

Mark Scheme (Results) Summer 2010

GCSE

GCSE Design and Technology: Food Technology (5TT02) Paper 01. Knowledge and Understanding of Textiles Technology.



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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Question	Answer	Mark
Number		
1	С	(1)
Overstien	Ι Δ	Moule
Question	Answer	Mark
Number 2	Λ	(1)
	A	(1)
Question	Answer	Mark
Number	Allower	IVIGI K
3	С	(1)
		(.,
Question	Answer	Mark
Number		
4	В	(1)
	•	
Question	Answer	Mark
Number		
5	Α	(1)
Question	Answer	Mark
Number		(4)
6	С	(1)
Question	Answer	Mark
Number	Aliswei	IVIdi K
7	D	(1)
,		(1)
Question	Answer	Mark
Number		
8	В	(1)
	·	·
Question	Answer	Mark
Number		
9	В	(1)
Question	Answer	Mark
Number		
10	D	(1)

Question Number	Answer	Mark
11(a)	 Name measuring tape, tape measure (1) Use For both hand & machine embroidery to hold fabric taut/flat/ in place/tight so it doesn't bunch up (1) Name Quick, stitch unpick/unpicker/seam, stitch ripper/ picker (1) Use To hold fabric in place/together for cutting, tacking & sewing / securing / holding pattern onto fabric/ fitting (1) 1X1	(4)
Question Number	Answer	Mark
11(b) 6.1 Sustainability	 One justified description from the following Patchwork uses scraps of leftover or old fabric and old clothes/recycles textiles/repairs (1) so reduces rubbish sent to landfill/ uses less new resources (1) Ensures very little gets wasted/ less need to buy more/new fabric (1) as even small pieces can be used (1) 	
	1X1 1X1	(2)
Question Number	Answer	Mark
11(C) 2.2 Modelling & prototyping	 give the designer a chance to test out their ideas/ see what it will look like/ the fit/ meet requirements (1) cheaper fabric can be used/ paper of a similar weight / less expensive (1) before committing to the more expensive material and processes(1) see how it behaves (stitches, fabric, techniques, embellishment) (1) so that adaptations can be made/mistakes can be corrected / style, shape changes can be made before full scale production (1) Processes can be timed to allow selection of most appropriate/ calculations/ costing can take place of materials, components and processes/ estimation of resources needed (1) 	(2)

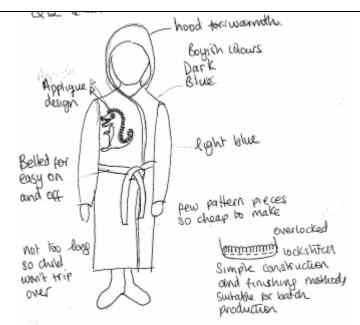
Question	Answer	Mark
Number		
11(d)	One benefits given from:	
2.3		
layplanning &	 less human error (except when programming) (1) 	
cutting	because its automated (1)	
	Consistent results (1) as machinery repeats	
	exactly the same each time (1)	
	very little waste (1) because pattern pieces are	
	economically placed (1)	
	profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more profit is maximised (1) because less waste / more	
	accurate/ faster production (1)	
	more layers can be cut at once/ less labour intensive (1) so time saving/guicker (1)	
	 intensive (1) so time saving/quicker (1) Blades are very sharp (1) so fabric does not get 	
	Blades are very sharp (1) so fabric does not get damaged (1)	
	1X1	
	1X1	
	Can only be credited for 'wastage' once as a statement &	(2)
	description is needed. Not 'quicker' on its own	
Question	Answer	Mark
Number		
11(e) (i)	Give one reason	
2.3 cutting	Harris Burnama	
	How slippery	
	 suitable process (vacuum)/ work surface can be considered/ the fabric can shift/move/ slide over 	
	each other & slip out of place causing machinery	
	to clog up/ cut incorrectly(1)	
	 machinery can shift/move when cutting 	
	plies/layers wasting fabric (1)	
	 the machinery can shift/move over fabric 	
	plies/layers / will need to secure well/ difficult	
	to keep the fabric in place (1)	(1)
	1X1	
Question	Answer	Mark
Number		
11(e) (ii)	Give two reasons	
2.3 cutting	How thick	
	each individual layer of fabric has too much bulk/	
	bulky/ accurate machine setting/ cut all the way	
	through/ 1)	
	 can be harder to keep the accuracy when 	
	cutting(1)	
	 fewer layers can be cut at once which is slower/ 	
	less economical (1)	
	fabric can be damaged at lower layers when	
	cutting (1)	(2)
1	2x1	1

