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(Specification 2560)

Unit 3: Design and Manufacture

Final

Mark Scheme

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Section 1

Question 1			
0 1	*Each of the following has influenced the style of 20th and 21st century fashions:* • *the rise of youth culture* • *war and conflict* • *sport* • *the role of women* *Select **two** from the list above and in each case analyse their impact on fashion. Make reference to specific styles and designers as appropriate.* The following summarises the most obvious points but candidates will offer many more equally valid references which must be given appropriate credit. Many candidates are giving factually correct information but are not fully addressing the requirements of the question. In these cases, credit should be given for implicit links to the influences. **Youth culture:** Youth culture began to influence fashions in the 1950s and 1960s. Young people began to have their own fashions rather than wearing the same as their parents and with large disposable incomes, were able to afford the latest fashions. The 1960s saw the beginning of the *throwaway* consumer society with its short lived fads and youthful images – the mini skirt is symbolic of the '60s. Music and film had an important impact on fashion, e.g. jeans, Teddy boy outfits and full skirts (1950s and rock and roll), were influenced by the music of the time; the *Mods* and their love of jazz leading to changes in men's fashions influenced by John Stephen and the rise of Carnaby Street retailers and small boutiques such as Biba, Miss Selfridge and Top Shop. .Pop groups such as The Who and The Beatles as well as a new generation of magazines aimed at the young, e.g. *Petticoat* and *Honey* were all influential in promoting youth fashions. In the 1970s, skinheads and their aggressive appearance which included Doc Marten boots, jeans and braces, In the late1970s and 1980s Punk fashions centred on anti-establishment attitudes (associated with Malcolm McLaren and the Sex Pistols) included the use of safety pins, chains, ripped and torn clothes and *unnatural* colours, especially in relation to hair styles.		

	Some designers associated with the rise of youth culture: Yves Saint Laurent (*Beat collection* based on Beatnik culture), Mary Quant (mini skirt, *Ginger Group* clothes, hot pants), Jean-Paul Gaultier (clothes inspired by street culture and punk), Cardin (futuristic designs using Pop and Op-Art, space inspired outfits, men's Nehru suits as worn by The Beatles), Courrèges (shift dresses, trouser suits, white and silver colourways), Emilio Pucci (brightly coloured printed silks), Hardy Amies (men's suits and the *Hepworths* chain), Vivienne Westwood, Rei Kawabuko, Zandra Rhodes (anti-establishment fashions), Alexander McQueen, (Punk fashions). **War:** The main effects on fashion of the 2 major wars in the 20th century - WW1 (1914 – 1918) and WW2 (1939-1945) – were related to the rationing and unavailability of materials, the wearing of uniforms and the need for women to take the places of men killed or sent to the front. By the start of **WW1** clothes had already become easier fitting, and the war had no immediate impact on fashion, but by 1915 shorter skirts and more practical styles were being worn by women. As the war progressed, women became involved in war work and wore functional clothes. A new type of snobbery meant that it was considered bad taste to display wealth or rank in dress. Fashions became simpler and more practical, and there were fewer distinctions between the clothing worn by different social classes. Homemade clothes became popular and knitted tops and cardigans were worn by men and women. Men wore their uniform, usually in some shade of grey or khaki, and a good raincoat was considered essential – the Burberry trench coat became well known and was worn by men and women long after the end of the war. There were some attempts to return to pre-war fashions in 1919 but women in particular continued to wear easy-fitting and simply styled chemise dresses with shorter skirts. The end of WW1 saw the dawn of the *Tailor made*, a jacket and skirt outfit suited to office and other types of work for women. The social and political developments associated with the war forced a simpler, more practical style of dressing, and fashions became more uniform for men and women of all ages and classes. The strict Victorian fashions and habits of the pre-war years came to an end and casual clothes began to have a stronger impact on newer fashions. The effects of **WW2** were to make fashion less exclusive and more practical. Men, and many women, wore uniforms which tended to be the same basic garments: shirt and tie, tunic jacket and matching trousers or skirt, and a cap. Trouser outfits for women were practical, and		

	the functional practical clothing tended to give a drab appearance. From 1941, clothes and fabrics were rationed and making new clothes from old was a way of getting round this, and of ensuring that people had appropriate clothing. Utility clothing (CC41) was price controlled and the styles subject to strict regulations, and this was the beginning of mass manufacture and the association with well-known designers producing styles for the mass market. The controls meant that jackets and skirts were shorter with fewer pleats, the number of pockets was reduced, styles were straighter, lapels narrower, jackets single breasted, and the number of buttons and trims reduced. Women's styles became more severe with plain silhouette and square shoulders, many skirts were cut on the bias to give an appearance of fullness, and the turban became popular. At the end of the war in 1947, Dior introduced his famous *New Look* as a reaction against the austerity of the war years. Skirts became longer and fuller, waists became narrower, shoulders more rounded and natural looking. Men were given a civilian outfit which consisted of a *Demob suit*, shirt, tie, raincoat and shoes which were often made from poor quality materials and lacking in style. Many younger men, especially students, continued to wear parts of their service uniform; duffle coats and sheepskin lined flying jackets were very popular. Women did not generally wear trousers as they were associated with the hardships of war. Evening dress was not as important as before the war and reserved for special occasions. The clothing industry expanded on a massive scale with new fashions for the masses led by America after the end of rationing in 1949. The general levelling-off in social classes meant that fashion began to originate on the street rather than filter from the top down, and the age of fashion shifted from the mature man or woman to young people. Military styles in fashion have been influenced by war and conflict elsewhere, e.g. Vietnam War, Gulf War. **Some designers associated with war:** Thomas Burberry (Trench coat), Hardy Amies, Molyneux and Norman Hartnell (*Utility* clothing), Schiaparelli (suits with slouch pockets), Digby Morton (siren Suits), Dior (New Look). **Sport:** Sport started to have an influence on fashions for women as soon as they became emancipated and started to take part in active sports. The influence led to less structured and more casual styles. The use of sportswear fabrics such as sweatshirting in the late 1970s, the wearing of tracksuits which became popular in the 1990s, close fitting stretch fashions including leotards, leggings, shorts, trainers, bodysuits, legwarmers, sports personality endorsements, casual fashions based on sports clothing. Women began to		

