

Design and Technology (Textiles Technology)

General Certificate of Secondary Education

Unit **A572**: Sustainable design

Mark Scheme for June 2011

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Question		Expected Answer	Mark	Rationale/Additional Guidance
1		Which of the following is primary recycling of garments? (D)	[1]	
2		Anthropometrics refers to: (B)	[1]	
3		Product globalisation refers to: (C)	[1]	
4		Eco friendly materials are materials that: (D)	[1]	
5		A sweatshop is a term used to describe: (A)	[1]	
6		The symbol shown stands for Global Unity / Globalisation / Global	[1]	
7		What does RFID stand for? Radio Frequency Identification Data	[1]	Accept the first three words
8		What is the name of smart materials that respond to heat? Thermo chromic / thermo	[1]	
9		What is meant by the term life cycle? The stages a new product goes through from conception to eventual decomposition	[1]	Accept reference to 'stages' of a product's life cycle
10		Name the term used to describe redundant products End of life disposal / obsolete / obsolescence	[1]	Do not accept reference to 'built-in obsolescence'

Question	Expected Answer	Mark	Rationale/Additional Guidance
11	Recycle means to buy a new product False	[1]	
12	Gortex is a natural fibre False	[1]	
13	BSI stands for British Safety Insurance False	[1]	
14	The country of origin is always on a garment label True	[1]	
15	Toxic pesticides cannot be used on organic cotton True	[1]	
16	(a) Give <u>four</u> advantages of using recycled materials. <ul style="list-style-type: none"> • Cheaper / free / local sourcing / use of charity shops • Individuality / uniqueness / fashion statement • Environmental advantages – reference to carbon footprint / less transport / CO2 / emissions /dyes / chemicals • Energy issues – less electricity / fossil fuels • Less unwanted wastage / landfill • A range of colours / styles- less predictable • Uses unwanted materials / components / resources • Ethical issues – consumer choice / used more than once • Reduces need / use of new fabrics / components 	[4]	4x1 marks Must qualify 'cheaper' not acceptable on its own Do not accept repeats with the same reason for separate points.

Question		Expected Answer	Mark	Rationale/Additional Guidance
16	(b)	<p>Give two disadvantages to the environment of using Polyester fibres.</p> <ul style="list-style-type: none"> • Does not decompose naturally / non biodegradable • Costs to get rid of / landfill / hard to get rid of • High use of finite resources / chemicals • Non sustainable / not a natural fibre / is a man-made fibre • Energy consumption is high • Emissions / pollution 	[2]	2x1 Do not accept general reference to 'harms the environment' or general reference to recycling
16	(c)	<p>Identify four reasons why the umbrella is to be packaged</p> <ul style="list-style-type: none"> • Protection / not damaged or broken / safety • Identification – security / tagging / stock control / bar code • Product information / labelling • Ease of transportation / storage / space • Marketing policy / branding • Advertising / display / aesthetics 	[4]	4x1
16	(d)	<p>Give four examples of non-environmentally friendly packaging.</p> <ul style="list-style-type: none"> • Coated paper / inks • Plastic hangers • Plastic bag / covering / label / tape • Bubble wrap / cellophane /polythene • Polystyrene / styrofoam • Excessive packaging 	[4]	4x1

Question		Expected Answer	Mark	Rationale/Additional Guidance
16	(e)	<p>Name one national textile company that has an Eco-friendly policy for its products, eg:</p> <ul style="list-style-type: none"> • Howies, Patagonia • M&S Primark • Next Oxfam • Sainsbury's Black Yak • Morrison's • Tesco • Asda • Debenhams • John Lewis • Indigo • Sharkah Chakra • People tree • Junky styling 	[1]	<p>1x1 Accept any national / well known company.</p> <p>Do not accept Fair trade, ETI, BSI, British Standards Institute.</p>
17	(a)	<p>Identify one different way for each of the 6Rs in which the cotton duvet cover can be used.</p> <ul style="list-style-type: none"> • RECYCLE: charity shop. Friends/ family. Third world. Remade into other product. Disassemble product. • REUSE: Adapted to suit alternative use, reuse in another way / location / remade / remake • REDUCE: ensure bought locally, use until in holes, only buy when needed • REFUSE: to replace unless really needed, do not throw away / must recycle / to purchase non environmentally friendly product • RETHINK: how else / where to use it / how to change it / embellish / dye. Who to give it to / different product • REPAIR: darn / patch / stitch / buttons / hems/ rips / holes 	[6]	<p>6X1 Do not credit repeats. Each point must be different.</p>
17	(b)	<p>What is the name of the logo?</p> <ul style="list-style-type: none"> • Fairtrade Foundation / Fairtrade 	[1]	1x1

