AQA Qualifications

GCE

Design and Technology: Product Design (Textiles)

TEXT3 Design and Manufacture

Mark scheme

2560

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Version V1.0 Final Mark Scheme

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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Mark Scheme

Question 1

0 1	*Explain what is meant by a Fad design. Give an example.* A *Fad design* is a new 'high fashion/ radical new story/ must have fashion product'. It is characterised by a quick introduction and growth with little or no maturity stage, and the product sales decline as quickly as they grew, as once the product is accepted it is no longer a fashion Fad. The sales cycle for a Fad will tend to be rather short. It may be a seasonal product, eg for Xmas, special event. **Marks awarded as follows:** • No work worthy of credit • Limited definition with an example which may not best illustrate the meaning of F*ad design*. • Clear and accurate definition with an **appropriate example.**	0 mark 1 – 2 marks 3 – 4 marks	**4 marks**
0 2	*Analyse what makes a design become Iconic.* *Iconic designs* are ones that have stood the test of time and have an enduring appeal. They are instantly recognisable and never really go out of fashion. Often considered to be classic designs, they have a gradual period of introduction and once accepted and established, the maturity stage continues with no obvious decline in the sales cycle. Minor changes to accommodate the latest trends help maintain popularity with target markets, may inspire other designers. Examples are **not required**. **Marks awarded as follows:** • No work worthy of credit • Limited information about the concept of Iconic. There may be some examples but they may not be the most appropriate. • Clear and detailed information which may be supported with a relevant sales diagram or example(s) of appropriate designs.	0 mark 1 – 2 marks 3 –4 marks	**4 marks**

0 3	*Describe **two** different Iconic fashion designs from different eras of the 20th century. For each design,* • *give an approximate date when the fashion was first introduced* • *describe the fashion product* • *explain the origins of the design.* Iconic designs include: • pencil skirt (WW2) • mini skirt (1964) • Levi jeans (1950s) • trench coat (WW1) • Chanel 2-55 handbag (February 1955) • little black dress (1926) • T-shirt (1950s) • Chanel suit (1920s) • corset (accept S-bend at start of 20th century or other as appropriate) • white shirt blouse (accept 1950s as worn by Katherine Hepburn) • Prada bag (early 1980s) • twinsets (1950s/1960s) • Capri pants (1950s) • Mondrian dress (1960s) • Power suit (1980s) • New Look / Bar suit (1940s/50s) • Harem pants (1910s) There are many **other examples** but the list above represents some of the more popular items. Garments or fashion accessories are acceptable. The student should give an approximate **date** when the product became popular, and a **description** of the product – this should make reference to the style, materials, and typical colours if appropriate. The **origins of the design** may explain what the original garment was worn for, or who designed it. It is sometimes difficult to establish the exact origin of a product, and some are well before the 20th century, so an accurate description of when it really became popular and/or who was responsible for its introduction as a high fashion product is acceptable. There may be reference to social and economic factors but there should be a **short histor**y of the selected product. Students need to explain how the product is iconic – this will probably be through an explanation of its continued popularity.		

	No work worthy of credit **Low mark range** Basic simplistic account which may not describe the product effectively. There will be a lack of accuracy, particularly with reference to the date and/or designer, and the answer may consist only of a description of a modern version of the product. Communication will show some weakness. **Mid mark range** Some clear detail of the modern version of the product with some information about the origins. There will be some elements of confusion and a lack of detail in some areas, especially at the lower end of the mark range but the student will show good knowledge overall. Communication skills will be sufficient to clearly convey what is intended. **High mark range** A clear and detailed account which explains the product in some detail from an accurate starting point to modern day versions. Communication skills will clearly convey what is intended with relevant information as appropriate. **2 iconic fashions, 10 marks each**	0 mark 1 – 3 marks 4 – 7 marks 8-10 marks	**20 marks**