	have a more muscular body shape as a result of taking part in sporting activities, with bigger waists. Impact of UK Olympics in 2012. **Some designers associated with sport:** Chanel (jersey fabrics and simple unrestricting styles), Tommy Hilfiger, Donna Karan, Ralph Lauren, Calvin Klein (sports inspired fashions), Norma Kamali (use of sweatshirt materials), John Galliano, Karl Lagerfeld, Prada. **The role of women:** At the beginning of the 20th century, women had few rights and were generally seen as inferior to men. The upper classes set the fashions and these reflected their sedate and pampered lifestyle; the tightly corseted body giving a mature, unnatural body shapes, opulent living demanded fussy and cumbersome clothes which did not allow for an active life. As women became more liberated and more involved in employment and sporting activities, they needed less elaborate clothing which was lighter and allowed then to move freely. From about 1907 the basic silhouette began to change to a slimmer, straighter line which was the start of more practical fashions. Women's liberation continued throughout the 20th century, enhanced by 2 world wars when women took on what had been considered to be men's roles, acceptance into higher education and the professions, the invention of *The Pill* in the 1960s, equal pay and rights in the workplace, the *Women's Liberation Movement*. All of these served to make fashions more practical and allow women to compete with men on more equal terms. By the late 1980s and early 1990s, the *New Women* were taking their places as executives of major companies, Britain had its 1st female prime minister, and *power dressing* was influencing the fashions of the time, with wide shoulders, tailored trouser suits styled on masculine lines and dressing for success. **Some designers associated with women's emancipation:** Paul Poiret (harem trousers, hobble skirt, abolition of the corset, loose-fitting garments), Chanel (simple style jersey suits, pleated skirts), Vionnet (bias-cut dresses with natural lines), Patou (simpler clothes that did not restrict women's movement), Armani (women's *power suits*), Calvin Klein and Ralph Lauren (Tailored fashions), Yves Saint Laurent (masculine styled trouser suits).		

	Marks awarded as follows:		
	• Basic information with evidence of only simplistic understanding of the selected influence. Candidate will give only a narrow range of points with few, if any, appropriate examples of styles or influential designers. 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.	*0 – 3 marks*	
	• Candidate shows some knowledge and understanding of the ways in which the selected influence impacted on fashions, there will be a lack of precise and accurate detail, especially at the lower end of the mark range. A limited range of relevant examples will be given. There are likely to 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.	*4 – 7 marks*	
	• Candidate shows some sound knowledge and understanding of the impact of the influence and gives a number of relevant examples of styles and designers together with some explanation of their importance, but there may be a lack of detail. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors.	*8 – 11 marks*	
	• Candidate shows detailed knowledge and understanding of how the influence impacted on fashions and gives a wide range of relevant examples to illustrate points made. The information will be detailed and accurate. Complex ideas will be expressed clearly and fluently with few, if any, errors of grammar, punctuation and spelling.	*12 – 14 marks*	
	2 different influences, 14 marks each.		Max 28 marks

Question 2			
0 2	*Discuss what is meant by comfort in relation to clothing by explaining how different fibres, yarns and fabrics can affect the comfort of the wearer. Include examples of specific products in your answer.* This question is not about psychological comfort or safety issues. A number of issues are related to the comfort of fabrics when in contact with skin. These include: **Temperature control:** In order to keep the body warm, a fabric must be able to insulate. This usually means that it can trap air, in the fibres, yarns or the way in which the fabric is constructed. Trapped air is a thermal insulator as it does not conduct heat; the more air that is trapped, the warmer the fabric. The wearer needs to be kept warm or cool depending on the external environment. This may require fabrics and garments to be good or poor insulators. **Fibres:** such as cotton, linen and synthetics are smooth so do not trap air, wool has a crimp which can trap air. Synthetic fibres can be engineered, e.g. given hollow centres so they can hold air. **Yarns**: can be smooth (e.g. filament) or hairy (e.g. staple). They can bulked to incorporate air, e.g. heat setting of thermoplastic fibre yarns, texturising of yarns. **Fabrics:** can hold more or less air depending on their construction or finish, e.g. plain weave is very smooth, knitted fabrics have spaces for air, brushed fabrics hold air, calendered fabrics are smooth. **Layered:** fabrics and products can enhance warmth as air is trapped between the layers, e.g. fabrics laminated to a foam layer, lined garments, the use of polyester wadding as an underlining, quilted fabrics. **Ability of fabric to be windproof:** Moving air causes the body to cool more quickly than when in still air. Closely woven fabrics have a high resistance to air penetration. Fabrics with large air spaces, e.g. loosely woven and knitted fabrics, will not be windproof. **Humidity**: In conditions when the body is perspiring a great deal, it is important that moisture can be removed from the skin. This is usually effected by wearing fabrics which can either absorb the sweat, or wick it away from the body. Fabrics with large air spaces allow moisture to evaporate from the body. Modern synthetic fibres can be engineered to allow them to wick moisture away, e.g. CoolMax®.		