Question Number	Answer	Mark
11f(i)	Explain one advantage of silk. Silk Both warm & cool next to the skin (1) High absorption of moisture / MVT/ (1) Looks expensive/ extravagant(1) Natural lustre/slight sheen/ suitable special occasion (1) Drapes well (1) as it hangs off the body well/ flows/floats/ looks elegant/ creases can drop out (1) Has a wide variety of textures (1) so therefore it is adaptable/ has good handle (feel)/ (1) Good strength (1) so will wear well (1)	(2)
	1X1	

Question Number	Answer	Mark
11f(ii)	 Is expensive to buy (1) reduced availability so generally used for luxury items/ they cost a lot to make/ often only worn once (1) Stains easily (1) as it is absorbent/ difficult to clean/ can be damaged by deodorants & perfumes (1) Often needs to be dry cleaned (1) so expensive to care for afterwards (1) Can crease easily (1) so careful pressing / will not look the same after a length of time (1) 	(2)
	1X1 1X1	(2)

Question	Answer	Mark
Number		
11(g) 2.7 Decorative & stitch techniques	 Stamp your pattern onto the fabric (1) Place the layers together/ on top of one another (1) in a sandwich formation(1) Mark/ draw the position of the stitching/design (1) Pin and tack the layers together (1) 	
	Any two steps must be in a logical order. 1X1 1X1	(2)

Question	Answer	Mark
Number 12	Design idea 1	
	Candidates may answer any specification point in either graphical form or by annotation.	
	 1.consist of only one item (1): e.g. one clearly identified piece of clothing. No separates/no repeat of first design. 	
	 2.be attractive to a young child (1): e.g. motifs, characters, colours and trims. 	
	3.be made from absorbent fabric (1): e.g. towelling fabric, raised naps. Absorbent fibres e.g. cotton, linen, (wool and silk are acceptable but have allergy and expense implications later).	
	 4.be warm to wear (1): e.g. use fabrics (knitted construction, quilted) and finishes that are warm (brushed cotton), trims and hood, pockets to put hands in, long sleeves, covers most of the body and length. 	
	5.be safe to wear(1): e.g. non-flammable fabric, no loose pieces, no tripping, not restrictive, skin to get caught in zip, no sequins, fasteners need to be securely attached, non allergenic.	
	 6.be easy to put on and take off (1): e.g. uncomplicated design, tie opening, use of Velcro, no back fastening. 	
	 7.use decorative techniques (1): e.g. appliqué, embroidery, different coloured fabrics, frills. 	
	8.be suitable for batch production (1): e.g. evidence that process is suitable for batch production, e.g. shape, features or decoration, cost of materials, which makes it more suitable than one-off.	
	8X1	(8)



Terry towelling

Design idea 2

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

Example of candidate response:



(8)

Question Number	Answer	Mark
Number 13(a) 1.5 Fabrics	Two properties and linked justification from: Property: Distinct pattern(1) Justification: Desirable, diagonal pattern formed is often a selling feature(1) Property: Warm/ Water resistant (1) Justification: Closely packed yarns let less air and water through (1) Property: Resilient/ durable/ Strong (1) Justification: so it will not be easily ripped/damaged/ construction (higher yarn count) less interlacing means yarns packed closer together (1) Property: Soft/drapes well (1) Justification: Comfortable to wear/hangs well flexible construction, floating warp/weft thread (1) Property: Uneven surface (1) Justification: soils and stains show less on uneven surfaces (1) Property: Easy to wash (1) Justification: Cotton is easy to care for and can be washed at high temperatures/ light colour will soil/stain easily (1)	IVIAI K
	2X1 2X1	(4)

