

GCE

**Design and Technology:
Product Design (Textiles)**

Mark scheme

TEXT3 Design and Manufacture
June 2016

Version: 1.0 Final

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.

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Question	Marking Guidance	Marks
<p>Question 1 01</p>	<p><i>Women's clothing has often had a masculine appearance. Describe the fashions of two different periods, since 1900, when masculine style fashions were popular for women. Explain the reasons for each of these fashions. Illustrate your answer wherever possible.</i></p> <p>There are many examples of masculine styled fashions for women but the following represents some of the more popular items. The student should give an approximate date when the fashion was worn and a description of the garment(s). The reasons for the fashion may include references to social issues, world events, women's emancipation, economic factors, influences of youth, music, and media as relevant.</p> <p>The following may be included:</p> <p>1900s: social changes became more apparent and women were going to universities, entering professions and taking part in active sports. They supported the suffragettes and their new attitudes were being reflected in their dress which was more practical and less fussy and frilly. Masculine styled tailored jackets became firmly established. During WW1, many women joined the armed forces, trained as nurses or undertook some kind of war work, and functional, masculine styled clothes became an accepted everyday sight.</p> <p>1920s: With the popularity of the short, straight silhouette many fashion conscious women tried to achieve a completely flat shape which was called the Garçonne look. Foundation garments were designed to deliberately flatten the breasts and a few women even bound their breasts and fashions had a hard, more angled look, eg Flapper dresses.</p> <p>1930s: The threat of war gave rise to anti-fashion attitudes and the fashionable 1930s silhouette - broad-shouldered lines became even more exaggerated, and skirt lengths became gradually shorter.</p> <p>WW2: The general silhouette of women during the war was quite plain and square. Jackets, coats and even dresses and blouses had padded shoulders to give a severe outline whilst skirts were straight and narrow. Utility clothing was based on uniform styles which included military caps, shirts and ties, tunic jackets with matching skirts, thickish stockings and flat lace-up shoes. Women not in the services went to work in plain, functional civilian clothes which tended to give a drab appearance. Trousers became popular and women whose lives were constantly affected by air raids wore trouser outfits. Special all-in-one boiler suits called siren suits were worn by women and children in the air raid shelters.</p> <p>1950s: Trousers for women were beginning to be popular and tapered trousers became basic garments in many women's wardrobes but were never worn in offices or fashionable restaurants, only as casual wear.</p> <p>1960s: Trousers and trouser suits became more popular and trouser shapes and styles developed their own fashions. Trousers and shirts in the same fabrics and colours were worn by men and women and the media</p>	

<p>01 contd</p>	<p>started to refer to them as unisex fashions.</p> <p>Yves Saint Laurent's tuxedo (1966) was based on male evening dress and became known as Le Smoking. There have been many variations since. Pierre Cardin's 1968 space inspired unisex outfits featured metallic and plastic fabrics, black and white colour schemes and exposed zips and belts. By 1966 fashion catered exclusively for the young including the boyish sporty look as epitomised by Twiggy. Fashions included simple T-shaped dresses in knitted stripes or strong plain colours with a contrasting collar and short front opening like a football shirt.</p> <p>1970s: At the start of the decade, many aspects of fashionable dress, accessories and hairstyles became very similar for men and women, and fashion was nearer to a unisex style than at any other time in the 20th century. Denim and the jean influence developed into other kinds of garments; dungarees and boiler suits became popular alternatives, especially for women and children.</p> <p>Trouser suits became very popular with stylish young women. Trousers were very wide and often looked like a long flared skirt; the two most popular styles were flares and bags.</p> <p>In the early 1970s the Vietnam War gave rise to army looking clothes and khakis and camouflage garments became popular with some young people. Punk fashion developed during the summer of 1976 and both sexes wore similar outfits with loosely woven unstructured garments, boiler suits, superfluous zips, decorative safety pins.</p> <p>1980s: Women were entering the workforce in greater numbers and the big-shouldered power suit became a symbol of their success, indicating efficiency and ambition. Structured suits became popular and it was now acceptable for women to wear trousers in the workplace. Armani based his working woman's wardrobe on traditional men's suits.</p> <p>Issey Miyake designed garments made from circular and rectangular fabric shapes which did not follow the shape of the body and combined comfort with practicality.</p> <p>Yohji Yamamoto designed garments which blurred gender categories and made a feature of asymmetrical styles.</p> <p>1990s: In 1992 Ann Demeulemeester showed a collection of women's garments with unrefined and unfinished details with elements of menswear which have continued into the 21st century.</p> <p>McQueen's Bumster trousers inspired by builders' pants.</p> <p>2000s: Jil Sander' masculine styled jackets, return of tuxedos for women based on YSL's <i>Le Smoking</i>, Tom Ford's masculine styled shirts, trousers and jackets, Ralph Lauren's tweed suits.</p>	
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01 contd	<p>High mark range Student shows detailed knowledge and understanding of relevant fashions, including clear and accurate information about the influences of the time which gave rise to the styles. The fashions will be described with accurate detail, especially at the top end of the mark range. Complex ideas will be expressed clearly and fluently with few errors of grammar, punctuation and spelling.</p>	11–14 marks
	<p>Mid mark range Student shows some knowledge and understanding of relevant fashions and the reasons behind the styles. The selected fashions will be described with some accuracy and detail, especially at the top end of the mark range. There will be a number of relevant points about the issues which gave rise to the styles although there will be a lack of detail. There will be some inaccuracies and misunderstandings, especially at the lower end of the range. Straightforward ideas are expressed reasonably clearly if not always fluently. There will be some grammatical, punctuation and spelling errors.</p>	6 – 10 marks
	<p>Low mark range Basic information with simplistic understanding of the designs and influences on them. Student will give very limited information and will not understand the reasons for the styles. There will be many inaccuracies and confusion. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors.</p>	1 – 5 marks
	No work worthy of credit.	0 mark
	2 different fashions, 14 marks each.	[28 marks]

