



Cambridge International AS & A Level

DESIGN & TEXTILES

9631/01

Paper 1 Fibres, Fabrics and Design

October/November 2021

MARK SCHEME

Maximum Mark: 75

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the October/November 2021 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

This document consists of **25** printed pages.

Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

**Social Science-Specific Marking Principles
(for point-based marking)****1 Components using point-based marking:**

- Point marking is often used to reward knowledge, understanding and application of skills. We give credit where the candidate's answer shows relevant knowledge, understanding and application of skills in answering the question. We do not give credit where the answer shows confusion.

From this it follows that we:

- a DO credit answers which are worded differently from the mark scheme if they clearly convey the same meaning (unless the mark scheme requires a specific term)
- b DO credit alternative answers/examples which are not written in the mark scheme if they are correct
- c DO credit answers where candidates give more than one correct answer in one prompt/numbered/scaffolded space where extended writing is required rather than list-type answers. For example, questions that require n reasons (e.g. State two reasons ...).
- d DO NOT credit answers simply for using a 'key term' unless that is all that is required. (Check for evidence it is understood and not used wrongly.)
- e DO NOT credit answers which are obviously self-contradicting or trying to cover all possibilities
- f DO NOT give further credit for what is effectively repetition of a correct point already credited unless the language itself is being tested. This applies equally to 'mirror statements' (i.e. polluted/not polluted).
- g DO NOT require spellings to be correct, unless this is part of the test. However spellings of syllabus terms must allow for clear and unambiguous separation from other syllabus terms with which they may be confused (e.g. Corrasion/Corrosion)

2 Presentation of mark scheme:

- Slashes (/) or the word 'or' separate alternative ways of making the same point.
- Semi colons (;) bullet points (•) or figures in brackets (1) separate different points.
- Content in the answer column in brackets is for examiner information/context to clarify the marking but is not required to earn the mark (except Accounting syllabuses where they indicate negative numbers).

3 Calculation questions:

- The mark scheme will show the steps in the most likely correct method(s), the mark for each step, the correct answer(s) and the mark for each answer
- If working/explanation is considered essential for full credit, this will be indicated in the question paper and in the mark scheme. In all other instances, the correct answer to a calculation should be given full credit, even if no supporting working is shown.
- Where the candidate uses a valid method which is not covered by the mark scheme, award equivalent marks for reaching equivalent stages.
- Where an answer makes use of a candidate's own incorrect figure from previous working, the 'own figure rule' applies: full marks will be given if a correct and complete method is used. Further guidance will be included in the mark scheme where necessary and any exceptions to this general principle will be noted.

4 Annotation:

- For point marking, ticks can be used to indicate correct answers and crosses can be used to indicate wrong answers. There is no direct relationship between ticks and marks. Ticks have no defined meaning for levels of response marking.
- For levels of response marking, the level awarded should be annotated on the script.
- Other annotations will be used by examiners as agreed during standardisation, and the meaning will be understood by all examiners who marked that paper.

Question	Answer	Marks
1(a)	<p>State the source of the following fibres and for each give one example of its use:</p> <p>(i) Polyamide fibre (ii) Chlorofibre</p> <p>(i) Polyamide fibre</p> <p>Answer could include:</p> <p><u>Source</u></p> <ul style="list-style-type: none"> Petrochemicals. Nylon 6.6 made (by the condensation polymerisation) of hexamethylene diamine and adipic acid. <p><u>Uses</u></p> <ul style="list-style-type: none"> Parachutes, clothing/lingerie, sportswear and sports equipment, carpets, industrial applications <p>1 mark for stating the source 1 mark for use</p> <p>(ii) Chlorofibre</p> <p>Answer could include:</p> <p><u>Source</u></p> <ul style="list-style-type: none"> Petrochemicals. Made from chlorine and carbon. Made from PVC which is derived from salt and petrochemicals. Can be manufactured as a filament and a staple fibre or as a coating. <p><u>Uses</u></p> <ul style="list-style-type: none"> Flooring, toys, clothing (casual outerwear/kidswear), swimwear, electrical cable insulation, shower curtains, medical fabrics, protective clothing, rainwear, filter cloths – surgical dressings/masks, flying suits, fishing nets, hosiery, undergarments, sportswear, socks. Applied as a coating on fabrics. Not widely used. <p>1 mark for stating the source, 1 mark for use Note: Only award Petrochemicals once 2 × 2</p>	4

