

GENERAL CERTIFICATE OF SECONDARY EDUCATION

DESIGN AND TECHNOLOGY: TEXTILES TECHNOLOGY

J307

Unit A575: Sustainability and technical aspects of designing and making

Candidates answer on the question paper
 A calculator may be used for this paper

OCR Supplied Materials:
 None

Other Materials Required:

- Pencil
- Ruler (cm/mm)

Duration: 1 hour 30 minutes

Candidate Forename		Candidate Surname	
--------------------	--	-------------------	--

Centre Number						Candidate Number				
---------------	--	--	--	--	--	------------------	--	--	--	--

INSTRUCTIONS TO CANDIDATES

- Write your name clearly in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure that you know what you have to do before starting your answer.
- Answer **all** the questions in Section A **and** Section B.
- Write your answer to each question in the space provided, however additional paper may be used if necessary.
- Do not write in Bar Codes.

INFORMATION FOR CANDIDATES

- Your quality of written communication is assessed in questions marked with an asterisk (*).
- The number of marks for each question is given in brackets [] at the end of the question or part question.
- Dimensions are in millimetres unless stated otherwise.
- The total number of marks for this paper is **80**.
- This document consists of **20** pages. Any blank pages are indicated.

For Examiner's Use		
	Max	Mark
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
7	1	
8	1	
9	1	
10	1	
11	1	
12	1	
13	1	
14	1	
15	1	
16	20	
17	15	
18	15	
19	15	
TOTAL	80	

BLANK PAGE

Section A

Answer **all** questions.
On questions 1-5 circle your answer.

- 1 Which of the following is not a renewable resource?
- (a) Wood
 - (b) Wool
 - (c) Paper
 - (d) Metal
- [1]**
- 2 Which of the following is not a type of fibre generally found in Eco friendly fabrics?
- (a) Hemp
 - (b) Flax
 - (c) Polyester
 - (d) Cotton
- [1]**
- 3 Smart materials are often found in:
- (a) Hats
 - (b) Scarves
 - (c) Medical Textiles
 - (d) Wetsuits
- [1]**
- 4 Taking a product apart to help analyse the various parts and how it fits together is called:
- (a) Product assembly
 - (b) Product disassembly
 - (c) Commercial analysis
 - (d) Product analysis
- [1]**

5 Which of the following is not primary recycling?

- (a) Giving items to a charity shop
- (b) Re-making the product into something else
- (c) Handing unwanted items to friends
- (d) Leaving a product to biodegrade

[1]

6 The symbol shown stands for:



..... [1]

7 Name the term given to materials that decompose easily within the environment.

..... [1]

8 Name the term that refers to the impact of a company's transportation of goods and materials.

..... [1]

9 Name an alternative energy source that can be used in the production of textile products.

..... [1]

10 What name is given to a label to show the designer has used environmentally friendly methods?

..... [1]

Decide whether each of the following statements is **true** or **false**.

True **False**

Tick [✓] the box to show your answer.

- | | | | |
|--|--------------------------|--------------------------|-----|
| 11 Textiles dyes can be made from natural plants | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 12 Wool is bio degradable | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 13 Re-cycling started before the 20th Century | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 14 Polartec fleece is made from natural fibres | <input type="checkbox"/> | <input type="checkbox"/> | [1] |
| 15 Polyester, nylon and acrylic are all made from renewable energy resources | <input type="checkbox"/> | <input type="checkbox"/> | [1] |

16 Fig. 1 shows a fabric brooch made from recycled zip components.



Fig. 1

(a) Give **four** reasons why a designer chooses to use recycled fabrics and textile components.

- 1.....
.....
- 2.....
.....
- 3.....
.....
- 4..... [4]

(b) Produce an annotated sketch to show a design for a piece of textile jewellery that would appeal to a teenager and address the recycling of materials and components.

[3]

(c) Explain **two** problems of using recycled fabric and textile components to make new products.