Question	Marking Guidance	Marks
<p>Question 2 02</p>	<p><i>Designers often use past styles as inspiration for new fashions. Discuss how two different historical textile products have been used in the last 50 years to produce new ideas for fashion garments or textiles for the home.</i></p> <p>The question is about how historical styles have been re-invented since 1960. There are many historical influences which have inspired a wide range of new textile products during the last 50 years, including those for the home and fabrics. Students are expected to refer to two different products. The following examples are not exclusive and other relevant styles must be given appropriate credit.</p> <p>Eg 1960s close fitting dress styles based on shift dresses, mini skirts, structured ‘space-age’ garments using modern materials, jumpsuits, A-line skirts, stiletto heels. 1970s: unstructured jackets and wide trousers, long dresses for evening, roll neck sweaters, punk inspired styles, pop-art print fabrics. 1990s - crop tops, high waist jeans, acid colours, overalls, plaid shirts, peplums, Doc Martens. Also retro print fabrics, platform shoe styles, retro styled home appliances, furniture and furnishings.</p> <p>Marks awarded as follows: Historical product identified: 1 mark</p> <p>Information about new product to include explanation of historical influence with reference to style, fabric, colour as appropriate. 1 – 2 marks</p> <p>2 products, 3 marks each</p>	<p>6 marks</p>
<p>03</p>	<p><i>New developments in textile materials are also used when developing new fashion products. Describe two recent technological developments in textile materials. Explain how each one can be used to make exciting new fashions.</i></p> <p>Recent does not include synthetic fibres. This question is about new materials such as smart/modern and technical fibres, fabrics, finishes and other materials such as e-textiles. The introduction of these materials has allowed designers to introduce many new effects into designs, such as changing light and colour effects, microencapsulation to allow for inbuilt smells, new dyes allow for glow-in-the dark and other effects, sublimation printing can give spectacular images. Products must be fashion/sportswear, not protective clothing.</p> <p>Marks awarded as follows: Relevant new development identified: 1 mark</p> <p>Information about development to include explanation of effect. 1 – 2 marks Appropriate product named 1 mark</p> <p>2 developments, 4 marks each</p>	<p>8 marks</p>