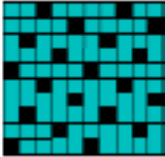

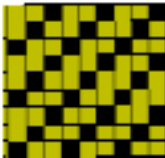

Question	Answer	Marks									
1(b)	<p>Compare the following performance characteristics of polyamide fibres and chlorofibres with reference to:</p> <p>(i) Absorbency (ii) Strength</p> <p>Answer could include:</p> <table border="1" data-bbox="320 483 1310 1182"> <thead> <tr> <th data-bbox="320 483 549 548">Characteristic</th> <th data-bbox="549 483 932 548">Polyamide fibres</th> <th data-bbox="932 483 1310 548">Chlorofibres</th> </tr> </thead> <tbody> <tr> <td data-bbox="320 548 549 949">Absorbency</td> <td data-bbox="549 548 932 949">Absorbs water/dries slower/poor insulating properties/better feel/softer/more flexible fibres/produces more static, Excellent stain resistancy Moisture regain is 3.5% for Nylon 6, 2.5% for Nylon 66, 1.5% for Nylon 610</td> <td data-bbox="932 548 1310 949">Waterproof, Non-absorbent, Dries quickly Its construction gives the fabric a wicking effect, channelling perspiration from the skin and is expelled through the fabric.</td> </tr> <tr> <td data-bbox="320 949 549 1182">Strength</td> <td data-bbox="549 949 932 1182">Excellent strength and durability Stronger than Chlorofibres</td> <td data-bbox="932 949 1310 1182">Strong, durable Resistant to chemical damage, mildew and fungi, acids, bases, reducing and oxidizing agent</td> </tr> </tbody> </table> <p>Any other correct/relevant point 3 marks for each well discussed comparison point If performance characteristics are given but no comparisons made: max. 2 marks Must have comparison for full marks 2 × 3</p>	Characteristic	Polyamide fibres	Chlorofibres	Absorbency	Absorbs water/dries slower/poor insulating properties/better feel/softer/more flexible fibres/produces more static, Excellent stain resistancy Moisture regain is 3.5% for Nylon 6, 2.5% for Nylon 66, 1.5% for Nylon 610	Waterproof, Non-absorbent, Dries quickly Its construction gives the fabric a wicking effect, channelling perspiration from the skin and is expelled through the fabric.	Strength	Excellent strength and durability Stronger than Chlorofibres	Strong, durable Resistant to chemical damage, mildew and fungi, acids, bases, reducing and oxidizing agent	6
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1(c)	<p>Discuss the differences in the care of fabrics made from polyester fibres and fabrics made from cotton fibres.</p> <p>Answer could include:</p> <table border="1" data-bbox="320 383 1310 1816"> <thead> <tr> <th data-bbox="320 383 587 448">Care</th> <th data-bbox="587 383 948 448">Polyester fibres</th> <th data-bbox="948 383 1310 448">Cotton fibres</th> </tr> </thead> <tbody> <tr> <td data-bbox="320 448 587 781">Washing instructions</td> <td data-bbox="587 448 948 781">Easy to wash and care for Holds colour well Use fabric softener to reduce static electricity Can be washed by hand Temperature of water – 40</td> <td data-bbox="948 448 1310 781">Easy to wash and care for Machine wash in hot water Can shrink if washed at high temperatures Temperature of water – 40/60/90 according to dyes used/colour</td> </tr> <tr> <td data-bbox="320 781 587 947">Drying instructions</td> <td data-bbox="587 781 948 947">Tumble dry at a low temperature Drip dry/Line dry Dries quickly</td> <td data-bbox="948 781 1310 947">Tumble dry on a warm setting Line dry Dry slowly</td> </tr> <tr> <td data-bbox="320 947 587 1314">Ironing instructions</td> <td data-bbox="587 947 948 1314">Crease resistant so iron on a low temperature/can melt if too high Iron temperature – Low/medium Unwanted creases may be permanent if temperature is too high for the fabric</td> <td data-bbox="948 947 1310 1314">Creases easily so iron on a high temperature/iron slightly damp Use steam to remove creases and a pressing cloth Iron temperature – Hot</td> </tr> <tr> <td data-bbox="320 1314 587 1379">Dry cleaning</td> <td data-bbox="587 1314 948 1379">Can be dry cleaned</td> <td data-bbox="948 1314 1310 1379">Do not dry clean</td> </tr> <tr> <td data-bbox="320 1379 587 1615">Bleaching/Stain Removal</td> <td data-bbox="587 1379 948 1615">Not resistant to bleach Resists absorbing stains so can be removed easily. Particularly susceptible to oil-based stains</td> <td data-bbox="948 1379 1310 1615">Absorbs stains but can soak overnight Can be washed with bleach. Can cause yellowing.</td> </tr> <tr> <td data-bbox="320 1615 587 1816">Storage</td> <td data-bbox="587 1615 948 1816">Resists mildew and insects. Store flat</td> <td data-bbox="948 1615 1310 1816">More susceptible to mildew and fungus growth. Store in well-ventilated areas and in cool, dark spaces.</td> </tr> </tbody> </table> <p>Any other correct/relevant point</p>	Care	Polyester fibres	Cotton fibres	Washing instructions	Easy to wash and care for Holds colour well Use fabric softener to reduce static electricity Can be washed by hand Temperature of water – 40	Easy to wash and care for Machine wash in hot water Can shrink if washed at high temperatures Temperature of water – 40/60/90 according to dyes used/colour	Drying instructions	Tumble dry at a low temperature Drip dry/Line dry Dries quickly	Tumble dry on a warm setting Line dry Dry slowly	Ironing instructions	Crease resistant so iron on a low temperature/can melt if too high Iron temperature – Low/medium Unwanted creases may be permanent if temperature is too high for the fabric	Creases easily so iron on a high temperature/iron slightly damp Use steam to remove creases and a pressing cloth Iron temperature – Hot	Dry cleaning	Can be dry cleaned	Do not dry clean	Bleaching/Stain Removal	Not resistant to bleach Resists absorbing stains so can be removed easily. Particularly susceptible to oil-based stains	Absorbs stains but can soak overnight Can be washed with bleach. Can cause yellowing.	Storage	Resists mildew and insects. Store flat	More susceptible to mildew and fungus growth. Store in well-ventilated areas and in cool, dark spaces.	7
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Question	Answer	Marks
1(c)	<p>High band: 6–7 marks A wide range of care instructions given, showing thorough and detailed knowledge and understanding of both fibres. Shows a high level of skill in comparing the methods of care for polyester and cotton fibres. Very good organisation of answer with skilled use of technical textile terms.</p> <p>Middle band: 3–5 marks A range of care instructions given, showing some knowledge and understanding of both fibres. Wide knowledge of one fibre or less detailed knowledge of both fibres. Shows knowledge of technical textile terms with good organisation and presentation of skills.</p> <p>Low band: 0–2 marks Valid, satisfactory attempt with limited knowledge and understanding of how to care for polyester and cotton fibres. Only one fibre may have been discussed. May simply be a list of care symbols with no discussion of their importance. Moderate organisation with some use of technical textile terms.</p> <p>Must have comparison for full marks</p>	