Question 2

0 4	*Discuss the benefits and drawbacks of wearing a uniform at work*. **Benefits** include: • an indication that the wearer is doing a particular job, or has a particular status within an institution, • ability to command the authority and respect needed to carry out a job, • clothing choices already made, • own clothing not spoiled by work activities, • cost of uniform garments often subsidised by company, • garments may be cleaned by employer, • presents company *image* to clients, • identification of workers in busy areas, eg shops, • maintenance of hygienic environment, eg food workers, • safety clothing for specific tasks, • garments are fit for purpose related to specific job. **Drawbacks** include: • loss of personal freedom to make clothing choices, • colour/style may not be liked by employees, • may need to change into own clothes when travelling to and from work, • upkeep may be costly if uniform is a complicated style, • poor employee behaviour may reflect on company image, • cost of providing uniform. **No work worthy of credit.** **Low Mark Range** Limited response with only the most obvious points. There may be a lack of clarity in the discussion which may be one-sided. **Mid Mark Range** A number of benefits and drawbacks but a lack of detail and breadth. Information will generally be accurate and relevant. **High Mark Range** Detailed information about a wide range of different drawbacks and benefits. A very good understanding of the issues is evident in response. Some relevant examples given.	0 mark 1 – 2 marks 3 – 4 marks 5 - 6marks	**6 marks**

0 5	*Explain the qualities that would be required in the uniform for **two** of the following workers:* ▪ *sales assistant in a garden centre* ▪ *food server in a fast food outlet* ▪ *flight attendant for an airline.* *In your answer you should make reference to suitable styles and specific fabrics for each uniform.* **Sales assistant in garden centre:** • style/colour possibly in keeping with the nature aspect of the centre, • warm styles and fabrics in winter, cool in summer, this may require different uniforms or separates which can be layered, • styles allow movement as there will be bending and stretching involved in work, • hardwearing and washable styles and fabrics, • fairly smart appearance as worker will deal with public – fabrics may need to be crease-resistant, • may need to include pockets if there is a need to carry equipment to different areas of centre, • may need to be stain/water-repellent if working with plants or water features, • fabrics may include woven or knitted structures made from cotton or polyester, or polyester cotton blends, water-repellent fabrics such as Gore-tex for staff working outdoors. Fabrics may be sustainable in keeping with image of GC. There should be some detail of the fabric suggested and it should be appropriate with justification for its use. **Food server in fast food outlet:** • hygiene important in style and fabrics – these will need to be easy care, • need to reflect company image in style/colour, especially if associated with younger customers, • stain resistant so garments look clean at all times, • flame retardant if working near naked flames such as cookers, • affordable cost as often lots of different part-time workers, • head covering will probably be included in outfit, • style will need to be appropriate for men and women, and different age ranges • fabrics may include woven or knitted structures made from cotton or polyester, or polyester cotton blends, non-woven structures for head covering. Flame-resistant and stain resistant finishes may be suggested as appropriate. There should be some detail of the fabric suggested and it should be appropriate with justification for its use.		

	Flight attendant for an airline: • smart style and colours in keeping with airline image, • command authority with passengers, • may require classic rather than high fashion styles, • easily identifiable as cabin crew, • suitable for men and women, • suitable for different climates according to destinations – garments for layering may be required, • crease and stain resistant fabrics, • styles which allow for easy movement in the relatively confined space of the cabin, • easy to maintain in a smart condition, • different garments/accessories may be needed for wear on the ground and in the air, • fabrics may include woven or knitted structures from cotton or polyester, or polyester cotton blends, wool and nylon blends, the inclusion of elastomeric fibres structures as appropriate. Crease and stain resistant finishes may be suggested as appropriate. There should be some detail of the fabric suggested and it should be appropriate with justification for its use. Answers must include **specific named fabrics** appropriate for the occupation selected. The student may include diagrams and sketches of garment styles. There may be reference to accessories such as caps, aprons, ties. **Marks awarded as follows:**		
	No work worthy of credit.	0 mark	
	• Limited range of qualities, especially in relation to fabrics, and many points may be similar, especially at the lower end of the mark range. There will be a lack of explanation about why the qualities may be needed and elements of confusion in the answer.	1 – 2 marks	
	• Some good consideration of the requirements especially in relation to the styles. There will be sound attempts to explain the points made but this may be in generic rather than specific terms. Fabrics will be given some attention but may be in terms of fibres only. There will be some attempt to differentiate between the different workers in each occupation (eg their role or gender), and the different occupations selected, especially at the top end of the mark range.	3 – 5 marks	
	• A wide range of well considered points which relate to styles and fabrics. Specific fabrics and styles will be suggested, especially at the top end of the mark range, and these will be related to the occupation. Different		