	Equally, very absorbent fabrics can cause discomfort in wet conditions. **Skin irritation/Scratchiness:** Some fabrics can irritate skin, e.g. wool. Generally, smooth fibres, yarns and fabrics are less irritating than hairy ones. Some dyes and finishes can also cause discomfort. **Fabric cling:** A build-up of static electricity in synthetic fibre fabrics can cause discomfort by causing them to cling to the body. The use of anti-static finishes and fabric softeners can reduce the cling. Ability of fabrics to support the body or allow free movement. The use of elastomeric fibres allows easier movement and may help to make some fabrics less stiff, e.g. denim jeans. Also body support, e.g. as associated with some underwear and foundation garments. **Marks awarded as follows:** • Basic information with evidence of only limited understanding of the meaning of comfort. Candidate will probably discuss the effects of discomfort on the body but with few accurate or relevant examples given. There will be inaccuracies and confusion. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors. • Candidate shows some sound understanding of the meaning of comfort and will give a number of examples to illustrate points made. The range of examples may be limited, especially at the lower end of the mark range, and these may not always be clearly linked to fibre/fabric properties. There may be some inaccurate and possibly irrelevant information. The candidate has a good grasp of the issues but there is a lack of detailed knowledge to explain the problems. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors. • Candidate shows detailed knowledge and understanding of a range of issues relating to comfort and gives a variety of examples to support points made. The examples will clearly relate to fibre and fabric properties with accurate and detailed explanation. Complex ideas will be expressed clearly and fluently with few, if any, errors of grammar, punctuation and spelling.	*0 – 4 marks* *5 – 8 marks* *9 – 12 marks*	Max 12 marks

0 3	*Describe a range of modern/smart fabrics or finishes that have been developed to increase the comfort of clothing. Include examples of specific products in your answer.* The following are **some examples** of modern and smart materials; **there are many others** which could be related to the increased comfort of the wearer and examiners **must give credit** for realistic and well justified alternatives. **Modern and Smart materials** can be engineered to sense and react to the body temperature and movements of the wearer. Some examples of materials which can contribute to comfort include: Microfibres can be used to make very **soft, lightweight and fluid fabrics**, e.g. Tactel. Gore-Tex and Sympatex are **breathable, windproof membrane systems** used for outdoor wear, fabrics based on nano-technology. Elastane fibres allow for **ease of movement.** Fabrics that **wick moisture away** from the body, e.g. Coolmax®, Tactel Aquator®, Tactel Diabolo, Transpor Dry Fibre. Fabrics that can maintain a **personal micro-climate/regulate body temperature**, e.g. Stomatex, Outlast, *Aerogel* jacket, the Corpo Novo Cooling Jacket, Uniqlo Heat retaining fabrics. **Anti-allergenic** fabrics, e.g. Amicor Pure acrylic fibre, Pertex fabric. **Fabric finishes** such as anti-static, insect repellent finishes such as used on Craghoppers' insect repellent garments. Fabrics which provide **increased insulation,** e.g. Thinsulate®, Polartec fleece, Tempur foam. Garments with **Biometric sensors** that can relax the body, coats that can **release heat** when the wearer's temperature drops. Micro-encapsulated fibres are used in ladies' tights to provide **moisturising and massage** properties, and allow the legs to stay cool in summer and warm in winter. **Nanotechnology** allows for lightweight fabrics.		

	Marks awarded as follows:		
	• Basic information with evidence of only simplistic understanding of comfort in relation to modern materials. Candidate will probably offer only a narrow range of obvious suggestions with few, if any, appropriate examples to support points made, and possibly lack understanding of the concept of comfort. Some of the examples offered will be on the periphery of the concepts of *modern* and/or *comfort*. 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.	*0 – 4 marks*	
	• Candidate shows some knowledge and understanding of the ways in which modern textiles can enhance comfort but there will be a lack of precise and accurate detail, especially at the lower end of the mark range. A limited range of relevant examples will be given but the candidate may well refer to a limited area of *comfort*. There are likely to 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.	*5 – 8 marks*	
	• Candidate shows some sound knowledge and understanding of modern materials and their application in the area of increased comfort. There will be a number of relevant examples together with some explanation of their application in a range of different comfort areas. The candidate has a good grasp of the meaning of discomfort and ways in which it can be improved but there is a lack of detail. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors.	*9 – 12 marks*	
	• Candidate shows detailed knowledge and understanding of a wide variety of comfort issues and gives a wide range of relevant examples of modern materials used to alleviate problems. The information will be detailed and accurate. Complex ideas will be expressed clearly and fluently with few, if any, errors of grammar, punctuation and spelling.	*13 – 16 marks*	Max 16 marks

Question 3			
0 4	*Analyse the value of **two** of the following for the designer of textile products:* • *trade fairs* • *trend prediction companies* • *shop reports/sale figures* *You should give examples to support the points you make.* **Trade Fairs** are when manufacturers of yarn, fabric, components or clothing showcase and sell their new ranges**,** e.g. Première Vision (France), Pitti Filati (Italy). They also show the colour predictions for the forthcoming seasons. Designers and product manufacturers are able to view samples and order the newest materials to ensure that their products are up-to-date. Once the textile manufacturer has enough orders, the material will be produced. Designer shows and ready-to-wear trade fairs take place twice a year, when the fashions for the following season are showcased. These are an opportunity for new designers to show their ideas, and for other designers to see what others are doing. Trade Fairs are an efficient way for a textile manufacturer to reach a large audience of potential buyers, to meet other manufacturers and suppliers, and to see what competitors are offering. They are very expensive to run. Designers may attend these fairs to source a particular type of fabric, or they may go to be inspired by the latest materials so they will be able to ensure that their designs are on-trend. **Trend prediction companies** are big business in the fashion world, and they exert a strong influence on many areas of textile and fashion design. The companies look at trends which have been successful for some time and assess whether they are likely to continue or whether it is time for a change. They collect information from many sources, e.g. catwalk shows, street fashion, world events, past trends, art and science, film and media, and around the globe aided by the internet. They sell their information to other companies who do not have the time or expertise to do their own research, so that they can be confident that their designs will be on trend and thus likely to be successful. Not all designers use a TPC; some prefer to be trend-setters themselves, or develop their own niche market.		

