

Design and Technology (Textiles Technology)

General Certificate of Secondary Education

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

Mark Scheme for June 2012

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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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Annotations

Annotation	Meaning
	Unclear
	Benefit of doubt
	Caret sign to show omission
N/A	Highlight
	Level 1
	Level 2
	Level 3
	Repeat
	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.

Question		Answer	Marks	Guidance
1	(a)	<p>Any four, one mark each</p> <ul style="list-style-type: none"> • Flex straight / not twisted / no trailing leads / leads in the way / plugged in correctly • No cuts in flex / bare wires • Plug intact / no cracks / not damaged • Correct tension • Correct settings for stitches / width / length / correct stitch / dials set correctly / correct settings / appropriate settings • Threaded correctly – top thread and or bobbin / correct colour thread / bobbin (case) in correctly / needle threaded • Needle correct type / not broken / in place securely / needle is sharp • Correct (presser) foot • Machine plugged in / switched on/ foot control connected • Check for green sticker / PAT tested • Speed setting • Enough thread – top or bobbin • Feed dogs up / in correct position 	4	<p>This relates to checks on the sewing machine, not the person using it.</p> <p>Do not accept Reference to 'hair tied back / loose clothing</p> <p>Not that the light works Not presser foot down Not just 'threaded up' Not foot control on floor Not reference to having machine on a flat surface or no food and drink near machine.</p>
1	(b)	<p>One mark for each correct answer</p> <ul style="list-style-type: none"> • Straight (stitch) • Zigzag (stitch) 	2	<p>No not credit 'normal' stitch', 'running stitch' or 'cross stitch' or stay stitch, appliqué stitch</p>
1	(c)	<p>Complete the table below to show how to work free machine embroidery.</p> <p><u>Preparation of fabric:</u></p> <ul style="list-style-type: none"> • Cut fabric to correct size and shape • Place / put in an embroidery ring / hoop / frame / holder 	6	<p>Credit correct answers even if in wrong box.</p> <p>Candidates can score more than two marks per box, but no more than six in total.</p> <p>If describing an embroidery machine, credit correct answers where possible.</p>

Question		Answer	Marks	Guidance
		<ul style="list-style-type: none"> • Reinforce / use of interfacing • Mark out design (using tailor's pencil / chalk) • Iron before use • Fabric must be stretched / tight / taught in the ring <p><u>Preparation of machine:</u></p> <ul style="list-style-type: none"> • Thread as usual / correct colour thread / thread machine • Remove the (presser foot) / replace with darning foot / embroidery foot • Lower / cover feed dogs • Choose suitable stitch to fill design / correct width / mention of straight stitch or zig zag • Adjust tension – top or bottom • Add extension table / embroidery table • Put presser foot down when machining <p><u>Finishing</u></p> <ul style="list-style-type: none"> • Remove fabric from embroidery ring / hoop / holder • Iron the fabric • Cut loose threads • Put presser foot back on machine • Raise feed dogs • Remove interfacing / stabilising fabric / cut it off / rip it off 		<p>Not clean or wash fabric or reference to colour of fabric</p> <p>'Right settings' needs to be qualified – eg reference to tension, stitch width. Not stitch length</p> <p>Not just 'colour' or choose colour – must state thread.</p> <p>Not 'programme machine'.</p>
2	(a)	<p>Any three points.</p> <p>Up to two marks for characteristics linked to cotton:</p> <ul style="list-style-type: none"> • Cotton fibres are absorbent • Cotton fibres are comfortable next to the skin • Cotton fibres are non-allergenic • Biodegradable / environmentally friendly 	3	<p>Up to two marks for explaining why fibres are blended – to combine the best qualities of the two fibres.</p> <p>Up to two marks for a good quality of cotton fibres.</p> <p>Up to two marks a good quality of polyester fibres.</p>

Question			Answer	Marks	Guidance
			<ul style="list-style-type: none"> • Easy to dye • Cool to wear <p>Up to two marks for characteristics linked to polyester:</p> <ul style="list-style-type: none"> • Polyester fibres increase the abrasion resistance of the fabric / increase durability / hardwearing / improve wear and tear • Polyester fibres are less absorbent so reduce drying time • Polyester fibres improve crease resistance / reduce need for ironing • Polyester fibres reduce the cost • Resistant to biological damage such as mould and mildew / moths • Resistant to chemicals • Lower flammability than cotton • Warm to wear • Makes the fabric stiffer / less floppy / hold shape • Polyester fibres do not shrink <p>Up to two marks from this section: Blending the fibres combines the best qualities of the fibres. Blending reduces the cost compared to pure cotton fabrics Blending improves the duality / strength / wear and tear compared to a pure cotton shirt.</p>		<p>Do not credit opposites twice eg cotton cool, polyester warm Do not credit repeats of answers Candidate must name the fibre they are writing about - if it is not clear which fibre is being written about, no mark.</p> <p>Do not credit combining the two fibres increases durability of the fabric.</p>
2	(b)	(i)	<p>Any one area, one mark</p> <ul style="list-style-type: none"> • Cuff • Collar • Front band / where button and buttonholes are • Pocket / where logo is / logo 	1	Not 'at bottom of sleeves' must mention cuff

