

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

General Certificate of Secondary Education **J307**

GCSE (Short Course) J047 Sustainable Design (A572)

## **Mark Scheme for June 2010**

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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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Question	Expected Answers	Rationale	Marks
1	A		1
<b>Total</b>			<b>[1]</b>

Question	Expected Answers	Rationale	Marks
2	D		1
<b>Total</b>			<b>[1]</b>

Question	Expected Answers	Rationale	Marks
3	C		1
<b>Total</b>			<b>[1]</b>

Question	Expected Answers	Rationale	Marks
4	B		1
<b>Total</b>			<b>[1]</b>

Question	Expected Answers	Rationale	Marks
5	A		1
<b>Total</b>			<b>[1]</b>

Question	Expected Answers	Rationale	Marks
6	European Eco label/logo	Do not accept general 'Eco Friendly' must reference to logo or label.	1
<b>Total</b>			<b>[1]</b>

Question	Expected Answers	Rationale	Marks
7	Eco label/Eco friendly		1
<b>Total</b>			<b>[1]</b>

Question	Expected Answers	Rationale	Marks
8	Wind /solar/hydro/geo thermal/tidal	1 mark	1
<b>Total</b>			<b>[1]</b>

Question	Expected Answers	Rationale	Marks
9	Linen, wool (animal hair),silk, hemp, flax, jute, coir.	1 mark	1
<b>Total</b>			<b>[1]</b>

Question		Expected Answers	Rationale	Marks
10		Ethical Trade Initiative	1 mark – all three words must be correct.	1
<b>Total</b>				<b>[1]</b>

Question		Expected Answers	Rationale	Marks
11		True	1 mark	1
<b>Total</b>				<b>[1]</b>

Question		Expected Answers	Rationale	Marks
12		False	1 mark	1
<b>Total</b>				<b>[1]</b>

Question		Expected Answers	Rationale	Marks
13		True	1 mark	1
<b>Total</b>				<b>[1]</b>

Question		Expected Answers	Rationale	Marks
14		False	1 mark	1
<b>Total</b>				<b>[1]</b>

Question		Expected Answers	Rationale	Marks
15		False	1 mark	1
<b>Total</b>				<b>[15]</b>

## SECTION B

Question		Expected Answers	Rationale	Marks
16	(a)	<ul style="list-style-type: none"> <li>• Construction methods</li> <li>• Design/improvement</li> <li>• Fibres/fabrics/components</li> <li>• Function</li> <li>• Legal requirements</li> <li>• Moral/environmental issues</li> <li>• Size/ergonomics</li> </ul>	<p>2x 1 mark</p> <p><b>Product Analysis:</b> To examine a product in detail to understand how the product or fabric works, which in turn will help the development of designs.</p>	2
16	(b)	<ul style="list-style-type: none"> <li>• Finding the original shapes of the garment pieces</li> <li>• The number of original garment pieces</li> <li>• Number/different materials used</li> <li>• The interfacing/lining used and where it has been used</li> <li>• The number of components used.</li> <li>• The way in which the pattern pieces have been cut out.</li> <li>• To be able to copy/draw the original pattern pieces.</li> <li>• The label used on the garment.</li> <li>• The type of seams used.</li> <li>• To help with pattern lay/planning.</li> <li>• Repair/use other parts of.</li> </ul>	<p>5 x 1 mark</p> <p>Do not accept reference to fibres</p>	5
16	(c)	<ul style="list-style-type: none"> <li>• Biodegradable/easy to get rid of once finished.</li> <li>• Will rot</li> <li>• Made from recycled materials – <b>recycle</b></li> <li>• Made from plastic recycled bottles – <b>reuse</b></li> <li>• No new resources used – <b>refuse</b></li> <li>• Landfill / rubbish tips - <b>reduce</b> .</li> </ul>	<p>2x2 mark</p> <p>Do not credit single words eg refuse, answers must be a reason.</p>	4

Question		Expected Answers	Rationale	Marks
16	(d)	<p><b>Points to consider:</b></p> <ul style="list-style-type: none"> <li>• Lined/with (faux) fur/or other named suitable fabric/ removable lining</li> <li>• Waterproof/wind protection</li> <li>• Reinforced stitching/ taped seams</li> <li>• Underarm ventilation</li> <li>• Removable/ fixed hood/polo neck/collar</li> <li>• Pockets/ clips to attach- security</li> <li>• Made longer/ shorter- sleeves or length of jacket</li> <li>• Zip – made to full length</li> <li>• Adjustable straps/cuffs/ hemline/drawstring</li> <li>• Attachment for gloves/ heated pads</li> <li>• Detachable waistcoat/removable sleeves</li> <li>• Wearable electronics- e.g. CD player, IPOD, mobile phone, pedometer.</li> <li>• Safety/ high visibility</li> <li>• Smart materials</li> </ul>	<p>4x1 mark Do not accept logo or patterns.</p>	4
<b>Total</b>				<b>[15]</b>