	Shop Reports/Sale figures are an analysis of what consumers are buying, and what shops are stocking. They can give an overview of trends, especially those shops catering for the high end market, where fashions from new and up and coming designers may be sold. This may help new designers to be recognised and to see what is popular with consumers in different segments of the market. What consumers actually buy is often an accurate indicator of what they want and what they value. But this data can also be unreliable, especially if other factors disrupt, or activate, retail activity. **Marks awarded as follows:** • Basic information with evidence of only limited understanding of the two activities selected and their importance. Candidate will probably offer only limited information with few accurate or relevant examples given. There will be inaccuracies and confusion. • Candidate shows some sound knowledge and understanding of the ways in which information about new trends is disseminated but will probably concentrate on one method at the expense of the others, especially at the lower end of the mark range. There may be some attempt to explain the benefits for the participants of one or more methods. The candidate has a good grasp of the methods selected but there is a lack of detail. • Candidate shows detailed knowledge and understanding of both methods selected, especially at the top end of the mark range and gives a variety of examples to support points made. There will be good attempts to explain the value of the different activities for different participants. **2 different sources, 6 marks each.**	*0 – 2 marks* *3 – 4 marks* *5 – 6 marks*	Max 12 marks

0 5	*In what ways have issues relating to the environment and ethical trading influenced consumers' attitudes to buying textile products?* *Give examples to support the points you make.* Consumers are becoming more aware of the **conditions** in which textile products are manufactured. In the UK, there are laws to protect the health and safety of workers and prevent them from being exploited by unscrupulous employers. When textile products are made in other countries, especially less economically developed ones (LEDCs), those laws don't apply. The pesticides and fertilizers used on cotton crops can have disastrous effects on the **health of farmers** and other workers if they breathe in the spray, or if it comes into contact with their body. Chemicals from the pesticides and fertilizers can pollute water courses, **poisoning drinking water**. Growing cotton uses vast amounts of water and uses up valuable land space which could be used for **food crops**. In many countries where cotton is grown, there is not enough water for the people who live there to drink. Many workers in LEDCs are **paid very little** and forced to work long hours, often in hot, cramped and dangerous factories. Sometimes these workers are **young children**. Some unscrupulous manufacturers in the UK have been known to employ illegal immigrants to manufacture textile products for little pay in dangerous conditions. Many of the fashion textile products that are **sold at low prices** have been manufactured with no regard for the workers' health, safety or dignity. Many people are beginning to ask themselves if the cheap fashion products, which they throw away as soon as a new fashion appears, are worth the human suffering involved in their manufacture. Consumers are also concerned about the **environmental impact** of textiles manufacture. For instance, the pesticides and fertilizers used on cotton crops can pollute waterways and surrounding land. Many consumers now look for **organically grown** or 'green' cotton which is less harmful to the environment, and sustainable plant fibres such as ramie, jute, bamboo and hemp are becoming more popular. Traditional **dyeing methods** use up large quantities of water and produce toxic waste which must be treated before disposal. **Synthetic fibres** can have colour put into the spinning solution so the fabric doesn't need to be dyed afterwards. There have been some developments in the growing of **already-coloured cotton** fibres.		

	New fibres have been developed to be more environmentally friendly, e.g. **Tencel and Lyocell**, **Ingeo,** based on corn starch, **soya bean protein fibre (SPF),** and some consumers choose these fibres over cotton and synthetics. Some people avoid choosing fabrics made from **synthetic fibres** which are not **bio-degradable** as they will end up in landfill sites when they are thrown away and the chemicals in them can seep out into nearby fields and rivers. Those concerned about **animal rights** and welfare will seek to avoid real fur and leather products. Some people are beginning to **avoid high street mass manufactured products**, and instead look for **craft products** which have been **made locally,** and to consider **sustainability** when selecting products. Some designers are using **recycled fabrics and components** and these prove popular with consumers who are concerned about the environment. Other companies **take back their old products for re-cycling,** e.g. Patagonia, or adapt and re-design new products from old, e.g. Potential Fashions. Many are turning their backs on cheap throw-away fashions, instead choosing products designed and made **for a longer life**; avoiding the buying of yet another fashion product can help cut down on textile manufacturing activity. The **aftercare of textile products** is an important consideration for some; fabrics which can be washed and ironed at lower temperatures can save a lot of electricity. Avoiding **excessive packaging** which produces a lot of waste, and uses energy and materials to make and transport the packaging. Many refuse a 'designer' carrier bag, multiple layers of tissue paper, plastic bags and fabric ribbons. Many consumers now look for **Fair Trade and eco-friendly products**. Fair trade standards specify minimum social, economic and environmental requirements, which producers must meet to be certified. In the Fair Trade system, a company that meets the required standards of manufacture can buy a Licence Agreement with the Fair Trade Foundation. Designers, groups and retailers **associated with ethical trading** include: Katherine Hamnett, Linda Loudermilk, Stella McCartney, Natalie Chanin, Guerra de la Paz, Becky Earley, Kate Goldsworthy, Marks and Spencer. There are many others and markers must give credit for these.		

