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DESIGN & TEXTILES

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Paper 3 Textile Applications and Technology

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MARK SCHEME

Maximum Mark: 100

Published

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

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

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

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This document consists of **22** printed pages.

Generic Marking Principles

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

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

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

GENERIC MARKING PRINCIPLE 2:

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

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

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

GENERIC MARKING PRINCIPLE 4:

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

GENERIC MARKING PRINCIPLE 5:

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

GENERIC MARKING PRINCIPLE 6:

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

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

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

From this it follows that we:

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

2 Presentation of mark scheme:

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

3 Calculation questions:

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

4 Annotation:

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

Question	Answer	Marks
1(a)	<p>Fitness for purpose is an important consideration in clothes worn for work.</p> <p>Explain <u>three</u> factors to consider when selecting fabrics for women's office wear to make sure it is 'fit for purpose'.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Type of work e.g. reception (needs to be smart) • Status of worker e.g. manager or other, may have different uniforms, company policy, who pays for uniforms • Colour e.g. sober colours etc. • What sort of fibres are being considered e.g. polyesters/blends? • Thickness of fabrics e.g. making sure they are suitable for workwear/not clinging etc. • What fabric construction is being considered e.g. woven/knitted – woven fabrics keep their shape more than knitted, the clothes need to retain their shape in order to look smart • Season/weather e.g. thinner fabrics in hotter climates, air conditioning • Comfort – worn for long periods of time, soft/smooth handle, non-itchy, non-allergic, breathable/absorbent • Durability – need to withstand wear and frequent washing • Cost factors – may be very important if there is a large workforce • How many items are part of workwear e.g. suit/trousers/skirt/etc. • Laundering factors e.g. easy to launder at home • Crease resistant <p>Any other relevant points.</p> <p>Up to 2 marks for each well explained point. Maximum of 3 marks if a list.</p>	6

Question	Answer	Marks
1(b)	<p>Assess the finishes available that alter <u>texture</u> and <u>drape</u> for fabrics used for women’s office wear.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Starching – for collars/cuffs to give a crisp finish and look smart; this could be spray starch added after laundering at home • Easy-care finish – which makes sure laundering is straightforward and minimum ironing required e.g. Teflon • Crease resistance/anti-creasing – to reduce creasing during wear and to make sure no creases show during wear especially for skirts/trousers • Permanent press creases/durable press – e.g. for trousers to keep a crease down the front of trousers, this may be possible if a certain percentage of polyester is used in the fabric and will make the fabric easier to care for • Glazing – affects the texture indirectly – a glazed surface can make the fabric stain resistant but will also give a slightly shinier surface • Embossing – affects the texture indirectly • Napping/raising/brushing – may be used to give a slightly raised surface which can give warmth to jackets for cooler weather. <p>Any other relevant point.</p> <p>High band: 7–9 marks A detailed assessment showing knowledge and understanding of a good range of finishes which can be used for altering and enhancing the texture and drape of fabrics for office wear. Very good organisation of answer with skilled use of technical textile terms. A good number of examples will be given.</p> <p>Middle band: 3–6 marks Some knowledge will be shown of appropriate finishes which can give texture and drape to fabrics for office wear. Shows knowledge of technical textile terms with good organisation and presentation skills. There may be some relevant examples.</p> <p>Low band: 0–2 marks A limited answer with little knowledge shown of suitable finishes. A list may be presented and there will be errors and omissions. Moderate organisation with some use of technical textile terms.</p>	9