1.....
.....
.....
.....

2.....
.....
.....
.....

[4]

(d) Products such as the zip brooch are designed to have a limited life.

Name the term used to describe this.

..... [1]

(e) Give **two** environmental issues related to the manufacture of throw away products.

1.....

.....

2.....

..... [2]

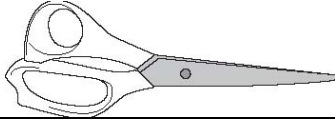




Section B

Answer **all** questions

17 (a) The table below shows tools used in a textiles room.

Complete the table below giving one use for each of the tools shown.

The first one has been done for you.

Tool	Use
	for cutting fabric or thread
	_____
	_____
	_____
	_____

[4]

(b) List **three** features to look for when choosing a pair of scissors.

- 1.....
- 2.....
- 3..... [3]

(c) An iron can be used to remove creases from fabric. Give **two** more uses of an iron.

- 1.....
- 2..... [2]

(d) **Fig.2** shows a cushion decorated with appliqué.



Fig.2

Describe using notes and / or diagrams how to work appliqué.

[6]

18 A textile manufacturer is to introduce a range of jackets for physical fitness instructors and coaches to wear when working outdoors.

The jacket should:

- be unisex
- be adaptable to changing weather conditions
- remove the need for a bag

(a) In the space below sketch a design for the jacket that meets the specification.

Annotate your sketch to show all important design and construction details.

[6]

(b) Explain how your design meets each of the specification points.

- Unisex

.....

.....

.....

.....

..... [2]

- adaptable to changing weather conditions

.....

.....

.....

.....

..... [2]

- remove the need for a bag

.....

.....

.....

.....

..... [2]

(c) List **three** factors the manufacturer should consider when choosing a production system for the jacket.

1.....

.....

2.....

.....

3.....

..... [3]

19 Fig. 3 shows a baseball cap and the pattern pieces used to make it.

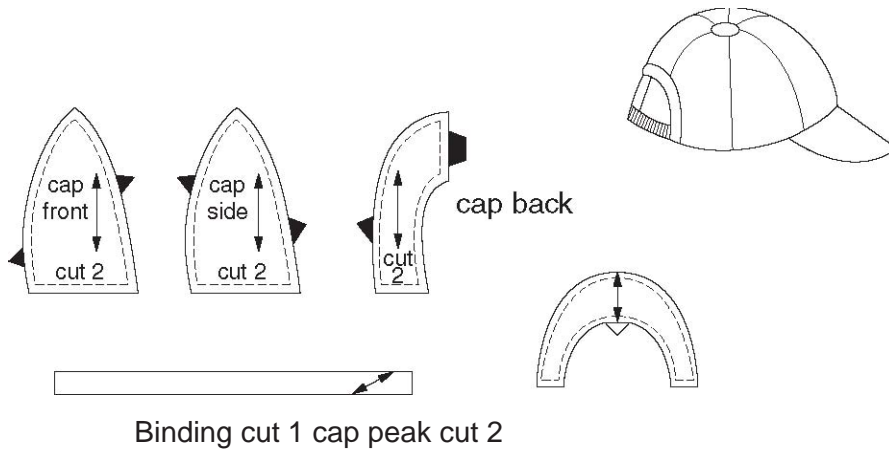


Fig.3

Fig. 4 shows an incorrect pattern lay for the baseball cap.

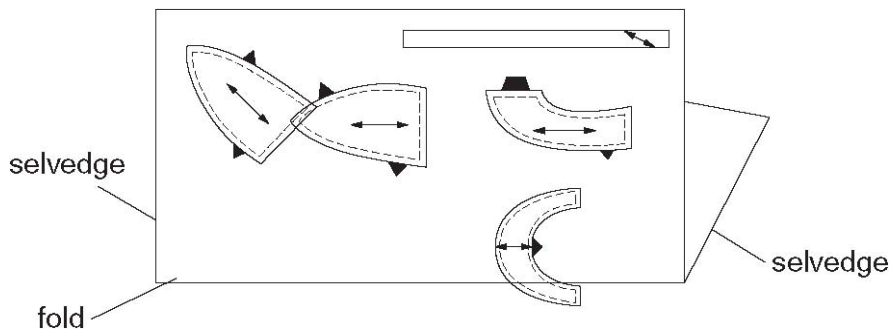


Fig. 4

(a) Identify **three** errors which have been made in the pattern lay shown in Fig. 4.