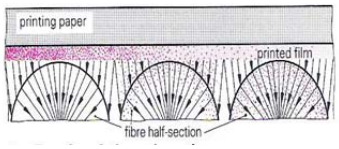
	Marks awarded as follows:		
	• Basic information with evidence of only simplistic understanding of the issues. Candidate will probably offer only a narrow range of obvious points with few, if any, examples to support points made. There will be inaccuracies and confusion. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors.	*0 – 4 marks*	
	• Candidate shows some knowledge and understanding of the ways in which consumers are changing their buying habits but there will be a lack of precise and accurate detail, especially at the lower end of the mark range. A limited range of relevant examples will be given and the candidate may well concentrate on a limited number of issues. Straightforward ideas are expressed reasonably clearly if not always fluently. There will be some grammatical, punctuation and spelling errors.	*5 – 8 marks*	
	• Candidate shows some sound knowledge and understanding of the concerns and how they are affecting the buying of textile products with some precise detail in at least 2 areas. There will be some relevant examples together with some explanation of their importance. The candidate has a good grasp of the various issues and how they affect consumer behaviour but there is a lack of detail. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors.	*9 – 12 marks*	
	• Candidate shows detailed knowledge and understanding of various issues and gives a wide range of examples to support points made. There will be good attempts to explain the changes in consumer buying habits and this information will be detailed and accurate. Complex ideas will be expressed clearly and fluently. Arguments are relevant and well structured with few, if any, errors of grammar, punctuation and spelling.	*13 – 16 marks*	Max 16 marks

Section 2

Question 4			
0 6	*Explain the different processes which fabrics may need to go through in order to prepare them for dyeing and printing.* This question is about preparing fabrics for dyeing and printing, not finishing processes in general. When the fabric comes from the loom or knitting machine it is not ready to be dyed or used straight away. At this stage it is referred to as ***Grey (greige)*** or ***loomstate*** cloth, and it often has a natural creamy colour. Fibres, especially the natural fibres, have natural impurities in them, e.g. fats, waxes and salts. There will also be other impurities picked up during the processing, e.g. oil and dirt from machines, and size (starch) added to strengthen yarns before weaving. These have to be removed before the fabric can be dyed or finished, otherwise the colour or finish will not attach itself evenly to the fabric. The fabric may need to be returned to its intended width before a pattern can be printed on it. The following are some of the important **preparation processes**. **Desizing.** *Size* is a starch, gum or gelatine type of substance which is applied to warp yarns before they are woven into fabrics. This helps to strengthen them so that they will be more able to stand up to the constant movements of the loom. Most of these substances are soluble in water so they can easily be removed by washing with enzymes. **Scouring.** Scouring removes fatty and waxy impurities which would prevent the fabric from being 'wetted'. Cotton fabrics are scoured by boiling them in caustic soda solution. This method would not be appropriate for wool fabrics as they would be damaged by the heat and the alkali; instead they are moved through warm detergent solutions to remove the fatty deposits in the fibres. More modern methods involve 'washing' the fabrics in solvents to remove the oils and greases. **Bleaching.** Fabrics are sometimes bleached to obtain a fabric which is evenly white before colour is added. **Cotton** fabrics are bleached using carefully controlled amounts of hypochlorite bleach or hydrogen peroxide. Both of these are *oxidizing bleaches*, i.e. they remove unwanted colour by adding oxygen to the stain to make it colourless.		

	Wool is often left in its naturally creamy colour. It is never treated with chlorine bleaches as these will damage the scales on the wool fibres. It can be bleached using hydrogen peroxide (as used to bleach human hair), or by using sulphur dioxide gas, a *reducing agent* which works by removing oxygen from the stain to leave it colourless. **Stentering** is a process used to pull woven fabrics back to their correct width after they have passed through other processes. **Heat setting** can be used to set fabrics with a thermoplastic fibre content to their correct width **Singeing** to remove fine hairs from the surface of fabric. **Marks awarded as follows:** • Basic information with evidence of only limited understanding or knowledge of the different treatments needed. There will probably be a lack of specific information about the need for the treatments in relation to specific fabrics. There will be inaccuracies and confusion. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors. • Candidate shows some sound knowledge and understanding of the different treatments needed but there will be some lack of detail and reference to specific fabrics and/or processes. The candidate may concentrate on one method at the expense of the others, especially at the lower end of the mark range. The candidate has a good grasp of the various methods and need for them, but there is a lack of detail. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors. • Candidate shows detailed knowledge and understanding of a number of treatments used and will clearly explain the reasons why they are needed, especially at the top end of the mark range. There will be a variety of examples to support points made. Complex ideas will be expressed clearly and fluently with few, if any, errors of grammar, punctuation and spelling.	*0 – 2 marks* *3 – 5 marks* *6 – 8 marks*	Max 8 marks

0 7	*Describe **two** different commercial methods of printing a pattern onto fabric. You may use diagrams.* **Screen printing** this technique is derived from the Japanese method of stencilling delicate patterns on fine fabrics. A mesh screen is prepared for each colour in the design. There are two different methods of screen printing – flat screen printing and rotary screen printing. **Flat screen printing:** The fabric to be printed is on a roll at one end of the printing table. The fabric is fed on to the table by means of a conveyor belt which carries the cloth under the printing screens. When the fabric stops, the screens are lowered onto the printing table. The screens are placed side by side a few centimetres above the table, and are lowered on to the cloth when printing commences. Each screen prints a different colour across the width of the fabric. Two fine blades called squeegees move across the screens pressing the printing paste through the mesh of the screen. After the blades have pressed the dye through to the cloth the screens rise and the conveyor moves the fabric along into position under the next screen. From the printing table the fabric goes to a drying chamber at the end of the printing table. The printed fabric is finished by passing through a steaming chamber, acid baths and a scouring unit to **fix the dye** and remove the gum used in printing. The cloth may be given any further finishing processes that are required. **Rotary screen printing** is the most popular method of screen printing because it is quick and efficient and allows a greater quantity of fabric to be printed in a short time. The screen is a seamless metal mesh roller; a screen is prepared for each colour in the design. All the rollers are fitted on to the printing machine. The stationary squeegee is fitted through the centre of the roller and the dye is automatically fed in through a pipe attachment. Each screen roller prints one colour across the width of the fabric. While the rollers are revolving in one direction the conveyor belt carrying the fabric moves in the opposite. The cloth travels under the rollers and is printed by each in turn. The fabric is dried and finished as before. **Roller printing** this is a similar technique to rotary screen printing but used engraved rollers to print the design.		