Question	Answer	Marks
1(c)	<p>Discuss how following the care labelling system helps to maintain good appearance of work clothing. Include specific examples in your answer.</p> <p>Answer could include:</p> <p>Following the care labelling system will help to maintain clothing. International symbols are used for ease of understanding.</p> <p>It is likely that the office wear will consist of different fabrics (e.g. shirt in one fabric and skirt in a different fabric) so it is important to make sure the items are laundered and cared for separately and that instructions are clear.</p> <ul style="list-style-type: none"> • Washing symbols • Tumble drying – symbols will show how long the items can be dried for and whether a reduced action is needed. If the temperature/action is too high, the fabric may be affected • Ironing – symbols ensure that the correct temperature is used for the fabrics to make sure the fabric is not scorched, especially if synthetic fibres are used as they are very sensitive to heat • Bleaching – many fabrics are not suitable for bleaching, bleach may be used in the case of stains on the fabric • Dry cleaning – is very suitable for office wear and it is important to make sure the correct cleaning agent is used, this will be shown on the label <p>Any other relevant points. Not storage</p> <p>High band: 8–10 marks A detailed assessment showing knowledge and understanding of a the care labelling system and its suitability for maintaining good appearance of workwear. Very good organisation of answer with skilled use of technical textile terms. A good number of examples will be given. Must relate to workwear.</p> <p>Middle band: 4–7 marks Some knowledge will be shown of the care labelling system and its suitability for maintaining good appearance of office wear. Shows knowledge of technical textile terms with good organisation and presentation skills. There may be some examples.</p> <p>Low band: 0–3 marks A limited answer with little knowledge shown of how the care labelling system is suitable. Symbols may be included but not all labelled. There will be errors and omissions and few examples. There may be a list of points. Moderate organisation with some use of technical textile terms.</p>	10

Question	Answer	Marks
2(a)	<p>Creative techniques are often used on fashion accessories.</p> <p>Explain <u>three</u> factors that can influence the design and style of a new collection of fashion bags.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Target market – age/gender e.g. teenagers may like original/different bags whereas older people may prefer more classic styles • Inspiration – where the designer has got inspiration from e.g. other cultures, street style etc. • Trends • Colour • Occasion • Season • Purpose of bag • The budget/costs • What materials/fabrics/decorative techniques are available • How complicated the bags can be for production • How many bags will be produced? <p>Any other relevant points.</p> <p>Up to 2 marks for each well explained point. Maximum of 3 if a list.</p>	6

Question	Answer	Marks
2(b)	<p>Compare the range of traditional and creative methods of hand embroidery processes, suitable for use on fashion bags.</p> <p>Answer could include:</p> <p>Traditional methods:</p> <ul style="list-style-type: none"> • Embroidery threads – Stranded cottons, perle threads etc. are commonly used threads which will give a more traditional look • Traditional stitches – e.g. cross stitch, satin stitch, stem stitch, chain stitch, French knots • Use of traditional patterns and designs • Kantha • Shibori embroidery • Phulkari – folk embroidery of the Punjab • Equipment – e.g. embroidery hoops, needles • Can be made more contemporary by the use of bright colours • Traditional approach may be labour intensive and costly so probably high-end fashion • Cost of production – hand embroidery is slower than machine work but is more original <p>Creative methods:</p> <ul style="list-style-type: none"> • Embroidery threads – metallic, thick textured yarns used with traditional stitches will give a highly textured effect • Colour – Unusual use of colour schemes e.g. many different colours together rather than a toning colour scheme • Scale of embroidery – e.g. a small stitch such as chain stitch may be scaled up to be very large giving a different style and design • Unusual combination of different background fabrics e.g. many patterns together with additional hand embroidery on top • Mola embroidery • Stumpwork/Raised embroidery • Shisha mirrors • Sashiko • Ribbon embroidery • Use of vanishing fabrics <p>Any other relevant point. Not stitching on beads, sequins, shells etc.</p> <p>Can credit diagrams.</p> <p>High band: 9–12 marks A detailed assessment showing knowledge and understanding of a good range of traditional and creative methods including advantages and disadvantages of hand embroidery processes suitable for fashion bags. Very good organisation of answer with skilled use of technical textile terms. A good number of examples will be given.</p>	12

Question	Answer	Marks
2(b)	<p>Middle band: 4–8 marks Some knowledge will be shown of relevant traditional and creative methods including advantages and disadvantages to hand embroidery suitable for fashion bags. Shows knowledge of technical textile terms with good organisation and presentation skills. There may be some examples.</p> <p>Low band: 0–3 marks A limited answer with little knowledge shown of traditional and creative methods to hand embroidery. There will be few if any examples and the answer may be presented as a list. Moderate organisation with some use of technical textile terms.</p>	