	roles within the occupation will be identified and related to the suggestions for garments. Information will be clearly presented and show evidence of understanding of the issues. **7 marks for each of 2 different workers.**	6 – 7 marks	**14 marks**
0 6	*Evaluate the use of disposable overalls made from a non-woven polypropylene fabric for a crime scene investigator.* The overalls will be *clean* and therefore not contaminate the worker or the crime scene, additional protection may be offered through the wearing of shoe covers. They can be disposed off after use which saves time, money and resources in cleaning them ready for re-use. They help identify the investigator in what might be a busy crime scene environment. The fabric is lightweight so will not restrict movement, it is cheap to produce as there is no complex fabric construction involved. The garments are cheap to manufacture as there is no grain and the fabric does not need any finishing processes. But the fabric and garment construction methods may not be strong enough to cope with difficult environments/terrains, there is an environmental cost involved in their disposal, the fabric may not be effective in keeping contaminants from the worker's clothing/body. **No work worthy of credit.** **Low Mark Range** Limited arguments and discussion which may tend to highlight the positive aspects only. There will be some confusion and lack of clarity. **Mid Mark Range** Some good understanding of a range of benefits which may include some examples to illustrate points made. There will be some attempt to evaluate by considering the drawbacks, especially at the top end of the mark range. There is likely to be some slight confusion and inaccuracy, especially at the lower end of the mark range. **High Mark Range** Detailed information and a very clear understanding of the benefits and drawbacks in a true evaluation of the use of the overalls. Relevant points with some expansion, and possibly examples, which are clearly presented.	0 mark 1- 2 marks 3 – 5 marks 6 - 8 marks	**8 marks**

Question 3

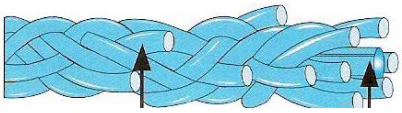
0 7	*Discuss the issues that a designer of children's clothing designer will need to consider in relation to the consumer.* Issues to be considered include: • styles appropriate for age range, season, and intended product group, • hardwearing and washable fabrics, • safety issues including any appropriate legal requirements, • allowance for growth, • styles, fabrics and components which do not cause irritation, • fastenings which are easy to manage, • affordable price depending on target market. **Marks awarded as follows:** **No work worthy of credit.** **Low Mark Range** Limited range of points which are not well explained There will be some confusion and lack of clarity about the designer's responsibilities. **Mid Mark Range** A range of different issues with explanation of their importance, but may be narrow in scope. Some examples to illustrate points made, especially at the top end of the mark range. There is likely to be some slight confusion and inaccuracy, especially at the lower end of the mark range. **High Mark Range** A wide range of points which are clearly explained and include examples to illustrate points made. Points are relevant with some expansion, including examples, and are clearly presented.	0 mark 1- 2 marks 3 – 5 marks 6 - 8 marks	**8 marks**

0 8	*Analyse the role and responsibilities of a buyer of fashion products for a large chain store brand*. Responsibilities include: anticipating the demands of the retail market, including what and how many products the consumer is likely to buy in the coming season, loyalty to the retailer, not the manufacturer, attending fashion / trade shows and viewing collections in designers' and manufacturers' showrooms, travelling abroad to view collections as necessary, buying the right styles in the right quantities – mistakes can be very costly, being aware of current and upcoming fashion trends. Fashion products are risky, in that tastes, trends and colours can change quickly and if too many of any one style are purchased there could be a great deal of unwanted stock left at the end of a season so it is important to be able to anticipate upcoming key looks and to buy them at the right time. The buyer must also know their market: high fashion products may only appeal to a very specific market. **Marks awarded as follows:** **No work worthy of credit.** **Low Mark Range** Limited response with little detail about the responsibilities of the buyer or of the risks of buying fashion products. The student will show little understanding of the role and what it involves. There will be confused and inaccurate information and a lack of clarity in the account. **Mid Mark Range** Some understanding of the role and responsibilities involved although there will be some inaccuracies and/or misunderstanding. There may be some examples given to illustrate points but may not be most relevant. Communication skills will be sufficient to convey what is intended in a mostly coherent and organised manner. **High Mark Range** Detailed information about the role of the buyer and the risks associated with buying fashion products. There will be examples to support points made and good understanding of the risks involved. Information will be clearly and logically presented.	0 mark 1 - 2 marks 3 -5 marks 6 - 8 marks	**8 marks**