	Transfer printing is similar technique to ironing transfers on to fabric. The design is printed on to a special type of paper which is wound on to a roller and placed in position in the machine. The design is the full width of the cloth to be printed.  The fabric, on another roller, is placed opposite the design paper roller and both fabric and paper are brought together in a dry heat press which transfers the design from the paper to the cloth. The temperature of the heat press is high enough to cause the dye to turn into a vapour which then transfers, under pressure, to the fabric. This is also known as ***sublimation printing***. **Digital printing** uses an ink-jet printer to print directly on to the fabric. It is a very fast and economical process and the pattern can be changed quickly. Many colours and unlimited pattern repeat size can be used. It can be used on cut out garment pieces and small sections of a product. **Marks awarded as follows:** • Basic information with evidence of only limited understanding of the process involved in the method selected. There will be little explanation of the process and the equipment needed. There will be inaccuracies and confusion. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors. • Candidate shows some sound understanding of the process and gives a satisfactory explanation of the process although there will be some omissions and minor inaccuracies. The candidate has a good grasp of the process but there is a lack of detailed knowledge in the explanation. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors. • Candidate shows detailed knowledge and understanding of the process and explains it clearly with accurate information about the equipment and procedure. Complex ideas will be expressed clearly and fluently with few, if any, errors of grammar, punctuation and spelling. **2 different processes, 6 marks each**.	*0 – 2 marks* *3 – 4 marks* *5 – 6 marks*	Max 12 marks

0 8	*State what is meant by the term colour fastness.* *Discuss the need for different types of colour fastness in relation to the intended use of a fabric.* **Colour fastness** is the strength with which the dye is held in the fibre. When selecting dyes for a particular end use, colour fastness must be considered. Fabrics may need to be have fastness to the following depending on their intended use: **Washing** – this will be important for clothing and household products used regularly. **Light** – this will be important for furnishing products, especially curtains and chair/sofa covers as they are exposed to sunlight. **Perspiration** – this will be important for fashion products as the acidic/alkaline effects of perspiration can react with some dyes leading to localised discolouration. **Bleaching** – some dyes such as those used on swimwear fabrics need to be able to resist the effects of chlorine. **Dry cleaning** – the fluids used can lead to loss of colour so products which are likely to be dry-cleaned on a regular basis need to be fast to the dry cleaning materials. **Rubbing (crocking)** – dye is removed from products by friction. This property will be important for seating and some clothing products.	*1 mark*	

	Marks awarded as follows:		
	• Basic information with evidence of only limited range of fastness types and little explanation for the importance. The candidate is likely to concentrate on wash fastness at the expense of others and may give a number of examples related to this type of fastness. There will be inaccuracies and confusion. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors.	*0 – 2 marks*	
	• Candidate shows some sound understanding of a narrow range of fastness types and gives some explanation of their importance in different products, although there will be some omissions and minor inaccuracies. The candidate has a good grasp of the need for different dye fastness but there is a lack of detailed knowledge in the explanation. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors.	*3 – 5 marks*	
	• Candidate shows detailed knowledge and understanding of a range of different fastness types and provides a range of appropriate examples to illustrate points made. Complex ideas will be expressed clearly and fluently. Arguments are relevant and well structured with few, if any, errors of grammar, punctuation and spelling.	*6 – 7 marks*	Max 8 marks

Question 5			
0 9	*Explain how the decorative features could be used to inspire a co-ordinated range of textile products for the home. You may use diagrams and sketches.* Points may relate to a co-ordinated colour scheme, decorative features, shape and pattern of the decoration, using sections of the pattern to form a repeat design. These may be explained in relation to products such as cushions/seating, curtains/window dressing, wall decoration, bed/sofa covers/throws, table linen, oven gloves, tea cosies, equipment covers, door stops, draught excluders. The candidate may choose to illustrate the answer with diagrams and sketches. **Marks awarded as follows:** • Basic and simplistic ideas which may not be appropriate for the intended use. There will be a lack of clear information about what is intended and some aspects may be inappropriate. Communication skills will show some weaknesses. • Sound ideas that relate to an appropriate range of products and how some degree of co-ordination might be achieved. The candidate may sketch a range of products showing how the features have been developed. There may be some lack of clarity, especially at the lower end of the mark range. Communication skills will be sufficient to clearly convey what is intended. • Clear, detailed, appropriate and interesting suggestions for ways in which features of the cushion could be used for other products in a number of different ways. Communication skills will clearly convey what is intended.	*0 – 2 marks* *3 – 4 marks* *5 – 6 marks*	Max 6 marks

10	*Fabrics and techniques add texture and interest to this cushion. Describe in detail **one** method of manipulating fabric which will add texture to a product for the home.* The candidate should explain the step-by-step processes involved in the manufacture of one specific technique, e.g. quilting, pleating, smocking, appliqué. **Marks awarded as follows:** • Limited and simplistic description with little detail of the stages involved. Some steps may be omitted and there will be little information about the materials and equipment to be used. There will be inaccuracies and confusion and the technique selected may not be appropriate for adding texture/interest. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors. • A good description with some detail of most stages involved although there will be some omissions and minor inaccuracies, particularly with reference to materials and equipment. The candidate has a good grasp of the process but there is a lack of detailed knowledge in the explanation. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors. • Candidate gives a detailed and accurate description of the whole process and makes clear and accurate references to the materials and equipment used. Complex ideas will be expressed clearly and fluently with few, if any, errors of grammar, punctuation and spelling.	*0 – 2 marks* *3 – 4 marks* *5 – 6 marks*	Max 6 marks