Question	Answer	Marks
2(c)	<p>Discuss the importance to the manufacturer of making accurate estimates of the materials needed to make fashion accessories.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Cost issues – if a small amount of extra fabric is ordered for one item and many hundreds of items are produced this will result in a large amount of unnecessary fabric ordered which will affect the overall cost • Cheaper – they can buy their materials in bulk which will be cheaper • Saves time • Storage – they will have an idea of how much space is required for storing the materials • If the manufacturer has to order extra materials due to a shortage, they might not be the same colour or of the same quality • Making a prototype/sample is important as this will determine how much fabric is needed • Computerised lay plans – to produce the most economical cutting layout to minimise fabric wastage • Production problems – production could be halted or delayed due to materials running out. Manufacturers need to make accurate estimates in order for the production process to run smoothly and for the order to be completed on time. • Excess fabric – manufacturers can ensure that this is used on other items to offset costs e.g. a patterned fabric could be used as a pocket lining on a different item (Recycling) <p>Any other appropriate point.</p> <p>High band: 6–7 marks A detailed assessment showing knowledge and understanding of the importance to the manufacturer of making accurate estimates of materials for fashion accessories. Very good organisation of answer with skilled use of technical textile terms. A good number of relevant examples will be given.</p> <p>Middle band: 3–5 marks Some knowledge will be shown of the importance to the manufacturer of making accurate estimates of materials for fashion accessories. Shows knowledge of technical textile terms with good organisation and presentation skills. There may be some relevant examples.</p> <p>Low band: 0–2 marks A limited answer with little knowledge shown of the importance to the manufacturer of making accurate estimates of materials. There will be errors and omissions and there may be a list. Moderate organisation with some use of technical textile terms.</p>	7

Question	Answer	Marks
3(a)	<p>Many different yarns are used to make fabrics.</p> <p>Compare the methods of making staple fibre yarns with the methods of making filament yarns.</p> <p>Answer could include: Methods of making: staple fibres usually spun by twisting fibres together. Filament fibres (with exception of silk) are either synthetics only from chemicals or chemicals using a natural element e.g. wood pulp. Method of making fibres is extrusion through a spinnerette.</p> <p>Staple fibre yarns</p> <ul style="list-style-type: none"> • Mainly natural fibres such as cotton, wool, flax. • Can also be made from man-made fibres which have been cut into short lengths. • Cotton – harvesting, ginning (removing seeds) baling, carding, combing, twisted and spun into yarns • Flax – harvesting, retted and hackling stages (separate fibres from stem), twisted and spun into yarns • Wool – shearing, sorting, scouring, carded/combed, twisted and spun into yarns • Twisting of fibres into yarns – S/Z twists • Silk – can be staple if they are cut from filament or the damaged cocoons which have short lengths of silk fibres, this is called spun silk. Silk is unreeled from cocoons and wound into skeins then baled. They have a natural gum (sericin) so may be dipped in hot water to soften the gum and allow the threads to unwind. The threads can then be used by ‘throwing’ similar to spinning, for making into yarns for weaving. Cultivated silk and raw silk available. <p>Filament yarns</p> <ul style="list-style-type: none"> • Manufactured fibres e.g. nylon, polyester, acrylics and silk • Spinning solution of chemicals according to which fibre is made; liquid is extruded through a spinnerette (fine holes) to produce long continuous threads; these need to harden either by immersion in a liquid, or into a chamber of cold air or hot air. Spinnerette holes can be different shapes so the performance characteristics of the fibres can be altered. • Melt/Dry/Wet spinning <p>Specific examples of chemicals/spinning methods should be credited. Any other relevant points.</p> <p>High band: 9–12 marks a detailed comparison showing knowledge and understanding of a good range of staple and filament yarn production. Very good organisation of answer with skilled use of technical textile terms. A wide range of examples of fibres and methods of making will be given. Must have full comparison of both yarns for full marks.</p>	12

Question	Answer	Marks
3(a)	<p>Middle band: 4–8 marks Some comparison of knowledge will be shown of some methods of staple and filament yarn production. Shows knowledge of technical textile terms with good organisation and presentation skills. Wide knowledge of one type of yarn with little knowledge of the other. The answer may have knowledge of only one type of yarn. There may be some examples of specific fibres and methods.</p> <p>Low band: 0–3 marks A limited answer with little or no comparison or knowledge shown of yarn production and making methods. There will be few if any examples and some of the answer may be presented as a list. Moderate organisation with some use of technical textile terms.</p>	

