GCSE

Design and Technology (Textiles Technology)

General Certificate of Secondary Education

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

Mark Scheme for January 2013

Annotations

Annotation	Meaning
	Level 1
	Level 2
	Level 3
	Noted but no credit given
	Tick

Question			Answer	Marks	Guidance
1	**(a)**		Any three reasons, one mark each: • Hardwearing/durable/strong/long lasting • Waterproof/water repellent/dries quickly • Stain resistant/easy to remove stains/prevents stains from sticking • Washable/wipes clean/easy to clean • Does not fray so easy to work with • Crease resistant • Does not absorb germs/micro organisms/is hygienic • Can be glued rather than stitched.	3	Not lightweight, or heat resistant, or flexible, not flame retardant.
	(b)		Any two items, one mark each: • Table cloth • (Oven) gloves/mitt • Table mats/place mats • Tea cosy • Tea towel/towel • Appliance covers • Cushions/seat covers • Napkin/serviette • Roller blind/curtains • Chef's hat/hat/net/cap.	2	Any item made from fabric found in a kitchen. Accept plural or singular. Not oven cloth, or just cloth, or piping bag, or dish cloth.

Question	Answer	Marks	Guidance
(c)	One mark for each correct answer: • Manufacturers name/company name • Country of manufacture/where it is from • Fibre content/fabric/material/what made from • Size/length/age group • Colour • Bar code • Batch number/serial code • Safety considerations if qualified eg/flammability • Eco friendly mark • Price • Where purchased/brand name/logo • Care instructions/care label/an example of a care label/if it is washable.	2	Only accept one care label/reference to washing or aftercare. Accept if they gave an example eg 'cotton' or 'hand wash only'. Not CE mark or health and safety warnings unless qualified.
(d)	One mark for each correct point in the sequence: • Lower (presser) foot at A/start at A/place point A under needle/presser foot/lower needle at A • Reverse at start of stitching • Stitch from A to B • Stop (at B) • Needle must be in/through the fabric at B/corner • Raise the (presser) foot • Turn/pivot/twist the work (to face C)/90^0 (clockwise) • Lower the (presser) foot. • Continue to point C/stitch from B to C.	5	Do not credit pinning or tacking as this is given in the question. Do not credit cutting threads or removing pins or tacking as the pocket is not completely stitched on. Do not credit any reference to setting up the machine. No credit for mention of the seam allowance, cutting threads or reversing at C as stitching not complete.

Question			Answer	Marks	Guidance
2	**(a)**		One mark for naming the finish, one for the reason: • **Stain resistance**/**anti stain** – heavy use by many people – careless as not own home, makes cleaning easier, reducing time needed and cost/longer between cleans/hygienic • **Anti-static** – floor coverings may build up static, particularly if synthetic causing guest to be uncomfortable – electric shock – and dirt to cling to fabrics making difficult to clean • **Flame resistance/fire retardant/non flammable**/flame proof– legal requirements, health and safety, large numbers of people in building, careless cigarettes, more evacuation time, less damage/allow access to window to escape/an example of what might cause a fire • **Hygienic/anti bacterial** – prevents growth of microbes controls odours, reduces the risk of skin irritation and infection and prolongs the life of the fabric, fresher longer, bedding, towels etc • **Rot proofing/mildew proofing**/**mould proof**– protects against organisms that destroy fabrics, shower curtains, floor coverings – easy to maintain and prolongs life • **Anti-pilling** – to prevent 'bobbles' forming on the fabrics making them look shabby and old – fabric looks good for longer and does not have to be replaced as often reducing costs increase comfort • **Easy care** – dry faster and little ironing – good for bedding reduces care time and cost. • **Crease resistant** – keeps the bed looking good, reduces the need for ironing. • **Water resistant/repellent –** to keep the water from escaping from the shower onto the floor, prevents the curtain from becoming soggy after a shower.	6	Not 'light proofing'. Not fire proofing duvet so can be used as a form of protection. For flammability do not accept just 'does not catch fire or burn as quickly' as this is an explanation of the finish. Needs to give a reason why useful eg escape time or reducing damage. If no finish is given no mark can be given for reason. Not moth proofing as it does not improve the performance of the fabric.