11	*Discuss the benefits to the consumer of buying branded textiles for the home.* Brand names are a way of marketing products to consumers. Buying a branded product offers some assurance of quality and value over non-branded products. The branded product is also more likely to reflect the latest trends and have the support of a modern production and distribution system so it will be freely available in a number of retail outlets. It may be part of a range of co-ordinating products. Strong advertising and marketing ensure that the consumer is aware of the product in the market place. **Marks awarded as follows:** • Basic and generalised information with only a limited range of benefits considered. There will be little explanation of the points raised, and some may refer to the retailer/manufacturer rather than the consumer. There will be inaccuracies and confusion. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors. • Candidate shows some sound understanding of a range of appropriate benefits and may offer some examples of products to illustrate points made. The candidate has a good grasp of the issues but there is a lack of detailed knowledge in the explanation and there may be some minor inaccuracies. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors. • Candidate gives detailed information about a range of benefits related to the consumer and will possibly offer some examples to illustrate points made. Complex ideas will be expressed clearly and fluently with few, if any, errors of grammar, punctuation and spelling.	*0 – 2 marks* *3 – 4 marks* *5 – 6 marks*	Max 6 marks

12	*Discuss the reasons why textile products are designed and manufactured in different parts of the world. Include reference to the benefits and drawbacks of globalised manufacture*. Globalised manufacture is driven by **competition** and the need for **efficiency** by reducing the costs of labour and materials. It is heavily supported by ICT and **fast, electronic communication**. Many textile products are designed in the UK, western Europe and North America, but are manufactured elsewhere to take advantage of cheaper labour costs in newly industrialised countries (NICs) such as those in the Far East, Africa and India. The designers and manufacturers can easily communicate via the internet, and computer generated information about a final design can be sent anywhere in the world in a few seconds. The information can be fed directly from the computer into manufacturing systems to make the product. Some sections of the product may be made in a factory which has specialised machinery, or workers who are especially skilled in a particular type of production such as embroidery. Sub-contracting to specialist manufacturers helps reduce manufacturing costs and enables the finished product to be high quality. Many NICs have invested in new technology which has allowed them to set up enormous **outwork factories** where manufacturing for a wide range of retailers takes place very quickly using CAM systems. The success of these depends on a constant throughput of work. Products are made overseas because **labour is cheaper** or **materials may be more readily available.** Some overseas manufacturers have **skilled workers** who are able to perform specialist tasks. The **benefits to the NICs** are increased employment and improved living standards, an influx of foreign currency to offset their debt, development of the skills of their workforce, an increase in their manufacturing capability and the opportunities to keep abreast of developments in modern technology. The **downside of global manufacture** for NICs includes the environmental costs of manufacturing processes, the fact that executive jobs in the company are usually held by people in the developed world and only low level unskilled work is available for their own people, health and safety controls may be less rigorous than in developed countries, pay may be low and profits taken back to the developed world, decisions affecting the jobs and lives of workers in NICs may be made by people in the developed world who have little knowledge or		

	understanding of conditions in the NIC. The ensuing consequences for employment and growth of industry in the UK and the developed world are also issues that need to be considered. **Marks awarded as follows:** • Basic and simplistic information which concentrates on cost issues, especially in relation to labour. There will probably be emphasis on perceived poor working conditions or other narrow area of concern. There will be inaccuracies and confusion. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors. • Candidate shows some understanding of a number of benefits and drawbacks and gives examples from a few different areas, especially at the top end of the mark range. There will be some omissions and minor inaccuracies. The candidate has a good grasp of the concept of global manufacture but there is a lack of detailed knowledge. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors. • Candidate shows detailed knowledge and understanding of what is meant by global manufacture and gives a range of well explained benefits and drawbacks. Explanations will be clear with accurate references to specific areas. Complex ideas will be expressed clearly and fluently with few, if any, errors of grammar, punctuation and spelling.	*0 – 3 marks* *4 – 7 marks* *8 – 10 marks*	Max 10 marks

Question 6			
1 3	*The designer has been given the design criteria below. The trousers must:* • *use a range of components **(C)*** • *include pockets **(P)*** • *be made from two different fabrics **(F1), (F2)*** • *be suitable for the mid-price market.* *Using notes and sketches show your ideas for developing the basic trousers to make them more fashionable. Explain how your design meets the design criteria given above.* The candidate should show **one** design, based on the trousers shown, that meets all of the specification points. Annotation should clearly explain the style features and materials used, the changes made, and how the new design meets the requirements. **Marks awarded as follows:**		
	• Simplistic design that shows little development from the basic design. There will be a lack of clear information about what is intended and some aspects of the design may be inappropriate. It is likely that there will be only one sketch showing the front of the new design with scant regard for the back. Information about the fabrics and components will be limited with little explanation for choice or how the new design meets the criteria. Graphical and communication skills will show some weaknesses.	*0 – 3 marks*	
	• Sound idea that is clearly a development of the basic design, but may lack some interest. Although all of the criteria have been met, there may be some lack of appropriateness and clarity of reasons for choice, especially at the lower end of the mark range. Consideration will have been given to the front and back style, especially at the top end of the mark range, and there will be more than one annotated sketch. Graphical and communication skills will be sufficient to clearly convey what is intended.	*4 – 7 marks*	
	• Detailed, appropriate and interesting idea, which moves away from the basic design, yet still shows some link to it. All of the criteria will be met in full, and annotation will clearly explain what is intended including reasons for decisions. It is likely that there will be a number of annotated sketches showing different aspects of the new design. Good quality graphical and communication skills will clearly explain what is intended.	*8 – 10 marks*	Max 10 marks

