

Design and Technology (Textiles Technology)

General Certificate of Secondary Education

Unit **A574**: Technical Aspects of Designing and Making

Mark Scheme for June 2011

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Question	Expected Answer	Mark	Rationale/Additional Guidance
1 (a)	Any two, one mark each: <ul style="list-style-type: none"> • cycling • walking • jogging • motor biking • climbing • horse riding • police • fireman • ambulance service • car park attendant/steward/marshal/event steward • St John/First Aider • warehouse/distribution centre worker • airport worker • teacher on bus duty • lorry driver when unloading • mountain rescue. • on a building site/construction work • road workmen • road crossing patrollers/lollypop lady/man • traffic warden • Bin man • Tour guide • Roadside rescue • Postman 	[2]	Accept any named job that involves working in an environment where there is moving equipment or vehicles eg forklift trucks, traffic. Accept anyone working in a named environment or taking part in a named activity where they need to be seen. Not just machine operator – too vague.
1 (b)	Any three points, one mark each: <ul style="list-style-type: none"> • adjustable size/fits men and women/adjustable for all sizes / unisex / fits all sizes / fits a range of sizes • washable / can be cleaned • hardwearing/durable/strong • fits over outdoor clothing • waterproof/not damaged by water/quick drying • easy to move around in • no static build up 	[3]	Not brightly coloured or fluorescent as high visibility included as example Not warm / cool to wear / thermal Not comfortable Not bullet proof Not fire resistant / fireproof Not 'non-irritable' Not average sizes / suitable size

Question	Expected Answer	Mark	Rationale/Additional Guidance
	<ul style="list-style-type: none"> • breathable. • easy to use fastenings / easy to do up or undo / name suitable fastening • easy to put on and remove • lightweight • inexpensive / cheap material / cheap to manufacture • Non-flammable / flame retardant • Logo / identification, e.g. Police 		
1 (c)	<p>Any one, one mark:</p> <ul style="list-style-type: none"> • facing • overlocked / overlocking • zig-zagged • lined vest • turned under and stitched (straight or zig-zag)/ tucking and sewing over /hemming /narrow hem /hemmed 	[1]	Not pinking shears or hand stitching
1 (d)	<p>Any six points in a logical order, one mark each. Information can be in notes or diagram:</p> <ul style="list-style-type: none"> • Cut bias binding to the correct length / fits the edge • open out one folded edge of the binding • (place right side of the binding) next to the right or wrong side of the fabric • place the crease of the binding the half the width of the binding plus the seam allowance in from the raw edge to be neatened • pin/tack in place • machine / stitch / sew / straight machine stitch • following the crease of the binding / on the adjusted seam or stitching line • reverse/secure threads at the start and end of the stitching • remove pins/tacking • trim seam allowance/clip or snip curved edges • fold binding round the edge, bringing the folded edge of the binding to the row of machine stitching • pin / tack if not credited earlier • Identify method of securing in place e.g. a hand hemming stitch / machine zig-zag or straight stitch. • Use of bias binding foot 	[6]	Credit mark in any box, for example two marks could be awarded in the same box as long as the total does not exceed 6.