Question		Expected Answer	Mark	Rationale/Additional Guidance
17	(c)	<p>Name & draw <u>one</u> other logo or symbol that could be found on the label for the 100% cotton duvet cover.</p> <ul style="list-style-type: none"> • Wash symbol • Iron symbol • Bar code • Company logo • Tumble dry / line dry • Dry cleanable • Cotton / eco logo • Organic/environmentally friendly logo • Recycle logo • European eco label • Flammable • Do not bleach 	[2]	<p>2x1</p> <p>One mark for clear drawing and one mark for written explanation.</p> <p>Do not accept: Hand wash Globe Unity logo, BSI , Kite mark, Size, Name of country, Turn inside out before washing, Toxic, harmful, irritant, CE / lion.</p>
17	(d)*	<p>Explain how the logo shown in Fig.3 addresses moral issues within society.</p> <ul style="list-style-type: none"> • The Fairtrade organisation is committed to tackling poverty • Injustice • Housing issues • Creates fair working conditions / health and safety • Fair prices for farmers • Fair wages for workers • Brings together manufactures & consumers in highlighting awareness • Sets social standards • Encourages ethical principles • Education for workers 	[6]	<p>6x1</p> <p>Level 1 (0-2 marks) Basic explanation, showing some understanding of the way follows society in general. Can provide a description of some of the areas of possible influence. There will be little or no use of specialist terms.</p> <p>Answers may be ambiguous or disorganised or 'list like'. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Level 2 (3-4 marks) Adequate explanation, showing an understanding of the way political, economic and social issues can lead and influence the design of a textile product. 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>

Question			Expected Answer	Mark	Rationale/Additional Guidance
					Level 3 (5-6 marks) Thorough explanation showing clear understanding of the way political, economic and social issues can lead and influence the design of a textile product. There will be three or more clearly identified and explained points. 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
18	(a)	(i)	Name <u>one</u> fibre that could be used to produce hand spun natural yarns? <ul style="list-style-type: none"> • Silk • Linen • Flax/ jute • Hemp • Wool • Cotton 	[1]	1x1
18	(a)	(ii)	Give <u>two</u> environmental advantages of natural fibres <ul style="list-style-type: none"> • Create less carbon emissions / atmosphere • Sustainable / no fossil fuels used • Can be regrown / renewable • Can be produced 100% organically • No need to use chemical / toxic dyes • Come from either animals or plants • Biodegradable / rots down 	[2]	2x1

Question		Expected Answer	Mark	Rationale/Additional Guidance
18	(b)	<p>Identify <u>three</u> benefits to the environment of hand spun fibres.</p> <ul style="list-style-type: none"> • Reduced energy consumption / no machinery running 24/7 • Lower emissions / CO₂ / lower carbon footprint • Less / no chemicals / dyes • Is made 100% by a person / no automated machinery • Less unwanted wastage / only make as much as needed 	[3]	3x1
18	(c)	<p>Explain what is meant by the term ‘smart & modern’ materials?</p> <ul style="list-style-type: none"> • Materials that are constantly evolving changing • Materials that have specific functions • Materials that are used for a variety of specialised functions • Materials that have unique manmade structure • Materials that have highly specialised performance characteristics. 	[4]	4x1 Marks are awarded for explanation of the question or separate points. Reminder this questions refers to Modern and Smart materials. No marks are allocated for naming fabrics
18	(d)	<p>Name <u>three</u> different examples of smart textiles.</p> <ul style="list-style-type: none"> • Interactive / ‘Fabrican’ • Geo textiles • Medical / silver / antibacterial • Moisture Absorbency • Sense & React / ‘Solvation chromism’ • Phosphorescent / glow in the dark / ‘Puddle jumper’ • Reflective Inks • Thermo chromic • Microencapsulation • Electronic / ‘Soft switch’ / ‘Gorix’ / ‘Lumalive’ • Named materials: Kevlar, Fastskin, Sharksuit • Biomimetics / ‘Stomatex’ • Nanotechnology / copyright threads 	[3]	3x1 Can accept names of actual materials. Do not accept Gortex, Polartec, Neoprene, Nomex Must refer to Smart materials do not accept reference to modern materials

Question		Expected Answer	Mark	Rationale/Additional Guidance
18	(e)	<p>Explain <u>one</u> benefit to the consumer of technological advances and changing styles in materials</p> <ul style="list-style-type: none"> • As new products become available the cost of previous products are reduced • New innovative and exciting products to be used / eye catching • More choice / style of products • Medical / health benefits • Safety / communication / tracking GPS / paramedics • Protection – work wear • Sports wear / enhanced performance • Ease of care - reduced need for washing 	[2]	2x1
		Total	[60]	

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