1 4	*Explain how the use of a Just in Time (JIT) system would benefit **both** the manufacturer and retailer of the trousers.* **JIT manufacture** is highly dependent on the use of CAD/CAM and allows manufacturers to respond quickly when fashions change as they can be more flexible in their working practice. This is also referred to as **Quick Response** manufacture. Many manufacturing companies operate as **outwork factories** and make garments, from the production pattern to the finished product, for many different retailers. This is because they have invested in new technology, which small companies cannot afford, and they need to have a constant throughput of work in order to make it pay. The use of **automated manufacturing processes** ensures that products are made quickly and to a consistent standard. Little **stock** is kept in warehouses - the aim is to get the products to the shops as soon as possible and as they are needed – this is **JIT (Just In Time)** stock management. Many large retailers have centralised storage depots where goods are received and dispatched straight away to the shops without being stored. The whole process is controlled electronically using the information on the barcode labels. This means that money is saved on warehouse space, and wages for workers as the products are not being continually handled so fewer operatives are needed. Retailers receive new supplies of goods as and when they need them, and they are delivered ready to go on the shop floor. Products which have ceased to be popular will not be re-ordered reducing waste and thus costs. **Electronic communication** allows the factories to be anywhere in the world. Many of the factories are huge, with rolls of fabric delivered to the cutting room where it goes straight on to the cutting tables. Once cut, the bundles of cut pieces are distributed to the machinists, sewn together and delivered to the retail outlet within a matter of hours.		

	Marks awarded as follows: • Basic information with only limited understanding of the whole JIT process; points will tend to be limited to speed of manufacture and cost issues. There will be little explanation of the process and it may be confined to manufacturer or retailer only. There will be inaccuracies and confusion. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors. • Candidate shows some sound understanding of the whole JIT process and makes references to both the manufacturer and retailer, although there will be some omissions and minor inaccuracies. The candidate has a good grasp of the process but there is a lack of detailed knowledge in the explanation. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors. • Candidate shows detailed knowledge and understanding of the whole JIT process and explains it clearly with accurate references to the manufacturer and retailer. Complex ideas will be expressed clearly and fluently with few, if any, errors of grammar, punctuation and spelling.	*0 – 2 marks* *3 – 4 marks* *5 – 6 marks*	Max 6 marks

1 5	*The production of the trousers will involve the use of automated machinery. Describe how Computer-Aided Manufacture [CAM] will be used for a range of different processes in the manufacture of the trousers.* This question is not about the generalised use of CAM. The candidate should refer to **specific processes** involved in the manufacture and distribution of fashion trousers These are likely to include: **Computerised pattern design systems** can design pattern pieces, grade them for different sizes, produce an economical lay plan used for automated cutting, and simulate the finished product. **Computer controlled machines** used to produce logos and embroidery. The design will be made on a computer programme and downloaded to the machine which will stitch it automatically. Multi-coloured patterns can be made. Highly **specialised machines** used to carry out identical operations which need to be repeated many times. These include automatic dart sewers, buttonholers, automatic patch pocket setters, pocket flap sewing machines, hemmers, seam sewers. Many factories use an **automatic conveyor system** which usually runs overhead to deliver the work to the operators as it is required. There is a small terminal at each work station on the assembly line which the operator uses to monitor work in progress and record any problems such as thread breaking or a machine fault. For example, a batch of jeans with a ticket attached moves around the assembly process to operatives. As each operative completes a process on the jeans the bar coded label is swiped through a scanner built into the computer terminal attached to the machine. The central computer records the data from all the machines keeping track of work in progress and motivating the workforce as they can monitor their own productivity and earnings. Some sections of a product may need a **fusible interfacing**; this can be applied using a conveyor fusing press with the pressure, temperature and time controlled by computers to give an even finish. Finished products are pressed before leaving the factory. A **steam dolly** is a specialist pressing machine used for skirts, trousers and dresses. **Pressing** of completed garments can also be controlled by computers. Modern **storage and carrier systems** have revolutionised the way in which garments are stored and transported. Garments are stored and transported on hangers and moveable rails so that they arrive at the		

	shop ready to go on display. The **ticketing and tagging** of products is now largely done by the manufacturers and not the retailers. The **barcode system** used in large stores records which items are selling and can help decide when and how many to re-order from the manufacturer. Re-ordering is often done automatically as stocks of a particular product become low. **Marks awarded as follows:** • Basic information with evidence of only simplistic understanding of the various processes. Candidate will probably offer only a generalised account based on quality, efficiency and cost rather than relating to specific processes with few, if any, specific examples. There will be inaccuracies and confusion. Sentences and paragraphs may not always be well connected and there will be a number of grammatical, punctuation and spelling errors. • Candidate shows some knowledge and understanding of how automated machinery is used but may not relate it to a range of specific processes, especially at the lower end of the mark range. A limited range of relevant examples will be given but there will be a lack of precise detail. Straightforward ideas are expressed reasonably clearly if not always fluently. There will be some grammatical, punctuation and spelling errors. • Candidate shows some sound knowledge and understanding of specific processes carried out by automated machinery with some precise detail in at least 2 areas. There will be some relevant examples together with some explanation of how they are carried out. Straightforward ideas are expressed clearly if not always fluently. There may be a small number of grammatical, punctuation and spelling errors. • Candidate shows detailed knowledge and understanding of a wide range of automated processes and is able to explain how they work. There will be a wide variety of examples to support points made. Information will be accurate and relevant. Complex ideas will be expressed clearly and fluently with few, if any, errors of grammar, punctuation and spelling.	*0 – 3 marks* *4 – 6 marks* *7 – 9 marks* *10 – 12 marks*	Max 12 marks