1.....
.....
.....

2.....
.....
.....

3.....
.....
.....
.....

[3]

(c) The baseball cap is to be made using a plain or open seam.

Use notes and / or diagrams to show how to work the plain or open seam.

END OF QUESTION PAPER

BLANK PAGE

PLEASE DO NOT WRITE ON THIS PAGE

PLEASE DO NOT WRITE ON THIS PAGE



Copyright Information:

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and, where possible, every reasonable effort has been made by the publisher (OCR) to trace copyright holders, but if any items have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

OCR is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.



SPECIMEN

Sample Assessment Material

DESIGN AND TECHNOLOGY: TEXTILES TECHNOLOGY

A575: Sustainability and technical aspects of designing and making

MARK SCHEME

Duration: 1 hour 30 minutes

MAXIMUM MARK 80

DRAFT

This document consists of 15 pages

MARKING INSTRUCTIONS

PREPARATION FOR MARKING
SCORIS

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: *scoris assessor Online Training*; *OCR Essential Guide to Marking*.
2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are posted on the RM Cambridge Assessment Support Portal <http://www.rm.com/support/ca>
3. Log-in to scoris and mark the **required number** of practice responses (“scripts”) and the **number of required** standardisation responses

YOU MUST MARK 10 PRACTICE AND 10 STANDARDISATION RESPONSES BEFORE YOU CAN BE APPROVED TO MARK LIVE SCRIPTS.

TRADITIONAL

Before the Standardisation meeting you must mark at least 10 scripts from several centres. For this preliminary marking you should use **pencil** and follow the **mark scheme**. Bring these **marked scripts** to the meeting.

MARKING

1. Mark strictly to the mark scheme.
2. Marks awarded must relate directly to the marking criteria.
3. The schedule of dates is very important. It is essential that you meet the scoris 50% and 100% (traditional 40% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.
4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone or the scoris messaging system, or by email.
5. Work crossed out:
 - a. where a candidate crosses out an answer and provides an alternative response, the crossed out response is not marked and gains no marks
 - b. if a candidate crosses out an answer to a whole question and makes no second attempt, and if the inclusion of the answer does not cause a rubric infringement, the assessor should attempt to mark the crossed out answer and award marks appropriately.

6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add a tick to confirm that the work has been seen.
7. There is a NR (No Response) option. Award NR (No Response)
- if there is nothing written at all in the answer space
 - OR if there is a comment which does not in anyway relate to the question (e.g. 'can't do', 'don't know')
 - OR if there is a mark (e.g. a dash, a question mark) which isn't an attempt at the question
- Note: Award 0 marks - for an attempt that earns no credit (including copying out the question)
8. The scoris **comments box** is used by your team leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**
If you have any questions or comments for your team leader, use the phone, the scoris messaging system, or e-mail.
9. Assistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.
10. For answers marked by levels of response:
- a. **To determine the level** – start at the highest level and work down until you reach the level that matches the answer
 - b. **To determine the mark within the level**, consider the following:

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

Section A

Question		Answer	Mark	Guidance
1		(d) Metal	1	
2		(c) Polyester	1	
3		(c) Medical textiles	1	
4		(b) Product disassembly	1	
5		(d) Leaving a product to biodegrade	1	
6		The symbol shown stands for: Hand wash only	1	
7		Biodegradable	1	
8		Carbon Footprint	1	
9		Wind , solar, hydro, tidal, geo thermal	1	
10		ETI Ethical trade initiative	1	
11		True	1	
12		True	1	
13		True	1	
14		False	1	
15		False	1	
Total			15	