Question	Marking Guidance	Marks
04	<p><i>Many designers use catwalk shows to promote their new fashions. Evaluate the catwalk as a method of promoting fashion products.</i></p> <p>Eg Catwalk shows are associated with glamour and attract media attention which helps promote the designer's work. The media report on the fashion shows which can generate further interest in the garments; the editors of prestigious publications, such as <i>Vogue</i>, can influence what consumers are likely to buy in the next season. Celebrities who attend the shows further enhance the success and desirability of the fashions. Fashion buyers from major retail outlets will also attend the shows so it is a good opportunity for designers to get their work recognised and in the shops. Extravagant shows can attain notoriety which may further enhance a designer's standing, eg Alexander McQueen.</p> <p>Catwalk shows can also bring fame and recognition to models - a well-known model can further enhance a designer's standing in the trade. They can help new designers be recognised, eg Graduate fashion week.</p> <p>Garments are seen on a real body not just on a stand or a photograph. Catwalks can be shared through online videos to reach a wider audience. But catwalk shows are very expensive to put on and they take up a lot of energy and time. They do not allow the garments and styles to be examined in detail and it may be difficult to remember designs which are only seen for a few moments. If they do not strike the right note with the media, the designer's work may be discredited. Once the fashion ideas have been made public they can be copied and cheaper versions quickly put into shops. Emaciated/skinny models can give a bad press to the designer.</p> <p>High mark range A clear and detailed account with a range of relevant and detailed points which focus on the catwalk as a method of promoting a designer. There will be good evaluation and some examples to support points made. Communication skills will clearly convey what is intended with relevant information as appropriate.</p> <p>Mid mark range Some clear and relevant points with limited detail. There may be some elements of confusion and a lack of detail/examples, especially at the lower end of the mark range but the student will make some attempt to evaluate the catwalk show used to promote designers. Communication skills will be sufficient to clearly convey what is intended.</p> <p>Low mark range Basic simplistic account which will consider only a limited range of obvious points and may be repetitive. There will be a lack of clarity and explanation and no real evaluation of the catwalk as a method of promoting a designer. Communication will show some weakness.</p> <p>No work worthy of credit</p>	<p>5 – 6 marks</p> <p>3 – 4 marks</p> <p>1 – 2 marks</p> <p>0 mark 6 marks</p>

Question	Marking Guidance	Marks
<p>05</p>	<p><i>A corporate identity is often used to promote fashion brands. Discuss the importance of a corporate identity. Give examples to illustrate your answer.</i></p> <p>Helps promote products as consumers recognise the brand through logos, styles and colour schemes. These will be used on packaging, marketing materials, shop and window displays, uniforms of workers. The brand name can be registered which gives that company exclusive use of any logos and trademarks and these tend to give the products added value with consumers.</p> <p>Identifiable brands encourage the loyalty of clients. Some consumers buy brand names to impress others which adds to the perceived value of the product/company. The brand may become a household name and recognised internationally, leading to products becoming a <i>must-have</i> and high volume sales around the world. May use celebrities in advertising so they become associated with the brand. Certain products may be associated with the brand. Often a range of products under the brand <i>umbrella</i>. Notoriety in relation to marketing or other may further enhance the brand's standing with consumers.</p> <p>There are many examples of fashion brands and their products.</p> <p>High mark range Detailed information and a very clear understanding of the meaning of corporate identity and its importance. Relevant, wide ranging and accurate examples clearly explained.</p> <p>Mid mark range A more detailed response with some good understanding of what is meant by corporate identity and its importance. There will be a range of examples to illustrate points made. There may be slight confusion and inaccuracy, especially at the lower end of the mark range.</p> <p>Low mark range Limited response with little understanding of what is meant by corporate identity and its importance for a designer or company. Few relevant examples to illustrate points made.</p> <p>No work worthy of credit</p>	<p>7 - 8marks</p> <p>4 – 6 marks</p> <p>1 – 3 marks</p> <p>0 mark</p> <p>8 marks</p>

Question	Marking Guidance	Marks
<p>Question 3 06</p>	<p><i>A product life cycle analyses all the stages in the development, use, production distribution and disposal of a fashion product to see how it will affect the environment.</i></p> <p><i>Choose four of the following areas of a fashion product life cycle:</i></p> <p><i>For each area you have chosen discuss the issues that are likely to affect the environment and suggest ways that the impact might be reduced. Give specific examples to support the points you make.</i></p> <p><i>The selection and sourcing of fabrics and components</i></p> <p>Eg fibre sources; growing cotton uses fertilisers and pesticides which can pollute the atmosphere and waterways, synthetic fibres are made from petrochemicals which come from non-renewable sources. Growing natural fibres such as cotton, and wood for regenerated fibres causes changes to the landscape because of intensive farming and deforestation, The manufacture of components may use plastics and metals and energy. The use of new fibres can reduce environmental impact, eg Tencel and Modal®, which come from sustainable sources and use ‘clean technology’ in their manufacture, Ingeo, a new fibre to replace polyester, which is made from plant starches and is fully bio-degradable, the recycling of plastic bottles to make new fibres. Turning textile waste into new fibres and fabrics can reduce the need for landfill and incineration.</p> <p><i>The processing of the fabrics during their manufacture</i></p> <p>Eg manufacturing and finishing processes use chemicals such as those found in dyestuffs and fabric finishes, and their effluent can be damaging. Water and energy are also necessary for these processes. Microfibres and dark colours use enormous amounts of dye and water to achieve the desired colour.</p> <p>Cleaning of fabrics made from natural fibres uses water and harsh detergents whereas fabrics made from synthetic fibres are naturally white and clean.</p> <p>Impact can be reduced by dope dyeing synthetic fibres to reduce water usage, cotton fibres which grow already ‘coloured’. Sublimation printing reduces water use and effluent as the colour goes directly onto the fabric.</p> <p><i>The design and manufacture of the product</i></p> <p>Eg The use of CAD to develop fabric prints, embroidery designs, knitted or woven pattern reduces the need to use paper and other materials, virtual prototypes reduce fabric use, developing pattern templates from a database of basic shapes which can be adapted and changed as required saves paper.</p> <p>Waste is produced when fabrics are made into products, and this may end up in landfill sites; computer generated lay plans reduce fabric waste, automated processes improve quality and reduce the number of wasted</p>	

