



A-LEVEL DESIGN AND TECHNOLOGY (FASHION & TEXTILES)

PAPER 2

Mark scheme

Specimen Papers

Version 1.0

Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students' responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students' scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this mark scheme are available from aqa.org.uk

Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student's answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the Indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

Qu	Part	Marking guidance	Total marks	AO
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SECTION A- Product Analysis

1	1	5-6 marks	Clear and accurate information about the many of the gabardine fabric properties and also gives a range of reasons which clearly evaluate why the fabric is most suitable for the soldier. Answer will be very detailed and show a full understanding of movement in the coat during use.	6 marks	AO3
		3-4 marks	Good information about the fabric properties naming and evaluating more than one reason why the fabric is most suitable for the soldier. Good reference of each of the fabric properties is made to the coats suitability.		
		1-2 marks	Limited information about the fabric properties and suitability for the soldiers' coat. Only one property is mentioned and the suitability is unclear or confused, with only basic evaluation.		
		0 mark	No response worthy of credit.		
		<p>Indicative content: Answers may include evaluative information about fabric properties, such as:</p> <ul style="list-style-type: none"> • water repellent which kept soldiers dry • has a tightly twill woven construction • lightweight so as not to restrict movement • breathable allowing perspiration to escape • durable/hardwearing making it long-lasting in harsh conditions <p>Award any other valid responses.</p>			

1	2	7-8 marks	The answer is extremely clear and detailed in evaluation of the concept of workwear developing into fashion. Examples given will be well analysed as to the success of the garment and popularity or functionality as modern day fashion. In exemplifying the answer the student will demonstrate a comprehensive knowledge of the garments origin as work wear and how the examples have developed into a fashion item.	8 marks	AO3
		5-6 marks	The answer is clear and accurate in evaluation of the concept of workwear developing into fashion. Examples given will be analysed as to the success of the garment and popularity or functionality as modern day fashion. In explaining the answer with examples the student will demonstrate a good knowledge of the garments origin as work wear and how it has developed into a fashion item.		
		3-4 marks	The answer evaluates of the concept of workwear developing into fashion, some examples are given, but may lack accuracy or clarity. The examples are briefly analysed as to the success of the garment and popularity or functionality as modern day fashion. In explaining the answer with examples the student will demonstrate a sufficient knowledge of the garments origin as work wear and how it has developed into a fashion item.		
		1-2 marks	The answer is limited in its evaluation of the concept of workwear developing into fashion, with few examples given. The examples are superficially analysed as to the success of the garment and popularity or functionality as modern day fashion. In explaining the answer with examples the student will demonstrate a basic knowledge of the garments origin as work wear and how it has developed into a fashion item.		
		0 mark	No response worthy of credit		
		Indicative content:			
<p>Work wear to fashion has developed over the years as attitudes to fashion have relaxed and less formal clothing has become the norm. Reasons for this change may include practicality, greater durability ease of wear, garments making a statement, showing an individual style and sometimes cheaper to purchase. It can be worn as originally designed or modified to give a unique look and therefore an alternative to current fashion trends.</p> <p>Work wear often originates from respected establishments such as the armed forces and well-known companies. Out of allegiance to these establishments or a historical/current event work wear may be worn as a new trend, for example in times of war military items may be worn.</p> <p>Examples of work wear may include:</p>					

		<ul style="list-style-type: none"> • Canadian lumberjack’s Jacket • Sailor’s suit • Work wear look (holes on trousers) • Doc Martin work wear shoe • US fighter pilot jacket- Bomber jacket • Military combat pants • Gold digger/miners jeans • Sou’wester jackets • Fisherman pants of South East Asia • Wader trousers <p>Concepts for workwear developing into fashion items may make reference to anti establishmentarianism, trends following sub cultures and developments happening without design and market influence.</p> <p>This list is not exhaustive. Students may have other valid answers and these should be credited.</p>		
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1	3	5-6 marks	The reasoning is in depth and correct, examples are given which analyse the features and clearly evaluate why the features are valid for a modern day trench coat.	6 marks	AO3
		4-5 marks	The discussion highlights some appropriate analysis of the features, examples of function are given and are clearly and correctly identified with some evaluation of why they remain valid		
		1-2 marks	There may be a lack of information and some of the points may be confusing. Limited analysis of the features with little evaluation of why they remain valid. Some features are identified but without any analysis or evaluation of their suitability.		
		0 mark	No response worthy of credit.		
		<p>Indicative content: Reasons for the epaulette may include:</p> <ul style="list-style-type: none"> • This is a historical feature of the coat which appeals to consumers which are knowledgeable about the origins of the garment. 			