Question	Expected Answer	Mark	Rationale/Additional Guidance
	<ul style="list-style-type: none"> • Trim / cut loose threads • Press <p>Alternative method would be to fold the binding in half and put over edge, pin and machine. The seam allowance would need to be cut down accordingly.</p>		
2 (a)	<p>Any three points, one mark each:</p> <ul style="list-style-type: none"> • fabric not folded correctly/selvages not together • grain line not parallel to the selvages / not on grain line • overlapping pattern pieces • one pattern piece hanging over the edge of the fabric / overhanging the fold / not fully on the fabric • binding not on bias • pieces not economically placed/fabric wasted • Some pieces / parts of pieces will not be on double fabric 	[3]	
2 (b)	<p>Any three, one mark each:</p> <ul style="list-style-type: none"> • pieces can be fitted together closely /saving fabric / less fabric would be wasted • can be downloaded to a printer to print out on one large sheet of paper saving time pinning individual pattern pieces on • no need to make paper pattern pieces to lay on fabric • can be saved to be used again, repeat the pattern lays quickly • can be downloaded directly to cutting tool reduces the need for paper – contributes to the 6rs • will calculate the amount of fabric needed. • quicker decreases amount of time spent on manual pattern lay • Saves storage space / don't need to store paper patterns • Can e-mail pattern lay (not just pattern pieces) to other companies • Will be more accurate • Reference to matching design / checks / stripes / nap 	[3]	<p>This is about developing the pattern lay using ICT, not developing the pattern pieces.</p> <p>Not an 'explain question' so just quicker is acceptable or saves time</p> <p>Not easier Not errors can be corrected quickly Not reduces cost by not buying unnecessary fabric Not neater or cheaper Not change size / alter easily Not no need for skilled workers Not paper patterns can get lost / spoilt Not fewer people needed Not reference to cost Not 'better quality'</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
2 (c)	<p>Any six points in a logical order.</p> <ul style="list-style-type: none"> • place fabrics right sides together • match edges and balance marks • pin/tack • mark stitching line / 1.5cm / reference to seam allowance • machine together using a straight stitch / machine / stitch / sew • reverse/secure threads at the start and end of the stitching • remove pins/tacking • Cut loose threads / remove loose threads • press seam open (must say press, not just open) • neaten edges / example of how to neaten edges 	[6]	<p>Information can be in notes or diagrams, but don't credit twice.</p> <p>Not set up machine or reference to colour of thread</p>
3 (a)	<p>Any six points in a logical order, one mark each. Information can be in notes or diagram:</p> <ul style="list-style-type: none"> • make pattern pieces for the sections of the design • pin onto the fabric to be applied and cut out / cut out shapes or design • remove pattern pieces • position on the backing fabric • pin and tack in place – alternative could use bondaweb or similar product • Machine / stitch / sew • using machine zig-zag/straight stitch/ heirloom stitch / hand stitch must be named blanket or herringbone • reverse/secure threads at the start and finish of the stitching • remove pins/tacking/trim loose ends • press. <p>Alternative method:</p> <ul style="list-style-type: none"> • trace the design onto the adhesive side of iron-on interfacing • cut the shapes out • iron onto the wrong side of the fabric to be appliquéd • cut the shapes out • position on the backing fabric • pin and tack in place • machine / stitch / sew 	[6]	<p>If reference made to use of a pre made logo, credit correct points eg. Positioning of piece, pin, tack in place, mention of stitch used to permanently attach, finishing and pressing.</p> <p>If reference made to reverse appliquéd or mola, credit relevant points from the mark scheme</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
	<ul style="list-style-type: none"> • using machine zig-zag/straight stitch/ heirloom stitch / hand stitch must be named blanket or herringbone • reverse/secure threads at the start and finish of the stitching • remove pins/tacking/trim loose ends • press. 		
3 (b)	<p>Banded Response</p> <p>Level 1 (0–2 marks) Basic evaluation, showing limited understanding of the issues. There will be little or no use of specialist terms. Answers may be ambiguous or disorganized. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Level 2 (3–4 marks) Adequate evaluation, showing some understanding of the issues. 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 3 (5–6 marks) Thorough evaluation showing a clear understanding of the issues. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate can demonstrate the accurate use of spelling, punctuation and grammar.</p> <p>Answers may include the following points:</p> <ul style="list-style-type: none"> • scraps of fabric/off cuts left over after cutting out can be used – reduce waste • recycle garments – cut up and use for appliqué or add decoration to them using appliqué • use appliqué to repair worn areas of a product or strengthen them • use appliqué to re-vitalise an old product – add decoration – re-use • re-think use appliqué to decorate an old product or change its use • refuse – to throw away scraps or old products that could be used for appliqué. • reduces waste – fewer items thrown away 	[6]	<p>No marks for listing the 6Rs, and not all 6 need to be covered.</p> <p>Answers must be linked to appliqué – how appliqué can be used to meet the 6Rs.</p> <p>Not biodegradable</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
4 (a)	<p>A maximum of 8 marks to be allocated as detailed below:</p> <ul style="list-style-type: none"> • colour indicated – including reflective strips [1] • measurements or sizes given [1] • fastenings identified – include drawstrings [up to 2 marks] • fabrics suggested (not fibres) e.g. Gortex or fleece [1] • more than one sketch included – detail of a specific part of same design not 2 different ideas shown / front and back view [1] • construction details given, seams, hems, finishing methods [up to 2 marks] • decorative techniques given, appliqué, screen printing, machine stitching, quilted etc [up to 2 marks] • pockets • collar / hood • detachable/adjustable sleeves, detachable inner lining/jacket/fleece, detachable hood (if not credited earlier), detachable gloves, adjustable cuffs or wrists of sleeves or waist / drawstring and or toggles at hem or waist [up to 2 marks] • air holes under arms / air vents 	[8]	<p>Only credit fleece once, either as a fabric or a garment.</p> <p>No marks for logos or decorative designs, but marks can be given for the technique used to add it.</p> <p>If candidates draw more than one idea / design, choose the one which will gain the most marks and mark that one.</p> <p>If a bag is drawn, this should not be credited, nor any annotation relating to the bag. It should not be credited as a second view.</p>
4 (b)	<p>Any two specification points explained,:</p> <ul style="list-style-type: none"> • unisex – use of colours / styling / shape / not gender related / neutral colours • adaptable to changing weather conditions – removable or attachable hood/sleeves/other zip on or off sections/gloves/fleece/sun glasses/ear muffs/sun hat with protection for eyes/heating/method of raising alarm if poor weather / pockets to keep hands warm • remove need for bag to be carried – pockets with indication of uses/built in or removable back pack/pockets inside and out/methods of clipping objects to jacket / reference to (different) sizes of pockets / number of pockets 	[4]	<p>One mark for identification of a feature, an additional mark for an explanation linked to the specification point being met.</p> <p>Must refer to two different specification points.</p> <p>Do not credit two different ways of meeting the same specification point, only credit one.</p> <p>If no design in 4a, marks can still be credited here.</p> <p>Not loose fit for unisex. Not folds into pocket to store</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
5 (a)	<p>Any three points, one mark for a shallow explanation, two if detailed.</p> <ul style="list-style-type: none"> • reduce energy consumption – use energy efficient machines and switch off lights etc when not in use / low temperatures (to dye) / use less energy • recycle/reduce water and energy in the system where possible • use sustainable resources for manufacturing – fabrics and components – choose fabrics made from natural or sustainable fibres produced without pesticides/chemicals • prepare materials and resources efficiently to reduce waste, and use any scraps of material for other purposes – eg testing processes, cleaning cloths, appliqué, patchwork • sell oddments of fabric left over to the public as remnants, or patchwork and appliqué fabrics • reduce transport emissions – locate factory near railway/airport/retail outlets / use local suppliers • reduce noise pollution – insulation, quiet machines • treat chemicals/dyestuffs before they leave the factory and avoid releasing them into the environment – remove efficiently • use environmentally friendly products – enzymes rather than chemicals/biodegradable chemicals • build in quality manufacture to avoid producing ‘seconds’ or having to re-work a produce which will use more energy / products will last longer • use recycled fabrics / components to make the product rather than new • use renewable energy to run the factory – solar/wind/hydroelectric / turbines • Use natural dyes / reduce dyes used / reduce bleach /recycle dyes • Reduce waste – use materials that can be recycled or are biodegradable to reduce amount sent to landfill sites 	[6]	<p>Not just environmentally friendly unless qualified</p> <p>Do not credit reference to packaging</p>

