

Design and Technology (Textiles Technology)

General Certificate of Secondary Education

Unit **A572**: Sustainable design

Mark Scheme for January 2012

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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.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.






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Annotations

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

Subject-specific Marking Instructions**Marking crossed out and duplicated answers**

OCR currently provides examiners with 'rules' for marking crossed out answers (which may be partially or wholly correct) and duplicated answers. Duplicated answers refer to two (or more) alternative responses to the same question, or responses to more optional questions than required within the paper rubric.

The rules are as follows:

Crossed out answers

- where a candidate crosses out an answer and provides an alternative response the crossed out response is not marked and gains no marks
- Where a candidate crosses out an answer to a whole question, but makes no second attempt and the inclusion of the answer would not cause a rubric infringement, the assessor should attempt to mark the crossed out response and award marks appropriately.

Duplicated answers

- normally all responses are marked and the highest mark given
- where alternate answers are provided to a multiple choice question, no mark should be awarded (for example: following a request to tick one box, the candidate ticks two or more boxes)
- where the candidate provides contradictory responses, no mark should be awarded (for example: the candidate writes a statement such as 'water freezes at 0°C this means it is a liquid at -10°C'). The candidate, here, does not seem to understand the context of the 'question'
- where the candidate has adopted a 'scattergun' approach by providing multiple answers to a single response question, no mark should be awarded.

SECTION A

Question		Answer	Marks	Guidance
1		C Naturally degrade	1	
2		A Plastic bottles	1	
3		B Chemical	1	
4		C Can respond to environmental changes	1	
5		D Product Analysis	1	
6		Biological hazard / biological / hazardous	1	No to toxic, chemical or danger.
7		Plant / Natural / Eco friendly / sustainable / biodegradable / renewable	1	
8		Eco label / European eco label /eco	1	
9		Sun / wind / wave / water / tidal / hydro/ biomass/ bio fuel / ethanol fuel / geo thermal	1	
10		Anthropometrics	1	
11		False	1	
12		True	1	
13		True	1	
14		False	1	
15		True	1	
Total			15	

SECTION B

Question		Answer	Marks	Guidance
16	(a)	<ul style="list-style-type: none"> • Sustainable / renewable resource / agricultural methods • No harmful chemicals used during manufacture • Naturally coloured so can be produced without chemicals • Less soil contamination / uses less pesticides / no artificial fertilizer / no herbicides • Can be recycled • Biodegradable • Natural fibre • Life cycle process- low energy life cycle analysis • Safe for creatures eco-system 	4	<p>4x1 marks Do not accept cost less</p>
	(b)	<ul style="list-style-type: none"> • Wash symbol - machine wash / hot / cool / hand • Wash dark colours separately • Iron symbol • Company logo / name • Tumble dry / air dry • Dry cleanable • Do not bleach • Size • Country of origin • Flammable / keep away from fire 	3	<p>3x1 Marks to be allocated for either sketches and or notes.</p> <p>Allow do not tumble dry and do not iron. Do not allow recycling, eco friendly logos, CE logo, kite mark, non-irritant or fair-trade. This Question relates to care labels.</p>

Question		Answer	Marks	Guidance
	(c)	<ul style="list-style-type: none"> • Less transport - less fuel used • Less packaging / Less space in lorry needed / more bean bags transported per journey • Easier to stack / store • Less CO2 emissions / fumes into atmosphere • Less factory storage needed • Reduced carbon footprint / less energy in manufacture • Less waste / landfill 	3	<p>3x1 Answers must be qualified or relate to the environment.</p> <p>Do not accept money saved response.</p>
	(d)	<ul style="list-style-type: none"> • Charity shop / good cause • Friends or relatives • EBAY / Freecycle / sell on • Jumble/ car boot / rummage sale • Clothing bank / sending it abroad • Selling via newspaper • Reusing fabric / filling / components • Patchwork pieces / Appliqué bits • Cleaning cloths/ rags • Rag rugging / shredded / unwoven into a yarn 	5	5x1
		Total	15	

