

# **Design & Technology (Textiles Technology)**

General Certificate of Secondary Education **1958/01**

General Certificate of Secondary Education (Short Course) **1058/01**

## **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	Marks	Additional Guidance
1	(a)		<p>Any four points, one mark each:</p> <ul style="list-style-type: none"> <li>• Don't have flexes / cables / wires across walkways / move machines nearer to sockets</li> <li>• Move the ironing board away from the door / walkway / to a corner</li> <li>• Don't leave electrical equipment on when not in use / unplug when not in use / switch off when not in use</li> <li>• Mop up the water / wax on the floor / use wet floor sign to warn workers that floor may be slippery</li> <li>• Tidy the rubbish / boxes / fabric off the floor / pick things up off the floor</li> <li>• Spread the machines out more / give more space to work / don't overcrowd</li> <li>• Move the wax pot away from the edge of the worktop / sink</li> <li>• Move electrical items away from the sink / water</li> <li>• Chairs to sit on at the machines / knee holes</li> <li>• Display warning signs on the wall / safety rules</li> <li>• First Aid box available</li> </ul>	<b>[1+1+1+1]</b>	<p>Answers should relate to this workshop and not be general safety rules</p> <p>Do not credit 'putting equipment away'</p>
	(b)		<p>One mark for each correct answer:</p> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;">Highly flammable / flammable / burns easily / catches fire easily / reacts to fire / inflammable</div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;">Toxic / poisonous / poison</div> </div>	<p><b>[1]</b></p> <p><b>[1]</b></p>	<p>Answers must be on the mark scheme – no alternatives acceptable</p>

Question			Expected Answers	Marks	Additional Guidance
1	(c)		<p>One mark for the clothing, one for when worn. Do not credit repeats.</p> <ul style="list-style-type: none"> <li>Plastic / heat proof / fabric gloves / gloves / chain mail – when handling chemicals / dyes / harmful substances / solutions / hot items / when lifting heavy items so hands don't rub or blister / when using cutting tools / when cutting material with scissors</li> <li>Safety wellingtons – when working in slippery conditions / mixing and using dyes / finishing fabrics / washing fabrics</li> <li>Goggles / visor – when danger of flying objects or splashes / cutting materials / mixing or using dyes, inks or paints/ using chemicals / washing fabrics</li> <li>(Face) mask / respirator – when risk of dust or fumes / cutting materials / mixing and using dyes, paints, inks / using chemicals</li> <li>Hard hat / helmet (not just hat) – for general use to protect the head / when in warehouse / storeroom / lifting and handling heavy objects / working with large heavy equipment</li> <li>Apron / overalls / all in one / lab coat – when mixing and using dyes or chemicals / washing fabrics / finishing fabrics / when using machinery where loose clothing may become caught / when using hot or dangerous liquids</li> <li>Ear defenders / ear plugs – when using loud machinery / in a loud environment..</li> </ul> <p>Do not credit thimble, hair net, or reference to tying hair back, luminous or reflective jackets</p>	[1+1] x 2 = 4	<p>Marks can be awarded independently for identifying the protective clothing and when worn.</p> <p>An activity, situation or process must be given for the second mark.</p> <p>Do not credit repeats of activities.</p>
			<b>Total</b>	<b>[10]</b>	

Question			Expected Answers	Marks	Additional Guidance
2	(a)		<p>Any five points in correct order, information can be in diagram or notes. Credit more than one mark per box if answer is correct.</p> <ul style="list-style-type: none"> <li>• Place fabric right sides together / mention of turning right way out later</li> <li>• Edges even / matched / together</li> <li>• Match balance marks / notches / tailor tacks</li> <li>• Pin / tack</li> <li>• Mark stitching line / mention of seam allowance</li> <li>• Machine stitch / straight stitch / sew / machine / stitch</li> <li>• Fasten off ends / reverse</li> <li>• Remove pins / tacking</li> <li>• Press open / cut off loose threads</li> </ul> <p>Do not credit reference to neatening seam, or 'iron flat'</p>	<b>[1+1+1+1+1]</b>	<p>Only one mark for mentioning fastening off, even if they say it at the start and end of the stitching.</p> <p>Marks can be credited for information in notes or diagrams, but only credit once. Seam allowance must be labelled or stated.</p> <p>Can get full marks if all in note form, or all in diagrams.</p>
	(b)		<p>Any one, one mark.</p> <ul style="list-style-type: none"> <li>• Zig-zag</li> <li>• Turned under and straight stitched / zig-zagged</li> <li>• Overlocked / use overlocker</li> <li>• Bias binding</li> </ul> <p>Not pinking shears or any hand stitched</p>	<b>[1]</b>	