Question	Expected Answer	Mark	Rationale/Additional Guidance
5 (b)	<p>Banded Response</p> <p>Level 1 (0–2 marks) Basic explanation, showing limited understanding of the issues. There will be little or no use of specialist terms. Answers may be ambiguous or disorganized. Errors of grammar, punctuation and spelling may be intrusive.</p> <p>Level 2 (3–4 marks) Adequate explanation, showing some understanding of the issues. 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 3 (5–6 marks) Thorough explanation showing a clear understanding of the issues. Specialist terms will be used appropriately and correctly. The information will be presented in a structured format. The candidate can demonstrate the accurate use of spelling, punctuation and grammar.</p> <p>Answers may include the following points:</p> <ul style="list-style-type: none"> • legal requirement so by following the regulations manufacturer avoids prosecution • no fines or shut down so continue to make money • workforce feel valued so may work harder and be loyal to company, , happier workplace / valued • improves moral and productivity if the workforce feels valued avoid action being taken by employees • avoids loss of production due to illness/injury and compensation payments avoided • avoids possible industrial action by workforce if they feel their health and safety are at risk • improves reputation and may generate and retain business • will be able to display accreditation symbols – attracting business and making more money • products designed with health and safety of the consumer in mind will sell better and may sell for a higher price 	[6]	Marks are for the advantages for the manufacturer and not for listing safety rules or describing how to implement procedures such as good ventilation.

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