Question	Answer	Mark
Number	One hangfit given from	
13(b) 5.3 CAD/CAM technology	 Greater freedom when designing (1) more intricate designs can be achieved (1) Simplified process (1) CAD can be used to create the design before stitching/ Design read onto a card reader that digitizes the design (1) All- in -one process/ identical designs made (1) Designs can be drawn on the screen of the sewing machine, then sewn/ accurate placement (1) Sent from anywhere in the world (1) Designs can be scanned in or drawn on a separate computer (1) Greater flexibility of choice of stitches (1) Designs can be read in terms of stitches which you can choose / variety/ range (1) Accuracy and time efficient/speed/quicker (1) hand process slow and less precise (human error)/professional finish. Data can be saved & retrieved later (1) Sensors can stop machinery when fault occurs (1) good QC/ less faults / traced back to missed stitching if it is watched (1) 	
	Accurate and time efficient must be qualified with another benefit for 2 nd point	(2)
Question Number	Answer Penerit 1012 point	Mark
13(c)(i)	 1 mark- brief mention of how the jacket is suitable for summer use 2 marks - a developed explanation of how the jacket is suitable for summer use Light blue denim (1) summery colour / light colours - reflect sun/ cool(1) Cotton/ fibre/ fabric -breathable (1) cool/ comfortable to wear / fabric/ less sweaty (1) Denim can be woven in many weights/ light weight fabric (1) suitable for hot weather/extra layer for warmth / dense weave blocks sun - sunburn (1) Looks smart/ casual /evenings(1) for going out /unpredictable weather (1) Short sleeves/ open neck/ buttons down (1) cooler to wear (1) Denim commonly worn in summer (1) fashionable, goes with anything, has all year round appeal (1) 	(2)
	2X1	

Question	Answer	Mark
Number		
13(c)(ii)	 1 mark- brief mention of how the jacket is easy to put on and take off 2 marks - a developed explanation of how the jacket is easy to put on and take off Few buttons/ only 3 (1) not too close together/ so reduced time removing (1) large buttons/ simple fastening (1) so easy to operate (1) Full/ front/ middle opening (1) eg. Not over the head, slips on & off easily, neck to waist/ easy to reach (1) Cuffs are loose (1) easy access/ simple design (1) 	(2)
	2X1	

Question Number	Answer		Mark
13(d) 6.1	Evaluation to address the follo	wing issues:	
minimising	Jacket A	Jacket B	1
waste	Wooden buttons from	Plastic buttons -non	1
production	sustainable source/ trees	renewable/ source of	
	replanted production	energy used in forming.	
	method low waste output	Higher waste output of	
	of non renewable energy.	non renewable energy -	
		coal, oil.	
		May be recycled/	
		usually hard to get rid	
		of.	
	100% cotton can be	Synthetic fabric and	
	recycled/ reused.	blends difficult to	
	Wooden buttons are	separate/ another	
	biodegradable as well	process/ non	
	as whose cotton fibres	biodegradable -plastic	
	can be separated	buttons	
	Simplicity of	Complexity of]
	construction process so	construction process/	
	takes less time/	ref. to quilting	
	resources		
	Fewer pattern pieces/	Large amount of]
	minimal decoration of	pattern pieces/	
	topstitching/less	components/ more	
	manufacturing time	decoration e.g. acrylic	
	(eg. more economical as	trims/ quilting	
	more pattern pieces can	increased	
	be fitted on)	manufacturing time	
		More fabric e.g.	
		wadding	
	Limited sub assembly	Increased sub assembly	
	Cuffs, collar takes less	e.g. 2 part sleeve,	
	time/ resources (e.g.	collar, quilting	
	electricity, overheads /		
	fabric)]
	Limited fabric &	Increased quantity of	
	components e.g. fewer	different fabrics &	
	buttons less resources	components more	
	needed	resources needed]
	Cotton lightweight	Weight of product will	
	therefore less transport	add to transport cost in	
	cost in bulk/ fuel	bulk/ less can be	
		shipped at once]
	Less built in obsolesce	More high fashion so	
	as denim is always in	shorter product life as	
	fashion/ can be worn	will go 'out' of fashion	
	through different	quickly. Landfill. Strong	
	seasons/easier to care	fabrics long lasting/ less	
	for	replacement/ mixture	
		of fabric difficult to	
		care for]
	Time if qualified using one of	the above	(6)

Question Number 13(d) 6.1 minimising waste production		- Answer
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.

Question Number	Answer	Mark
14(a)	Two types of CAM from: Digital printers (1) Digital cutters (1) Laser cutters (1) Plotter (1) CNC/ embroidery machines (1) Computerised Knitting machines & looms (1) 1X1 1X1	(2)
Question Number	Answer	Mark
14(b) 2.2 modelling & prototyping	 Modelling can be seen to scale/ what it looks like/ testing (1) saves materials as does not have to be made/ sampling reduced (1) Live models are not needed (1) as a computer can generate one/ saving time and money (1) Communicate more easily (1) as it looks more realistic/ seen from different views (1) Ideas can be adapted quickly and easily and shown to client (1) for feedback e.g. pockets, detailing, angles, ergonomic details/ meet specification (1) Colours and patterns/repeats can be changed (1) quickly/ less time consuming and easier (1) Bank of former designs (database) (1) can be drawn on & adapted(1) Knitwear stitches and weaves can be simulated (1) virtual images adapted and tested/ faults corrected (1) 	
		(4)
	2X1 2X1	