Question	Answer	Marks
1(d)	<p>Evaluate the advantages of blending synthetic fibres with natural fibres. Give specific examples of fibres in your answer.</p> <p>Answer could include:</p> <p>The important reason for blending fibres is to produce better performance. By blending we can improve the characteristics that are poor in one fibre, by blending it with another type of fabric that is better in those characteristics.</p> <p>Main reasons for blending:</p> <ul style="list-style-type: none"> • To improve absorbency • To improve the texture, handle and appearance of fabrics • To improve durability and strength • To reduce the cost • To make the fabric easier to care for e.g. crease-resistant • To allow for novelty effects when the fabric is dyed • To be heat-set • To reduce static <p>Examples of answers could include:</p> <ul style="list-style-type: none"> • Wool fibres are blended with polyester for suiting materials. Polyester adds durability because wool on its own (100%) can water into holes at abrasion points such as elbows. • Viscose is blended with cotton to improve its lustre and softness. • A cotton/polyester blend is durable, soft and light, maintains its colour well and is less susceptible to shrinkage, wrinkles, pilling, and static. The cotton improves the absorbency. The blend is not as breathable as 100% cotton. Uses: apparel, especially shirts. • A nylon/wool blend emphasizes the benefits of wool without the itchiness and results in a fabric that is durable and wrinkle/shrinkage resistant. • A linen/silk blend will be expensive but durable with a beautiful lustre. • Linen fibres crease easily but are absorbent and cool to wear. • A wool/silk blend will be soft and washable. • Cotton/elastane (Lycra) blend <p>Other popular blends include: Polyester/Nylon, Viscose/Nylon, Polyester/wool/Lycra, Linen/polyester, Silk/polyester, Silk/cotton, Acrylic/polyester</p> <p>Give credit for appropriate blend percentages Any other correct/relevant point</p> <p>High band: 7–8 marks A wide range of advantages of blending fibres given, showing thorough and detailed knowledge and understanding of why fibres are blended. Shows a high level of skill in selection of appropriate examples of blends to illustrate the answer. Very good organisation of answer with skilled use of technical textile terms.</p>	8

Question	Answer	Marks
1(d)	<p>Middle band: 4–6 marks A range of advantages of blending fibres given, showing some knowledge and understanding of why fibres are blended. Some appropriate examples given. Shows knowledge of technical textile terms with good organisation and presentation of skills.</p> <p>Low band: 0–3 marks Valid, satisfactory attempt with limited knowledge and understanding of why fibres are blended. May be presented as a list only with no explanation. Moderate organisation with some use of technical textile terms.</p>	

Question	Answer	Marks
2(a)(i)	<p>Draw a labelled diagram to show how each of the following fabrics are constructed:</p> <ul style="list-style-type: none"> • Satin fabric • Twill fabric <p>• Satin fabric</p>   <p>1 mark for correct labelled diagram</p> <ul style="list-style-type: none"> • Twill fabric   <p>1 mark for correct labelled diagram 2 × 1</p>	2

