

Mark Scheme (Results)

June 2011

GCSE Design & Technology: Textiles
Technology
(5TT02/01: Knowledge and
Understanding of Textiles Technology)

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June 2011

Publications Code UG027716

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Question Number	Answer	Mark
1	D	(1)

Question Number	Answer	Mark
2	A	(1)

Question Number	Answer	Mark
3	C	(1)

Question Number	Answer	Mark
4	C	(1)

Question Number	Answer	Mark
5	B	(1)

Question Number	Answer	Mark
6	A	(1)

Question Number	Answer	Mark
7	D	(1)

Question Number	Answer	Mark
8	A	(1)

Question Number	Answer	Mark
9	A	(1)

Question Number	Answer	Mark
10	B	(1)

Question Number	Answer		Mark
11(a) 1.7 Comp, mat, equip & pro.	Correct spelling of button with anything else following e.g. button(s) Incorrect spelling of button that carries the same/similar sound e.g. buton/ botton/ butan (1)	To open and close a product	
	Sewing machine	To quickly and securely sew/ stitch/attach together fabric/material. Create machine stitching)/ decorative stitching (1)	
	Iron	To use heat to get rid of creases . To make a crease or pleat. To flatten when making. To make a product more presentable . Iron clothes. Bond fabrics together. Press (1)	
	Tape measure / measuring tape / tape for measuring. Also incorrect spelling/ grammar e.g. tape measurer/ tap mesur/ mesuring tape (1) <i>Not tape or measure on its own</i>	Measuring	
	1X1 1X1 1X1 1X1		(4)

Question Number	Answer	Mark
11(b)1.5 Fabrics	<p>Characteristic</p> <ul style="list-style-type: none"> • Sizes of 'wale'/ thickness (rib) can differ (1) appropriate size for body chosen (1) • Distinct pattern (1) attractive & traditional in children's clothing (1) • Comfortable/soft (1) texture due to nap raised fibres / less irritable against the skin/often made in cotton/cotton mixtures (1) • Colour/tone change (1) aesthetic qualities enhances appearance (1) • Strong/durable/practical (1) suitable for active wear/ playing in • Warm (1) as ribs form an insulated cushion of air (1) <p><i>Candidates will get 1 mark for characteristic wherever it appears and a 2nd mark for the reason</i></p> <p style="text-align: right;">1X1 1X1</p>	(2)

Question Number	Answer	Mark
11(c)(i)	<p>Correct two stages identified:</p> <div style="text-align: center;"> <div data-bbox="655 248 995 389" style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Put the wrong sides of the fabric together and stitch.</div> <div style="text-align: center; margin: 5px 0;">↓</div> <div data-bbox="655 439 995 582" style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Trim / cut back seam / fabric</div> <div style="text-align: center; margin: 5px 0;">↓</div> <div data-bbox="655 631 995 775" style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Turn the fabric so that right sides are together and press.</div> <div style="text-align: center; margin: 5px 0;">↓</div> <div data-bbox="655 824 995 967" style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Sew / stitch / enclosing seam</div> <div style="text-align: center; margin: 5px 0;">↓</div> <div data-bbox="655 1016 995 1160" style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Press to one side</div> </div> <div style="text-align: right; margin-top: 20px;"> <p>1X1 1X1</p> </div>	<p>(2)</p>

Question Number	Answer	Mark
11(c)(ii)	<p>One advantage from:</p> <p>Seam is</p> <p>What it does</p> <ul style="list-style-type: none"> • Hardwearing / durable/strength/secure (1) withstand frequent washing / actively strengthened with two rows of stitching/will not tear at the seam-play (1) • More comfortable(1) gives a soft edge to the seam/ good for sensitive skin / less friction (1) • Seam enclosed (1) Neater, professional finish, attractive / has no raw edges exposed/ prevents fraying (1) <p style="text-align: right;">1X1 1X1</p>	(2)

