

Mark Scheme (Results)

Summer 2013

GCSE Design & Technology Textiles
Technology (5TT02/01)

Knowledge & Understanding of
Textiles Technology

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Summer 2013

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Question Number	Answer	Mark
1	C	(1)
Question Number	Answer	Mark
2	B	(1)
Question Number	Answer	Mark
3	C	(1)
Question Number	Answer	Mark
4	A	(1)
Question Number	Answer	Mark
5	D	(1)
Question Number	Answer	Mark
6	B	(1)
Question Number	Answer	Mark
7	C	(1)
Question Number	Answer	Mark
8	D	(1)
Question Number	Answer	Mark
9	B	(1)
Question Number	Answer	Mark
10	C	(1)

Question Number	Answer	Mark	
11. (a)	Presser foot	<p>To clamp/ hold/secure/keep-steady fabric in place whilst sewing.</p> <p>A sewing machine attachment that provides a hole for the sewing needle to go through</p> <p>To assist in sewing a straight forward/reverse/ seam/ correct size/</p> <p>Guide for seam width (e.g. patchwork) /direct/guide for needle</p> <p>(1)</p>	
	Velcro	<p>Fastens garments or shoes, open and close/to attach fabric together, join, attach, secure</p> <p>Not stick or hooks and loop</p> <p>(1)</p>	
	Fabric, dressmaking shears/ scissors (1)	<p>To cut fabric easily & accurately</p>	
	Zip/zipper (1)	<p>To fasten products securely</p>	
	4 x 1		

Question Number	Answer	
11.(b)	<p>Two characteristics and linked reason from:</p> <ul style="list-style-type: none"> • Characteristic: stitches beginning at the neckline and finishing beneath the armpit (1) • Reason: allows it to fit a range of sizes/less friction (1) • Characteristic: Can be decorative/ distinctive/corporate (1) • Reason: promotes school identity (eg coloured piping inserted) (1) • Characteristic: easier to make than a traditional sleeve (1) • Reason: so less skills needed to make it, so less costly (1) (<i>Do not accept cheaper on its own</i>) • Characteristic: Inserting raglan sleeves is not as time-consuming as standard/traditional set in sleeves (1) • Reason: Can be inserted without gathering /puckering is not an issue (1) • Characteristic: Loose fitting/ comfortable /wide spacious cut (1) • Reason: so easy to move in /shape of pattern piece allows the arms to move freely in all directions and are never binding/less stress on seams (1) 	(4)
Question Number	Answer	
11.(c) (i)	<p>Any two characteristics from the following:</p> <ul style="list-style-type: none"> • stretchy / elasticity (1) • Insulates/ warm/ traps air(1) • It has a wrong & right side (1) 	(2)

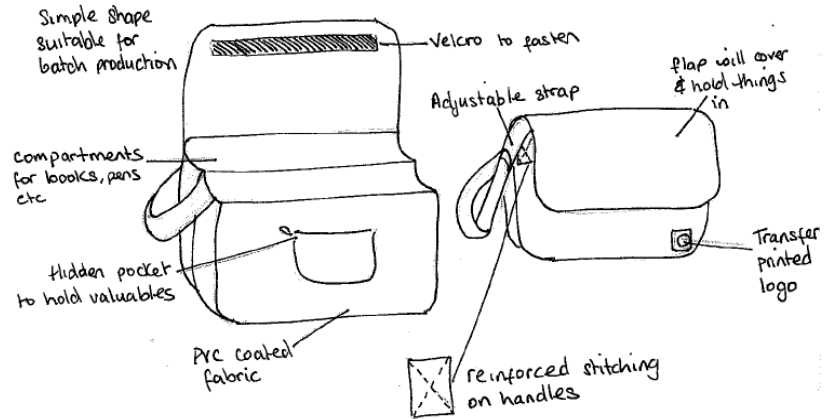
Question Number	Answer	Mark
<p>11.(c) (ii)</p>	<p>Any advantage from the following:</p> <ul style="list-style-type: none"> • Faster production system (1) so more products can be made in less time (1) • Keeps shape/ stretches in 2 directions (1) so less likely to shrink/distort/ fits well (1) • Fabric difficult to unravel, less likely to/does not ladder (1) which means quality remains high (1) • The edges don't curl when cut (1) making it easier to work with (1) • No wrong or right side so able to use either (1) and maximise use of fabric (1) <p><i>Not interchangeable, stick to one bullet point.</i></p>	<p>(2)</p>

