

Candidate Name	Centre Number	Candidate Number
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GCSE

4131/01

DESIGN AND TECHNOLOGY

UNIT 1

FOCUS AREA: TEXTILES TECHNOLOGY

P.M. WEDNESDAY, 25 May 2011

2 hours

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Question 1	
Question 2	
Question 3	
Question 4	
Question 5	
Question 6	
Question 7	
Question 8	
TOTAL MARK	

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 the answer at the back of the book, taking care to number the continuation correctly.

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 brightly coloured zebra soft toy shown below is from a range of products called 'Discovering Textures' and is suitable for babies from birth onwards.



Product information:

- The toy has been made from a soft velour material.
- It has been decorated with machine embroidery and appliqué.
- Additional decoration includes strips of ribbon for the mane and tail.
- The product carries the CE mark on the label.
- It has a rattle concealed in the body of the zebra.
- It is suitable from birth onwards.
- It is washable.
- Retail price: £8.00

- (a) Underline the most suitable scale of production to make this toy. [1]

One-off production

Batch production

- (b) Give **one** reason why the retail price has been set at £8.00. [2]

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(c) Before starting to design the toy a design specification was written.

Describe what you think are the most important specification points for each of the following aspects.

(i) The safety considerations for the user of the toy. [2]

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(ii) The aesthetic appeal of the toy. [2]

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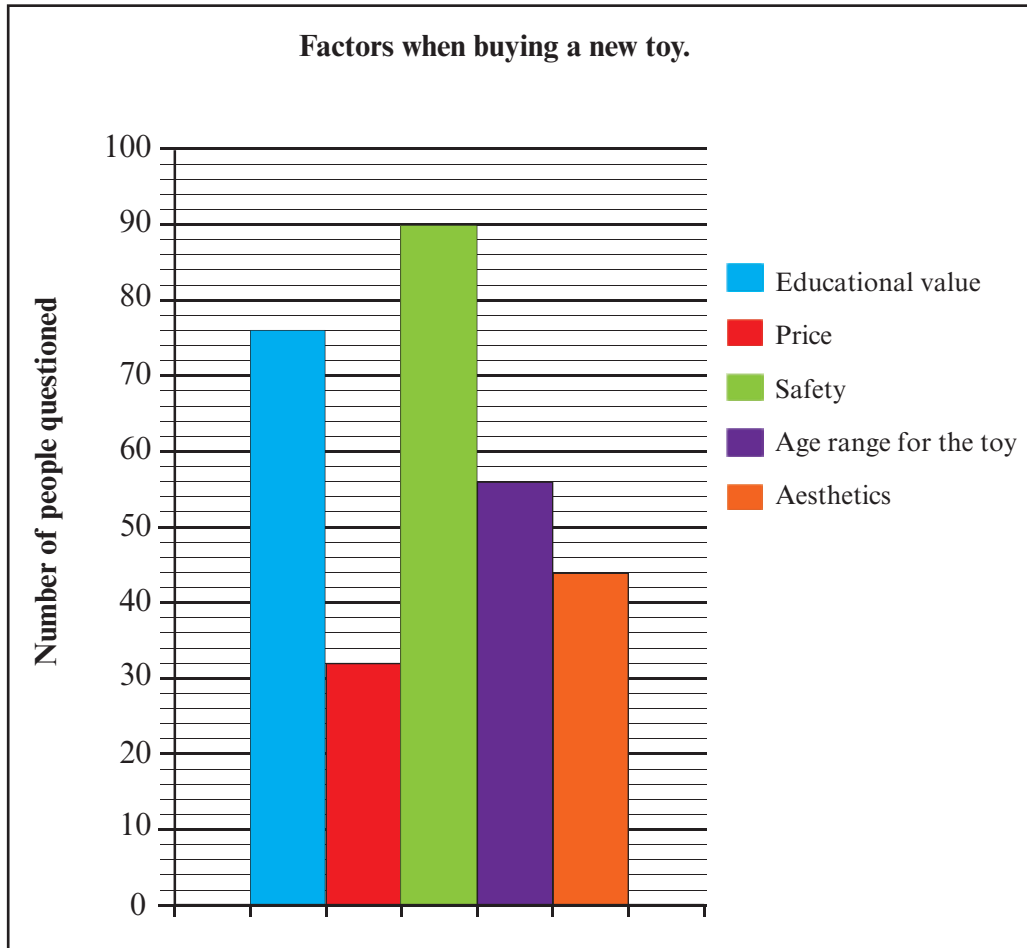
(iii) The material used to make the toy. [2]

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(d) Explain in detail what you think is the function of the toy. [3]

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- (e) The graph below shows the factors that parents thought were most important when buying a new toy.