Question Number	Answer	Mark
11(d)	<p>Two finishes given from:</p> <ul style="list-style-type: none"> • Easy-care (1) • Anti-static (1) • Anti-felting (1) • Shrink resistant (1) • Mercerising (1) • Shrink resistant (1) • crease resistant (1) • Stain resistant (1) • Flame/fire- resistant/ proofing/ Proban (trade name)(1) • Water/ shower- proofing/ repellent / resist (1) • Laminating (1) • Coating (1) <p style="text-align: right;">1X1 1X1</p>	(2)

Question Number	Answer	Mark
11(e)	<p>Two reasons given from:</p> <ul style="list-style-type: none"> • allows for checks to be built into the manufacturing process/identical products (1) • so that high quality products are made (1) • so that costly mistakes are avoided in production (1) • through tests they get vital feedback information on materials and production (1) • to maintain manufacturers reputation (1) 	

	<ul style="list-style-type: none"> • So that less products are returned (1) <i>Not about safety</i> 	
	1X1 1X1	(2)

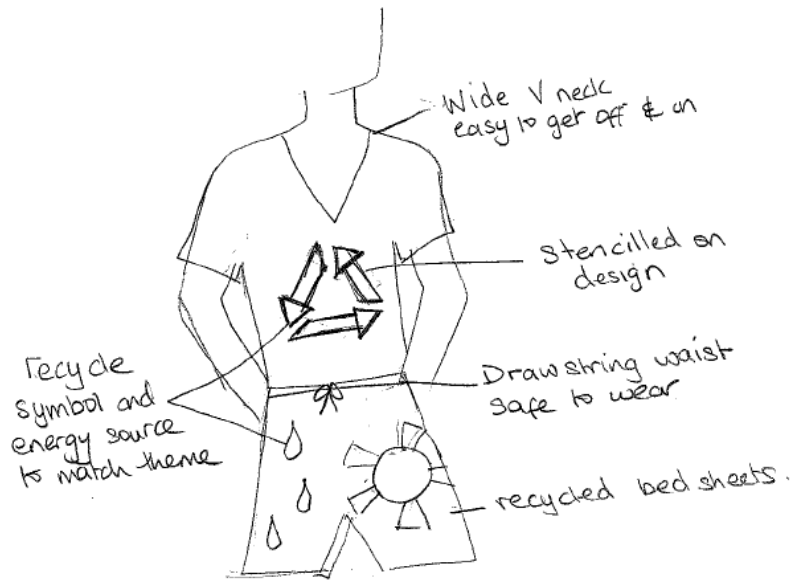
Question Number	Answer	Mark
11(f)	<p>Two reasons given from:</p> <ul style="list-style-type: none"> • It will need to be placed carefully so that the pattern / nap/garment matches up (1) • More fabric to get pattern pieces in the right place / more potential for waste and higher cost (1) • The patterned fabric may be printed in one direction so you are not always able to turn pattern upside down (1) • Different size pattern pieces could cause joining in different places. Grading issues. (1) 	
	1X1 1X1	(2)

Question Number	Answer	Mark
11(g)	<p>Three benefits given from:</p> <ul style="list-style-type: none"> • fixed number of identical products produced at once (1) • relatively inexpensive production system/ saves money in production e.g. repetitive processes (1) • Easy to modify (1) • Seasonal changes/fast / high fashion (1) • Number of products can be changed to meet demand (1) • Machinery & equipment can be changed in between batches/ flexible production (1) • Storage cost reduced due to JIT (1) • Skilled workers/ get less bored as skills can be adapted/to meet new batch requirement (1) <p><i>(‘cheaper’ and ‘quicker’ not allowed on their own they must have a reason with them)</i></p>	
	1X1 1X1 1X1	(3)

