

Surname	Centre Number	Candidate Number
Other Names		0



GCSE

4131/01



S16-4131-01

DESIGN AND TECHNOLOGY

UNIT 1

FOCUS AREA: Textile Technology

A.M. TUESDAY, 24 May 2016

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 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 child's fancy dress spider costume.



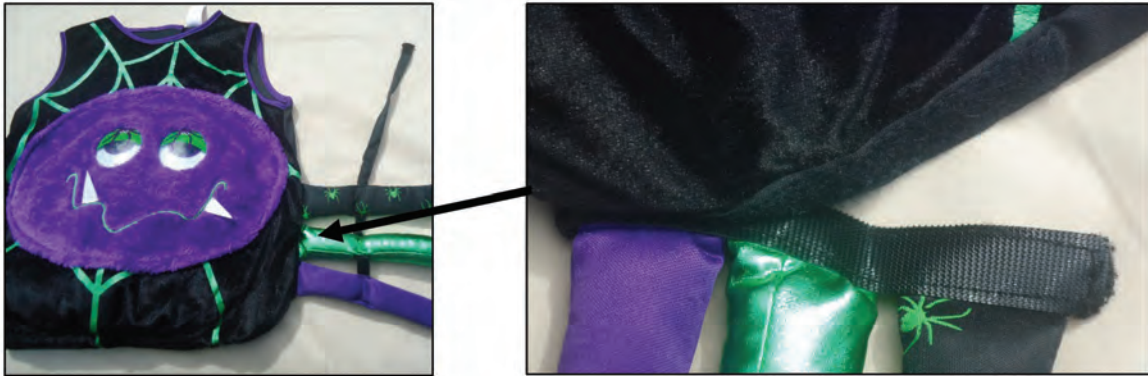
Product information:

- 100% polyester (including fleece and velour) – excluding trims.
- Available in sizes suitable for ages 2 – 6 years.
- The spider legs are attached using velcro strips.
- The trousers have an elasticated waist.
- The top has a simple velcro fastening at the back neck and an elasticated hem.

- (a) Place a **tick** (✓) in the table below to identify the most suitable scale of production for the spider costume. [1]

<i>Mass production</i>	<i>Batch production</i>

(b) The spider legs are detachable, as shown in the picture below.



(i) Give **one** reason for having detachable legs on the spider costume. [1]

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(ii) The spider costume has simple fastenings. Explain why this is an important feature. [2]

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(c) The spider costume must be aesthetically pleasing to the target market. Give **two** detailed reasons how this specification point has been met.

Reason 1:

..... [2]

Reason 2:

..... [2]

(d) The choice of material is very important when designing and making textile products. Explain in detail how the choice of materials enhances the appeal of the spider costume. [3]

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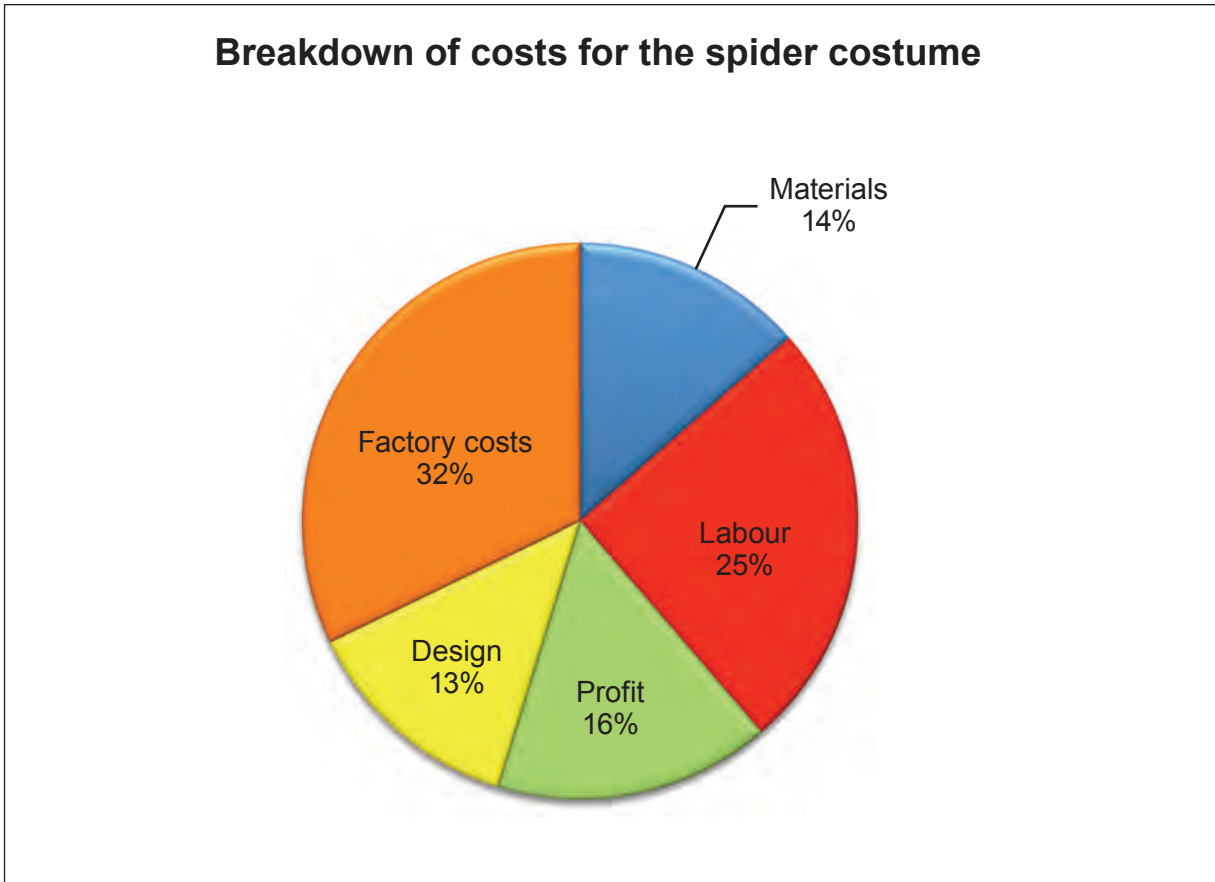
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- (e) The pie chart below shows a breakdown of the costs that add up to the final selling price of the spider costume.