Question	Answer	Marks
2(a)(ii)	<p>Describe the appearance of each of the fabrics in 2(a)(i)</p> <ul style="list-style-type: none"> • <u>Satin fabric</u> <p>Answer could include:</p> <ul style="list-style-type: none"> • created by long floats on the warp or weft threads • has a right and wrong side to the fabric – right side has a shine, wrong side is matt • smooth surface • Different weights <p>1 mark for brief description 2 marks for detailed and accurate description</p> <ul style="list-style-type: none"> • <u>Twill fabric</u> <p>Answer could include:</p> <ul style="list-style-type: none"> • a pattern of diagonal parallel ribs with left hand diagonal line visible • Uneven appearance, so not a flat surface • created by passing the weft thread over one or more warp threads then under two or more warp threads and so on, with a ‘step,’ or offset, between rows to create the characteristic diagonal pattern • may be balanced (2/2, 2/1 e.g. over 2 warp, under 2 warp threads, repeated) or unbalanced (3/2 e.g. over 3 warp, under 1 warp alternating) so the surface diagonal line will be at a different angle • right side may have a more prominent diagonal line showing; e.g. denim (type of twill weave) may have coloured threads and white threads with more colour showing on right side • has a right and wrong side to the fabric • Various weights available • Tightly woven • Firm fabric handle <p>1 mark for brief description of each fabric 2 marks for a detailed and accurate description of each fabric 2 × 2</p>	4

Question	Answer	Marks
2(b)	<p>Identify one item of clothing that could be made from each fabric named in 2(a)(i). Explain why each fabric is suitable.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Satin fabric <p>Clothing examples:</p> <ul style="list-style-type: none"> • Evening/Wedding dresses – luxurious, shiny/glossy fabric, elegant, drape • Lingerie/Boxer shorts/Dressing gowns – smooth/soft, silky, comfortable, absorbent, drape • Scarves/Neck ties – smooth/soft, silky, drape • Shirts/blouses – smooth/soft, elegant, drape <p>1 mark for item of clothing</p> <p>1 mark for a brief explanation of suitability 2 marks for detailed and accurate explanation of suitability, may have referred to fibres in their answer. May suggest suitable and relevant materials.</p> <ul style="list-style-type: none"> • Twill fabric <p>Clothing examples:</p> <ul style="list-style-type: none"> • Uniforms – strong, resists tearing, hardwearing/durable • Workwear – hardwearing/durable, drapes well, Shows up less dirt and stains due to the structure • Jeans/Denim skirts – resists tearing, hardwearing/durable • Coats/Jackets • Shirts <p>1 mark for item of clothing</p> <p>1 mark for a brief explanation of suitability 2 marks for detailed and accurate explanation of suitability, may have referred to fibres in their answer. May suggest suitable and relevant materials 2 × 3</p>	6