Question Number	Answer	Mark
11 (d)	<p>Two reasons from the following:</p> <ul style="list-style-type: none"> • It gives information to those who suffer from allergies (1) • It tells the customer if there is an increased amount of a more expensive fibre / value for money information (1) • Lets consumers know why the fibre/one of the fibres may have to be treated more delicately when being e.g.: laundered/washed/tumble dried/dry cleaned/or not washed (1) • It is a legal requirement (1) • Information on sustainable fibres used (1) • Suitability of the age of consumer (1) • Suitable for purpose e.g.: flame retardant/water resistant/warm (1) 	(2)
Question Number	Answer	Mark
11. (e) (i)	<p>Correct three stages identified:</p> <ul style="list-style-type: none"> • 2. Apply hot wax design on fabric using the Tjanting tool/ paint brush (1) • 3. Allow wax to dry/cool/set (1) • 5. Iron/ press fabric between layers of paper to remove wax with heat (1) <p><i>Allow for suitable quality check. Allow for key words in order in any box.</i></p>	(3)

Question Number	Answer	Mark
11. (e) (ii)	<p>Any explanation from the following:</p> <ul style="list-style-type: none"> • Process (substance / item) where e.g. wax, string, elastic bands, gutta etc. (1) are used to block colour from penetrating fabric (1) • The ability to block/ stop dye/ fabric paint from contact with the fabric (1) due to material/component/substance being resistant to paint/dye (1) 	(2)

Question Number	Answer	Mark
12.	<p>Design idea 1</p> <p>Candidates may answer any specification point in either graphical form or by annotation.</p> <p>No marks are awarded for the quality of graphical communication.</p> <ol style="list-style-type: none"> 1. be able to carry books separately, pens & other essential equipment (1) : e.g. show compartments, pockets 2. be able to fasten quickly and easily (1) : e.g. zips, poppers, Velcro 3. be able to hold valuables securely (1) : e.g. construction (flap completely covering front), zip, hidden pockets, hooks/ clasps to secure purse/ mobile phone 4. use strengthening components or construction techniques (1) : e.g. reinforced stitching, rivets, topstitching, lining, metal stud feet 5. be made from shower/waterproof fabric or have a suitable finish/coating (1) : e.g. nylon, PVC coating, Teflon 6. be comfortable to carry (1) : e.g. padded straps/ handle, adjustable straps, 2 straps to balance weight, wide straps-no digging in 7. use a decorative technique to display the school logo (1) : e.g. printing, appliqué, 8. Be suitable for batch production (1): e.g. simple shapes (pattern pieces), features, decorative techniques, components, bulk buying, quick processes, use of CAD/CAM. <p>2nd cannot duplicate 1st in any way</p>	

Example of candidate response:

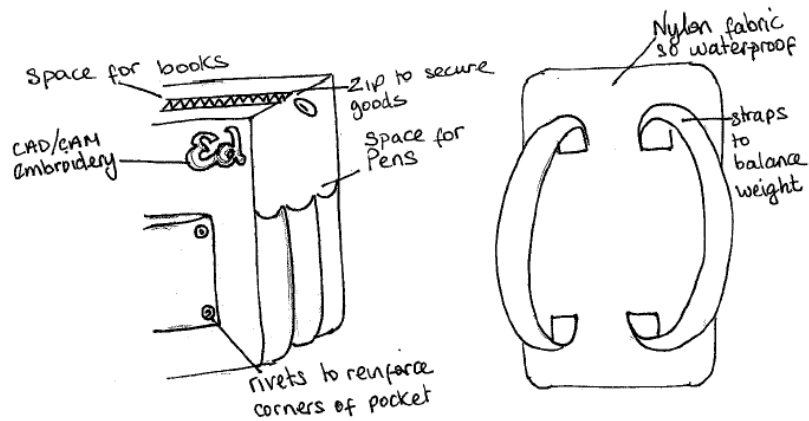


(8)

Design idea 2

Marks for design idea 2 can only be awarded where specification points are resolved differently than in design idea 1.

Example of candidate response:



(8)

Question Number	Answer	Mark
13 (a)	<p>Any characteristic and linked reason from:</p> <ul style="list-style-type: none"> • Property: Soft/comfortable/feels good against skin (1) • Reason: Leaves fabric fluffy/raised nap (1) • Property: Warm/comfortable (1) • Reason: Increases the amount of trapped air between fibres increasing insulation (1) <p><i>Not interchangeable.</i></p>	(2)
Question Number	Answer	Mark
13 (b)	<p>Any description from the following:</p> <ul style="list-style-type: none"> • Too many component parts & processes on it (1) to make it suitable for batch/ mass production (1) • Most processes are done by hand e.g. hand embroidery, randomly applied printing (1) and would be time consuming/highly skilled work (1) • Trimmed with expensive fabric/components e.g. handmade lace, silk ribbon (1) which would increase the cost (1) • Complex cutting instructions (1) due to wide range of fabrics used (1) <p><i>Accept any logical combination of above points.</i></p>	(2)