- (i) State which is the lowest cost in making the spider costume. [1]
-
- (ii) The fixed costs for manufacture are the profit, design and factory costs. State what percentage the fixed costs are of the total cost. [1]
- %
- (iii) The chart shows that the material cost of the spider costume is 14% of the final selling price. If the material cost is £1.68, calculate the selling price of the spider costume. [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) Draw a line to match each of the R words listed below to the most appropriate statement. [3]

R word

Statement

Reuse

An economical lay plan produces less waste material.

Repair

Old buttons can be used to decorate new products.

Reduce

Mend textile products, don't throw them away!

(b) State whether the following statements are true or false. [3]

(i) Polartec® fleece is made from recycled plastic bottles.

(ii) Organic cotton producers use chemical fertilisers to boost crops.

(iii) Natural fibres are biodegradable and sustainable.

(c) (i) State the name of the symbol shown below.



Name of symbol: [1]

(ii) Explain the meaning of this symbol and how it protects customers. [3]

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

During your course you have studied the work of Matthew Williamson and Stella McCartney.

(a) State the name of the designer responsible for the following collections. [2]

(i) **Butterfly** Designer:

(ii) **Team GB 2012** Designer:

(b) Select **one** of the designers you have studied and write a short essay describing the style of their work including any important elements that influence their design thinking. [8]

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

Designer:

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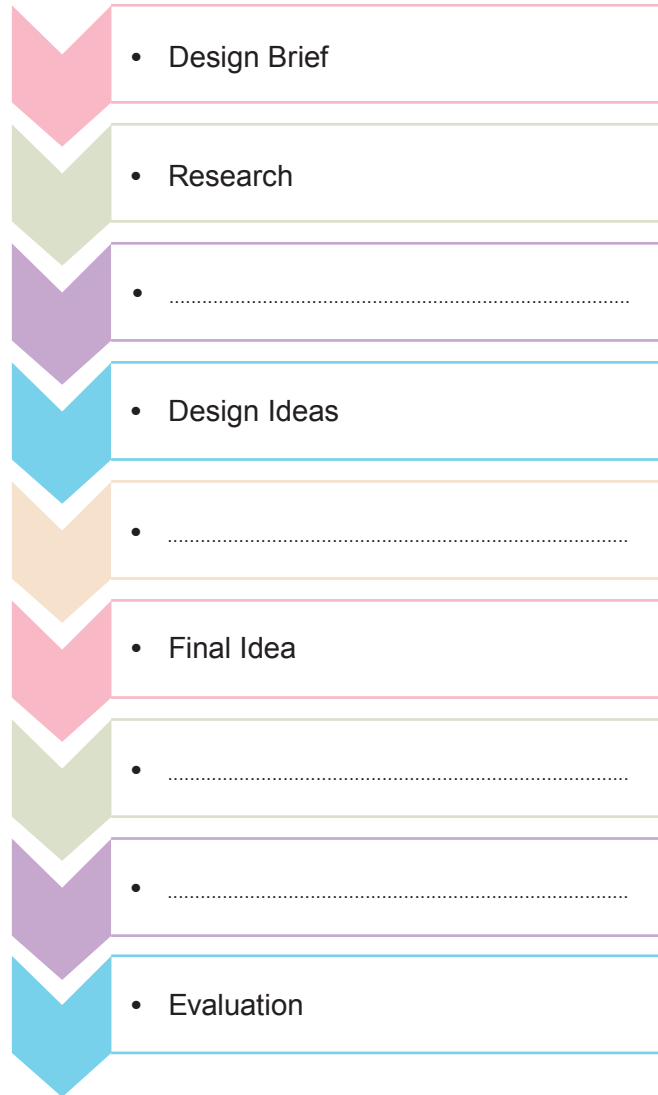
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4. This question is about the Design Process and how it is used. It is worth a total of 25 marks.