Question	Answer	Marks												
2(c)	<p data-bbox="316 248 1262 315">Compare loop-pile fabrics and cut-pile fabrics. Include examples to support your answer.</p>  <p data-bbox="316 416 608 443">Answer could include:</p> <table border="1" data-bbox="320 450 1310 1980"> <thead> <tr> <th data-bbox="320 450 815 510">Loop-pile fabrics</th> <th data-bbox="815 450 1310 510">Cut-pile fabrics</th> </tr> </thead> <tbody> <tr> <td data-bbox="320 510 815 645">Have tufts or loops of fibres or yarns that stand up from the base fabric</td> <td data-bbox="815 510 1310 645">The loops are cut either in the loom itself or during the weaving process or after the fabric is made</td> </tr> <tr> <td data-bbox="320 645 815 875">Loops can be formed on one or both sides of the fabric</td> <td data-bbox="815 645 1310 875">The threads created in between the cloth layers or on the face of the fabric, are cut (usually on the loom). These fabrics will be cropped to the desired height during finishing.</td> </tr> <tr> <td data-bbox="320 875 815 1144">The pile warp forms yarn loops on the fabric surface after the wires are withdrawn. The pile may be left as loop pile or cut to make cut pile.</td> <td data-bbox="815 875 1310 1144">Velveteen is similar to velvet, but an additional weft yarn forms the pile rather than warp yarn. The fabric needs to be cut in finishing to produce the pile that is, generally speaking, shorter than that of velvet.</td> </tr> <tr> <td data-bbox="320 1144 815 1509">The fabric is softer and warmer The loops can help durability or absorbency in the case of towels.</td> <td data-bbox="815 1144 1310 1509">Double weave – The other common method of velvet production is to use a double cloth (two layer) construction, where the two cloths are woven face-to-face. In these looms the pile yarn weaves up and down between the two layers of ground fabric, and this interlinked construction is then cut whilst still on the loom</td> </tr> <tr> <td data-bbox="320 1509 815 1980">Another widely used pile fabric is tufted carpet. Tufting is done by forming yarn loops on the backing fabric by stitching with tufting needles that carry the pile yarn through the backing fabric. A looper is then inserted between the yarn and the needle. The needle is retracted through the backing fabric to start the next cycle while the pile loop is formed over the looper. The loops formed on the backing fabric may be either cut or left as loops.</td> <td data-bbox="815 1509 1310 1980">Corduroy – the floats of the pile-weft yarn lie in rows down the length of the cloth. When the weft is cut the pile forms lines or cords, which run in the warp direction</td> </tr> </tbody> </table>	Loop-pile fabrics	Cut-pile fabrics	Have tufts or loops of fibres or yarns that stand up from the base fabric	The loops are cut either in the loom itself or during the weaving process or after the fabric is made	Loops can be formed on one or both sides of the fabric	The threads created in between the cloth layers or on the face of the fabric, are cut (usually on the loom). These fabrics will be cropped to the desired height during finishing.	The pile warp forms yarn loops on the fabric surface after the wires are withdrawn. The pile may be left as loop pile or cut to make cut pile.	Velveteen is similar to velvet, but an additional weft yarn forms the pile rather than warp yarn. The fabric needs to be cut in finishing to produce the pile that is, generally speaking, shorter than that of velvet.	The fabric is softer and warmer The loops can help durability or absorbency in the case of towels.	Double weave – The other common method of velvet production is to use a double cloth (two layer) construction, where the two cloths are woven face-to-face. In these looms the pile yarn weaves up and down between the two layers of ground fabric, and this interlinked construction is then cut whilst still on the loom	Another widely used pile fabric is tufted carpet. Tufting is done by forming yarn loops on the backing fabric by stitching with tufting needles that carry the pile yarn through the backing fabric. A looper is then inserted between the yarn and the needle. The needle is retracted through the backing fabric to start the next cycle while the pile loop is formed over the looper. The loops formed on the backing fabric may be either cut or left as loops.	Corduroy – the floats of the pile-weft yarn lie in rows down the length of the cloth. When the weft is cut the pile forms lines or cords, which run in the warp direction	6
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Question	Answer		Marks	
2(c)	Loop-pile fabrics	Cut-pile fabrics		
	Terry towelling is an example of an uncut pile fabric, whose softer, looser sett loops provide maximum absorbency. This is usually woven in cotton, for towels. No stretch. Good drape. Can be bulky and heavy. Strong and durable although loops can get snagged. Crease resistant. Good insulation due to air trapped in loops.			
	Examples include Terry	Examples include velvet, velveteen, plush, fur/fake fur, velour, chenille, corduroy, velveteen		
	Uses include towels	Uses include apparel, home furnishings		
Any other correct/relevant point				
High band: 5–6 marks				
A wide range of comparisons given, showing thorough and detailed knowledge and understanding of loop-pile and cut-pile fabrics. Shows a high level of skill in comparing loop-pile and cut-pile fabrics. Shows a high level of skill in selection of appropriate examples to illustrate the answer. Very good organisation of answer with skilled use of technical textile terms.				
Middle band: 3–4 marks				
A range of comparisons given, showing some knowledge and understanding of loop-pile and cut-pile fabrics. May make an adequate comparison of both fabrics or a detailed explanation of the uses of one fabric only. Some appropriate examples given. Shows knowledge of technical textile terms with good organisation and presentation of skills.				
Low band: 0–2 marks				
Valid, satisfactory attempt with limited knowledge and understanding of loop-pile and cut-pile fabrics. Only one fabric might have been discussed. May be presented as a list only with no explanation. Moderate organisation with some use of technical textile terms.				
Must have comparison for full marks				
Can credit labelled diagrams				

Question	Answer	Marks
2(d)	<p>Discuss how new developments in fibre technology are producing more environmentally friendly fibres. Include examples of fibres and fabrics to support your answer.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Environmentally friendly fibres: hemp, linen, ramie, bamboo, Lyocell, banana, coffee, pineapple, lotus, stinging nettles. • Recycled coffee beans, fish skins • PET/Polar fleece – Recycled plastic bottles • Less impact than synthetic fibres on environment due to fibres being sustainable • Reduced use of chemicals • Fibres grown that use less water • Production – dyes/self coloured (what are they using instead) • Biodegradable • Increased popularity with consumers • Greater demand for environmentally friendly products • Natural resources that can be turned into sustainable textiles <p>Any other correct/relevant point</p> <p>High band: 6–7 marks A wide range of new developments in fibre technology discussed, showing thorough, detailed knowledge and understanding of why they are being developed. Shows a high level of skill in selection of appropriate examples of environmentally friendly fibres and fabrics to illustrate the answer. Very good organisation of answer with skilled use of technical textile terms.</p> <p>Middle band: 3–5 marks A range of new developments in fibre technology discussed, showing some knowledge and understanding of why they are being developed. Some examples of environmentally friendly fibres and fabrics given. Shows knowledge of technical textile terms with good organisation and presentation of skills.</p> <p>Low band: 0–2 marks Valid, satisfactory attempt with limited knowledge and understanding of new developments in fibre technology. May simply be a list of examples of environmentally friendly fibres with no discussion of their importance. Moderate organisation with some use of technical textile terms.</p>	7