		<ul style="list-style-type: none"> To identify it as a trench coat. Adds decorative interest to the coat. <p>Reasons for the storm shield may include:</p> <ul style="list-style-type: none"> The storm shield protecting from the rain and wind This is a historical feature of the coat which appeals to consumers which are knowledgeable about the origins of the garment. The features remain on the garment as they are functional. Adds decorative interest to the coat. <p>Award any other valid responses.</p>		
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1	4	5-6 marks	The student shows detailed analysis of the contribution made by several aspects of the fibre content and plain weave structure. Information will be accurate and clearly related to the trench coat, leading to clear evaluation of the fabric's suitability. Answer includes full evaluation and draws conclusions regarding the suitability of the fabric.	6 marks	AO3
		3-4 marks	The student shows good analysis of the contribution made by several aspects of the fibre content and plain weave structure. Information will be mainly accurate and clearly related to the trench coat, leading to some evaluation, which may not draw full conclusions.		
		1-2 marks	Limited analysis, simplistic statements only, student typically concentrates on a narrow area of the fibre qualities without fully analysing the structure of the fabric or the trench coat. The response will tend to be descriptive and there may be confused and inaccurate information with limited evaluation and no conclusion reached.		
		0 mark	No response worthy of credit.		
		Indicative content:			
<ul style="list-style-type: none"> Polyamide is a strong fibre and resistant to abrasion so will resist tearing and wear when subjected to friction. It is lightweight so will not make the jacket heavy in use. It will resist water borne stains as it is non-absorbent and will dry quickly. 					

		<ul style="list-style-type: none"> • Polyamide can be affected by the sun so it is better suited for the lining of the jacket. • The plain weave adds to the strength and is firm so will hold its shape, preventing stretching and keeping the shape of the jacket. • The fabric is at some cost, although this is minimal, so will not affect the cost of the coat. <p>Award any other valid responses.</p>		
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1	5	<p>Recognising or showing that the frequency = frequency density × class width for at least one bar</p> <p>Eg 5×2 or 10 Or 10×3.8 or 38 Or 5×6 or 30 Or 10×1.2 or 12</p>	1 mark	AO4
		<p>All values seen ie $10 + 38 + 30 + 12 = 90$</p>	1 mark	

1	6	<p>Price of coats for customers $> 190\text{cm} = 1.05 \times 75 = \text{£}78.75$</p> <p>Total sales revenue = $(78 \times 75) + (12 \times 78.75)$ = $\text{£}6795$ (1 mark)</p> <p>% generated by sales to customers over 190cm = $945 / 6795 \times 100$ = 14% (rounded to nearest percentage) (1 mark)</p>	2 marks	AO4
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SECTION B – Commercial Manufacture

2		7-9 marks	Excellent knowledge and understanding of the efficiency of making a 3-D shape to simplify production processes and stock control. Detailed reference to making a single shape linked to aspects of the shoe. Comprehensive analysis of both advantages and one or more disadvantages will be demonstrated. Knowledge and understanding of environmental impact will also be demonstrated and apply directly to the context of the shoes.	9 Marks	AO3 AO4
		4-6 marks	Good knowledge and understanding of making a 3-D shape to reduce or eliminate waste. More than one point and may refer to stock control. Analysis of more than one advantage but only limited reference to disadvantages. Limited knowledge and understanding of environmental impact and may not be directly relevant to shoes.		
		1-3 marks	Basic knowledge and understanding with only one or two different points. 'Quicker and easier' without expansion is not sufficient for a mark. Candidate may refer to one or more advantages only, with only limited analysis of these. There may be no reference to environmental impact.		
		0 marks	Nothing worthy of credit.		
		Indicative content:			
<ul style="list-style-type: none"> • Advantages concern the shaping of the main part of the shoe during fabric construction. Each section is fully integrated into the single piece so an efficient way to make a 3-D shape. • The single strand construction means that a variety of materials are not required; this simplifies stock purchasing and control. • A single piece shaped exactly to requirements eliminates waste, so environmentally friendly. • Less stages in production decreases opportunity for error and makes quality control more straightforward. • A single operation to join the main part of the shoe to sole as one piece only to join. Reduces time taken to manufacture. • No multiple materials or layers, and no material cutting out required so a quicker process. • Disadvantages are few but may include comments relating to less variety of contrasting materials included in shoe design, special/more expensive machinery, complex computer programming required. 					
Award any other valid responses.					