06 contd

products made, **JIT systems** reduce over manufacturing and subsequent waste of materials and energy on unwanted products.

Using energy produced **from renewable resources** to power factories can reduce the use of fossil fuels.

The packaging and distribution of the finished product

Packaging of products can be **wasteful of paper**, card, plastics, printing inks, and the **energy** used to produce and transport the packaging.

Discarded plastic bags can harm wildlife.

Transportation of finished goods produces **CO2 emissions** from transport systems and these contribute to global warming, HGVs cause **damage to infrastructures** requiring repairs to road and other surfaces.

Manufacturers and retailers need to **reduce the amount of packaging**; ensure it is **bio-degradable and recyclable**.

More environmentally friendly **forms of transport** should be used, eg rail, diesel hybrid and **more efficient engines**. Manufacturing materials and products **nearer to the places they will be sold** can reduce the impact.

JIT distribution systems save on storage, modern **storage and carrier systems** allow garments to be stored and transported on hangers and moveable rails so that they arrive at the shop ready to go on display – this **reduces the need to iron clothes** saving energy. **Vacuum packing** allows more products to be transported at one time saving on fuel and unnecessary journeys.

The way that the consumer uses and cares for the product

Caring for textile products requires the use of **detergents, dry cleaning fluids, energy and water** which can have a detrimental effect on the environment. Many detergents are made from petrochemicals from non-renewable sources.

Consumers can reduce the impact by washing textiles at **lower temperatures (30°C)**, and washing machines which are **energy efficient** and **use less water**. Only wash clothes **when they are dirty** and **dry them outside** when possible. Wash a **full load** and not several smaller loads.

Products made from fabrics containing synthetic fibres tend to **crease less** and **dry more quickly** than those made from natural fibres, reducing the need for energy used in ironing and drying.

Using products carefully and repairing them as soon as they need it **reduces the need to buy new** products. **Careful storage** can extend a product's life, eg away from bright sunlight, moths, damp conditions.

The disposal of the product at the end of its life

The disposal of discarded textile products is often **to landfill sites**. Fabrics and components can take **many years to decompose** with the consequent methane production, and **leeching of heavy metals** from components such as zips. The manufacture of new products uses **many resources** including energy.

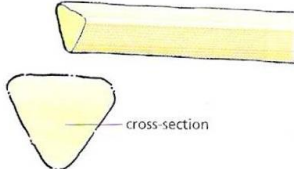
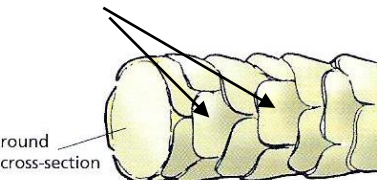
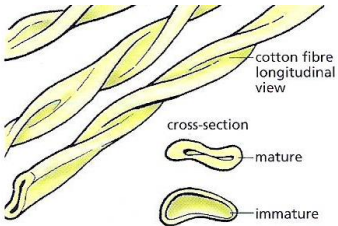
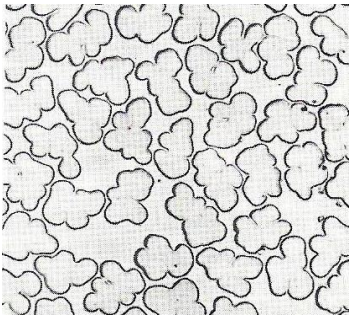
Many products can be **recycled or up-cycled** to make new ones, or **passed**