Question Number	Answer	Mark
12	<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> <ul style="list-style-type: none"> • 1.be suitable for 14-16 year olds (1): e.g. use colours (earthy, bold, eye-catching), trims, design and images, style • 2.Clearly reflect the theme (1): Obvious link to the environment. Factories, pollution, nature, water, wind, rain etc • 3.be cheap to make (1): must be in main garment not head dress, e.g. inexpensive fabrics (e.g. felt)/ few components or decorations(visual only once)/ recycled fabric/ production method e.g. CAD/CAM • 4.be safe to wear(1): e.g. non-flammable fabric, no loose pieces no tripping, secure components (can be visual, only once) • 5.be easy to put on and take off (not related to the head dress) (1): e.g. uncomplicated design e.g. opens all the way down the front, easy to use components, tie opening, use of Velcro, no back fastening on bodice, stretchy fabric e.g. Jersey, lycra®, stretchy product, T-Shirt. • 6.Use decorative techniques (1): e.g. appliqué, embroidery, fake fur trim, different coloured fabrics, frills, piping etc • 7.Consist of two separate garments(1): e.g. two clearly defined and identified pieces of clothing • 8.Be suitable for one off production in the classroom (1): e.g. evidence that the process is suitable for one-off production, e.g. (unusual) shape, nothing that requires advanced skills, hand processes e.g. sequins, features or decoration (e.g. hand painting/ stencilling) which make it more suitable for one –off 	

(8)

Design idea 1



8X1

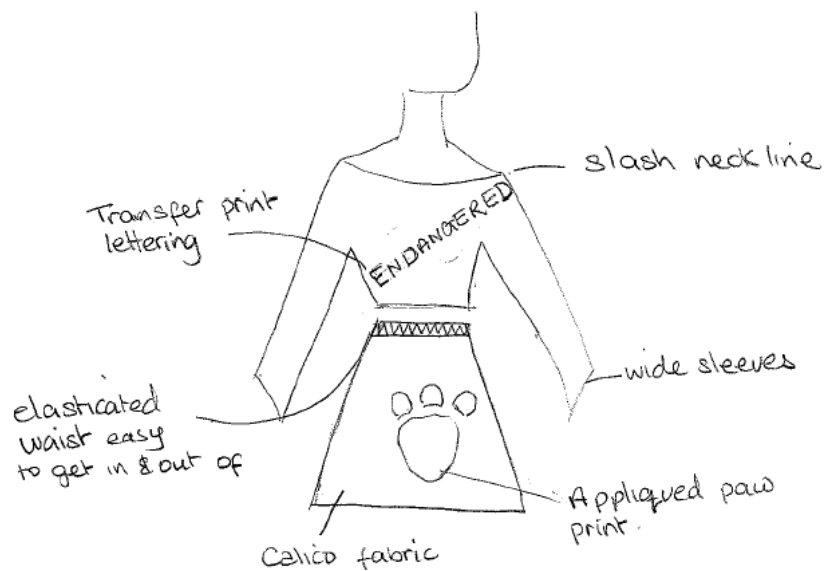
Design idea 2

Hand stencilled design

(8)

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

Example of candidate response:



8X1

Question Number	Answer	Mark
13(a)	<p>Two properties and linked justification from:</p> <ul style="list-style-type: none"> • Property: Lightweight (1) • Justification: not bulky or heavy so wearer is able to manoeuvre around (1) • Property: Easy to wash/ easycare (1) • Justification: Can be cleaned after use / does not require dry cleaning (1) • Property: Very Strong/ durable/ resilience(1) • Justification: Hardwearing so won't tear easily during activity / synthetic fibre (1) <p><i>Interchangeable P & J</i></p> <ul style="list-style-type: none"> • Property: Inexpensive (1) • Justification So cost of product is reasonable (1) • Property: Insulates / warm (1) • Justification: For shield against the wind/ outdoor weather (1) • Property: Crease resistant/ good elasticity/recovery (1) • Justification: Trousers will remain neat/ smart whilst worn/ low heat or no need to iron (1) • Property: Non-absorbent/ water resistant (1) • Justification: stains resistant (1) <p style="text-align: right;">2X1 2X1</p>	(4)