3	8-10 marks	Demonstrates excellent knowledge and clear understanding of a wide range of different management techniques to improve efficiency with detailed explanation. Reference to critical path analysis and/or six sigma. Answer is detailed and will include a wide variety of points.	10 marks	AO4
	5-7 marks	Good response which demonstrates knowledge and understanding of a range of management techniques to improve efficiency. Some reference to six sigma or critical path analysis but may lack clarity. If a variety of techniques are given there may be a lack of information. There may be fewer different management techniques but some explanation of these will be given.		
	1-4 marks	Demonstrates basic knowledge and understanding with one or two management techniques to improve efficiency. Little or no reference to six sigma or critical path analysis. May be some confusion or lack of detail. Management techniques may only be listed.		
	0 marks	Nothing worthy of credit.		
	<p>Indicative content: Production management techniques include: -</p> <ul style="list-style-type: none"> • Critical path analysis to examine and list all activities in the production of a product. The time taken for each activity and the dependencies between activities are taken into consideration when plotting the production plan and work schedules. Once all the data is collected the most efficient route through production can be decided. • Six sigma to improve the process of production and eliminate defects in the product and so improve quality. Involves strong management leadership to make decisions on facts rather than intuition or guesswork and who work focussed on set targets. • Use of sub-assemblies to put together separate parts before finally assembling the product. It can be a more efficient method of manufacturing the product compared to line production. • JIT Just in time management of resources, materials and movement of parts along production lines to reduce the time taken to make the product, increase efficiency and reduce storage costs. A cost-effective way to order materials, components and sub-assemblies to arrive in place just before they are needed. • Employment of expert people for each task to ensure efficiency. • Lean production to reduce wasted time during manufacture of the product <p>Award any other valid responses.</p>			

4	1	5-6 marks	Demonstrates excellent knowledge and understanding of a variety of quality control checks across a wide range of processes in garment manufacture. Describes the quality control checks in detail and includes specific tolerance level for at least one quality control check. Detailed response with accurate information, candidate has a clear understanding of what is meant by tolerance level.	6 marks	AO4
		3-4 marks	Demonstrates good knowledge and understanding of a range of quality control checks with some reference to tolerance levels. Candidate describes the quality control checks across a range of processes in garment manufacture and knows about tolerance levels.		
		1-2 marks	Demonstrates basic knowledge and understanding information about one or more quality control checks with little or no reference to tolerance levels. There may be some lack of clarity or confusion at the lower end of the mark range and a list of quality control checks without description might be given.		
		0 marks	Nothing worthy of credit.		
		<p>Indicative content:</p> <ul style="list-style-type: none"> Quality control checks made on stock materials (consistent colour, clean fabric), cutting out (correct size, even edges), stitching (seam allowance, quality of stitching) assembly (right pieces put together, right way up), pressing garment (creases removed, crease in right place), checking for loose threads or any other appropriate quality check. Tolerance levels given for size of a cut out piece of fabric, the seam allowance width, the distance between button holes, the length of drawstrings, or any other appropriate tolerance level. <p>Award any other valid responses.</p>			

4	2	9-12 marks	Demonstrates excellent knowledge and understanding with a wide variety of detailed points. Candidate knows about quality management and can describe different systems in place from design to delivery. Candidate has an understanding of the importance of an overview of company activities working together to assure quality across the range	12 marks	AO4

			of activities. There is an awareness of the importance of meeting the needs and wants of the customer and of controlling and monitoring manufacture to meet agreed standards.			
		5-8 marks	Demonstrates good knowledge and understanding of how a variety of systems can be combined to assure quality. Some detail to expand on points. Some understanding demonstrated with reference to some different systems that ensure customer satisfaction. Contains fewer examples of quality assurance systems and less description of what they entail.			
		1-4 marks	Demonstrates basic knowledge and understanding of one or two systems but little information about how the systems described impact on customer satisfaction. There may be some confusion or lack of clarity and only limited description of what each listed system entails.			
		0 marks	Nothing worthy of credit.			
		<p>Indicative content:</p> <ul style="list-style-type: none"> • Quality management, to ensure that there is an overview of company activities to monitor and continually develop systems, processes and working methods to meet customer expectations and review cost of quality. • Use a quality handbook to document all procedures, tolerances and quality related targets. • Development and use of specifications to guide production and monitor quality. • Training of workforce. • Quality system audits to find out whether activities are carried out as specified. • Quality designs that are fit for purpose and meet legislation and consumer expectation. • Modelling and testing of prototypes and customer feedback to gain understanding of client needs and quality issues. • Further product development, modifications and improvements in response to feedback and evaluation against specifications. • Use of quality seal/gold seal to guide production. <p>Award any other valid responses.</p> <p>Points relating to quality control should not be credited as the question asks for other systems.</p>				