<p>06 contd</p>	<p>on to other people, and thus extend their life. Unwanted textile products can be shredded to enable the fibres to be re-spun, mixed with new ones or used to make cleaning cloths for industrial uses. Many retailers now encourage consumers to donate unwanted textiles to other causes. Fewer changes in fashion and buying new as a matter of course means that there is less need to discard perfectly serviceable products with the consequent reduction in the use of new materials and energy.</p> <p>Marks awarded as follows:</p> <p>High mark range A wide range of well-considered points with relevant and largely accurate explanation of the issues and how they might be resolved. Specific examples will be given, especially at the top end of the mark range. Information will be clearly presented and show evidence of understanding of the issues.</p> <p>Mid mark range Some good consideration of the issues although this may be narrow in scope, especially at the lower end of the mark range. There will be sound attempts to suggest ways in which the impact on the environment can be reduced although there will be some lack of detail at the lower end of the mark range. Some relevant examples will be given. Most information will be correct although there will be some elements of confusion.</p> <p>Low mark range Limited range of points with only simplistic understanding of the issues, and unrealistic advice on reducing the impact. Few examples will be given and there will be inaccuracies and confusion in the answer.</p> <p>No work worthy of credit.</p> <p>4 areas, 7 marks each.</p>	<p>6 – 7 marks</p> <p>3 – 5 marks</p> <p>1 – 2 marks</p> <p>0 mark</p> <p>[28 marks]</p>
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Question	Marking Guidance	Marks
09	<p><i>Describe one test that might be used in industry to test fabric for sofa cushions.</i></p> <p>Relevant tests might include those for flammability, abrasion resistance, shrink resistance, colour fastness.</p> <p>The student should describe an industrial test; classroom methods are acceptable for a max of 2 marks.</p> <p>The set-up of the test and method used together with some indication of how results are to be interpreted should be included. The following is one example of an appropriate test and the detail required, but there may be other equally valid ones.</p> <p>When testing for abrasion resistance, the fabric samples are clamped/held in place on a weighted disc, the samples are rubbed in an even pattern against a standard abradant, eg sandpaper or hard material, the machine counts how many rubbing cycles are made before the fabric samples show signs of wear. A technician will examine the samples at regular intervals to see whether threads are broken. An average reading will be given in the overall result.</p> <p>Marks awarded as follows:</p> <p>High mark range Clearly explained and appropriate test with sound information about interpretation of results and reliability.</p> <p>Mid mark range Clear information about an appropriate method but possibly some minor omissions. Information about reliability and interpretation of results is likely to be lacking in detail. Information will be sufficient to indicate what is intended but there may be some areas which lack clarity.</p> <p>Low mark range Limited information about a test which may not be appropriate. There will be no reference to how results are to be interpreted or how the test will be made reliable.</p> <p>No work worthy of credit.</p>	<p>5 marks</p> <p>3 -4 marks</p> <p>1 - 2 marks</p> <p>0 mark</p> <p>5 marks</p>

Question	Marking Guidance	Marks
<p>10</p>	<p><i>Critically evaluate the choice of zips or buttons for fastening cushions.</i></p> <p>Eg buttons are decorative, available in a very wide range of colours and styles, relatively inexpensive. But they can fall off and get lost easily, they require a buttonhole or similar which may add to manufacturing costs of the cushion, they can be uncomfortable to sit on and fiddly to undo if the cover needs to be removed. Zips are quick to fasten and unfasten, can be concealed or be visible for aesthetic reasons, and they lie reasonably flat on the fabric, they do not require additional parts and are straightforward to apply thus reducing manufacturing costs of the cushion. They can be bought by the metre which makes them economical to use on a large scale. But they can break and are then difficult to replace, and threads or fabric can get caught in the teeth so they cannot be fastened/unfastened.</p> <p>Marks awarded as follows:</p> <p>High mark range Student shows detailed knowledge and understanding of the different fastenings and will offer a wide range of different points. There will be sound evaluation of their suitability for cushions.</p> <p>Mid mark range Student shows knowledge of the different fastenings but there will be a lack of specific information. There may be a limited range of points at the lower end of the mark range and some elements of confusion. Some attempt to evaluate the suitability of the fastenings as used for a cushion.</p> <p>Low mark range Basic information with only a limited knowledge range of obvious points about both fastenings. Student will not make a real evaluation and will typically repeat information. The answer may be descriptive of the fastenings and information generalised rather than specific. There will be inaccuracies and confusion.</p> <p>No work worthy of credit.</p>	<p>5 - 6marks</p> <p>3 - 4 marks</p> <p>1- 2 marks</p> <p>0 mark 6 marks</p>