Question		Answer	Mark	Guidance
16	(a)	<p>Any four reasons, one mark each:</p> <ul style="list-style-type: none"> • Cost • Individuality / uniqueness / fashion statement • Ease of manufacture • Less impact on the environment- waste • Reference to: reuse, reduce, refuse, rethink, repair 	4	
	(b)	<p>Produce an annotated sketch to show a design for a piece of textile jewellery that would appeal to a teenager and address the recycling of materials and components.</p> <ul style="list-style-type: none"> • Colour shown or labelled • Fashionable / new innovative • Low cost / cheap • Component other than zip • Recycled fabric- named or named product • Decorative technique 	3	<p>3x1</p> <p>No marks if not a textile jewellery product.</p> <p>Must refer to textiles – fabrics and components.</p> <p>Marks can be awarded for drawing and / or annotation</p> <p>Do not credit ‘appeal to teenagers’ as it is in the question stem.</p>
	(c)	<p>Explain two problems of using recycled fabric and textile components to make new products.</p> <ul style="list-style-type: none"> • Irregular supplies – lack of consistency e.g. colour • Limited supply • Cost / time of disassembly to get usable materials • Materials not suitable • Fabric too worn / dirty • Components weak / broken / poor quality 	4	
	(d)	<p>Name the term used to describe this</p> <ul style="list-style-type: none"> • Built-in Obsolescence 	1	Accept obsolete or obsolescence on its own

Question	Answer	Mark	Guidance
(e)	Any two environmental issues, one mark each: <ul style="list-style-type: none"> • Wastage • Biodegradability • Chemicals / pollution • Transport issues • Landfill issues/ disposal- burning • Primary recycling • Resources – energy usage / costs • Manufacturing costs • Packaging implications 	2	2x1
(f) *	Points to consider: <ul style="list-style-type: none"> • Use of non renewable energy resources • Too much electricity • Too many chemicals/ dyes in water systems • Waste management • Too much paper & card in manufacturing packaging and labelling • Deforestation • Pollution from transportation of goods • Production of high care products- lots of washing or specialist cleaning processes. • Lack of ecologically manufacturing • Use of cheap and poorly paid workers- exploitation and then high transport costs • Waste- too many unwanted items, cheaply produced and thrown away • Built-in Obsolescence 	6	<p>Level 3 (5-6 marks) Thorough discussion, showing clear understanding of textile production and how it contributes to harming the environment. Can provide clear examples of current methods that do harm the environment. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate will demonstrate the accurate use of spelling, punctuation and grammar.</p> <p>Level 2 (3-4 marks) Adequate discussion, showing an understanding of the meaning of textile production and how it contributes to harming the environment. Can provide a description of some of problems around with examples. There will be some use of specialist terms, although these may not always be used appropriately. The information will be presented for the most part in a structured format. There may be occasional errors in spelling, grammar and punctuation.</p> <p>Level 1 (1-2 marks) Basic discussion, showing some understanding of the meaning of textile production and how it contributes to</p>

Question			Answer	Mark	Guidance
					<p>harming the environment. Can provide a description of some of problems around with examples. There will be little or no use of specialist terms. Answers may be ambiguous or disorganised or 'list like'. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>0 marks = no response or no response worthy of credit</p>
			Total	20	