Question		Answer	Marks	Guidance
2	(b) (ii)	<p>Any one point for a mark</p> <ul style="list-style-type: none"> • strengthens area / reduces wear and tear / makes hardwearing • stiffen area • helps maintain/ give / shape / stabilise fabric • makes the garment look better / improve appearance / neater look 	1	<p>Not neatens edges</p> <p>Not to maintain creases</p>
2	(c)	<p>Any one for a mark:</p> <ul style="list-style-type: none"> • double stitched (seam) • run and fell (seam) / flat fell 	1	Key words 'double' and 'fell(ed)
2	(d)	<p>Any six points in a logical order. Information can be in notes or diagrams.</p> <ul style="list-style-type: none"> • Reinforce areas / interfacing where buttonholes are to be worked / double thickness • Edges of shirt front must overlap at least the diameter of the button • Need buttons before the buttonhole is made / measure button / reference to size of button • Buttonhole length needs to be the diameter of the button plus 2mm / larger than button • Mark positions / refer to pattern piece / use of tailor tacks / tailors pencil / use of pins / even spacing / at least the radius of the button from the edge of the fabric <p>Up to four marks from these sections</p> <p>Hand Worked</p> <ul style="list-style-type: none"> • cut hole first • running stitch round the hole • buttonhole stitch or blanket stitch named • diagram / explanation of how to do the stitch • diagram / explanation of bar tack at the end 	6	<p>Do not credit 'stitch buttonhole' unless explained / qualified.</p> <p>Information can be in notes or diagrams but do not credit the same information twice.</p> <p>No mark for cutting a slit in a machine worked buttonhole unless after the machine stitching has been done.</p> <p>No marks for how to attach buttons</p> <p>No marks for threading machine</p> <p>If candidate describes how to fasten a button through a buttonhole, give marks where possible eg for correct spacing, indication of different widths of zig-zag.</p>

Question	Answer	Marks	Guidance
	<p>Machine Worked – semi automatic</p> <ul style="list-style-type: none"> • buttonhole foot • mention / diagram of zig-zag stitch • indication of using different widths of zig-zig • Use of satin stitch / close zig-zag / short stitch length • Mention of buttonhole dial / automatic buttonhole / change needle position • stages of working the buttonhole shown • cut hole <p>Electronic / fully automatic buttonhole</p> <ul style="list-style-type: none"> • use of buttonhole foot • put button into (slot) in foot / select buttonhole size • Use of buttonhole lever / bar • Use of buttonhole button / dial / programme • mention / diagram of zig-zag stitch • indication of using different widths of zig-zig • Use of satin stitch / close zig-zag / short stitch length • Cut buttonhole after stitching <p>For any method</p> <ul style="list-style-type: none"> • Cut loose threads / press 		
3	(a)		<p>One mark for identification of the method of disposal of fullness, one for the use.</p> <ul style="list-style-type: none"> • Dart – at the waist of a skirt or trousers, at the waist of a dress, at the bust of a blouse • (knife) pleats / tucks – at the waist of a P.E. skirt, at the waist of a skirt or trousers, at a yoke on the back of a shirt, at the top of curtains, the valance of bedding, on a frill <p>Accept any reasonable use of the method of disposal of fullness, but do not credit repeats of use.</p> <p>Do not credit 'clothing' – must name a garment.</p> <p>Could give two examples from one product as long as they are different places, eg pleat in the yoke of a blouse, dart in the bodice of a blouse.</p> <p>Mark each answer independently, eg if name of method wrong, can still have a mark for the use.</p>

Question			Answer	Marks	Guidance
					Accept just 'skirt', 'sleeve' without description of how used Do not credit why used – just where. Could be a place rather than a product eg 'at the waist'.
3	(b)		<p>Any two, one mark each. Process can be named or described for the mark.</p> <ul style="list-style-type: none"> • Drill marker – makes small holes in the layers of fabric • Dye marker – holes are marked by a colour, usually florescent • Thread marker – tacking thread is stitched through the layers and is cut between the layers • Hot notcher – used for marking the edge of a knitted or natural fabric 		<p>Do not accept tailor tacks or tailors pencil / chalk – it must be an industrial method.</p> <p>Do not credit laser cutter or laser marker.</p>