(a) The diagram below shows the main stages of the design process. Complete the diagram by inserting the missing stages in the correct places. [4]

Manufacturing Development Design Specification Analysis Planning



(b) Explain why it is important to evaluate the making process at each stage of manufacture when developing a new textile product. [3]

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- (c) Study the pictures below and use them as inspiration to design a one-piece outfit suitable for daytime summer wear for young adults.



Specification

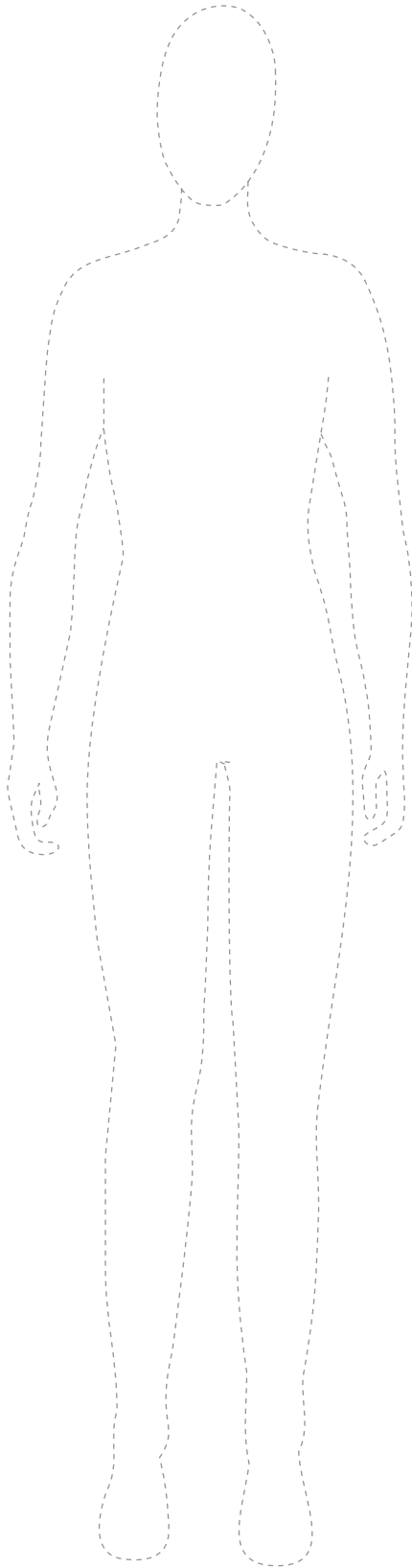
Your design must:

- be suitable for young adults;
- be suitable for daytime summer wear;
- be inspired by the theme and colours of the pictures;
- include specific named style details;
- be made of a suitable specific named material.

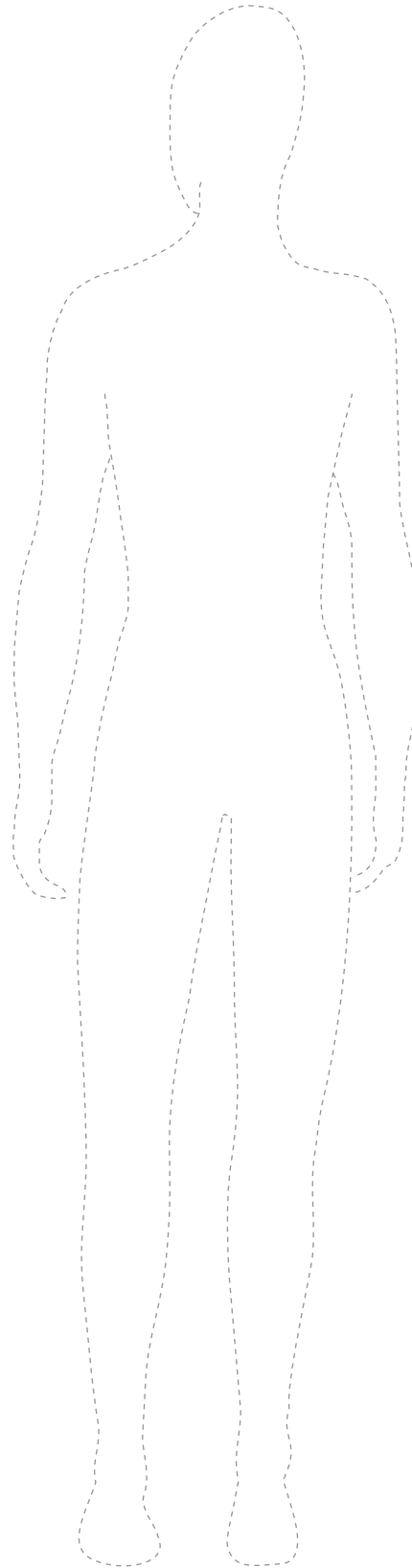
Marks will be awarded for:

- (i) designing a one-piece outfit suitable for daytime summer wear for a young adult; [3]
- (ii) an inspirational design based on the theme of the pictures; [3]
- (iii) the creative use of colour based on the pictures; [3]
- (iv) labelling **three** specific style details; [3]
- (v) labelling **one** suitable material for summer wear and the reason for choosing it; [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) Complete the list below to show the five fashion capitals of the world. [2]

Tokyo Milan New York

(ii) The pictures below show clothing from different sectors of the fashion market. [2]
Picture B represents clothing from a designer range.
Name **two** other sectors of the fashion market represented by pictures A and C.

<i>Picture A</i>	<i>Picture B</i>	<i>Picture C</i>
		
.....	Designer Range

(iii) Complete the table below by stating the meaning of **each** of the following fashion terms.

<i>Fashion Term</i>	<i>Meaning</i>
Fashion fad [1]
Contemporary fashion [1]
Street fashion [1]

(b) Discuss the advantages of global manufacturing to the fashion and textile manufacturer. [3]

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

- (a) (i) State the correct name for **each** of the following components which are often found on textile products. [3]



- (ii) Complete the following sentence. [1]

The components shown in the table above are all types of

- (iii) Describe how eyelets could be used creatively on a textiles product. [1]

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(b) Special finishes are often applied to textile materials to improve their functional properties. Complete the table below by:

- (i) stating the name of a textile product the named finish could be applied to;
- (ii) explaining how the named finish would improve the material's functional properties.

Product	Finish	Explanation
..... [1]	Stain resistance [2]
..... [1]	Brushing [2]

(c) Textile products sometimes incorporate electronic devices. These have become known as wearable electronics.

(i) Give **one** example of a textile product which makes use of a named wearable electronic device. [1]

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(ii) Explain how the named electronic device stated above could benefit the user. [3]

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

- (a) (i) Complete the table below by stating the name of the piece of equipment shown and stating what it is used for. 6 × [1]

<i>Equipment</i>	<i>Name</i>	<i>Used for</i>
	<p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p>
	<p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p>
	<p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p>

- (ii) The seam finish shown below is a French seam. Explain why this type of seam is used on sheer fabrics. [2]



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- (b) The picture shown below shows a printed beach bag with a plain blue lining. Some of the smaller images on the bag have been embellished with embroidery.



- (i) Explain the difference between printing and dyeing a piece of material. [2]

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- (ii) One of the smaller printed images on the bag is shown below. Describe a different method of creating the image and applying it to the bag. [3]



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- (iii) State the name of the decorative feature that has been used on the sides of the beach bag. [1]



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(c) The handle of the beach bag has been stitched on as shown below.



In the box below draw a fully labelled sketch of a different handle for the beach bag. You must include construction details of how the handle attaches to the bag. [6]

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 statement to the correct abbreviated term. [3]

<i>Statement</i>	<i>ICT</i>	<i>CAD</i>	<i>CAM</i>
Manufacturing logos or motifs on materials.			
Used to create and edit text.			
Designing, developing and modelling ideas.			

- (ii) List **two** different ways of incorporating CAM (Computer Aided Manufacture) into school projects. 2 × [1]

- I.
- II.

- (b) (i) Explain the purpose of a flowchart when manufacturing textile products. [2]

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- (ii) Draw the symbol that represents a decision box or quality control checkpoint as used in a flowchart. [1]

- (iii) Explain the significance of a quality control checkpoint when used in a flowchart. [2]

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- (c) (i) In industry, designers often use computer systems to create virtual prototypes of new garments as shown in the picture below.



Describe **one** advantage of developing ideas in this way. [2]

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- (ii) Many designers still prefer to produce a prototype by hand as shown in the picture below. Discuss the benefits of producing a prototype by hand. [3]



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END OF PAPER

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