Question			Expected Answers	Marks	Additional Guidance
2	(c)		<p>Any two, one mark each.</p> <ul style="list-style-type: none"> <li>• Thread</li> <li>• Button / poppers / press stud / gingersnaps</li> <li>• Ribbon / braid</li> <li>• Plastic eye / eyes / googly eye /</li> <li>• Appliqué motif / appliqué / badge (not just 'appliqué', but allow 'badge' or 'motif')</li> <li>• Squeaker / quacker to make a noise</li> <li>• Beads / sequins</li> </ul>	<b>[1+1]</b>	<p>Not filling</p> <p>Not any of the items of clothing</p>

Question			Expected Answers	Marks	Additional Guidance
2	(d)		<p>Any two, one mark each. References must be to manufacturing.</p> <ul style="list-style-type: none"> <li>• Components, e.g. eyes securely attached</li> <li>• No sharp items in it – eg pins / sharp items or edges</li> <li>• No splits in seams to allow stuffing out / no holes / tight or secure seams</li> <li>• Each section securely attached / nothing falling off / all stitched on properly</li> <li>• No loose threads</li> <li>• Limbs are same size</li> <li>• Uniformity – all toys in batch the same / nothing missing</li> <li>• Correct positioning of features – nose / eyes / limbs</li> <li>• Safety tag / care label attached</li> <li>• Check for stains caused during manufacture</li> <li>• Check for even filling / no lumpy stuffing</li> <li>• Check against specification</li> <li>• Check squeaker works</li> </ul> <p>Not: Neat seams Check for damage e.g. rip or tear Not packaging Not reference to fabric testing.</p>	[1+1]	<p>Do not credit reference to quality control checks during manufacture.</p> <p>Not 'correct stitching' or 'sewn correctly'</p> <p>Do not credit reference to fabric testing.</p> <p>Size must be qualified</p>
			<b>Total</b>	<b>[10]</b>	

Question			Expected Answers	Marks	Additional Guidance
3	(a)		<p>Any six points, one mark each, unless otherwise stated:</p> <ul style="list-style-type: none"> <li>• Colour – named or shown</li> <li>• Size / measurements stated</li> <li>• Components – fastening / beads, sequins / ribbon / braid / lace / shisha mirrors / feet</li> <li>• More than one view shown</li> <li>• Construction methods – <i>up to two marks</i> / top stitching / seams shown or labelled/ disposal of fullness / bound edges / piping</li> <li>• Decorative methods– <i>up to two marks</i> – free machine embroidery/ CAM embroidery / screen printing / transfer printing / appliqué / quilting / hand embroidery / shisha mirrors / roller print / block print / stencil print / fabric paint</li> <li>• Fibre or fabric named, allow plastic or ‘waterproof’, wadding, foam, leather</li> <li>• Lining fabric / lining / padded</li> <li>• Pockets / compartments (inside or out) / elasticated loops to hold items</li> <li>• Handle / method of carrying / hanging up</li> <li>• Mirror</li> </ul> <p>Do not credit hand stitching – it must be hand embroidery Credit specific named stitched</p>	<b>[1+1+1+1+1+1]</b>	<p>Embroidery needs to be qualified as does printing.</p> <p>Do not credit padding <u>and</u> quilting – just one or the other</p> <p>No mark for the decorative design, the marks are for the techniques used to create it.</p>



Question			Expected Answers	Marks	Additional Guidance
3	(b)		<p>Any two, one mark each:</p> <ul style="list-style-type: none"> <li>• Scissors / shears</li> <li>• Iron / ironing board</li> <li>• Pins</li> <li>• Needle</li> <li>• Tailors pencil / tailors chalk / temporary marking pen</li> <li>• Tape measure / ruler</li> <li>• Overlocker / embroidery machine / computer controlled sewing machine</li> <li>• Unpicker</li> <li>• Embroidery ring</li> </ul> <p>Not:            Pattern pieces            Stencils            Pre-manufactured standard components            Thimble            No reference to any attachments / parts for sewing machine.            Not CAD / CAM</p>	<b>[1+1]</b>	<p>If candidates list tools or equipment needed to carry out the decorative techniques they have labelled, give them a mark.</p> <p>If in doubt, talk to team leader.</p>
	(c)		<p>Any two, one mark each:</p> <ul style="list-style-type: none"> <li>• Look at pattern to see if it is simple / easy to make</li> <li>• Make prototype / mock up</li> <li>• Market research / ask people / questionnaire / survey/ check it will sell</li> <li>• Test / trial construction methods</li> <li>• Cost it / see how expensive it is to make</li> </ul>	<b>[1+1]</b>	<p>The question is about mass producing the bag, not testing that the design of the bag is suitable.</p> <p>“How do they find out” if the bag is suitable for mass production?</p>
			<b>Total</b>	<b>[10]</b>	