- (i) State the least important factor when buying a new toy. [1]

- (ii) Calculate the average number of people who listed safety, the age range of the toy and its educational value as the most important factors when buying a toy. [2]
Show all your workings.

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

(a) Explain the meaning of the following symbol which is often seen on children’s toys. [2]



Meaning:

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(b) Designers of new products think about the 6 Rs.

Place a **tick (✓)** in the correct box to indicate the word which best represents each of the following statements. [3]

<i>Statement</i>	<i>Reduce</i>	<i>Recycle</i>	<i>Refuse</i>
Make new products from old ones.			
Use less material in new products.			
Do not buy unsustainable products.			

(c) Give **one** reason why the Polartec® fleece material used to make the top shown below is considered eco-friendly. [2]



Reason:

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(d) Explain how the concept of rethink might influence a designer when developing new textile products. [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) (i) The picture below shows examples of the work of one of the designers you have studied.

Underline the name of the designer who created this collection.

[1]



John Galliano

Vivienne Westwood

- (ii) Name the designer responsible for creating the Anglo Mania label.

[1]

Designer:

- (b) Select **one** of the designers you have studied and write a short essay describing the **style of their work** and **new ideas** they have introduced over time. [8]

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

Name of Designer:

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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 following table by matching the term in the list below to the correct meaning. [3]

Design brief Evaluation Development Initial ideas

<i>Term</i>	<i>Meaning</i>
	Testing the product against the specification.
	A statement of what you intend to design and make.
	A range of design sketches.

- (ii) Give **one** reason why designers produce a prototype or toile before making the final product. [2]

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- (iii) Explain the importance of a design specification when developing new products. [2]

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- (b) Study the mood board below and use it as inspiration to design a casual outfit with a co-ordinating accessory.

MOOD BOARD



Sketch the front view of your design on the opposite page using the silhouette provided and draw an annotated sketch of the co-ordinating accessory in the space provided.

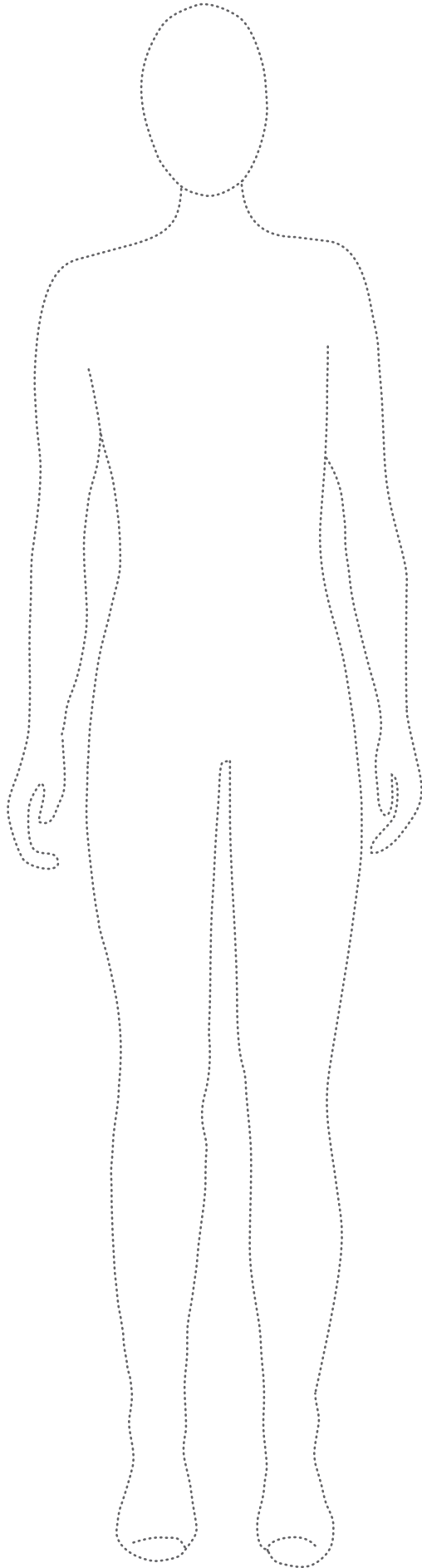
Specification

Your design must:

- be suitable casual wear for either males *or* females;
- include details of a co-ordinating accessory;
- be inspired by the images of the mood board;
- include the creative use of colour;
- include named style details.

Marks will be awarded for:

- | | | |
|-------|---|-----|
| (i) | generating an idea for a casual outfit that makes imaginative and creative use of the mood board; | [5] |
| (ii) | generating an idea for the co-ordinating accessory; | [3] |
| (iii) | the creative use of colour; | [3] |
| (iv) | labelling three specific style details; | [3] |
| (v) | quality of communication. | [4] |



Draw and label the front view of the outfit on the silhouette.

Provide an annotated sketch of the accessory in this space.

Section B*Marked out of 60**60 Minutes*

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

(a) Put a **tick** (✓) in the grid below to indicate whether the following statements are true or false. [3]

<i>Statement</i>	<i>True</i>	<i>False</i>
Batch production is used to make very large quantities of identical products over a long period of time.		
A custom made wedding dress is an example of job production.		
Contemporary fashion relates to styles that are currently popular.		

(b) In a Just in Time (JIT) production system manufacturers buy in materials and components just before they are needed.

Give **one** advantage of using this system.

[2]

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- (c) The machine shown in the picture below is used in the manufacturing industry to stitch motifs or logos on to textile products.

Describe **one** advantage of using this type of machinery.

[2]



Advantage:

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- (d) Discuss the effects of globalisation on the textile manufacturing industry.

[3]

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

(a) Underline the most suitable material for each of the products shown below. [3]



(i) wool / nylon



(ii) canvas / viscose



(iii) cotton / cordura

(b) Fibres are classified as natural, manmade or regenerated.

(i) Name **one** source of natural fibres. [1]

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(ii) State the main source of regenerated fibres. [1]

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(iii) Explain why manmade fibres are often mixed with natural fibres when making fabrics. [2]

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(c) Name **two** finishing methods used to improve a material's aesthetic qualities. [2]

Finish 1:

Finish 2:

(d) Briefly describe how you would test a material's resistance to water. [2]

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(e) Underline the correct word in the sentence below. [1]

Geotextiles are used in **Civil Engineering** / **Fashion**.

(f) Explain in detail what you understand by the term Interactive textiles. [3]

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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 each piece of equipment shown below.

[3]

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

(ii) The picture below shows an over lock machine. Explain what this machine is used for.

[2]



Explanation:

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(b) The picture below shows a young girl's dress and matching plain shorts.



- (i) Draw the symbols which are found on commercial patterns which represent the style details shown on the girl's dress below. [2]



Position and size of button hole:

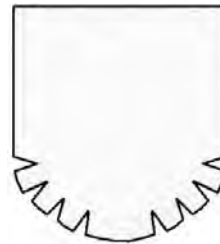
Tuck:

(ii) The pictures below show various stages of making and attaching a pocket similar to the one shown on the girl's dress.



I. Explain why interfacing is used on the inside top edge of the pocket before folding it over. [2]

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II. Explain why the curved edges of the pocket have been clipped before stitching the pocket in place. [2]

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(iii) The girl's dress has a frill attached to the armhole as shown in the picture below. Using notes and sketches, explain how you would make and attach a frill to the armhole. [4]



Notes:
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(c) A motif needs to be attached to the plain shorts to co-ordinate with the dress. The design sketch of the motif is shown below.



Using notes and sketches, describe in detail how you would apply the design on to the shorts. Your answer must include the name of at least one suitable stitched technique.

[5]

Notes:

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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) State the full meaning of ICT. [1]

Information C..... T.....