Question	Marking Guidance	Marks
11	<p data-bbox="240 353 1233 421"><i>Describe the steps used to prepare, apply and quality check the application of a button fastening to a cushion.</i></p> <p data-bbox="240 456 1214 629">Student should explain the making of and application of a button, with an appropriate fastening, to a cushion. This should include, as appropriate, preparation of the opening with interfacing, the positioning of the button(hole) in relation to the opening edge and other half of fastening, the stitching of the buttonhole (or other as appropriate), attaching the button.</p> <p data-bbox="240 665 616 696">Marks awarded as follows:</p> <p data-bbox="240 698 475 730">High mark range Clear and accurate step-by-step instructions which include relevant details at all stages.</p> <p data-bbox="240 835 461 866">Mid mark range A good attempt to explain the process with some accurate and relevant detail. The explanation will include the main processes but there will be a number of omissions.</p> <p data-bbox="240 1010 469 1041">Low mark range Limited explanation of how the button fastening is applied with a lack of detail and accuracy. Information may be confused.</p> <p data-bbox="240 1146 564 1178">No work worthy of credit.</p>	<p data-bbox="1273 768 1430 799">5 – 6 marks</p> <p data-bbox="1273 943 1422 974">3 - 4 marks</p> <p data-bbox="1273 1079 1422 1111">1 - 2 marks</p> <p data-bbox="1273 1182 1366 1214">0 mark</p> <p data-bbox="1273 1249 1385 1281">6 marks</p>

Question	Marking Guidance	Marks
<p>Question 5 12</p>	<p><i>The physical shape of a fibre can have an important effect on its properties. Describe the shape of each of the following fibres. Explain how the shape affects the fibre properties when used for garments. You may use diagrams.</i></p> <ul style="list-style-type: none"> <p>silk</p>  <p>The silk worm spins 2 triangular shaped filaments, one from each side of its mouth. These 2 filaments are held together with sericin which is a natural gum produced by the silk worm. The smooth filament and triangular cross section gives silk its lustre and softness.</p> <p>wool</p> <p>Overlapping scales</p>  <p>The wool fibre is similar to human hair. The surface of the fibre is covered by overlapping <i>scales</i>. The outer surface of the wool is covered with natural grease called <i>lanolin</i>, and this makes the wool fibre water repellent. The scales on the wool fibre can lock together when the fibre is in the presence of heat, moisture and friction. This will make the wool shrink and the property is used when making felt from wool fibres. It also explains why wool can be difficult to care for, and why it needs gentle hand washing or dry cleaning. Wool fibres also have a natural crimp and when many fibres are spun together, the crimp, and the scales, will cause them to stand away from each other and trap air. This is what gives wool its ability to insulate.</p> <p>cotton</p>  <p>An immature cotton fibre has a round cross-section where the plant nutrients pass along the fibre as it is growing. When it is picked, the fibre dries out and collapses into a flattened bean-like cross section. It also twists along its length so that it looks like a twisted and flattened ribbon.</p> <p>The smooth surface prevents air from being trapped between the fibres, making cotton a poor insulator so cool to wear. The flat twisted form does not reflect light well so cotton does not have a lustre.</p> <p>viscose</p>  <p>Viscose is a regenerated manufactured fibre. The spinning process for viscose fibre involves coagulating, or setting, the liquid fibres in a bath of chemicals. The fibres set at an irregular rate which makes tiny grooves, or striations, along the length of the filaments. These striations give the fibre an irregular cross section. Viscose has a relatively smooth surface which is able to reflect light.</p> 	