Question	Answer	Marks
3(b)	<p>Evaluate the differences in performance characteristics of staple fibre yarns and filament fibre yarns.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Strength <p>Staple fibre yarns will vary according to fibre content e.g. long cotton fibres will be stronger than short cotton fibres, this is due to natural twists in each fibre which will help the fibres to twist together and gives strength; flax fibres will be stronger than cotton fibres</p> <p>Filament fibres yarns are usually much stronger than staple fibres due to being produced from synthetic polymers e.g. polyester and nylon. Strength will also depend on the thickness and type of the fibres extruded during production.</p> • Durability <p>Staple fibre yarns are durable.</p> <p>Filament fibre yarns are very durable.</p> • Abrasion resistance <p>Filament fibre yarns are more resistant to abrasion than staple fibre yarns which can tend to pill.</p> • Absorbency <p>Staple fibre yarns are usually much more absorbent than filament fibre yarns. This is because there are many air spaces between the fibres which gives opportunities to trap air/moisture. Absorbency is also much higher because each individual fibre can trap moisture between the cells e.g. cotton fibres have a space in the centre of the fibre (lumen) which can trap moisture.</p> <p>Filament fibre yarns absorb little moisture so can be static.</p> • Drape <p>Staple fibre yarns and filament fibre yarns will have similar drape as it will often be the construction of the fabric which will be affected. However, this will also depend on the fibre content of the yarn e.g. cottons and flax/linens crease easily so will not drape as well as wool which is more flexible due to natural crimps in the fibre.</p> <p>Filament fibre yarns in general drape well because they are usually made from synthetic fibres. Good for the design of flowing garments. The exception is silk, which drapes very well.</p> 	13

Question	Answer	Marks
3(b)	<ul style="list-style-type: none"> • Elasticity Staple fibre yarns – depends on the individual fibre e.g. wool fibres have natural crimp so are very elastic, cotton and flax/linen fibres are not very elastic so crease easily. Filament fibre yarns can have crimp added by heat setting so can also be very elastic. • Flammability Staple fibre yarns – tend to burn easily Filament fibre yarns – synthetics will melt easily and are easily affected by heat so care needs to be taken particularly in pressing/ironing • Washability/Care Staple fibre yarns – natural fibres are usually more absorbent than synthetic fibres. Cottons and linens are easy to wash and are also strong, cotton becoming stronger when wet. Wool needs to be washed with care. Filament fibre yarns are easily washed because they do not absorb much moisture so can also dry quickly. • Blends of fibres – will produce different effects and will produce performance characteristics according to the percentage of the blend of each fibre e.g. 65% polyester/35% cotton blended yarns will give performance characteristics which are more similar to polyester although there will also be some benefits of cotton, this is one of the reasons fibres are blended to give a wider variety of yarns with better performance characteristics. <p>Any other relevant point Not lustre, comfort or warmth</p> <p>High band: 10–13 marks a detailed evaluation showing extensive knowledge and understanding in the differences in performance characteristics of staple fibre yarns and filament fibre yarns of a wide range of examples. Very good organisation of answer with skilled use of technical textile terms.</p> <p>Middle band: 5–9 marks Some evaluation shown as well as knowledge of the differences in performance characteristics of staple fibre yarns and filament fibre yarns of some relevant examples. Shows knowledge of technical textile terms with good organisation and presentation skills.</p>	

Question	Answer	Marks
3(b)	Low band: 0–4 marks A limited answer with little evaluation of the differences in performance characteristics of staple fibre yarns and filament fibre yarns. There will be few if any relevant examples and some of the answer may be presented as a list. Moderate organisation with some use of technical textile terms.	