(ii) Explain how a spreadsheet can be used to present information. [2]

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(b) (i) Control systems are used when manufacturing textile products.

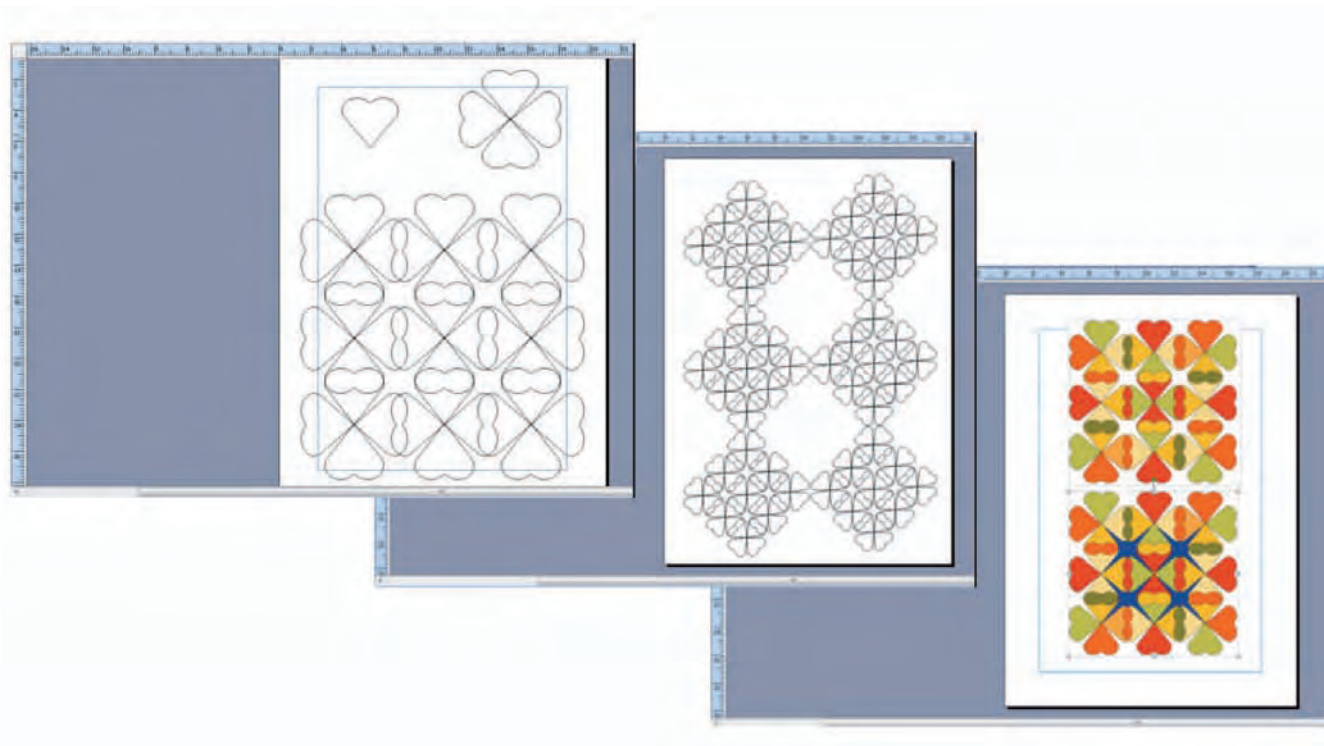
Place a **tick** (✓) in the correct box to indicate the correct term for each of the following statements. [3]

<i>Statement</i>	<i>Input</i>	<i>Process</i>	<i>Output</i>
Finished textile product.			
Raw materials, components and equipment.			
Making the product.			

(ii) Production flowcharts are represented by a series of symbols. Draw the symbols that represent the following stages. [2]

<i>Process</i>	<i>Quality control</i>

- (c) The pictures below show how CAD can be used to develop patterns for textile materials.



- (i) State the name of **one** software programme that could be used to develop patterns. [1]

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- (ii) Explain how patterns like the ones shown above can be produced using CAD software. [2]

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- (d) Explain the main stages showing how CAD and CAM could be used to make a printing block similar to the one shown below. [4]



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