<p>12 contd</p>	<p>This question is about the physical; shape of fibres in relation to the fibre properties, not the general properties of fibres/fabrics.</p> <p>Marks awarded as follows:</p> <p>Upper mark range A good description of the fibre shape with clear explanation of how it impacts on the fibre properties. The information will be accurate, especially at the top end of the mark range.</p> <p>Lower mark range Some awareness of the shape of the fibre with limited understanding of how it affects the properties. There will be some confused points and a lack of detail.</p> <p>No work worthy of credit.</p>	<p>3 – 4 marks</p> <p>1 - 2 marks</p> <p>0 mark</p> <p>[16 marks]</p>
<p>13</p>	<p><i>Synthetic fibres, such as polyester and nylon, are produced as continuous filament and have a very smooth surface.</i></p> <p><i>Explain how this affects the fabrics made from them.</i></p> <p>Synthetic fibres are produced as continuous filament and look like glass rods. The cross section of nylon and polyester is circular.</p> <p>This very smooth surface enables them to reflect a lot of light. Because they are so smooth they do not trap air and are therefore poor insulators.</p> <p>Marks awarded as follows:</p> <p>Upper mark range A good description of the fibre shape with clear explanation of how it impacts on the fibre properties. The information will be accurate, especially at the top end of the mark range.</p> <p>Lower mark range Some awareness of the shape of the fibre with limited understanding of how it affects the properties. There will be some confused points and a lack of detail.</p> <p>No work worthy of credit.</p>	<p>3 - 4 marks</p> <p>1 - 2 marks</p> <p>0 mark</p> <p>4 marks</p>

Question	Marking Guidance	Marks
14	<p data-bbox="240 371 1241 439"><i>Explain one way that synthetic fibres can be engineered to make them more acceptable to consumers.</i></p> <p data-bbox="240 472 1241 678">The question is about fibres, not yarns. The cross section of synthetic fibres can be modified by changing the shape of the spinneret, eg nylon can be modified to a tri-lobal shape. This means that the fibre surface will have less contact with skin when worn, so that it becomes more comfortable. Fibres can be crimped to allow more air to be trapped in yarns made from them, increasing thermal insulation.</p> <p data-bbox="240 712 616 745">Marks awarded as follows:</p> <p data-bbox="240 748 496 781">Upper mark range</p> <p data-bbox="240 784 1241 851">A good description of an appropriate method which explains the effect on the fibre.</p> <p data-bbox="240 884 496 918">Lower mark range</p> <p data-bbox="240 920 1193 987">Some limited awareness of an appropriate method but there will be some confused points and a lack of detail.</p> <p data-bbox="240 1021 564 1055">No work worthy of credit.</p>	<p data-bbox="1273 784 1378 817">2 marks</p> <p data-bbox="1273 920 1362 954">1 mark</p> <p data-bbox="1273 1021 1385 1088">0 mark 2 marks</p>

Question	Marking Guidance	Marks
15	<p><i>Inorganic fibres, such as ceramic and carbon fibres, are used for specialist applications.</i></p> <p><i>Give two different uses for inorganic fibres. Explain why they are suited to the uses you have given.</i></p> <p>Eg Ceramic fibres have high temperature resistance and can withstand temperatures of more than 1000 °C. They are extremely lightweight, have low thermal conductivity and chemical stability - they can resist attack from most corrosive chemicals. They are widely used in thermal insulation industry.</p> <p>Ceramic molecules can be incorporated into synthetic fibres, either by coating them with ceramic particles or by encapsulating them within the fibre. The inclusion of ceramic molecules in a synthetic fibre can give the fabric UV protection properties, eg <i>Esmo</i> and <i>Sunfit</i> fabrics. Ceramic molecules can also make fabrics which are able to regulate body temperature, eg <i>Thermolite</i>, a lightweight fibre with a hollow core.</p> <p>Carbon fibres are extremely thin and very strong but lightweight and corrosion resistant and these properties make it very popular in aerospace, civil engineering, military, heart surgery, and motorsports, along with other competition sports. Carbon fibres are used in the production of electro-conductive fibres used to make intelligent fabrics or wearable computers. Because the fibres have high heat resistance and are flame retardant they are used to make some specialised fabrics such as those used for aeroplane interiors.</p> <p>Ceramic and carbon fibres are important in the production of nano-fibres. Other inorganic fibres include:</p> <p>Glass fibre (fibreglass) made of extremely fine fibres of glass and used as a strengthening agent, eg glass reinforced plastic. Fibreglass is commonly used as an insulation material and to produce flame retardant fabrics for specialised applications.</p> <p>Metallic fibres made from metal, plastic-coated metal or metal-coated plastic. Gold, silver and aluminium yarns are coated with transparent plastic film to prevent tarnishing. Lurex is a common plasticised metal yarn. Titanium is a metal which is able to memorise a shape and is used, for example, in intelligent clothing. Silver coated fibres provide protection against bacteria, electric shock, can aid moisture management and provide thermal protection.</p> <p>Marks awarded as follows:</p> <p>Appropriate use identified 1 mark Explanation of its suitability 2 marks</p> <p>No work worthy of credit. 0 mark</p> <p>2 fibres, 3 marks each</p>	<p>2 x 3 marks</p> <p>0 mark</p> <p>6 marks</p>