Question		Expected Answers	Marks	Additional Guidance
4	(a)	<p>One mark for a valid answer in each section for each production method. Six available. Do not credit reversal of answers for alternative methods, or repeats.</p> <p><u>Making the pattern</u>  <b>Job</b> – pattern made to individual customer's measurement / adapted to fit individual / made of paper rather than card /made by hand or manually / drawn  <b>Batch</b> – made to standard size / anthropometric / made using ICT,computer / graded up and down on the computer / made from card / stored on computer and down loaded to cutting equipment.  Do not credit 'made by machine'.</p> <p><u>Cutting the Fabric</u>  <b>Job</b> – cut by hand / scissors / one garment at a time  Do not credit one person cuts the fabric  <b>Batch</b> – may be cut by laser / computer controlled cutter / water jet / die cutter / circular cutters / power shears / straight knife cutter / band knife / rough cut first then accurate cut / more than one garment cut at once / different sizes cut in one session / cut by machine / automated cutter / lots of layers cut</p> <p><u>Marking the Fabric</u>  <b>Job</b> – tailor tacks / tailors chalk / tailors pencil / pins / water soluble or air soluble pen or pencil / carbon paper  Do not credit one person marks the fabric  <b>Batch</b> – drill marker / ink or dye marker / hot notcher  Do not credit mention of notches or just 'done by machine'.</p>	<p>[1+1]</p> <p>[1+1]</p> <p>[1+1]</p>	<p>Answers must refer to the process – the way it is done – not the person doing the job.</p> <p>Job production pattern making must be linked to the customer.</p> <p>Batch production pattern making must refer to standard sizes – can refer to CAM, but not just machine made.</p>

Question			Expected Answers	Marks	Additional Guidance
4	(b)		<p>Any two reasons, one mark each.</p> <ul style="list-style-type: none"> <li>• Fabric and components (bought in bulk so) cheaper</li> <li>• Skilled in process so quicker – more garments produced in less time / products made quickly / quicker / less time consuming</li> <li>• Workers paid less for batch production than job production as less skilled</li> <li>• Efficient use of fabric – more than one garment / size cut at once / less waste fabric</li> <li>• Specialist machines save time / automated machinery for some processes</li> </ul> <p>Do not credit:  Opposites of job compared to batch  fewer workers  batch all done by machine / job done by hand</p>	<b>[1+1]</b>	No explanation of point needed – just a reason.

Question		Expected Answers	Marks	Additional Guidance
4	(c)	<p>Any two, one mark each.</p> <ul style="list-style-type: none"> <li>• Reduces production costs / it is cheaper / cheaper labour / paid less</li> <li>• Increases profits / increases income for the company or the workers</li> <li>• Provides employment in developing countries</li> <li>• Improved working conditions in developing countries (Fairtrade)</li> <li>• Provides higher standards of living in developing countries (Fairtrade)</li> <li>• Environmental protection in developing and third world countries is encouraged (Fairtrade)</li> <li>• May improve the skills of the workforce in developing countries / training</li> <li>• Brings foreign currency into developing countries / improves balance of payments / economy boosted</li> <li>• Raises the profile of the country of manufacture / company</li> <li>• Introduces new technologies to the developing country</li> <li>• 'Fair Trade' has increased – products meet international Fairtrade Standards</li> <li>• Traditional techniques maintained, e.g. beadwork, batik</li> <li>• Sharing ideas / fashion / culture</li> </ul> <p>Do not credit: Any reference to quality Increased sales No reference to transport cost, sourcing raw materials, equipment or machinery No reference to exchange rates</p>	[1+1]	No explanation needed here, just points.
		<b>Total</b>	<b>[10]</b>	