Question	Answer	Marks	Guidance
3 (c)	<p>Answers may include reference to the following points and should refer to the soft toys:</p> <p>Quality of design</p> <ul style="list-style-type: none"> • Quality of design is dependent on the target market – quality and price range will vary • Design specification – details of characteristics and processes, materials – does it meet the specification • Quality of design is related to aesthetics – shape, colour, style, pattern etc – colour and feel of the fabric • how attractive it is to the target market / appeal to target market – young child • how well chosen the materials are - should have suitable characteristics – eg not toxic or irritant, washable, hardwearing • how well chosen the components are – eg not too small if they come off as a choking hazard • How easy the product is to look after • Safety aspects related to design, eg no long cords or ribbons children may tie round themselves • Size of toy • gender and age of child it is aimed at <p>Quality of manufacture</p> <ul style="list-style-type: none"> • The product will match the both design spec and product spec • Will meet performance requirements • Safe production methods used – eg all components firmly attached so can't be pulled off / no loose stitching • Within budget • Codes of practice followed during making / awards given / quality control / critical control points / tolerance • Environmentally friendly production methods • Safety and moral issues met 		<p>Level 3 (5-6 Marks) Explanation shows a thorough understanding of quality of design and quality of manufacture. Specialist terms will be used appropriately and correctly and the information will be presented in a structured format. The candidate will demonstrate accurate use of spelling, punctuation and grammar.</p> <p>Choice of type of components and fabrics are under design – how they are attached is manufacture</p> <p>Level 2 (3-4 Marks) Explanation shows some understanding of quality of design and quality of manufacture, although these may not always be correct. There may be occasional errors in spelling, punctuation and grammar.</p> <p>Level 1 (1-2 marks) Explanation shows a limited understanding of quality of design or quality of manufacture. There will be little or no use of specialist terms. Answers may be vague and disorganised. Errors of grammar, punctuation and spelling may be intrusive. Answer may take the form of a list.</p> <p>0= no response worthy of credit</p>

Question	Answer	Marks	Guidance
4 (a)	<p>A maximum of 6 marks to be allocated as detailed below:</p> <p>1 mark for each specification point explained in annotation. Maximum of 3 marks</p> <p>Must mention specification point to get the mark</p> <ul style="list-style-type: none"> • Protection – quilting / padding / use of Kevlar / fluffy or fleece lining / fastening to keep glasses in case[1] • Easy to carry – loop to go on wrist (could be from a draw string) / clip on belt / go over shoulder on strap / strap to wrist / attach to clothing or person in some way / easily placed in pocket or bag • Inexpensive to manufacture – mention of batch production / net uses minimum fabric / simple construction / little decoration / no labour intensive techniques / only one colour fabric / inexpensive fabric (name not needed here) / materials used economically / use of pre-manufactured components <p>1 mark for each construction detail given in annotation. Maximum of three marks.</p> <ul style="list-style-type: none"> • Measurements or sizes given [1] • Fabrics suggested (not fibres) Eg leather, faux leather PVC, denim, canvas. If fibres given, must give construction to gain marks, eg woven polycotton [1] • Construction details given, seams, hems, edge finishing methods, interfacing for structure [up to 2 marks] • Decorative techniques given, appliqué, screen printing, machine stitching, transfer printing, quilting if not marked for protection etc [1] • Drawstring unless marked as 'easy to carry [1] • Fastening indicated if not marked in specification [1] • Colour – coloured in or labelled[1] • More than one view [1] 		<p>There are two sections to this answer – 3 marks for meeting the specification points and three marks for information about construction.</p> <p>Points need to be annotated to be awarded a mark.</p> <p>Do not credit repeats.</p> <p>Do not credit information shown in the design unless annotated.</p> <p>Some points could be marked in the specification point section or the construction depending on what the candidate has written / marks already awarded.</p> <p>Do not accept disposal of fullness methods as construction marks.</p> <p>Some are using inappropriate materials such as wood or hard plastic – no marks. Must be a fabric</p> <div style="text-align: center;">  <p>The diagram shows a pair of sunglasses with three dimension lines. A vertical line on the left indicates a height of 5.5cm. A horizontal line at the bottom indicates a width of 14cm. A diagonal line on the right indicates a length of 14cm when open and 3.5 cm when folded.</p> </div>

