

# **Design and Technology (Textiles Technology)**

General Certificate of Secondary Education

Unit **A572**: Sustainable design

## **Mark Scheme for June 2013**

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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## Annotations

Annotation	Meaning
	Level 1
	Level 2
	Level 3
	Noted but no credit given
	Tick

Question		Answer	Marks	Guidance
1		(C) Alpaca	1	
2		(D) Planned Obsolescence	1	
3		(C) Risk assessment	1	
4		(A) Toxic Chemicals	1	
5		(B) Heat Sensitive	1	
6		The symbol shown stands for <b>Do not Bleach</b>	1	
7		Mobius Loop	1	
8		RFID = Radio Frequency identification Data	1	1 MARK – ALL FOUR WORDS MUST BE CORRECT.
9		Polyester, nylon, lycra, elastane, acrylic & olefin	1	
10		Biodegradable	1	
11		<b>FALSE</b>	1	
12		<b>FALSE</b>	1	
13		<b>TRUE</b>	1	
14		<b>FALSE</b>	1	
15		<b>TRUE</b>	1	
		<b>Total</b>	<b>15</b>	

Question		Answer	Marks	Guidance
16	(a)	<ul style="list-style-type: none"> <li>• Sustainable / renewable resource</li> <li>• Can be recycled / reused / broken down into its fibres</li> <li>• Biodegradable /decompose</li> <li>• Natural fibre / no / limited chemicals / no / limited dyes</li> <li>• Low cost to replace / to environment</li> <li>• Life cycle process (grows back) – low CO2 / pollution.</li> <li>• No chemicals / dyes used</li> <li>• Organic material</li> </ul>	3	Do not accept 'can use natural dyes'
	(b)	<ul style="list-style-type: none"> <li>• Dyes from pigments from plants / flowers</li> <li>• Animals / insects</li> <li>• Vegetables</li> <li>• Fruit</li> <li>• Any two specific named sources commonly used for dye: beetroot, onion skins, blackberry, walnut shell.</li> </ul>	2	
	(c)	Embroidery Knitting Crochet Appliquéd / reverse applique / mola Patchwork Lace making Weaving. Beads / sequins / buttons Quilting Shisha	3	Do not accept machine or CNC embroidery.
	(d)	Can be produced at home. Less/no transport to get to work Less use of electricity Keeps alive traditional crafts	3	Less factory space needed Less pollution / noise pollution Provides jobs. Must be social reasons.

Question		Answer	Marks	Guidance
(e)		<ul style="list-style-type: none"> <li>• Use of chemicals in the manufacturing process</li> <li>• Higher use of finite resources / heavy use of non-renewable resources</li> <li>• Becomes a manmade fibre / combination / non-natural</li> <li>• Emissions / Pollution / contributions to global warming</li> <li>• Needs high temperatures to be made</li> <li>• High energy usage in manufacturing</li> <li>• Cannot recycle the fabric as it is blended / Non-recyclable.</li> <li>• Landfill</li> <li>• No longer biodegradable.</li> </ul>	4	Marks for explanation and the quality of explanation one word answers or a list – no more than 2 marks.
		<b>Total</b>	<b>15</b>	

Question		Answer	Marks	Guidance
17	(a)	Credit any relevant <b>HOUSEHOLD TEXTILE</b> product – bags / duvet / cushion / towel /curtains / apron / pillow	2	<p>Do <b>not</b> credit repeats.</p> <p>Product must be a <b>household textile</b> product.</p>
	(b)	<p><b>Use of materials</b> (3):</p> <ul style="list-style-type: none"> <li>Renewable materials / natural materials</li> <li>Fair-trade</li> <li>Cost</li> <li>Sourcing / recycling components and materials</li> </ul> <p><b>Carbon Footprint</b> (3):</p> <ul style="list-style-type: none"> <li>Low energy usage in manufacturing</li> <li>Minimum use of transport</li> <li>Source locally</li> <li>Use of renewable energy</li> <li>Reduction in CO<sub>2</sub> emissions.</li> </ul> <p><b>Disposal and recycling of product</b> (3):</p> <ul style="list-style-type: none"> <li>Number and types of materials</li> <li>Amount and type of components used</li> <li>Repair of item</li> <li>Decomposable item / biodegradable</li> <li>Ways in which it can be recycled eg primary, secondary, tertiary</li> <li>No Built in Obsolescence..</li> </ul>	9	<p>Maximum of three marks for each area.</p> <p>One point well explained with examples can be three marks.</p> <p>A list or bullet points = max of 2 marks.</p> <p>(ii) must relate to manufacture rather than retail</p>

Question		Answer	Marks	Guidance
(c)		<ul style="list-style-type: none"><li>• Carrying</li><li>• Fastenings / safety / choking hazard</li><li>• Size</li><li>• Materials / colourful</li><li>• Compartments / pockets</li><li>• Weight</li><li>• Ergonomics / anthropometrics.</li><li>• Durable / strong</li><li>• Unisex</li><li>• Easy to wash / care for</li></ul>	4	

Question		Answer	Marks	Guidance
18	(a)*	<p>Points relating to:</p> <ul style="list-style-type: none"> <li>• Long working hours</li> <li>• Poor working conditions</li> <li>• Poor health and safety</li> <li>• Child labour/sweatshop</li> <li>• Suppressed rights of workers</li> <li>• High % of man made fibres/materials</li> <li>• High usage of fossil fuels</li> <li>• Poor health for workers</li> <li>• Poor living conditions</li> <li>• Reference to ETI</li> <li>• Reference to Fairtrade issues.</li> </ul>	6	<p><b>Level 3 (5–6 marks)</b>            Thorough discussion, showing clear understanding of how low cost products made abroad can affect the social and moral conditions of the workers.            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><b>Level 2 (3–4 marks)</b>            Adequate discussion, showing an understanding of how low cost products made abroad can affect the social and moral conditions of the workers. 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><b>Level 1 (1–2 marks)</b>            Basic discussion, showing some understanding of how low cost products made abroad can affect the social and moral conditions of the workers. 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><b>0 = no response worthy of credit</b></p>

Question		Answer	Marks	Guidance
18	(b)	<p><b>Safety standard symbols</b></p> <p>CE label / European safety label</p>  <p>BSI kite mark</p>  <p>The BEAB mark</p>  <p>The Lion mark</p>  <p>Confidence in textiles</p> 	2	<p>One mark for correct label name and one mark for sketch.</p> <p>Accept any recognisable sketch of the label.</p>
18	(c)	Globalisation / global / export / exportation / import	1	<b>Answer must relate to international business.</b>

Question		Answer	Marks	Guidance
(d)		<ul style="list-style-type: none"> <li>• Less transport used within the environment – less cost/less emissions/less CO<sub>2</sub></li> <li>• Emailing of designs to companies all over the world – money/time/less emissions/energy usage etc</li> <li>• Less use of finite resources in transportation</li> <li>• Carbon footprint reduced</li> <li>• Virtual prototypes – saves using resources</li> <li>• Efficient planning eg pattern pieces / templates</li> <li>• Pattern lays transferred to machines – reduces fabric wastage</li> <li>• 3D modelling programme reduces wastage/quicker/more efficient.</li> <li>• Less waste of / use of paper</li> <li>• Erase work without disposing of it</li> </ul>	6	<b>Mark for identification of an advantage and one mark for the quality of the explanation. (3x2)</b>
		<b>Total</b>	<b>15</b>	

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