0 9	*Outline the responsibilities of an employer to the workers in their UK based clothing factory*. Health and safety issues are very important as factories in the textiles industry can be very dangerous places with machines that are designed to cut, pierce and press fabric. There are often chemicals which are hazardous to health used in many processes. Many machines have moving parts and some get very hot - these can cause serious injuries. The employer's responsibilities include: • proper **training** for the job to make operators aware of the potential dangers of various machines, • ensuring that, where appropriate, machines such as cutting machines are fitted with **guards** to protect operators from injury, • machines should be fitted with **emergency stop buttons** • providing special **safety clothing** as appropriate, eg chainmail gloves for those engaged in cutting fabrics, steel-toe boots for people who move heavy rolls of fabric, • ensuring that work areas are kept **clean and tidy**, • **fire exits** should be clearly marked and kept free in case of an emergency • work areas should be **well lit and ventilated**, and workers should be given **adequate breaks**, • providing **ergonomically sound seating**, • providing separate **areas for eating and drinking** so operatives do not eat or drink at the work station as food and drink may become contaminated with hazardous substances, • machinery and equipment should be kept in **good condition**, especially electrical machinery, • must pay **minimum wage**. Employers must ensure that the workplace meets the requirements of the **Health and Safety at work Act (1974)** which has four main effects on the workplace. 1. It makes employers criminally liable for failure to meet regulations. 2. It set up the Health and Safety Executive (HSE) which is responsible for checking that the Act is being followed. HSE and local authority inspectors visit workplaces to make sure that health and safety regulations are being followed. 3. It gives employees the right to be represented on health and safety matters. 4. It places an obligation on employees to use safety equipment.		

	The Act requires businesses to make a **risk assessment** of their activities. The company must appoint a **Health and Safety officer** who will check the workplace for possible risks, and puts into place the necessary procedures and/or equipment to reduce risks for employees. Many chemicals are used in the textile industry, and these may be dangerous to health if not stored and used correctly. **The Control of Substances Hazardous to Health (COSHH) Regulations (1994)** form part of the risk assessment. All workplaces should appoint a person to be in charge of **first aid**, and workplaces should have a clearly marked and well stocked first aid kit. **Marks awarded as follows:** **No work worthy of credit.** **Low mark range** Basic information with evidence of only simplistic understanding of the employer's responsibilities. There will probably be repeated reference to the need for safety with some superficial examples of how this might be achieved, but there will be little, if any, reference to specific legislation, especially at the lower end of the mark range. The response will be couched in general terms with many inaccuracies and confusion. **Mid mark range** Student shows some knowledge and understanding of the employer's responsibilities and will give many examples to illustrate points made. It is likely that there will be some reference to legislation, especially at the top end of the mark range, but this may be couched in general terms at the lower end. The answer will consist of largely generic points with some attempt to explain them. There are likely to be some inaccuracies and misunderstandings, especially at the lower end of the range. Ideas are expressed reasonably clearly if not always fluently. **High mark range** Student shows detailed knowledge and understanding of a range of different responsibilities and gives many relevant examples to support points made. There will be accurate reference to legislation and the implications for the employer. The information will be accurate and clearly presented.	0 mark 1- 4 marks 5 - 8 marks 9 - 12marks	**12 marks**

Question 4

1 0	*Describe **two** methods of blending fibres to make a yarn.* Blending is achieved by spinning two or more fibres together to make a yarn. In order to make a successful blend, the fibres must be of the same length so that they can be mixed together before they are spun into a yarn, so filament fibres will need to be cut down to the same size as any staple fibres with which they are to be blended. Fibres are carded before being spun together. Continuous filament yarns can be twisted together to make a multi-filament yarn, eg polyester and nylon. Core-spinning is used when elastane fibres are included in the blend as elastane fibres cannot be cut into staple form and need to be stretched as they are spun into a yarn to maintain their stretch qualities. There are two main methods of corespinning: Twisting a sheath of fibres round the core of elastane fibre.  The stretched elastane fibre is covered by a sheath of viscose and polyamide fibres. polyamide/viscose sheath Elastane core Covering the stretched elastane fibre with strands of viscose and polyamide filament yarns.  The strands are wrapped in opposite directions to balance the yarn. Folded yarns where 2 or more different yarns are spun together with an S or Z twist. **Marks awarded as follows:** **No work worthy of credit.** • Limited information about the method, there will be some inaccuracy and lack of detail, especially about the type of fibres involved. Information may be confused. • Clear and accurate information about the yarn formation, including reference to the type of fibres involved and some detail of the process. **2 methods, 4 marks each**	0 mark 1 - 2 marks 3 - 4 marks	**8 marks**