Question Number	Answer	Mark
13 (c)	<p>Any explanation from the following:</p> <ul style="list-style-type: none"> • Acts as a warning (1) as the item does not meet the flammability requirements of BS 5722. (1) • Gives advice (1) to let consumers know that product is not safe to wear near an open flame. (1) • Meets legal requirements (1) to inform purchaser that the item has not been treated with a fire retardant/ untreated cotton is highly flammable/ flammable fabric (1) 	(2)
Question Number	Answer	Mark
13 (d) (i)	<p>1 mark- brief mention of how the nightdress is easy to put on and take off 2 marks – a developed explanation of how the night dress is easy to put on and take off</p> <p>Easy to put on and take off</p> <ul style="list-style-type: none"> • Deep/ wide neck (1) as there are no components to fasten/ unfasten/ slides over their head (1) • Elasticated (1) so will stretch to fit a range of shapes/ sizes (1) • Loose fitting/ not restrictive (1) so shape does not restrict access (1) 	(2)

Question Number	Answer	Mark
<p>13 (d) (ii)</p>	<p>1 mark- brief mention of how the nightdress is safe to wear 2 marks – a developed explanation of how the nightdress is safe to wear</p> <p>Safe to wear</p> <ul style="list-style-type: none"> • Thermochromatic dye reacts to heat & changes colour (1) so you can see if child gets too hot/cold (1) • Knee length (1) so not a tripping hazard (1) • Warning label (1) informs consumer of risk (1) • Cotton fabric (1) is cool because it keeps child from overheating/hypoallergenic (1) • No loose components/ not restrictive e.g.: beads, buttons, sequins (1) choking/strangulation hazard (1) <p><i>Do not accept repetition of 'keep away from fire' label.</i></p>	<p>(2)</p>

Question Number	Answer	Mark																		
13. (e)	<p>Evaluation to address the following issues:</p> <table border="1"> <thead> <tr> <th>Product A</th> <th>Product B</th> </tr> </thead> <tbody> <tr> <td colspan="2">Performance requirement Form/ Function</td> </tr> <tr> <td>Easy on and off elastic waist, wide/ deep neckline</td> <td>One button on the back so harder to get on/off. Child cannot practise fastening themselves More difficult to go to the toilet</td> </tr> <tr> <td>Empire line allows for freedom of movement Can outgrow length & still be worn</td> <td>Size limited to length of body suit Woven fabrics do not give- restrictive</td> </tr> <tr> <td>Can be worn all year round Suitable for age range</td> <td>Enclosed feet make it suitable for cooler season Babyish & may not appeal to growing child</td> </tr> <tr> <td colspan="2">User requirements</td> </tr> <tr> <td>Fun pattern/ child like Feminine/ 'girly' colour e.g. pink colouring Aesthetically pleasing to target market <i>Must be qualified with a suitable example.</i></td> <td>Mature pattern/colour</td> </tr> <tr> <td colspan="2">Material requirement</td> </tr> <tr> <td>Cotton fibres make blend more comfortable as it has good MVT, soft comfortable, cool to wear, more absorbent.</td> <td>Polyester fabric can make you sweaty as is non-absorbent. Become hot & uncomfortable when you sleep.</td> </tr> </tbody> </table>	Product A	Product B	Performance requirement Form/ Function		Easy on and off elastic waist, wide/ deep neckline	One button on the back so harder to get on/off. Child cannot practise fastening themselves More difficult to go to the toilet	Empire line allows for freedom of movement Can outgrow length & still be worn	Size limited to length of body suit Woven fabrics do not give- restrictive	Can be worn all year round Suitable for age range	Enclosed feet make it suitable for cooler season Babyish & may not appeal to growing child	User requirements		Fun pattern/ child like Feminine/ 'girly' colour e.g. pink colouring Aesthetically pleasing to target market <i>Must be qualified with a suitable example.</i>	Mature pattern/colour	Material requirement		Cotton fibres make blend more comfortable as it has good MVT, soft comfortable, cool to wear , more absorbent .	Polyester fabric can make you sweaty as is non-absorbent. Become hot & uncomfortable when you sleep.	(6)
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	Component requirement		
	Comfortable to lie on with soft components	Buttons can be uncomfortable in sleep & press into skin. Non-functional/ purely decorative Hazard- small buttons - swallow & choke	
Level	Mark	Descriptor	
	0	No rewardable material	
Level 1	1-2	Candidate identifies the area(s) of comparison with no development OR identifies and develops one area. Shows limited understanding of the comparison. Writing communicates ideas using everyday language but the response lacks clarity and organisation. The candidate spells, punctuates and uses the rules of grammar with limited accuracy.	
Level 2	3-4	Candidate identifies some areas of comparison with associated developments showing some understanding of the comparison. Writing communicates ideas using D&T terms accurately and showing some direction and control in the organising of material. The candidate uses some of the rules of grammar appropriately and spells and punctuates with some accuracy, although some spelling errors may still be found.	
Level 3	5-6	Candidate identifies a range of areas of comparison with associated developments showing a detailed understanding of the comparison. Writing communicates ideas effectively, using a range of appropriately selected D&T terms and organising information clearly and coherently. The candidate spells, punctuates and uses the rules of grammar with considerable accuracy.	