Question			Expected Answers	Marks	Additional Guidance
5	(a)		<p>Any three, one mark each:</p> <ul style="list-style-type: none"> <li>• Waterproof / shower proof / weatherproof</li> <li>• Strong / durable / hardwearing / tough</li> <li>• Stable fabric / will not stretch out of shape / stiffer</li> <li>• Will not rot</li> <li>• Not damaged by moths / mildew</li> <li>• Easy to wash / keep clean / washable</li> <li>• Stain resistant</li> <li>• Quick drying / non- absorbent</li> <li>• Lightweight</li> </ul> <p>Do not credit attractive Comfortable / soft Insulation Crease resistant Reference to cost</p>	[1+1+1]	

Question			Expected Answers	Marks	Additional Guidance
5	(b)	(i)	<p>Any finish, one mark:</p> <ul style="list-style-type: none"> <li>• Waterproof / silicon finish / wax / water resistant or repellent</li> <li>• Stain resistant / scotchguard / Teflon</li> <li>• Proban / flame proofing / fireproof / fire resistance</li> </ul> <p>Not PVC coated cotton or laminated fabrics. Not crease resistant finish</p>	<b>[1]</b>	The finish is to improve the performance of the bag, not the appearance of it.
		(ii)	<p>One mark for shallow explanation, two marks for detailed response:</p> <ul style="list-style-type: none"> <li>• Waterproof – protects contents of rucksack as used outside in wet weather / makes rucksack easier to dry / will last longer / keeps the person dry / warm as the bag does not get damp / used in all weathers</li> <li>• Stain resistant / Scotchguard – easier to keep clean as used outside / protects contents as used outside / lasts longer</li> <li>• Proban / flame proofing – safer if used when camping near naked flame / lasts longer / cigarettes / safety / personal safety</li> </ul>	<b>[1+1]</b>	<p>Candidates must give an answer in bi to be able to get marks in bii.</p> <p>Marks can only be awarded in bii if they relate to the finish given in bi.</p> <p>Do not credit – to make waterproof / stain proof / flame proof.</p> <p>Must give two clear points in the explanation, not just 'to improve the performance of the bag'.</p>

Question			Expected Answers	Marks	Additional Guidance
5	(c)		<p>One mark for shallow explanation, two marks for a detailed response:</p> <ul style="list-style-type: none"> <li>• Hardwearing / durable / strong / re-enforce the seam so bag is stronger</li> <li>• No need to neaten as edges are enclosed / does not need neaten / does not fray</li> <li>• Flat seam so comfortable next to the body when carrying the rucksack</li> <li>• Decorative seam so adds to the appeal of the bag / design feature</li> <li>• Makes the inside neat / no need for lining</li> </ul> <p>Do not credit just 'neat' or looks neat</p>	<b>[1+1]</b>	<p>Two points needed – e.g. strong and flat would be worth two marks.</p> <p>Or</p> <p>One point well explained – e.g. 'seam is flat so comfortable to carry' two marks</p> <p>A strong seam as double fabric is worth two marks</p>

Question		Expected Answers	Marks	Additional Guidance
5	(d)	<p>Either two modifications, one mark each, or one modification with a reason:</p> <ul style="list-style-type: none"> <li>• UV reactive threads / fabric to indicate too much sun exposure</li> <li>• Addition of reflective strips to make more visible / easy to find / see</li> <li>• Bright colours so the rucksack and the wearer stand out</li> <li>• Transmitter built in in case of avalanche / getting lost</li> <li>• Addition of whistle / torch as fixtures on the bag to attract attention if lost / built in torch or light</li> <li>• More external pockets to make items easily accessible NB only credit one reference to pockets</li> <li>• Camel bag / water carrier / water bottle holder – easy to get to</li> <li>• Cooler section to store food</li> <li>• See through pocket for map / ski passes</li> <li>• Frame to make it easier to carry / more rigid shape so items do not get squashed</li> <li>• ‘wet’ compartment for wet clothing, to keep other contents of the bag dry</li> <li>• Wearable electronics – MP3 player / phone in bag / GPS / Sat Nav</li> <li>• Addition of a strap or belt to tie around the waist to hold bag to body. Reduces back strain.</li> <li>• Flap over zips – to prevent water getting in through zip teeth</li> <li>• Addition of exterior straps / clips – to hold ski sticks or walking stick when not needed / sleeping bag</li> <li>• Padded straps – improved comfort, can carry the bag for longer /</li> <li>• Thermochromic threads indicate if too hot or too cold</li> </ul> <p>Do not credit ‘make it bigger’ or any reference to changing the size Do not credit mention of fabrics Do not credit flaps to hold items in pockets</p>		<p>Two modifications, one mark each.</p> <p>Or</p> <p>One modification with an explanation two marks.</p>
			[1+1]	
		Total	[10]	



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