Question	Answer	Marks
3(a)(i)	<p>Sketch and label a design for a pair of summer shorts that includes two style features inspired by a past fashion trend. Identify the fashion trend.</p> <p>Answer could include:</p> <p>Examples of fashion trends:</p> <ul style="list-style-type: none"> • Boho • New Romantic • Punk • Hippie • New Look • Futuristic <ul style="list-style-type: none"> • Style features: to include pockets, gathered styles, fabric decoration and embellishments, elasticated waists, fitted or loose fit, fastenings, top stitching, splits, hem lengths, uneven hemlines and any other appropriate style features • Design trends will vary from country to country <p>1 mark for an appropriate sketch 1 mark for labelling a past fashion trend 3 marks for labelling style features</p> <p>Can credit marks if they have written a description of the shorts with an unlabelled sketch.</p>	4
3(a)(ii)	<p>Explain why your design sketched in 3(a)(i) is a good design.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • The aesthetic qualities that contribute to good design of textile products: shape, balance, line, proportion, rhythm, style, colour, fabric, texture, pattern and visual appeal • How the style features have been used to make it a good design <p>1 mark for a brief explanation 2–3 marks for a detailed and accurate explanation of why it is a good design</p>	3

Question	Answer	Marks
3(b)	<p>Discuss the different manufacturing methods available to produce the shorts sketched in 3(a)(i).</p> <p>Answer could include:</p> <p><u>‘One off’ (Job) production</u></p> <ul style="list-style-type: none"> • One highly skilled worker will produce a single product for a customer to a specific brief • Product will be original/unique and finished to a high standard • Made to an individual size • High cost item • Labour intensive <p><u>Batch production</u></p> <ul style="list-style-type: none"> • Styles change according to season/trends/lifestyle • Flexible production system can change according to market demand for different styles • Fixed quantities are manufactured to order • Garments can be manufactured to fit a range of standard sizes and shapes • Materials and manufacturing are cost effective • Can be progressive bundle or section system <p><u>Mass production</u></p> <ul style="list-style-type: none"> • Style does not change so garment can be produced in huge quantities made repeatedly in assembly lines • Fast and continuous method of production to meet demands • Identical garments are made very quickly keeping costs down for basic everyday items of clothing in high demand • Can be repetitive flow or continual flow <p>Any other correct/relevant point</p> <p>High band: 8–10 marks A wide range of points discussed, showing thorough and detailed knowledge and understanding of the different manufacturing methods available to produce the shorts. Shows a high level of skill in selection of appropriate advantages, disadvantages and examples to illustrate the answer. Very good organisation of answer with skilled use of technical textile terms.</p> <p>Middle band: 4–7 marks A range of points discussed, showing some knowledge and understanding of the different manufacturing methods available to produce the shorts. Wide knowledge of one method or less detailed knowledge of more. Selects and compares some advantages and disadvantages, and gives some appropriate examples. Shows knowledge of technical textile terms with good organisation and presentation of skills.</p>	10

Question	Answer	Marks
3(b)	Low band: 0–3 marks Valid, satisfactory attempt with limited knowledge and understanding of the different manufacturing methods available to produce the shorts. Competent selection of some relevant advantages and disadvantages. May be presented as a list of points only with no explanation. Moderate organisation with some use of technical textile terms. May only discuss one method.	

Question	Answer	Marks
3(c)	<p>Discuss how the fashion cycle influences the design of fashion garments. Include examples to support your answer.</p> <p>A range of relevant points should be included which shows knowledge and understanding of fashion cycles and their importance to designers of fashion garments.</p> <p>Answer could include:</p> <p><u>Fashion cycle</u></p> <ul style="list-style-type: none"> • a period of time or life span during which the fashion exists, • moves through the five stages: <ol style="list-style-type: none"> 1 Introduction of a style 2 Increase in popularity 3 Peak in popularity 4 Decline in popularity 5 Rejection period/Obscure  <ul style="list-style-type: none"> • when a customer purchases and wears a certain style, that style is considered accepted • the acceptance leads to the style becoming a fashion. <p>The fashion cycle is usually depicted as a bell-shaped curve encompassing 5 stages. Consumers are exposed, every season, to multitudes of styles. Some are rejected immediately by the buyers at retail level, whereas some styles are accepted for a time, as demonstrated by consumers purchasing and wearing them.</p> <p><u>Fashion fad</u></p> <ul style="list-style-type: none"> • A fashion that is very popular for a brief period of time • A craze • A design that lasts only one season or sometimes even less than a season • Tend to be at the extreme end of a design • Examples include platform shoes, shoulder pads, harem pants, puffball skirts <p><u>Classic trend</u></p> <ul style="list-style-type: none"> • A style that lasts for several seasons, sometimes even years • Accepted by a wide range of people • Examples include the little black dress, white shirt, jeans 	8