Question			Answer	Marks	Guidance
	(b)		Any four points, one mark each: • (Reversed) design engraved onto copper roller/cylinder in relief • One roller needed per colour • Roller is coated with dye/ink/paint/pigment and rolled over the fabric • Repeated for second colour • Design needs to be matched up • Maximum length of the design is the circumference of the roller • Dye fixed onto fabric/heated to fix/dried.	4	Some candidates may write about rotary screen printing which is a different method and not correct. Do not credit just rolled over fabric'.
	(c)		One mark for a shallow answer which may only explain what aesthetics is, two marks if this is related to the hotel bedroom. Aesthetics relates to the look, touch and style of the room. Guests do not want to stay in a room where the colours clash, or where they do not feel calm and relaxed. It needs to have a 'classy/modern/funky/minimalist/colourful' look so they will return.	2	Any two: 1 mark if the answer refers to how the room 'looks' – as this shows an understanding of the word 'aesthetics'. 1 mark if they qualify the look of the room – by using words such as 'classy/modern/funky/minimalist/colourful/smart/unique or reference to textures/shape/form. 1 mark for reference to making people want to stay/return/making money for the hotel/profit. Do not credit references to cleanliness or maintenance issues.

Question			Answer	Marks	Guidance
3	**(a)**		One mark for correctly identifying the special property, one mark for the product. Kevlar • strong/tough/hard/bullet proof/resists high temperatures/stab proof • uses – bullet or stab proof vests/motorcycle clothing/racing sails/body armour/face masks. Police jacket/body armour/fire fighter if not used in next answer/sportswear. Nomex • resistant to heat/flames/does not burn/inflammable • uses – fire fighter uniforms/racing car drivers protective clothing including hoods, gloves, all in one/airline pilot uniforms or tank drivers. Gortex • breathable/waterproof/windproof • uses – outdoor clothing/coats/hats/gloves/trousers/jacket/coat/baseball cap/walking shoes.	6	A different performance characteristic must be identified for each material. A different product must be identified for each material. Not generic – eg clothes – must identify a user group or specific garment. The garment must be appropriate or qualified. For Kevlar or nomex – jacket must be qualified with a use or user. Can gain a mark for a correct product even if the characteristic is wrong. Potential scattergun.

Question			Answer	Marks	Guidance	
					Content	**Levels of response**
	(b)		Answers must refer to processes. Answers may include reference to: • patterns for garments produced using ICT – accurate • pattern lays accurate – no errors • texture mapping 3D computer modelled prototype garments/products using CAD and automation system, more accurate and consistent/look the same • approved design is put into production in a range of standard sizes controlled using templates • templates also control positioning of items such as patch pockets, button holes, decoration • CAM machines control cutting and shaping • Cam machines can control printing and embroidery – very accurate • CAM accurate and reliable – repeat same process over and over in exactly the same way • Ensures consistency/looks the same, therefore quality • CIM – to manage the whole process. Do not credit references to efficiency, speed, reducing waste, easy to change designs.	6		Banded Response **Level 3 (5–6 marks)** Description shows a thorough understanding of how CAD/CAM is used in industry to control accuracy. 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. **Level 2 (3–4 marks)** Description shows some understanding of how CAD/CAM is used in industry to control accuracy, although these may not always be correct or in the correct context. Some processes may be mentioned without specific details. There may be occasional errors in spelling, punctuation and grammar. **Level 1 (0–2 marks)** Description shows a limited understanding of the uses of CAD/CAM. 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 use one or two word answers.

