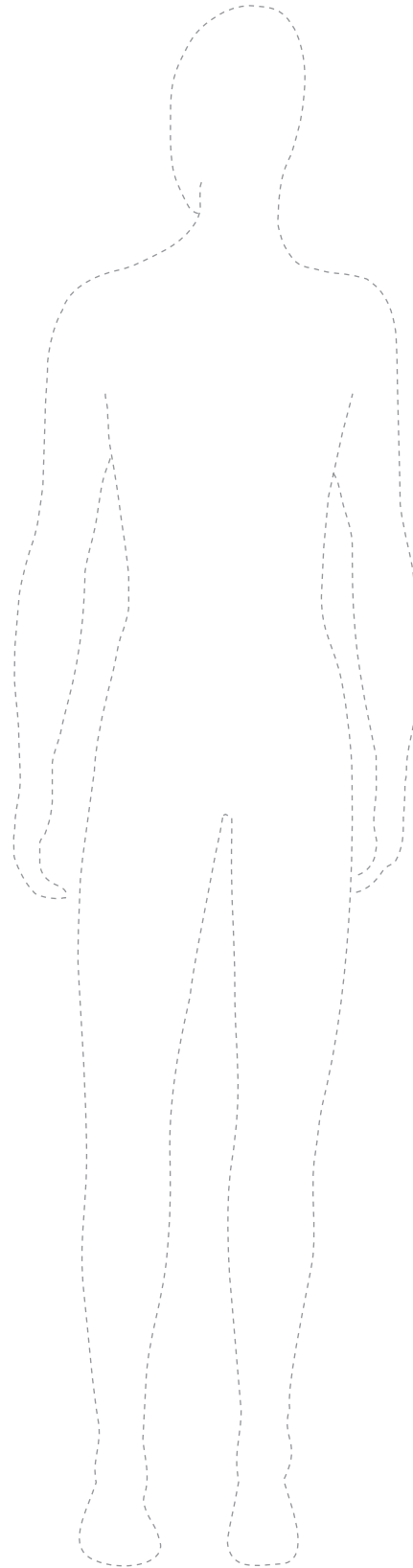
Marks will be awarded for:

- | | |
|---|-----|
| (i) designing a coat suitable for use in the winter season for young women; | [2] |
| (ii) an inspirational design based on the theme of the mood board; | [4] |
| (iii) the creative use of colour based on the mood board; | [3] |
| (iv) labelling three specific style details; | [3] |
| (v) labelling two suitable materials for winter use; | [2] |
| (vi) quality of communication. | [4] |

Front View



Back 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) (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]

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

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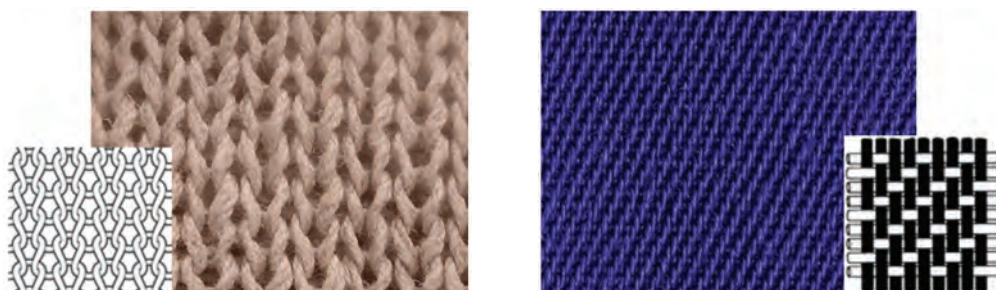
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6. This question is about Materials and Components. It is worth a total of 15 marks.

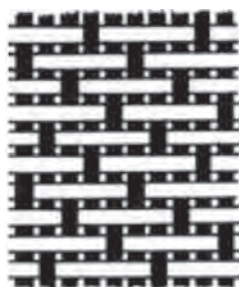
- (a) (i) **Underline** the correct name for **each** type of material construction shown in the pictures below. 2 × [1]



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]

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- (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]

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

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- (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]

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]

		
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- (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]



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- (b) Study the picture of the decorative cushion shown below.



- (i) State the name of the resist method used to decorate each section. [1]

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- (ii) Using notes and sketches, explain how you would carry out the named process to create the middle section (illustrated) of the cushion. Include details of how the process works in your answer. [5]

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- (iii) Describe **one** quality control point that would need to be followed when assembling the front sections of the cushion and give a reason for your answer. [2]

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- (iv) All materials used on soft furnishing products have to meet fire safety regulations.

In the space below, use notes and sketches to describe how you would carry out an experiment to compare the rates of flammability of different textile materials. [5]

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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.			

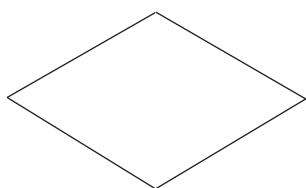
- (ii) Give **one** detailed reason for using ICT to present a report that includes charts and pictures. [2]

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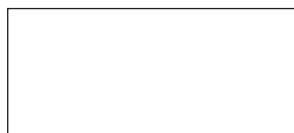
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- (b) The symbols shown below are used on flowcharts to show the main manufacturing stages of textile products. Describe the type of information that would be written in the following symbols.



- (i)
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- [1]



- (ii)
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- [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]



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- (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]

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

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END OF PAPER

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