1 1	*Explain why fibres are blended. Give a wide range of examples to support the points you make. Make reference to the reasons why consumers might prefer a fabric made from blended fibres instead of one made from a single fibre* Most modern fabrics contain **more than one fibre**. This is because there is no such thing as a perfect fibre so manufacturers include different fibres in a blend**.** This enables a fabric to be made which will be better suited to the product. The main **reasons for blending** fibres are to: • help reduce the cost of the fabric • give different effects in the texture and handle of the fabric • allow for novelty effects when the fabric is dyed • make a fabric with specific qualities for a particular use • make the fabric stronger • make a fabric easier to care for • enable fabrics to be more crease resistant • allow fabrics to be heat set. Answers should include many examples of different fibre blends with intended use specific. There should be an explanation of how the fibres in the blend relate to the intended use, and a comparison with a single fibre fabric. **Marks awarded as follows:** **No work worthy of credit.**		
	• Some sound awareness of why fibres are blended but this will tend to be in relation to the most common blends, especially polyester and cotton. There will be limited explanation of the properties of the fibres and how blending changes the nature of the fabrics, Examples will be the most obvious. There will be some confused points and a lack of detail.	0 mark 1 - 4 marks	
	• A range of reasons why fibres are blended with several examples including a variety of different fibres to support points made; many of these will be the most obvious, especially at the lower end of the mark range. There will be reasonably accurate information about the fibre properties and how the blend improves the overall qualities of the fabric, especially at the top end of the mark range. There will be some lack of detail and/or accuracy in places.	5 – 8 marks	
	• A wide range of different reasons related to different fibres and end-uses. Information will be accurate and well explained with many appropriate examples to support points made. This student will exhibit detailed awareness of blending which goes well beyond the most obvious reasons and applications.	9 - 12marks	**12 marks**

1 2	*Different fabrics are sometimes layered together when making textile products.* *Explain what is meant by each of the following;* • *underlining* • *interfacing* *Give a specific use for each fabric* This question needs to be marked holistically and not just given credit for words that appear on the MS – does the answer make sense? **Underlining:** cut to the same size and shape as the product template (1 mark) is a layer between the outer fabric and lining (1 mark) attached to the outer fabric they are treated as one layer (1 mark). **Used** to support the main fabric, or to reduce transparency in the main fabric, or to provide an extra layer of warmth, or to give added strength to the main fabric. Max of 2 appropriate uses, 1 mark. **Interfacing:** May be woven/non-woven/knitted/iron-om or sew-in (1 mark) a separate layer attached to the outer fabric (1 mark) often used in small areas only (1 mark) used to add strength, support, stiffness, maintain shape (max 2 marks) **Used** in collars, cuffs, behind buttonholes or other as appropriate. Max of 2 appropriate uses, 1 mark.	4 marks 4 marks	**8 marks**

Question 5

1 3	*New technologies have had a major impact on different areas of the textile industry in the last 50 years.* *Choose **four** areas of the textile industry from the list below:* • *development of environmentally friendly fibres* • *applying colour and pattern to fabric* • *developing pattern templates and lay plans* • *Quick Response Manufacture (QRM)* • *automated construction methods* • *marketing and retailing of fashion products to consumers.* *For each of the areas you have selected, describe the developments which have taken place. Give examples to support the points you make where appropriate.* This question is about **new** technologies developed since **1965** so references to older methods are not appropriate. **Development of environmentally friendly fibres:** Concerns about the environment have led to the development of **new fibres** such as lyocells, recycled polyester, Ingeo (from corn starch), soya protein fibre, spider silk, and the use of non-traditional fibres such as hemp, ramie, bamboo, pineapple, banana and nettle. Organically grown cotton is increasingly popular. It is possible to grow ready coloured cotton to reduce effects of chemical dyestuffs. The new generation of **regenerated fibres** in particular are increasingly used to replace cotton fibres which can have a very negative effect on the environment. Many designers are becoming very innovative in the way in which they use materials. Some manufacturers are using recycled cotton fabrics and polyester made from recycled plastic bottles. **Applying colour and pattern to fabric:** Developments in synthetic fibres have necessitated **new dyes**, eg disperse dyes, and dyeing methods, eg dope dyeing, in order to apply colour successfully to these non-absorbent fibres. In recent years, some solvent dyes have been developed; these are applied to fabric using organic solvents instead of water. **Automated rotary** screen printing has been developed from earlier screen printing techniques, transfer, or dye sublimation, printing is used on fabrics made from synthetic fibres. Print designs are developed on **CAD systems** rather than by hand, and can be digitally printed directly on to fabrics – this offers much more scope for more exciting and innovative designs and for rapid prototyping. ***Smart* dyes** can also allow for spectacular effects. A cut-out pattern can be achieved using laser cutters.		