5	<table border="1"> <tr> <td style="text-align: center;">5-6 marks</td> <td>Demonstrates excellent knowledge and understanding of a variety of strategies to meet rapid changes in consumer demand. Explanation is clear and detailed. Candidates know about different manufacturing systems and understand how they help meet rapid changes in consumer demand. Candidate will also refer to purchasing materials and/or storage of stock.</td> </tr> <tr> <td style="text-align: center;">3-4 marks</td> <td>Demonstrates good knowledge and understanding of a variety of manufacturing systems but may lack detail to show full understanding of how they help to meet rapid changes in demand. May demonstrate excellent knowledge and understanding of one system only. Candidate may also refer to purchasing materials and/or storage of stock.</td> </tr> <tr> <td style="text-align: center;">1-2 mark</td> <td>Demonstrates some knowledge and understanding of a manufacturing system but with little or no explanation or there may be some confusion and a lack of understanding as to how it helps meet changes in demand. Little or no reference to purchasing materials and/or storage of stock.</td> </tr> <tr> <td style="text-align: center;">0 marks</td> <td>Nothing worthy of credit.</td> </tr> </table> <p>Indicative content: Answer may include one of the following: -</p> <ul style="list-style-type: none"> • JIT (just in time production) – stock is ordered to arrive shortly before needed for production to reduce costly storage of stock. Manufacture of products as and when needed according to consumer demand so reduces flow times within production and storage of goods produced. • QRM (quick response manufacture) – time is reduced for manufacturing and there is a quick response to changes in design to meet customer requirements. Allows for in season adjustments to retail stock. • Short run/fast track manufacture – no minimum order quantity, fast response for fast fashion. Saves producing unwanted goods as products made to meet demand rather than planned months ahead. A more expensive way of stocking a retailer but less unwanted stock. • Mass customisation - combines elements of mass production with bespoke tailoring. Products adapted to individual need, so no two items are identical. At the latest possible point in production the product is made individual to order. <p>Award any other valid responses.</p>	5-6 marks	Demonstrates excellent knowledge and understanding of a variety of strategies to meet rapid changes in consumer demand. Explanation is clear and detailed. Candidates know about different manufacturing systems and understand how they help meet rapid changes in consumer demand. Candidate will also refer to purchasing materials and/or storage of stock.	3-4 marks	Demonstrates good knowledge and understanding of a variety of manufacturing systems but may lack detail to show full understanding of how they help to meet rapid changes in demand. May demonstrate excellent knowledge and understanding of one system only. Candidate may also refer to purchasing materials and/or storage of stock.	1-2 mark	Demonstrates some knowledge and understanding of a manufacturing system but with little or no explanation or there may be some confusion and a lack of understanding as to how it helps meet changes in demand. Little or no reference to purchasing materials and/or storage of stock.	0 marks	Nothing worthy of credit.	6 marks	AO4
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0 marks	Nothing worthy of credit.										

6	1	<p>Correct identification of centre back.</p> <p style="text-align: right;">[1 mark]</p> <p>Writes the ratio for width as 30 : 36 or 5 : 6 or scale factor 0.83 or 36 : 30 or 6 : 5 or scale factor 1.2</p> <p style="text-align: right;">[1 mark]</p> <p>New length of centre back = 50×1.2 or $50 \div 0.83$</p> <p style="text-align: center;">= 60cm</p> <p>New pocket width = 7×1.2 or $7 \div 0.83$</p> <p style="text-align: center;">= 8.4cm</p> <p style="text-align: center;">[1 mark for method and 1 mark for correct answers]</p>	4 marks	AO4
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6	2	<p>Works out the height of the triangle by deducing the radius = $30 \div 2$ E.g. $80 - 30 \div 2 = 80 - 15$ = 65mm</p> <p>Uses Pythagoras' theorem to work out the slant height of triangle by splitting the triangle into 2 right-angled triangles Slant length² = $65^2 + 15^2$</p> <p>(1 mark)</p> <p>Slant length = $\sqrt{65^2 + 15^2}$ or $\sqrt{4450}$ or 66.7</p> <p>Work out the circumference of semicircle $\pi \times 30 \div 2 = 47(1\dots)$</p> <p>(1 mark)</p> <p>Work out the perimeter</p> <p>$47 + 30 + 66.7 + 66.7$ (allow rounding) = 210.4mm = 21.04cm</p> <p>Need 5cm of thread for every 1cm stitched $5 \times 21.04 = 105.2\text{cm}$</p> <p>(1 mark)</p>	3 marks	AO4
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