Question Number	Answer	Mark
14 (a)	<p>Give one method from the following:</p> <ul style="list-style-type: none"> • Overlocked (1) • Pinking shears (1) • French seams (1) • Heat seal (1) • Laser cutting (1) • Edge stitched (1) • Binding (1) • Rolled hem (1) • (Flat) felled seam (1) <p><i>Do not accept 'hem' on its own.</i></p>	(1)

Question Number	Answer	Mark
14 (b)	<p>Two statements from the following:</p> <ul style="list-style-type: none"> • Fibre mixtures/blends for texture/weight (1) • Textured e.g.: crimp (1) • Bulked (1) • Plying/twisting/ spinning different yarns/nap/cut pile e.g.: chenille, metallic, boucle, loop, slub (1) • Mixing different coloured yarns (1) 	(2)

Question Number	Answer	Mark
14 (c)	<p>One descriptions from the following: It is faster/ cheaper/ quicker/ more efficient because:</p> <p>Benefits</p> <ul style="list-style-type: none"> • Rotary screen printing is less labour intensive (1) • Rotary screen printing allows continuous production (1) • Rotary screen printing achieves a more consistent ink flow/ pressure (1). • Rotary screen printing can be combined with other printing techniques easily (1) <p>Justification</p> <ul style="list-style-type: none"> • which makes it better value for money/cost effective. (1) • as reservoirs pump printing paste through cylindrical screens which pump it out onto moving fabric/another follows right behind so you do not have to wait to change screens. (1) • In comparison each colour/design of flat screen has to be lowered and ink applied individually (1) • Able to produce range of effects e.g.: metallic, 3D <p><i>Accept any logical combination of above points.</i></p>	(2)

Question Number	Answer	Mark
14 (d)	<p>One explanation from the following:</p> <ul style="list-style-type: none"> • Saves machinery (1) as pumice stones that damaged machinery are no longer needed (1) • Eco friendly/sustainable (1) as it does not produce the waste (sludge) left by traditional stone washing (1) • More consistent results (1) so end product is more reliable (1) • More denim can be machine washed at a time (1) as the stones do not take up space (1) • Do not need to remove stone fragments after washing (1) so less labour intensive (1) 	(2)

Question Number	Answer	Mark
14 (e) (i)	<p>One advantage from each of the following:</p> <p>Modifying existing pattern pieces:</p> <ul style="list-style-type: none"> • quicker to produce/ less time consuming (1) as don't have to start from scratch (1) • data from previous patterns stored/saved (1) therefore can be edited (1) • less time consuming than post (1) as they can be sent from design room to factory floor (to CAM) (1) • Virtual modelling (1) to test design/ less wastage of paper/time/fabric (1) <p><i>Do not accept 'cheaper'.</i> <i>Bullet points are interchangeable.</i></p>	(2)

Question Number	Answer	Mark
14 (e)(ii)	<p>One advantage from each of the following:</p> <p>Grading pattern pieces:</p> <ul style="list-style-type: none"> • quicker/ fewer mistakes (1) as CAD works out calculations/less wastage (1) • outline for new sizes can be accurate/high precision (1) because scaled by system/tighter tolerance (1) • alterations done on screen (1) then transferred to cutting machine or lay plan (1) <p><i>Do not accept 'cheaper'.</i> <i>Bullet points are interchangeable.</i></p>	(2)

Question Number	Answer	Mark
14 (e)(iii)	<p>One advantage from each of the following:</p> <p>Lay planning:</p> <ul style="list-style-type: none"> • efficient use of material (1) best fit so less waste/ more accuracy/ less costly (1) • efficient use of time/ faster/ quicker (1) saves money because easy to move pieces around on computer/include all pattern pieces/components (1) • less space needed (1) as fabric not laid out until ready/virtual onscreen (1) <p><i>Bullet points are interchangeable.</i></p>	(2)

Question Number	Answer	Mark
14 (f)	<p>Its goal was for governments around the world to reach an agreement regarding emissions of carbon dioxide and other greenhouse gases.</p> <p>The Kyoto Protocol called for the industrialized nations to reduce national emissions over the period 2008-2012 to 5 percent below the 1990 levels.</p> <p>This can be achieved by less manufacturing abroad as the carbon footprint of fibres and fabrics flown around the world can be great even before the product is produced. Using greener technology and processes like digital printing, using renewable sources of energy that does not need fossil fuels to run it or recover energy from waste e.g., production of Lyocell that recycles its waste materials.</p>	(6)

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