Question			Expected Answers	Rationale	Marks
17	(a)	(i)	<ul style="list-style-type: none"> <li>• Accept any natural textile fibre .e.g.</li> <li>• Linen/flax</li> <li>• Bamboo</li> <li>• Cotton</li> <li>• Hemp</li> <li>• Jute</li> <li>• Hessian</li> <li>• Silk</li> <li>• Wool</li> </ul>	1x1 mark	1
17	(a)	(ii)	<p>Linen – strong, lightweight, hardwearing, moth resistant, washable</p> <p>Cotton – strong, absorbent, durable, soft, hardwearing, washable</p> <p>Hemp/Jute/Hessian – strong, coarse cotton, some fire &amp; heat resistance, washable</p> <p>Wool- soft, flame resistant, insulating, washable</p> <p>Silk-absorbent, soft, flame resistant, strong, washable</p>	<p>2x 1 mark</p> <p>Marks awarded for correct <b>performance characteristic</b> of candidates <b>chosen</b> fibre.</p> <p>This list is not definitive.</p>	2
17	(b)	(i)	<ul style="list-style-type: none"> <li>• Recycling logo</li> <li>• 50% recyclable/ recycled</li> <li>• Mobius loop</li> </ul>	1x1 mark	1
17	(b)	(ii)	<p>Allows consumer to buy a knowingly recycled product</p> <p>Appraised guaranteed as eco friendly</p> <p>Free from harmful substances/chemicals</p> <p>Reduces risk of allergic reaction to chemicals</p> <p>Ensures it is 50% safe and environmentally friendly</p>	<p>3x1 mark</p> <p>Do <b>not</b> accept reference to future recycling. E.g. 'Product can be recycled'</p>	3
17	(c)		<p>Fewer vehicles on the roads</p> <p>Less fumes into atmosphere/carbon emissions</p> <p>Carbon footprint.</p> <p>Less use of fossil fuels for transport reasons.</p> <p>Quicker process, less wages and power uses</p>	2x1 mark or 2 marks for one answer well described.	2

Question		Expected Answers	Rationale	Marks
17	(d)	<ul style="list-style-type: none"> <li>• COSHH (control of substances hazardous to health) explains the hazard of the toxic substance/labelling.</li> <li>• How to store hazardous substances/ labelling</li> <li>• How to handle/use it</li> <li>• What to do if an accident-safety/medical/evacuation procedures</li> <li>• Fire drill/ exit/extinguishers</li> <li>• Information on how to prevent an accident.</li> <li>• Use of protective clothing – overalls/goggles/ear protectors/footwear/gloves/face mask/headwear/</li> <li>• Rules &amp; regulations in force to compensate/protect workers</li> <li>• Instructions for operating machinery</li> <li>• Adequate supervision for a named task</li> <li>• Operating or lifting heavy machinery</li> </ul>	3x2	6
<b>Total</b>				<b>[15]</b>



Question		Expected Answers	Rationale	Marks
18	(a)	<p><b>Primary recycling:</b> Second hand use of products – simply to use again.</p> <ul style="list-style-type: none"> <li>• Charity shops</li> <li>• Giving it to a friend or relative</li> <li>• Car boot/jumble sale</li> <li>• Sending it abroad/clothing bank</li> <li>• Selling via newspapers or internet websites</li> <li>• Re using packaging/labels</li> </ul> <p><b>Secondary recycling:</b> The process of turning the product into something else</p> <ul style="list-style-type: none"> <li>• Creating costumes/fancy dress outfits</li> <li>• Altering the product in some way/ repair</li> <li>• Creating a new product from the old product</li> <li>• Leaving a product to biodegrade before regenerating it into something else.</li> <li>• Patchwork/appliqué</li> </ul> <p><b>Tertiary recycling</b> Products are broken down and reformulated.</p> <ul style="list-style-type: none"> <li>• Fibres are re spun and re-used</li> <li>• Fleece fabric made from plastic bottles</li> <li>• Wool remnants used for wadding/stuffing/insulation.</li> <li>• Fastenings-used again</li> </ul>	<p>3x3 marks</p> <p>Where marks are to be allocated for reference to a <b>product</b>, it must be a <b>textiles</b> product.</p> <p>Product can be either <b>textiles</b> in origin or a <b>recycled textiles</b> end product made from alternative materials.</p>	9

Question	Expected Answers	Rationale	Marks
18 (b)*	Points to consider: <ul style="list-style-type: none"> <li>• Use of non renewable energy resources</li> <li>• Too much electricity</li> <li>• Too many chemicals/dyes in water systems</li> <li>• Waste management</li> <li>• Too much paper &amp; card in manufacturing packaging and labelling</li> <li>• Deforestation</li> <li>• Pollution from transportation of goods</li> <li>• Production of high care products – lots of washing or specialist cleaning processes.</li> <li>• Lack of ecologically manufacturing</li> <li>• Use of cheap and poorly paid workers – exploitation and then high transport costs</li> <li>• Waste – too many unwanted items, cheaply produced and thrown away</li> <li>• Built in Obsolescence.</li> </ul>	6x1mark  <b>Level 1 (0-2 marks)</b> Basic description, showing some 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 little or no use of specialist terms. Answers may be ambiguous or disorganised or ' <b>list like</b> '. Errors of grammar, punctuation and spelling may be intrusive.  <b>Level 2 (3-4 marks)</b> Adequate description, 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  <b>Level 3 (5-6 marks)</b> Thorough description, 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	6
		<b>Total</b>	<b>[15]</b>

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