Question		Answer	Marks	Guidance
17	(a)	<ul style="list-style-type: none"> • The needs of the user • To examine a product to understand how it works • Construction methods used • Design / improvements of the belt / features • Fibres / fabrics / components of the belt • Function of the belt / effectiveness of belt • Legal requirements of the belt • Moral / environmental issues used in the making of the belt. • Size / ergonomics of belt 	2	2x1 Short statement with reference to: Product Analysis: to examine a product in detail to understand how the product or fabric works, which in turn will help the development of designs.
	(b)	<ul style="list-style-type: none"> • Finding the original shapes / sizes of the belt pieces • The number of original pieces • Number / different materials used • The lining used and where it has been used • The number of components used • The way in which the pattern pieces have been cut • To be able to draw / copy original pattern pieces • The label used on the garment • The type of seams used • To help with the pattern lay / lay planning • Repair 	3	3x1

Question	Answer	Marks	Guidance
(c)	<ul style="list-style-type: none"> • Cotton • Hessian • Linen / flax • Hemp • Jute • Bamboo <p>Cotton: strong / durable / soft / hardwearing / washable / lightweight</p> <p>Hessian / Hemp / Jute: strong / some fire & heat resistance / washable / durable / hardwearing</p> <p>Linen / Flax: strong / lightweight / hardwearing / moth resistant / washable / durable</p> <p>Bamboo: hardwearing / washable / durable / soft / strong</p>	4	<p>2x1 2x1 One mark for fibres. One mark for a correct performance characteristic of the chosen fibre.</p> <p>Do not credit repeats. E.g. Cotton – a strong fibre = 2 marks Hessian – a strong fibre = 1 mark (mark only given for alternative natural fibre.)</p> <p>Do not accept silk, wool or leather.</p>

Question		Answer	Marks	Content	Guidance
					Levels of response
	(d)	<p>Marks to be awarded for points relating to:</p> <ul style="list-style-type: none"> • Recycling – company policies • Low carbon Footprint - transport • Use of organic products - raw materials • Sustainable ethos / design • No built in obsolescence • Energy policy / conservation - air pollution, dyes, water usage, and energy. • Buy British / European goods – produced in • Reduction in imports of third world goods • Purchase of locally made goods • Closed loop production • Limited use / policy to do with chemicals • Disposal / reduction of waste / water / fuel 	6		<p>Level 3 (5–6 marks): Thorough explanation, showing clear understanding of the way political, economic and social issues can lead and influence a company's eco policy. 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</p> <p>Level 2 (3–4 marks): Adequate explanation, showing an understanding of the way political, economic and social issues can lead and influence an eco conscious company. 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 (0–2 marks): Basic explanation, showing some understanding of the way a company can have an eco policy. 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>
		Total	15		

Question		Answer	Marks	Guidance
18	(a)	<ul style="list-style-type: none"> • Coal and oil running out - will need to source alternative fuel. Costs involved. Finding alternatives. Reference to exploration - drilling in the artic etc • Pollution caused by the use of coal and oil into the atmosphere / danger to workers / health implications. • Damage to the environment by the pollution - ozone layer / global warming • Damage to landscape - mining / deforestation – nature & wildlife issues • Use of chemicals / danger to human habitat and the environment. 	4	2x2 List of two or more = maximum of two marks
	(b)	<ul style="list-style-type: none"> • Keeps alive traditional techniques / methods • Creates employment in low employment areas • Keeps families in one place • Teaches traditional techniques / methods • Improved living / working conditions • Uses natural local resources • Provides training / skills • Community projects • Increased self esteem / morale 	4	4x1 Answers must relate to social advantages.

Question	Answer	Marks	Guidance
(c)	<ul style="list-style-type: none"> • Good working conditions • Hours of work - set legal limits and regulations • Safety on machinery - training given / machinery tested • Health care / compensation- private schemes • Rates of pay - minimum wages / overtime rates • Supervision for specific task - training and hierarchy of responsibility posts • COSHH labelling • Accident instructions / rules / protection • Fire safety rules and regulations • Protective clothing / equipment (PPE) - itemised articles to wear. 	4	2x2 List of four = maximum of two marks
(d)	<ul style="list-style-type: none"> • Fabric testing • Fire resistant finish added • Safety labelling attached • No loose parts / components • No loose threads • Product information attached • Fastenings in working order. • Flammability / fume / toxic testing / harmful chemicals • Sharp edges / broken pins / metal detector 	3	3x1
	Total	15	
	Paper Total	60	

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