Question		Answer	Marks	Guidance
4	(b)	<p>Any four points, one mark each:</p> <ul style="list-style-type: none"> • Seam allowance indicated / stitching line shown / states no seam allowance added • Grain lines shown • Place on fold shown • Pattern pieces named / numbered / fabric to be cut from is indicated eg cut 1 from wadding • Number to cut shown • Notches / balance marks • Dots to show positions of fold lines / placement of buttons etc • Fold line indicated • Cutting line show - scissors 		<p>Symbols can be shown on just one pattern piece to gain the marks</p> <p>Credit more than one symbol per pattern piece if appropriate</p> <p>If a pattern lay is drawn, mark the pattern pieces shown on the lay.</p>
4	(c)	<p>Any two, one mark each:</p> <ul style="list-style-type: none"> • To cut fabric to correct size / garment fits client • Correct shape is achieved • To achieve consistency in size across products / product can be re-made / pattern can be re-used / repeated / easier to make a lot of the same product / identical • To ensure product is good quality / minimises mistakes / no mistakes / reduces mistakes / accurate making • To speed up the making process / easier to make / know how to put it together / time efficient • So pieces fit together when assembled / measurements are correct / accurate measurements or fit • Allows for planning fabric needed / can make pattern lay 		<p>Not 'saves material / fabric / less waste / uses less material</p> <p>Accurate or accuracy must be qualified or explained</p> <p>Not 'made correctly'</p> <p>Not reference to pattern grading / sizing</p>

Question	Answer	Marks	Guidance
5 (a)	<p>One mark for the name of the logo, one mark for the meaning, one mark for the product it could be found on.</p>  <ul style="list-style-type: none"> • Kite Mark / BSI / British Standards (Institute) / safety mark <p>Products range from playground equipment, riding helmets, crash helmets, windows, plugs, sockets, flood protection, ladders, roof tiles, loft insulation, condoms and more.</p> <p>Keeping your home safe, Carbon Monoxide alarms and fire alarms, fire extinguishers and fire blankets. Kitemark services from crash or accident repair, garage servicing, furniture removal, window installations, certified electricians and correct electrical installation. Drains Hot water bottle. Cooking equipment?</p>  <ul style="list-style-type: none"> • can be tumble dried (at low heat) <p>Found on textile products that can be washed and tumble dried. Accept any reasonable product – but it must be a specific textile product. Accept suit / suits</p>  <ul style="list-style-type: none"> • Do not bleach. <p>Found on textile products – may be washable or may not be. Accept any reasonable product – but it must be a specific product. Do not credit a repeat from the tumble dry answer.</p>		<p>One point needed for 'meaning' mark – either name or a description of what it means.</p> <p>Mark each answer independently, eg if name of symbol wrong, can still have a mark for the product.</p> <p>Product must be named, not 'clothing' or 'toys' or 'garments' or 'textile products' – must be a specific product.</p> <p>Accept non-textiles examples for the kitemark.</p> <p>Do not credit repeats of products.</p> <p>Not the name / type of fabric – needs to be a product. Can give the fabric with the product eg silk pyjamas</p> <p>If candidate gives a repeat answer that is correct, and an alternative answer which is correct, award a mark.</p>

Question		Answer	Marks	Guidance
5	(b)	<p>Answers may include reference to the following points</p> <ul style="list-style-type: none"> • Sustainability – can be re-grown or replaced / renewable • Plants give off O₂ and take in CO₂ • Do not pollute the atmosphere when they grow • They can be grown organically / without fertilizers or chemicals • Rot into ground replacing nutrients • Can use environmentally friendly fertilisers and pest control methods • Animals producing wool fibres are not necessarily killed and can give other products as well as fibres • Biodegradable • Both are recyclable • Both are reusable • Manufactured fibres made from chemicals – often finite resources • More chemicals and harmful substances used in the manufacture of manufactured fibres than natural ones • Natural fibres have fewer manufacturing stages as the fibres exist and are processed whereas manufactured fibres have to be made as well as processed • Both will use machinery requiring energy to run them. 		<p>Level 3 (5-6 Marks) Explanation shows a thorough understanding of natural fibres and why they are sustainable and environmentally friendly. Specialist terms will be used appropriately and correctly and the information will be presented in a structured format. The candidate will demonstrate accurate use of spelling, punctuation and grammar.</p> <p>Level 2 (3-4 Marks) Explanation shows some understanding of quality of design and quality of manufacture, although these may not always be correct. There may be occasional errors in spelling, punctuation and grammar.</p> <p>Level 1 (1-2 marks) Explanation shows a limited understanding of natural fibres and environmental issues. There will be little or no use of specialist terms. Answers may be vague and disorganised. Errors of grammar, punctuation and spelling may be intrusive. Answer may take the form of a list.</p> <p>0=no response worthy of credit</p>

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