Section B

Question	Answer	Mark	Guidance
17 (a)	<p>One mark for each correct answer;</p> <p>One mark for a correct answer for each tool. Mark is for the use, not the name:</p> <ul style="list-style-type: none"> • Tailors pencil – drawing on fabric/marking fabric /marking stitching line • Pins – to temporarily hold fabric together/to pin fabric/to hold fabric ready for stitching/to hold fabric ready for machining / to hold fabric on a manikin • Tape measure – to measure fabric/to measure • Unpicker – to unpick stitching/to undo mistakes/to cut button holes / undo stitching 	4	<p>Do not accept ‘unstitching’ for use of unpicker.</p> <p>Do not accept ‘to tack’ for pins.</p>
(b)	<p>Any three features, one mark each:</p> <ul style="list-style-type: none"> • Right or left handed • Suitable blade length – long or short must be qualified • Suitable weight • Guarantee • Suitable price/value for money/cost • Comfortable handles / right size handles / fit round fingers • Stainless steel blades • Bevelled/serrated blades/pinking sheers • Sharpness / sharp / can be sharpened • Not damaged / blunt / loose screw / not faulty • Suitable for job – qualified – cutting fabric/thread/paper / fabric cutting scissors / pointed for embroidery / curved blade • Smooth action/easy to open and close / not stiff • Good brand name/good make • Measuring marks on blades 	3	<p>Do not accept:</p> <p>Big handles patterned blades flat blades in line blades kite mark or reference to safety easy to use</p> <p>One word answers are acceptable.</p> <p>‘Cut fabric’ is only acceptable as qualification for ‘suitable for use’.</p>

Question	Answer	Mark	Guidance
(c)	<p>Any two uses, one mark each:</p> <ul style="list-style-type: none"> • Removing wax from batik • Attaching iron-on interfacing / melt one fabric onto another / fuse fibres • Applying bondaweb / wondaweb • Attaching (appliqué) motif / iron on name tags / stick on decoration • Pressing open seams • Pressing fabric in place rather than pinning / iron crease you are going to sew • Fixing dye/printing inks. • Transfer drawings / images / design onto fabric • Make folded fabric flat / press pleats • Press hems • Press a crease in trousers • Iron fabric dry • Shape felt 	2	<p>Do not accept: Pressing fabric Making fabric flat / straight Neat and tidy</p>
(d)	<p>A maximum of six marks to be allocated, one mark each. Information can be in notes or diagram:</p> <ul style="list-style-type: none"> • make pattern pieces for the sections of the design • pin onto the fabric to be applied and cut out • remove pattern pieces • position on the backing fabric • pin and tack in place – alternative could use bondaweb or similar product • attach permanently using machine zig-zag/straight stitch/hand stitch must be named blanket or herringbone • reverse/secure threads at the start and finish of the stitching • remove pins/tacking/trim loose ends • press <p>Alternative method:</p> <ul style="list-style-type: none"> • trace the design onto the adhesive side of iron-on interfacing 	6	

Question			Answer	Mark	Guidance
			<ul style="list-style-type: none"> • cut the shapes out • iron onto the wrong side of the fabric to be appliquéd • cut the shapes out • position on the backing fabric • pin and tack in place • attach permanently using machine zig-zag/straight stitch/hand stitch must be named blanket or herringbone • reverse/secure threads at the start and finish of the stitching • remove pins/tacking/trim loose ends • press 		
			Total	15	

Question		Answer	Marks	Guidance
18	(a)	<p>A maximum of 6 marks to be allocated as detailed below:</p> <ul style="list-style-type: none"> • colour indicated – including reflective strip (1) • measurements or sizes given (1) • fastenings show (up to 2 marks) • fabrics suggested (not fibres) (1) • more than one sketch included – detail of a specific part of the same design, not two different ideas shown / front and back view (1) • construction details given, seams, hems, finishing methods (up to 2 marks) • decorative techniques given, appliqué, screen printing, machine stitching, quilting etc (up to 2 marks) • pocket (1) • hood / collar (1) • detachable / adjustable sleeves, detachable inner lining / fleece, detachable hood (if not credited earlier), detachable gloves, adjustable wrists of sleeves / drawstring at hem or waist (up to two marks) • air holes under arms / air vents (1) 	6	