Question	Answer	Marks
4(a)	<p>Production of textile items involves many processes.</p> <p>Compare how different <u>shaping</u> techniques can be used in the design of ladies' dresses.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Pleats – e.g. knife, box and inverted, which will use more fabric but will give shape to skirts/dresses. The top section of the pleats can be left loose or stitched down so giving further shaping to enhance the figure. Sunray pleats (heatset) made from synthetics fabrics so give more texture to the skirts on dresses. Combinations of pleats can be used; different widths of pleats will give different effects. Groups of pleats e.g. front or back sections only. • Darts – several types e.g. single, double pointed, dart-tucks, etc. can be stitched on the surface to enhance, or just pressed to one side/in the centre. • Tucks – narrow pleats, can be stitched down or left loose, often used on bodices. • Gathers (easing)/ruching/elastic/shirring – which involve lengths of fabric as edging or are part of the main sections e.g. skirt of the dress. • Shaped seams – e.g. princess seams on bodice or skirt section are often used to give a more fitted style, empire lines • Draped effects e.g. cowl necklines will give a sculptural style and can draw the eye to that section of the dress. • Puffer sleeves • Smocking • Different sections of a dress can have shaping e.g. pockets, bodice, collars which stand up and emphasize the neckline, sleeves with shaping at the elbow or sleeve head according to the style of the dress. <p>Any other relevant points Not silhouettes Diagrams can be credited.</p> <p>High band: 9–12 marks A detailed comparison showing knowledge and understanding of how different shaping techniques can be used in the design of ladies' dresses. Very good organisation of answer with skilled use of technical textile terms. A wide range of examples of shaping and styles will be given.</p> <p>Middle band: 4–8 marks Some knowledge shown in the comparison of how different shaping techniques can be used in the design of ladies' dresses. Shows knowledge of technical textile terms with good organisation and presentation skills. Detailed knowledge of three or more types of shaping. There will be some examples of methods of shaping related to styles.</p> <p>Low band: 0–3 marks A limited answer with little comparison of how different shaping techniques can be used in the design of ladies' dresses. There will be few if any examples and the answer may be presented as a list. Only one type of shaping may be given. Moderate organisation with some use of technical textile terms.</p>	12

Question	Answer	Marks
4(b)	<p>Evaluate the ways in which consumers and manufacturers can reduce the negative impact on the environment of manufacturing textile products. Include specific examples in your answer.</p> <p>Answer could include:</p> <p>Consumer</p> <ul style="list-style-type: none"> • Upcycling unwanted items e.g. make a jacket into a bag or a ladies' dress into a child's dress. The consumer will not be buying a new item so less items being produced and saves resources. Could also re-dye items to give them a new lease of life. • Charity shops – reduces amount of items going into landfill • Donate unwanted items, fewer items going to landfill • Re-use worn out items at home by making them into cleaning cloths • Care – wash garments at the correct temperature to ensure they last longer, use low temperatures to conserve energy • Eco-friendly – choose eco-friendly/sustainable/organic garments and support clothing stores that support sustainable fashion • Buy locally • Classic fashion – buy classic items rather than fast-fashion or fads. <p>Manufacturer</p> <ul style="list-style-type: none"> • Sell off any seconds/poor quality goods • Re-use fabric waste by selling to be shredded • Re-use the waste fabrics left over from manufacture e.g. when an item has been cut out, fabric can be used to make facings of pocket linings, even if in a fabric which is different from the rest of the garment. This will bring down the cost of the production costs for the manufacturer so reducing landfill. • Re-use the waste fabrics to make smaller items e.g. bags, accessories etc. • Buy the correct amount of fabric/materials • Production – Closed-loop production – processes that re-use material waste created during the production process for additional products. Batch production to avoid waste • Non-toxic dyes/natural dyes – so as not to cause water pollution when disposed of • Reduce the amount of dye – producing natural coloured clothing • Reduce the amount of water/re-use water • Environmentally friendly/organic fibres and fabrics – which use less natural resources e.g. Lyocell. Less use of fossil fuel and more sustainable. • Use local workforce and manufacturing – this will reduce the amount of travel/fossil fuels used • Locally sourced materials • Renewable energy <p>Any other relevant point.</p>	13

Question	Answer	Marks
4(b)	<p>High band: 10–13 marks A detailed evaluation showing knowledge and understanding of the ways in which consumers and manufacturers can reduce the negative impact on the environment of manufacturing textile products. Very good organisation of answer with skilled use of technical textile terms. Specific detailed examples will be included.</p> <p>Middle band: 5–9 marks Some evaluation showing knowledge and understanding of the ways in which consumers and manufacturers can reduce the negative impact on the environment of manufacturing textile products. Shows knowledge of technical textile terms with good organisation and presentation skills. There will be some relevant examples.</p> <p>Low band: 0–4 marks A limited answer with little knowledge shown of the opportunities the ways in which consumers and manufacturers can reduce the negative impact on the environment of manufacturing textile products. There will be few if any examples and some of the answer may be presented as a list. Moderate organisation with some use of technical textile terms.</p>	