Question Number	Answer	Mark
13(b)	<p>One description given from:</p> <p><i>(computer)</i> Transfer printing</p> <ul style="list-style-type: none"> • Computer needed to transfer design (1) • printed onto special transfer paper(1) • Design is then transferred face down onto fabric (1) using heat press or ironing(1) <p><i>(heat)</i> Transfer printing</p> <ul style="list-style-type: none"> • Design printed onto special paper (wax crayons/ special pens in classrooms) (1) (sublimation) paper 	

	with coating on it (1) then transferred onto fabric using special heated rollers (1) onto fabric with 50% + synthetic content (1) <i>(created image not rewarded on its own)</i> 2X1	(2)
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Question Number	Answer	Mark
13(c)(i)	<p>1 mark- brief mention of how the outfit has high visibility 2 marks – a developed explanation of how the outfit has high visibility</p> <ul style="list-style-type: none"> • Reflective braces (1) easily visible when light hits them (1) • Bright blue and orange (1) contrasting colouring stands out (1) • Dye is eye catching (1) because it is fluorescent (1) <p><i>Allow for similar words for e.g. 'eye catching'</i></p> <p style="text-align: right;">2X1</p>	(2)

Question Number	Answer	Mark
13(c)(ii)	<p>1 mark- brief mention of how the outfit is adjustable for wearer 2 marks – a developed explanation of how the outfit is adjustable for wearer</p> <ul style="list-style-type: none"> • Velcro fastening on braces (1) adjustable so can allow for differences in height/ size / length(1) • Elastic (1) expands/ stretches so accommodates different sizes/fit/shape (1) <p style="text-align: right;">2X1</p>	(2)

Question Number	Answer	Mark						
13(d) QWC	<p>Evaluation to address the following issues:</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>Outfit A</th> <th>Outfit B</th> </tr> </thead> <tbody> <tr> <td>Reflective braces can stand out in the dark (1) relies on a light source (1)</td> <td>Dark plain colour (1) Does not stand out in bright/dim light (1)</td> </tr> <tr> <td>Elasticated waist</td> <td>Buttons more fiddly to</td> </tr> </tbody> </table>	Outfit A	Outfit B	Reflective braces can stand out in the dark (1) relies on a light source (1)	Dark plain colour (1) Does not stand out in bright/dim light (1)	Elasticated waist	Buttons more fiddly to	
Outfit A	Outfit B							
Reflective braces can stand out in the dark (1) relies on a light source (1)	Dark plain colour (1) Does not stand out in bright/dim light (1)							
Elasticated waist	Buttons more fiddly to							

	and Velcro simple to use / put on/take off(1)	get in & out of(1)	
	100% cotton breathable and cooler (1)	Nylon – can get hot and sweaty (1)	
	Printed motif simple to make. (1) Bright colours / patterned fabric eye catching. (1)	Plain T shirt and Plain pastel trousers dull (1) Less eye catching because of fewer colour and patterns used so less suitable for theme (1)	
	Shape matches idea of clown (1) zipped pockets sub assembly relatively same production time (1)	Less attractive (1) button fly sub assembly relatively same production time (1)	
	Added security pocket/ easy to operate with zip (1) valuables don't fall out (1)	Large pockets hold objects to keep hands free at parties (1) Objects can fall out (1)	
	Loose fit and unisex (1 mark max) for a mention of either of these.		

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.
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Question Number	Answer	Mark
14(a) (i)	<p>One statement from: Layplanning</p> <ul style="list-style-type: none"> • Layplan designed using CAD so sizes/templates can be arranged efficiently (1) • Profit made by less wastage of fabric (lower costs)(1) • Sent direct to CAM machines/ plotters (1) • Save time rather than moving templates/ cutting by hand (1) • Less human error must qualify (1) <p style="text-align: right;">1X1</p>	(1)

Question Number	Answer	Mark
14(a) (ii) 5.3 CAD/CAM technology	<p>Two reasons given from:</p> <ul style="list-style-type: none"> • Tracks stocks of materials & components(1) • Large storage facilities not needed (JIT) (1) • Money spent when needed not in advance(1) • Improves efficiency, accuracy, speed - reduces human error (or any other clearly linked justification) (1) • Computer based system gets everything in the right place at the right time(1) • Barcodes used to assist with tracking & counting/(EPOS) system supports retail stock maintenance (1) <p><i>Last point related to ICT but links clearly to computer assisted manufacturing</i></p> <p style="text-align: right;">1X1 1X1</p>	(2)