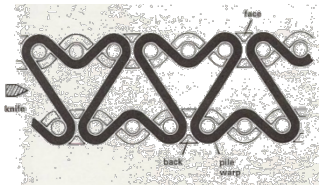
	Developing pattern templates and layplans: The pattern template will be developed from basic blocks and will probably be done on a computer using a pattern design system **(PDS).** The computer programme has standardised designs for different products and these are adapted to make the new template. The computer makes the new patterns quickly and accurately, and grades the patterns so that different sizes of the product can be made. The **CAD software** enables fast, efficient pattern development, allowing complex darts and fit in pattern shapes to be made quickly. 3D virtual garment modelling can be incorporated into the system and patterns produced from the computer model. Once the pattern is made the PDS system can be used to create **virtual samples,** enabling them to be sent electronically to the client or manufacturer. Modern manufacturing also allows for **customized fit** for individual orders. The PDS can create customized fit using data from high tech 3-D body scanners or body measurements taken with a tape measure. In a fully automated factory with **integrated systems** the pattern templates will be sent to the fabric laying and cutting system. The computer can produce a lay plan so there is minimum wastage of fabric, pattern pieces are laid on the correct grain taking into account any pattern in the fabric. **Quick Response Manufacture (QRM):** In modern manufacturing, workers operate in teams or **production modules**. The workers share tasks and equipment and become more skilled because the job they do changes day by day according to what is being made. Each module is responsible for its own performance. Working as a team means that products are made quicker than one person working alone and allows for some **flexibility** so that they can respond quickly to changes in demand. Computer control can help manufacturers respond quickly to changes in the market and save on production costs by using quick response methods. QRM, sometimes referred to as **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. Many manufacturing companies operate as outwork factories and make garments, from the production pattern to the finished product, for many different retailers. **Automated construction methods:** New methods of manufacturing, particularly the use of automation, have meant that fashions can be produced much more quickly and efficiently. The traditional *fashion seasons* now change much more quickly than in the past as clothes can move from the drawing board to the finished product on the		

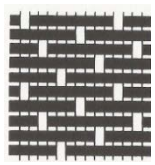
	high street in a very short period of time. CAM is the term used to describe production processes which are done automatically **by computer controlled machines**. One of the main advantages of CAM is that the new instructions can be stored electronically and can be down-loaded and programmed into the machine very quickly. CAM is also used to **replace a manual** operation which means that a machine can work continuously. The **quality** is more consistent with fewer faulty goods produced. Computer controlled machines can be used to produce logos and embroidery. Highly **specialised machines** are also 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. 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. **Marketing and retailing of fashion products to consumers:** Different forms of **electronic communication** have had a huge impact on the ways in which advertisers target their potential markets. Advertising via the internet, TV and mobile phone apps is probably now the main channels through which advertisers reach their TMG; until recently this would have been more likely to be through fashion magazines and billboards. It allows advertisers to target specific consumer groups. Advances in electronic communication, and the relatively easy availability of credit cards, have also extended to new ways of **buying and paying** for clothes. Shopping via the internet and television channels is becoming more popular with consumers, leading to retailers on the high street having to re-consider the way in which they operate. Chain stores and department stores have had to move with the times, and many now work with designers to develop their own brands of fashion, as well as selling online. Major supermarkets now sell quality clothing at reasonable prices. 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:** **No work worthy of credit.** • Limited understanding of new technology and how modern methods compare with those from 50 years ago. Examples will be the most obvious and there will be little meaningful explanation of progress and how it has affected the textile industry. There will be some confused and inaccurate information. • A good attempt to explain the impact of new technology with some appropriate examples to illustrate points made. Reference to earlier methods will be sketchy, especially at the lower end of the mark range. There will be some lack of detail. • Detailed and accurate information which compares modern methods with those from 50 years ago. Examples will be relevant and clearly explained. **4 different areas, 7 marks each**	0 mark 1 – 2 marks 3 – 5 marks 6 – 7 marks	**28 marks**