Question Number	Answer	Mark
14(c)	 One description given from: Different cultures place significance on colours/ meanings/ have rules (1) so designers must not cause offence/ insult/ get it wrong/ make sure the colours fit in (1) Examples White- West weddings/East mourning-death (1) Red Hindu-weddings & purity./Chinacelebration/luck for funerals &weddings/ West danger, ceremonial (1) Black- mourning, death, elegance (1) Blue- China -immortality,/Judaism - holiness, Hinduism- colour of God Krishna (1) Green- Islam- sacred colour,/ West- safe colour, nature./ Tropics- danger (1) Yellow - Hinduism- sacred colour,/ West- Easter, spring (1) Orange - West- Halloween,/ Northern Ireland-protestant (1) 	(2)
Question	2X1	Mark
Number 14(d)(i)	One feature from the following: Absorbent (1) Breathable (1) Soft (1) Good handle (feel) (1) Lightweight (1) Lightweight (1) Water repellent (1) Strong (1) Up to 60 times finer than human hair/very fine/thin fibres Versatile, can be made to suit many end uses (1) Good insulators (1) Can be given a textured finish (1) Can contain chemicals - microencapsulation	(1)

Question	Answer	Mark
Number		
14(d)(ii)	 Polartec fleece has the traditional familiar properties/ demand from consumers drawn to new technology (1) e.g. lightweight water repellent, strong, breathable, handle, drape textures absorbent/ want to be trend setter(1) is made using recycled bottles (PET) or other synthetic fibres (1)so is better for the environment/recyclable (1) environmentally aware customers will prefer (1) supports their morals/ vegan alternative to wool (1) Allergy alternative to wool (1) fibres less itchy (1) enhanced qualities make them superior in use to traditional synthetics (e.g. very lightweight/easy care) (1) because they can perform better under the same circumstances/ good value for money (1) cost is the same as virgin/ wool fleece fabrics/ distribution has increased (1) making it easier for brands to now go 'green'/ now a popular fabric 	
	 One disadvantage explained from: initially would cost more for new technology (1) as it would take money to set up machinery/ processes (1) More flammable than wool fleece(1) needs treating with a flame retardant to reach the same standard (1) development cost and unfamiliarity to target market (1) not everyone wants to buy them as they do not recognise its ability to match their wants/needs (1) will not biodegrade, end up in landfill (1) must be recycled (1) could be perceived as lower quality product as not natural(1) varied range of products some very cheap so market may not associate it with good quality (1) Small number of companies producing it (1) cost higher for branded goods (1) fewer available initially as market tests product take up (1) so consumers buy what they can get easily/ locally(1) Initially difficult to get wide range of products (availability) (1) for high street retail (1) 	(4)

Question	Answer	Mark			
Number	Evaluation				
14(e)	Disadvanta Isola citie Over facto Envi Exp labo Cott not o into Redo peop deports Benefits Fair ethic Prov Bene	Evaluation to address the following issues: Disadvantages Isolation from families as jobs concentrated in the cities Overcrowding as families move to find work in factories. Environmental issues land use, effluents, pollution Exploitation (by brand names) for greater profit/child labour/ sweatshops/ poor wages. Cottage industries and traditional craft methods could not compete against mass production so workers went into factories to find jobs Reduction in countries abilty to develop as children people are not eductated/ kept in poverty cycle/ dependancy on large companys for jobs Benefits Fair trade - consumers give backing to better work ethics Provision of work Benefits eg better living conditions.schools healthcare Alternative employment opportunities now available			
		ds a reputation as a good place to manufacture/companies use it/helps to build economy	(6)		
Level	Mark	Descriptor			
	0	No rewardable material			
Level 1	1-2	and develops one area. Shows limited understanding Writing communicates ideas using everyday language response lacks clarity and organisation. The candida	lidate identifies the issues with no development OR identifies develops one area. Shows limited understanding of the issues. Ing communicates ideas using everyday language but the onse lacks clarity and organisation. The candidate spells, ituates and uses the rules of grammar with limited accuracy.		
Level 2	3-4	Candidate identifies some issues with associated developments showing some understanding of the issues. 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 issues with associated developments showing a detailed understanding of the issues. 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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