Question			Answer	Marks	Guidance
4	**(a)**		A maximum of six marks to be allocated as detailed below: One mark for each specification point **identified/explained** in the annotation up to a maximum of three marks: • **Educational** – eg numbers or letters, teaching colours, hand eye co-ordination • **Appealing** – eg use of popular children's characters, colourful, interesting, sounds if not mentioned in educational • **Multi-use** – eg can be used inside, outside or in the car, or in different locations, converts to a different type of toy. One mark for each construction detail given in annotation up to a **maximum of three marks**: • Measurements or sizes given • Fabrics suggested – not fibres • Details of construction methods such as seams, hems, finishing methods • Components such as fastenings if not credited already • Decorative techniques such as screen printing, appliqué, patchwork, free machine embroidery.	6	Points need to be annotated to be awarded a mark – do not credit just the diagram other than colour. Do not mark the same point under two different headings. For example, if sound is used as an example of how the toy is educational, do not also credit sound as a way of making the toy appealing. To gain the mark for meeting the specification point, the point must be stated in the annotation. Do not credit play while learning as multi functional as this is stated in the question.

Question			Answer	Marks	Guidance	
					Content	**Levels of response**
	(b)		Answers may include reference to: • Lower production costs • Fast, efficient production/more toys/quicker • High quality products • Less storage space needed as goods used immediately • Less money tied up in carrying stock • Problems with delivery times can halt production/miss deadlines/cause hold ups • If poor quality materials supplied can halt production or result in lower standards • Planning needs to be very efficient so the timing of deliveries is appropriate • May be issues matching colours/having correct pre-manufactured components as not all bought at the start of production but delivered during production • Must have reliable suppliers • Stock will not go out of fashion. Do not credit – more expensive as not buying in bulk. Not to do with making the product just before it is needed.	6		**Level 3 (5–6 marks)** Discussion shows a thorough understanding of manufacturing in quantity using the JIT system, identifying both advantages and disadvantages. 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. **Level 2 (3–4 marks)** Response shows some understanding of mass producing textiles items and some idea of the JIT system. Some processes and the advantages and disadvantages may be mentioned without specific details. Some indication of pros and cons of the system. There may be occasional errors in spelling, punctuation and grammar. **Level 1 (0–2 marks)** Response shows little understanding of the JIT system, or mass production methods. Some processes/points may be mentioned but advantages and disadvantages not identified. 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.

Question			Answer	Marks	Guidance
5	**(a)**	**(i)**	Patchwork	1	No other acceptable answer.
		(ii)	Any two reasons, one mark each: • Reduces carbon footprint/no burning • It uses scraps/waste fabric that would be thrown away • Can be made by cutting up old products – made from recycled materials • Can be done by hand – reduces energy use • Don't need to buy new fabric, can used old • New fabric does not need to be manufactured • Reduces waste in disposal sites.	2	Does not have to be linked to 6Rs specifically, but they may be mentioned. Do not accept reference to re-using components. Do not accept reference to cotton or sustainable fibres. Do not credit reference to the dress being re-cycled.
	(b)		One mark for each correct answer: • Velcro/hook and loop tape • Hook and eye/hook and bar/hook and loop • Press stud/popper/ginger snap.	3	Do not credit 'clip' for any answer. Do not credit just 'hook' for hook and eye.

Question			Answer	Marks	Guidance
	(c)		One mark for each correct point in the sequence: • Stitch seam where zip needs to be using tacking or a long machine stitch/fold edges of fabric under and press, pin or tack in place • Press seam open • Neaten the edges of the seam • Place zip face down on the wrong side of the seam/inside the garment • Line up teeth with the centre of the seam • Pin/tack zip in place • Put zipper foot on the machine • Change the position of the needle/adjust position of foot to match needle position • Use a straight stitch/slightly longer straight stitch • Stitch round zip • Pivot at corners • Reverse at the start and finish/fasten off stitching • Remove all tacking threads/pins/cut lose threads • Check zip opens and closes.	6	Be aware there may be different methods described here, credit answers that will work. Credit concealed or semi-concealed method, or exposed teeth. Credit information in notes or diagrams.

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