Question	Answer	Marks
3(c)	<p><u>Fashion revival</u></p> <ul style="list-style-type: none"> • Styles that are either copied or adapted from earlier periods • Taking inspiration from past fashions/'Born-again' fashion • Examples include the peplum top, skinny leg(drainpipe) trousers <p>Any other correct/relevant point</p> <p>High band: 7–8 marks A wide range of points discussed, showing thorough and detailed knowledge and understanding of how the fashion cycle influences the design of fashion garments. Shows a high level of skill in selection of examples to illustrate the answer. Very good organisation of answer with skilled use of technical textile terms.</p> <p>Middle band: 4–6 marks A range of points discussed, showing some knowledge and understanding of how the fashion cycle influences the design of fashion garments. Selects some appropriate examples. Shows knowledge of technical textile terms with good organisation and presentation of skills.</p> <p>Low band: 0–3 marks Valid, satisfactory attempt with limited knowledge and understanding of how the fashion cycle influences the design of fashion garments. Competent selection of some relevant examples. May be presented as a list only with no explanation. Moderate organisation with some use of technical textile terms.</p> <p>Can credit labelled diagrams</p>	

Question	Answer	Marks
4(a)	<p>Explain what is meant by the following processes used in industrial production.</p> <p>(i) Grading (ii) Lay planning</p> <p>(i) Grading Answer could include:</p> <ul style="list-style-type: none"> • Pattern grading is the process of creating a range of sizes for a single style. Women’s sewing patterns are generally designed to fit a specific size (usually an 8 or 10) which is the sample size. The fit is perfected on that sample. • Turning the base size or sample size patterns into additional sizes using a size specification sheet or grading increments. • This can be done manually or digitally using computerised pattern drafting software • Done from a basic block pattern • May refer to how sizing in shops and countries can differ <p>1 mark for a brief description 2 marks for a detailed, accurate description</p> <p>(ii) Lay planning Answer could include:</p> <ul style="list-style-type: none"> • Lay planning is a process that positions pattern templates onto fabric in the most economical way to prevent excess wastage of fabric • Computer aided design (CAD) programs are used in industry <p>1 mark for a brief description 2 marks for a detailed, accurate description 2 × 2</p>	4

Question	Answer	Marks										
4(b)	<p>Compare one manual process used to mark fabrics with one industrial process used to mark fabrics.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Manual processes could include: tailor’s tacks, dressmaking carbon paper and wheel, tailor’s chalk, fabric marker pens (different types) • Industrial processes could include: machine thread marking, hot notching (snipping), drill marker <table border="1" data-bbox="320 589 1310 1384"> <thead> <tr> <th data-bbox="320 589 815 654">Manual processes</th> <th data-bbox="815 589 1310 654">Industrial processes</th> </tr> </thead> <tbody> <tr> <td data-bbox="320 654 815 920">Tailor’s chalk – a chalk that leaves a temporary mark on the fabric and comes in a variety of colours so it can stand out on any colour of fabric</td> <td data-bbox="815 654 1310 920">Hot notcher – used in industry when a large quantity of garments are made, it produces small holes by burning through the plies of fabric and is used to identify where fastenings or components, such as pockets, need to be sewn</td> </tr> <tr> <td data-bbox="320 920 815 1086">Tailor’s tacks – these are looped stitches that are removed once the garment has been machine stitched</td> <td data-bbox="815 920 1310 1086">Laser marking – doesn’t fade</td> </tr> <tr> <td data-bbox="320 1086 815 1319">Vanishing markers – these look like felt-tip pens but the mark made can either be removed by water or disappears over time as it is exposed to the air</td> <td data-bbox="815 1086 1310 1319"></td> </tr> <tr> <td data-bbox="320 1319 815 1384">Pin/Thread marking</td> <td data-bbox="815 1319 1310 1384"></td> </tr> </tbody> </table> <p>Any other correct/relevant point</p> <p>2 marks for each well explained method 2 different methods and comparisons must be made for full marks</p>	Manual processes	Industrial processes	Tailor’s chalk – a chalk that leaves a temporary mark on the fabric and comes in a variety of colours so it can stand out on any colour of fabric	Hot notcher – used in industry when a large quantity of garments are made, it produces small holes by burning through the plies of fabric and is used to identify where fastenings or components, such as pockets, need to be sewn	Tailor’s tacks – these are looped stitches that are removed once the garment has been machine stitched	Laser marking – doesn’t fade	Vanishing markers – these look like felt-tip pens but the mark made can either be removed by water or disappears over time as it is exposed to the air		Pin/Thread marking		4
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Question	Answer	Marks
4(c)	<p>Discuss the factors which a manufacturer would need to consider when choosing the type of edge finish for a garment. Include examples to support your answer.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Growing space – width of hem • Type of fabric – weight, how much it frays • Style of garment/trends – curved edge, decorative trim • Does it need to be decorative or functional? • Who it's for – child more hardwearing, evening dress, uniform • Purpose of the garment • Type of clothing – tailored dresses and skirts require a thicker hem to drape nicely, blind hems for tailored garments • Type of machinery and availability, Availability of workforce and skills of workforce • Cost • Care of garment <p>Any other appropriate/relevant point</p> <p>Not colour</p> <p>High band: 7–8 marks A wide range of factors discussed, showing thorough and detailed knowledge and understanding of what to consider when choosing the type of edge finish for a garment. Shows a high level of skill in selection of appropriate examples to illustrate the answer. Very good organisation of answer with skilled use of technical textile terms.</p> <p>Middle band: 4–6 marks A range of factors discussed, showing some knowledge and understanding of what to consider when choosing the type of edge finish for a garment. Selects some appropriate examples. Shows knowledge of technical textile terms with good organisation and presentation of skills. Wide knowledge of one or two methods, or less detailed knowledge of more.</p> <p>Low band: 0–3 marks Valid, satisfactory attempt with limited knowledge and understanding of what to consider when choosing the type of edge finish for a garment. Competent selection of some relevant examples. May be presented as a list only with no explanation. Moderate organisation with some use of technical textile terms. May only discuss one method.</p> <p>Can credit labelled diagrams</p>	8