Question	Answer	Marks
5(a)	<p>Colour is an important factor in the design of textile products.</p> <p>Assess the factors that need to be considered in industry, when preparing <u>fabrics</u> for dyeing.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Wetting agents used before dyeing • Place where fabric is dyed e.g. inside building/outside etc. • Type of fabric – need to know this so correct preparation is done and correct dye is used • Fabric inspection/check • Cleaning – Does the fabric need to be cleaned first? • Desizing/removal of starch • Fibre content – different preparation may be needed for different fibres e.g. wool and silk protein fibres and will need different preparation to synthetics or cellulosics • Type of dye – e.g. protein fibres (wool/silk) will need a different dye to cellulosics (cottons, viscose) • Special finishes – e.g. Mercerising; pre-shrinking etc. • Mordants – which type of mordant is needed, may depend on the type of fibre being dyed • Method of dyeing – e.g. piece dyeing, vat dyeing, pigment /dope dyeing for synthetics etc. • Environmental considerations – to reduce pollution • Singeing • Bleaching – whether bleaching of fibres is needed to get a true white before dyeing which will give a better colour e.g. some fibres are naturally different colours e.g. flax fibres are beige/grey and cotton fibres are creamy/white • If a different finish is being applied before dyeing, this may affect the take-up of dye • Drying facilities • Whether the fabric has already been made up into a garment for dyeing, as there may be other components that are affected by the dye e.g. what sort of thread was used to make the item as it may have a different fibre content to the fabric such as cotton fabric using polyester thread. <p>Any other relevant points Not quantity of dye or amount of fabric to be dyed.</p> <p>High band: 9–12 marks A detailed assessment showing knowledge and understanding of the factors that need to be considered in industry, when preparing fabrics for dyeing. Very good organisation of answer with skilled use of technical textile terms. A wide range of examples of fibres and methods be given.</p> <p>Middle band: 4–8 marks Some knowledge will be shown of the factors that need to be considered in industry, when preparing fabrics for dyeing. Shows knowledge of technical textile terms with good organisation and presentation skills. There may be some examples of specific fibres and methods.</p>	12

Question	Answer	Marks
5(a)	Low band: 0–3 marks A limited answer with little knowledge shown of factors that need to be considered in industry, when preparing fabrics for dyeing. There will be few if any examples and some of the answer may be presented as a list. Moderate organisation with some use of technical textile terms.	

Question	Answer	Marks
5(b)	<p>Evaluate the range of decorative effects that can be achieved using home-based dyeing methods. Include specific examples of effects and fabrics in your answer.</p> <p>Answer could include:</p> <ul style="list-style-type: none"> • Tie and dye – methods of tying to make the resists, comes and goes in fashion • Batik – apply wax then dye, methods of applying the wax e.g. brush, tjanting, blocks, etc. Type of dye to use e.g. cold water/multi-purpose so that the wax does not melt before the fabric has dyed sufficiently, hard to do on a large scale unless done in industry • Other resist methods e.g. flour, starch, salt dyeing etc. • Shibori techniques – variation of tie-dye, tie fabric to produce different patterns e.g. squares, etc., labour intensive • Space dyeing – different colours of dye used to give a multi-coloured effect • Tritik – stitch the fabric to produce patterns, dye then remove stitching – the stitching will give a resist and patterns will be paler in colour than the dye used, more than one colour possible • Ombre/Gradient dyeing • Discharge dyeing – using bleach or other decolourants • Gutta – for outlines, used on silk fabrics to stop the dye from spreading into unwanted areas, then dye fabric. • Microwave/rainbow dyeing • Re-dyeing clothing • Ice-dyeing • Spray dyeing <p>Any other suitable methods.</p> <p>High band: 10–13 marks A detailed evaluation showing knowledge and understanding of the range of decorative effects that can be achieved using home-based dyeing methods. Very good organisation of answer with skilled use of technical textile terms. Specific examples of effects and fabrics will be given.</p> <p>Middle band: 5–9 marks Some evaluation showing knowledge and understanding of the range of decorative effects that can be achieved using home-based dyeing methods. Good organisation of answer with skilled use of technical textile terms with good organisation and presentation skills. Some examples of effects and fabrics will be given although there may be errors.</p> <p>Low band: 0–4 marks A limited answer with little knowledge shown of different decorative effects that can be achieved with the use of home-based dyeing methods. There will be few if any examples and some of the answer may be presented as a list. Moderate organisation with some use of technical textile terms.</p>	13