Question	Marking Guidance	Marks
<p>Question 6 16</p>	<p><i>A manufacturer is planning a new range of luxury women's nightwear for sale in a limited number of outlets.</i> <i>Explain how the style of the garments and choice of fabrics and trimmings might make the garments luxurious.</i></p> <p>Eg glamorous style features such as long length, sleeveless/backless, tucks/frills, bias cut sections, rouleau loop fastenings; the use of expensive or delicate fabrics such as silks, satins, chiffons; dark and rich or pale and delicate colours; lace trimmings, embroidered features, fabric covered buttons.</p> <p>Upper Mark Range Detailed information about a range of specific features and fabrics. The student will show a clear understanding of the concept of glamorous and will give a range of relevant examples to support points made.</p> <p>Lower Mark Range Limited response, points will relate to a narrow range of generic points rather than specific details of the garments. There will be some lack of clarity.</p> <p>No work worthy of credit.</p>	<p>3 – 4 marks</p> <p>1 – 2 marks</p> <p>0 mark 4 marks</p>
<p>17</p>	<p><i>Use the bodice blocks (Figure 1) on the insert sheet to show how you would make the pattern templates for the nightdress shown in Figures 2 and 3. Include the pattern markings.</i></p> <p>The student should show:</p> <ul style="list-style-type: none"> • How the blocks are to be manipulated to achieve the design shown • The pattern markings • The names of the pattern pieces. <p>Upper mark range Candidate provides a clear and largely accurate explanation of the modifications needed. The templates will be right for the design with only very minor omissions. Information will be detailed and labelling complete. No answer worthy of credit</p> <p>Mid mark range A good attempt to show the modifications needed to the basic blocks although there will be some confusion and inaccuracy. The templates presented may not be the most efficient but will make a reasonable copy of the design, especially at the top end of the mark range. There may be minor pieces missing or some lack of labelling/information. No answer worthy of credit</p> <p>Low mark range Poor understanding of the adaptations needed with inaccurate and incomplete templates and markings presented. It will be difficult to follow the line of thought in adapting the blocks.</p> <p>No work worthy of credit.</p>	<p>7 – 8 marks</p> <p>4 – 6 marks</p> <p>1 – 3 marks</p> <p>0 mark 8 marks</p>

Question	Marking Guidance	Marks
18	<p><i>The following processes have been used in the production of a nightdress. Use step by step instructions to explain how to carry out four of the processes. You may use diagrams.</i></p> <p>sew a French seam Student should explain the making of the seam which will include WS of fabric facing before 1st line of stitching, trim and press turnings, RS of fabric facing before 2nd line of stitching, check that no turnings are visible on outside, press seam to one side. Student may refer to width of turnings.</p> <p>make a hem with a lace trimming attached There are various acceptable methods for this technique. Student should explain how the hem is to be turned and the raw edges dealt with, how the lace trim will be attached including reference to the stitch type to be used and the edges of the lace sewn together.</p> <p>add a reverse appliqué decoration Student should explain the layering of the fabrics, the stitching of the design including reference to stitch type, and the cutting away of parts of the design as appropriate.</p> <p>put a binding around an armhole edge Student should explain the placing of the binding RS to RS of the nightdress, stitching together so that seam width is 25% of binding width, turning and folding the binding to the inside of the armhole, stitching the back of the binding in place. Also accept reverse method where binding is stitched to WS and turned to front.</p> <p>make a pin tucked panel Student should explain the folding of the fabric as required, stitching close to the fold edge, making subsequent tucks evenly spaced, and pressing tucks to one side. Some measurements may be given.</p> <p>make a spaghetti strap Student should explain the use of fabric cut on the bias and stitching along the length with RS together to give a narrow strap width, trimming turnings so that there is enough fabric left to give a rounded shape to the strap, use of a loop turner to turn strap to outside.</p>	

<p>18 contd</p>	<p>Marks awarded as follows:</p> <p>Upper mark range Clear and detailed explanation of the method, information will be accurate.</p> <p>Lower mark range Limited explanation of how the method is made with a lack of detail and accuracy. Information may be confused. The process will be essentially right but will lack detail.</p> <p>No work worthy of credit</p> <p>4 processes, 4 marks each.</p>	<p>3 – 4 marks</p> <p>1 – 2 marks</p> <p>0 mark</p> <p>[16 marks]</p>
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