Question 6

1 4	*Many fabrics can cause problems when being manufactured into products.* *Choose **two** of the fabrics from the list below.* ▪ *Jacquard knit* ▪ *Velvet* ▪ *Checked tartan* ▪ *Lace* ▪ *Single jersey with elastane fibre content* ▪ *Polyester satin* ▪ *Silk chiffon* *Describe **each** of the fabrics you have selected and use notes and diagrams to explain how **each** fabric would be made* The **description** may include detail of the appearance, texture, typical fibres and patterns. There should also be clear detail of the fabric construction. Students **may** use a diagram with annotation, or detailed written explanation. **Jacquard knit:** A weft knit with a complex pattern, often using many different colours in each row of the knit. Each stitch in each row will be different and the individual needles are controlled by computer programmes in order to achieve the pattern. The loose yarns are woven in at the back of the fabric as the work proceeds – often referred to as intarsia. Can be made using a wide range of different fibres. **Velvet:** Fabric has a definite one-way nap and a deep pile texture. Most common fibres are cotton, silk, polyamide. Made using a pile weave which has tufts or loops of yarns which stand up from the body of the fabric. They are classed as three yarn system woven fabrics. One method of producing velvet is to weave 2 cloths face to face with the third (pile) warp alternating between the 2 fabrics. The pile warp is specially woven in to form the pile. A knife moves back and forth at the front of the loom and cuts the pile warp as the fabric moves forward as it is woven. This produces 2 separate pieces of velvet at the same time. **Checked tartan:** Traditionally a woollen fabric from Scotland, tartan fabric has an bold check with intersecting lines of varying widths and colours woven into the fabric. Usually a twill weave with the warp and weft threads arranged according to the colour sequences required – these should be explained through a diagram or written word. May also be made from acrylic or polyester and wool blends.		



	Lace: a net-type/open-work fabric with an all-over pattern including *holes*. Can be made as a wide fabric or narrow edging using a wide range of fibres but cotton, polyamide, viscose and polyester are common. Can be made by twisting yarns to give the required pattern, or knitted on Raschel warp knitting machines. Designs usually have large motifs. **Single jersey with elastane fibre content:** A weft knitted  fabric with different appearance on front and back. One yarn travels the width of the fabric, in the same way that a weft thread goes across from selvedge to selvedge in a woven fabric. Each successive row of loops is drawn through the previous row of loops in the fabric. The horizontal row of loops is called a course and the vertical row is called a wale. Commonly made with cotton and/or polyester fibres.  **Polyester satin**: Fabric is very smooth and lustrous on the right side and dull on the back Produced using a satin weave where the weft yarns float over the warp at irregular intervals. Satin is available in various weights and qualities. **Silk chiffon**: A lightweight, sheer plain weave fabric with an open construction. Made using hard-twisted continuous filament yarns such as silk. It has a very soft drape. **Marks awarded as follows:** **No work worthy of credit.** **Low mark range** Limited and simplistic explanation of the fabric construction. The fabric may have been described rather than its construction. There will be inaccuracy and confusion. **Mid mark range** The student will give a sound description of the fabric and some accurate detail of its construction. There will be a lack of detail and some minor inaccuracies. **High mark range** A detailed and accurate explanation of the fabric and its manufacture. **2 fabrics, 6 marks each**	0 mark 1- 2 marks 3 – 4 marks 5 -- 6 marks	**12 marks**

1 5	*What factors will need to be considered when making garments from **each** of the **two** fabrics you have selected in* **1 4** *Make reference to the problems associated with* • *the garment style,* • *cutting the fabric* • *sewing the garment* • *pressing the garment* *Explain how the problems might be overcome* **Jacquard knit:** The fabric stretches and may unravel when cut, needs to be cut with sharp scissors and leave a wider seam allowance. Edges need to be finished appropriately to prevent ravelling. Care needed when handling because loose floats on fabric surface may snag. Placement of large pattern motifs may need careful planning and garment design may need to avoid too many seams so pattern not disrupted. May need to use a nap layout if fabric has a one-way design. Use of fine ball point needle when stitching helps avoid missed stitches and snagging of fabric. Use a polyester thread which will allow some *give* to match the stretch of the fabric. May need to use a stretch stitch when joining seams, or tape seams to prevent stretch. Components need to be selected carefully as some may be too heavy for the fabric/cause it to stretch. **Velvet:** Has a nap so layout will need to be planned carefully. May mark with pins so weights may be needed to hold pattern down or pin in seam allowances. The fabric may fray badly when cut, needs to be cut with sharp scissors and leave a wider seam allowance. Edges need to be finished appropriately to prevent further fraying. Seams tend to move when stitching so careful pinning, tacking and/or use of *walking* machine foot. Unpicking seams marks the fabric so need to check fit of garment before sewing. Sew with fine, sharp needles to avoid making large holes in fabric. Iron-on interfacing will show on outside of fabric, buttonholes can be difficult as they disappear into the fabric. Care when pressing to avoid flattening pile – use of needleboard. Avoid folding and flattening fabric as creases can be difficult to remove. **Tartan:** Often a woollen that needs to be pre-shrunk. Need to plan arrangement of checks so that they match across seams and balance across garment, especially if an *unbalanced* check pattern. Avoid too many seams which will break up the effect of the check. May need bold components so they do not *disappear* into the fabric pattern. Sharp scissors as weave may snag with blunt ones. Use sharp needle to avoid snagging. Edges need to be finished to avoid fraying. Ensure pattern matches exactly across seams before sewing, use *walking* foot to prevent movement as they are stitched. Press seams as		