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4(d)	<p>Assess the advantages and disadvantages for consumers of using e-commerce compared to retail outlets to purchase fashionable clothing.</p> <p>Answer could include:</p> <table border="1" data-bbox="320 416 1308 1854"> <thead> <tr> <th data-bbox="320 416 550 481">Retail outlet</th> <th data-bbox="550 416 932 481">Advantages</th> <th data-bbox="932 416 1308 481">Disadvantages</th> </tr> </thead> <tbody> <tr> <td data-bbox="320 481 550 1205">e-commerce</td> <td data-bbox="550 481 932 1205"> <ul style="list-style-type: none"> • People don't have to leave their houses so convenient • Wide choice • Delivered to door • Competitive prices • You can shop 365 days a year, 24 hours a day • More up to date styles • Compare prices easily before buying goods • Shops such as 'Etsy' have original hand-made items • Can see detailed product specifications e.g. types of fibres etc. • Reviews </td> <td data-bbox="932 481 1308 1205"> <ul style="list-style-type: none"> • Might have to pay for returns • You can't touch, see or feel the product or try it on • Have to wait for product to arrive in post • Fraud </td> </tr> <tr> <td data-bbox="320 1205 550 1854">Retail outlets</td> <td data-bbox="550 1205 932 1854"> <ul style="list-style-type: none"> • You can touch, see and feel the product and try it on • Free returns • Physical contact with customers • Customer walks away with their purchase immediately • Staff to help you • Customer rapport • Market stalls tend to be cheaper • Market stalls may have individual hand-made original items which are not available elsewhere </td> <td data-bbox="932 1205 1308 1854"> <ul style="list-style-type: none"> • More expensive • You have to travel to shops • Could be busy so might take a while to get served • Size or style may not be available </td> </tr> </tbody> </table> <p>Any other correct/relevant point</p>	Retail outlet	Advantages	Disadvantages	e-commerce	<ul style="list-style-type: none"> • People don't have to leave their houses so convenient • Wide choice • Delivered to door • Competitive prices • You can shop 365 days a year, 24 hours a day • More up to date styles • Compare prices easily before buying goods • Shops such as 'Etsy' have original hand-made items • Can see detailed product specifications e.g. types of fibres etc. • Reviews 	<ul style="list-style-type: none"> • Might have to pay for returns • You can't touch, see or feel the product or try it on • Have to wait for product to arrive in post • Fraud 	Retail outlets	<ul style="list-style-type: none"> • You can touch, see and feel the product and try it on • Free returns • Physical contact with customers • Customer walks away with their purchase immediately • Staff to help you • Customer rapport • Market stalls tend to be cheaper • Market stalls may have individual hand-made original items which are not available elsewhere 	<ul style="list-style-type: none"> • More expensive • You have to travel to shops • Could be busy so might take a while to get served • Size or style may not be available 	9
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4(d)	<p>High band: 7–9 marks A wide range of points given, showing thorough and detailed knowledge and understanding of e-commerce and retail outlets. Shows a high level of skill in selection of appropriate advantages, disadvantages and examples to illustrate the answer. Very good organisation of answer with skilled use of technical textile terms.</p> <p>Middle band: 4–6 marks A range of examples given, showing some knowledge and understanding of e-commerce and retail outlets. Selects and compares some advantages and disadvantages, and gives some appropriate examples. Shows knowledge of technical textile terms with good organisation and presentation of skills. Wide knowledge of one method or less detailed knowledge of both.</p> <p>Low band: 0–3 marks Valid, satisfactory attempt with limited knowledge and understanding of e-commerce and retail outlets. Competent selection of some relevant advantages and disadvantages. May simply be a list of advantages/disadvantages of each with no discussion of their importance. Moderate organisation with some use of technical textile terms.</p> <p>Must have comparison for full marks</p>	