Question Number	Answer	Mark
14(b)	<p>Any description from:</p> <p>1st</p> <ul style="list-style-type: none"> • Tiny particles of e.g. chemicals or scents, gas/liquids/solids are enclosed (1) in microscopic bubbles and protected from outside environment (1) <p>2nd</p> <ul style="list-style-type: none"> • Contents slowly released when friction applied or contact with skin (1) shielding material broken into (1) <p style="text-align: right;">2x1</p>	(2)

Question Number	Answer	Mark
14(c)	<p>Any advantage and disadvantage given from one of the following:</p> <p>Fibre Advantage – At the fibre stage the dye penetrates well (1) so depth of colour can be achieved evenly. (1) Colours can be blended (1) so more choice of shades and tone. (1) Disadvantage – Colours must be decided early (1) It relies on accurate predictions and forecasting (1)</p> <p>Fabric Advantage – The fabric colour can be decided later (1) so there is more knowledge of current markets/trends(1) Disadvantage - there are large amounts of fabric (1) to handle so more risk of uneven dyeing/ achieving colour accuracy (1)</p> <p>Garment Advantage – the decision of colour choice can be made at the latest possible stage(1) so accurate predictions can be made.(1) Colourist's information is more up-to date (1) so latest trends can be met (1) Disadvantage – dye may not penetrate evenly (1) so colouration may not be as thorough (1) not cost effective e.g. ruined product/batch (1) as so many products need to be dyed and finished</p> <p><i>Must give an advantage and disadvantage for full marks</i></p> <p style="text-align: right;">2X1</p>	

	2X1	(4)

Question Number	Answer	Mark
14(d)	<p>One description from the following:</p> <p>Enzymes / Bacteria (1) are used to attack cellulosic fibre ends on the surface of the fabric / make it softer, smoother and less likely to pill/bobble (1)</p> <p style="text-align: right;">2X1</p>	(2)

Question Number	Answer	Mark
14(e)	<p>One benefit from:</p> <ul style="list-style-type: none"> • Filtration of bacteria (1) as fibre particles are so tiny(1) • Can incorporate medical properties (1) that kill viruses and bacteria (1) • Stain resistant(1) able to manipulate properties in fibres at a molecular level to stop stains adhering/ to fabric (repels) (1) <p style="text-align: right;">2X1</p>	(2)

Question Number	Answer	Mark
14(f) QWC	<p>Evaluation to address the following issues:</p> <p>Raw materials, energy use and manufacture</p> <ul style="list-style-type: none"> • Choose non-woven materials because they miss out the spinning stage and weaving stage. • Use naturally coloured fibres or GM cotton therefore no dyeing necessary. • Surgical garments use less intense seasonal colours so less dye needed. • Fibre choice -Suitable natural fibres like linen with natural anti-bacterial properties so less finishing needed. • Natural fibres use pesticides, land usage and soil erosion therefore social and environmental implications are increased • Synthetic fibres - consumption of vital non-renewable resources that damage the environment. • Waste water containing chemicals is released from dyeing /finishing will need to be re-used or treated before release to recover waste. • Enzymes can be used to clean waste egg water. 	

	<ul style="list-style-type: none"> • Layplanning and cutting need careful CAD/CAM planning to reduce wasted fabric. <p>Use and aftercare</p> <ul style="list-style-type: none"> • Short life cycle so garments need to be strong but not necessarily durable. • Sterile garments needed so aftercare could involve high temperature washing to achieve this and use large amount of detergents which produce waste water. • Synthetic fibres can be washed at lower temperatures and dry fairly quickly so use less energy. Unlikely to be used as does not suit end use & aftercare. <p>Disposal</p> <ul style="list-style-type: none"> • Disposable products are more hygienic but can cause waste issue/ landfill. <p>Re-use / recycle</p> <ul style="list-style-type: none"> • Biodegradable fabrics will decompose. Synthetic fabrics do not break down creating landfill issues. • Surgical garments are unlikely to be reused or recycled because of contamination issues so recycling waste is an environmental issue. Likely to be incinerated causing air pollution • Tencel® clean technology and recycled fibre 	(6)
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Level 2	3-4	Candidate identifies some benefits with associated developments showing some understanding of the benefits. 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.
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