	they are stitched to ensure they lie flat before further work. Use of steam to ensure that seams stay flat, avoid over-pressing as this may cause shine/burn marks. **Lace**: Lace patterns are elaborate so avoid too many seams in the design of the garment. As it is transparent it often needs to be underlined. The placement of the motifs needs to be planned, especially if they are large. May be difficult to pin fabrics as pins fall out, cutting may leave uneven edges and fabric may stretch in several directions. Seams need to be narrow to avoid them being seen on outside, iron-on interfacings will show through. Edge finishes can be difficult as they may leave a bulky appearance, components may distort fabric if too heavy. Need to use fine, sharp needles and polyester thread to allow some *give*. Press over a well-padded area on wrong side of lace. **Single jersey with elastane fibre content:** Fabrics stretch in all directions and edges may curl or unravel when cut. Use sharp scissors or a rotary cutter to avoid snagging Use ballpoint needles to avoid missed stitches and change needle regularly to avoid snagging from blunt needles. Use polyester thread which has some *give*. Stitch with care using a stretch stitch to allow the garment to stretch with the wearer; use of *walking foot* on machine to prevent uneven stitching of seams. If required, need to use lightweight stretch interfacings and linings to support sections of garment. Press according to main fibre content. Need to choose components of a suitable weight and size for the fabric type as they may drag on the fabric if too heavy. **Polyester satin:** Fabric layers may slip so need careful pinning. Use nap layout. Pins may mark the fabric so need to be placed in seam allowances. Use sharp scissors or rotary cutter to avoid snagging. Use sharp, new needles to avoid snagging, ensure fabric layers are carefully pinned together to avoid slipping – use of *walking foot*. Start sewing a little way into the seam so the machine does not *chew* the fabric. Avoid unpicking as needles will mark fabric. Use of polyester thread to match fibre content of fabric. Fabric frays heavily so seams will need finishing and minimum handling during processing. Use cool to medium heat when pressing on wrong side of fabric to avoid melting of fabric and/or appearance of shiny marks which are impossible to remove. Use lightweight sew-in interfacings. Choose lightweight components which will not drag on the fabric. **Silk chiffon**: Avoid tightly fitted styles as fabric may give at the seams. A very slippery fabric which can stretch uncontrollably in all directions so may need to be pinned to sheets of paper		

	when laying pattern and cutting out. Use very fine sharp pint to avoid making holes in fabric, and use very sharp scissors so as not to snag fabric. Fabric frays very badly so will need minimum handling. Seams will need to be narrow and neatly finished as fabric is transparent. If interfacing is required, a transparent one will be needed. Deep hems will show through so narrow finishes will be required. Use silk or polyester thread which has some give to match loose construction of fabric. Very lightweight components will need to be added with care as fabric is so fine and transparent. Press with a warm dry iron and avoid stretching fabric. **Marks awarded as follows:** **No work worthy of credit.** **Low Mark Range** Limited response, points will relate to general advice rather than being specific to the fabric with little detail about how difficulties can be overcome. There will be some inaccuracies and confusion, with little understanding shown. **Mid Mark Range** Some relevant detail about a limited number of specific difficulties likely to be encountered, but remedies will tend to be in general terms only. Reasonably accurate points with some understanding shown in the response. **High Mark Range** Detailed information about the potential difficulties and how they can be overcome. Very accurate descriptions and a thorough understanding of the fabric and its use.	0 mark 1 – 3 marks 4 – 6 marks 7 - 8 marks	**16 marks**