Question	Answer	Marks	Guidance
(b)	Max two marks for each explanation: <ul style="list-style-type: none"> • unisex – use of colours, styling and shape, not gender related, neutral colours • adaptable to changing weather conditions – removable or attachable hood/sleeves/other zip on or off sections/gloves/fleece/sun glasses/ear muffs/sun hat with protection for eyes/heating/method of raising alarm if poor weather / pockets to keep hands warm • remove need for bag to be carried – pockets with indication of uses/built in or removable back pack/pockets inside and out/methods of clipping objects to jacket 	6	Not loose fit for unisex. Not folds into pocket to store.
(c)	Any three factors, one mark each: <ul style="list-style-type: none"> • Availability of materials and components – buy up front or JIT • Tools and equipment available – are there any other orders in the factory at the same time? • Sequence of making needs to be decided – prototype – minimum time for maximum profit • Skills of the work force – will they need re-training? Enough people? Additional costs incurred • Number to be made – how much raw materials to buy and the best system for the amount • Time needed to make each unit • Computerised operations – can they be used? • Health and safety issues – safe working practices, protective clothing • Economical preparation of materials • Colour range – how many to make of each colour and whether to work simultaneously or one after another Environmental issues – using environmentally friendly products, disposing of waste effectively, avoiding waste where possible, economical use of energy and water	3	No explanation needed – just the point made.
	Total	15	

Question		Answer	Marks	Guidance
19	(a)	<p>Any three errors, one mark each:</p> <ul style="list-style-type: none"> • fabric not folded correctly/selvages not together • grain line not parallel to the selvages • overlapping pattern pieces • one pattern piece hanging over the edge of the fabric • binding not on bias • pieces not economically placed/fabric wasted 	3	
	(b)	<p>Evaluation might include reference to:</p> <ul style="list-style-type: none"> • Quicker / saves time / increases production • Less labour / machines need less supervision / reduces costs • More accurate / less human error / neater finish / all the same / consistency • Information can be stored on disk, can be re-used / saves space • Can be adapted / changes and not start from scratch • Can be e-mailed to other manufacturers • More staff training needed • High initial purchase costs and maintenance costs 	6	<p>Level 3 (5–6 marks) Thorough evaluation showing a clear understanding of the issues. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate can demonstrate the accurate use of spelling, punctuation and grammar.</p> <p>Level 2 (3–4 marks) Adequate evaluation, showing some understanding of the issues. There will be some use of specialist terms, although these may not always be used appropriately. The information will be presented for the most part in a structured format. There may be occasional errors in spelling, grammar and punctuation.</p> <p>Level 1 (1–2 marks) Basic evaluation, showing limited understanding of the issues. There will be little or no use of specialist terms. Answers may be ambiguous or disorganised. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>0 marks = no response or no response worthy of credit</p>

Question		Answer	Marks	Guidance
	(c)	<p>A maximum of six marks to be allocated. Information can be in notes or diagram:</p> <ul style="list-style-type: none"> • place fabrics right sides together • match edges and balance marks • pin/tack • mark stitching line • machine together using a straight stitch • reverse/secure threads at the start and end of the stitching • remove pins/tacking • press seam open • neaten edges 	6	Credit information in notes or diagram, but not both.
Total			15	

Assessment Objective Grid					
GCSE Design & Technology: Textiles					
		Recall, select and communicate	Apply knowledge, understanding and skills	Analyse and evaluate	
Question		A01	A02	A03	Mark
1				1	1
2				1	1
3		1			1
4		1			1
5		1			1
6		1			1
7		1			1
8		1			1
9		1			1
10			1		1
11		1			1
12		1			1
13		1			1
14		1			1
15		1			1
16 a				4	4
16 b			3		3
16 c			4		4
16 d		1			1
16 e			2		2
16f		4		2	6
17 a		4			4
17 b		3			3
17 c		2			2
17 d		6			6
18 a		6			6
18 b		6			6
18 c*		3			3
19 a		3			3
19 b			2	4	6
19 c		2	2	2	6
Total		52	14	14	80