Mark scheme
January 2004

GCE

Design and Technology

Product Design: Unit PD1T

Textiles Unit 1

Quality of Written Communication

The following marks are allocated to the quality of the candidate's written communication. Make a separate assessment of the candidate's overall ability as demonstrated across the paper using the criteria given below.

Performance Criteria	Marks
The candidate will express complex ideas extremely clearly and fluently. Sentences and paragraphs will follow on from one another smoothly and logically. Arguments will be consistently relevant and well structured. There will be few, if any, errors of grammar, punctuation and spelling.	4
The candidate will express moderately complex ideas clearly and reasonably fluently, through well-lined sentences and paragraphs. Arguments will be generally relevant and well structured. There may be occasional errors of grammar, punctuation and spelling.	3
The candidate will express straightforward ideas clearly, if not always fluently. Sentences and paragraphs may not always be well connected. Arguments may sometimes stray from the point or be weakly presented. There may be some errors of grammar, punctuation and spelling, but not such as to suggest a weakness in these areas.	2
The candidate will express simple ideas clearly, but may be imprecise and awkward in dealing with complex or subtle concepts. Arguments may be of doubtful relevance or obscurely presented. Errors in grammar, punctuation and spelling may be noticeable and intrusive, suggesting weaknesses in these areas.	1

AQA

This mark scheme is intended as a guide to the type of answer expected but is not intended to be exhaustive or prescriptive. If candidates offer other answers which are equally valid **they must be given full credit.**

Many responses at this level are assessed according to the **quality** of the work rather than the number of points included. The following level descriptors are intended to be a guide when assessing the quality of a candidate's response.

(low mark range)
The candidate has a basic but possibly confused grasp of the issues. Few correct examples are given to illustrate points made. Description may be unclear.
(mid mark range)
The candidate has some knowledge but there will be less clarity of understanding. Some correct examples given to illustrate points made. Description better but unclear or confused in parts.
(high mark range)
The candidate has a thorough understanding of the issues and has provided relevant examples to support the knowledge shown. This candidate's answer shows clear evidence of understanding.

Question 1

(a)   E.g. The velvet has a lustre and richness of colour from the pile making it appropriate for eveningwear. It hangs well because of its weight so is suitable for the suit. The organza scarf is lightweight and crisp and is floaty in contrast to the heavier velvet and the use of the toning colours works well with the darker suit fabric. Organza is translucent and has 'waves'

The lettuce edge on the scarf is achievable because the fabric is fine and contrasts well with the plain edges of the suit.
This is a simple style with impact.

Marks awarded as follows:

- Little understanding, simplistic statements only, candidate typically concentrates on one aspect of the design without considering other factors. Will describe outfit with little, if any attempt to analyse it.   (1–2 marks)

- Candidate shows understanding of the contribution made by more than one aspect but is unable to consider the impact of the design as a whole. Some parts of the response will be descriptive of the outfit but there will be a sound attempt to analyse its impact.   (3–5 marks)

- Candidate shows sophisticated understanding of the contribution made by several aspects of the design and is able to give a clear explanation.   (6–8 marks)

(b)   (i)   Velvet is commonly made from silk, cotton, polyester, viscose, nylon. Fibres are sometimes blended and elastanes may be added.

Organza can be made from cotton, silk, polyester, polyamide or a blend of two.

Marks awarded as follows:

- Candidate offers a list of fibres but either does not specify which are for velvet and which for organza, or suggests ones which are inappropriate.   (1–2 marks)

- Candidate is specific about the fibres used for the two fabrics and offers realistic suggestions for both.   (3–4 marks)

(ii) Candidate should evaluate the suitability of the fibres and fabrics described in (i) in terms of their appropriateness for the outfit shown. E.g. velvet is a luxury fabric which would make the outfit very expensive, cotton is cheaper and harder wearing but not as luxurious as silk, synthetic fibres are cheaper, hardwearing and easier to care for and can have more lustre than cotton velvets. A polyamide organza will have greater lustre than one made from cotton.

Marks awarded as follows:

- Little understanding, simplistic statements only, candidate will typically describe fibres/fabrics/end use rather than evaluate their suitability for the outfit shown.			(1–2 marks)

- Candidate shows understanding of the properties of a limited range of fibres and fabrics and will relate some of them to the outfit shown. Both fabrics will probably not be given equal consideration and there will be some inaccuracies.			(3–5 marks)

- Candidate shows sophisticated understanding of the properties of a range of fibres typically used for both fabrics. These properties will be related to the outfit shown and will consider both velvet and organza.			(6–8 marks)

(c) Linings make a garment easier to wear and help prevent creasing. They may add an insulating layer, help the skirt and jacket drape better, and make them more comfortable next to the skin. They may help prevent damage to the outer fabric from perspiration, deodorants and cosmetics, especially the jacket. Lining will help prevent the skirt from 'seating'. They add quality to the products and cover construction processes. They add extra weight to and increase their cost. Linings can pose care problems but velvet is not easy to care for anyway.

Marks awarded as follows:

- Basic information with evidence of only limited knowledge and understanding of the use of linings. Information will be in general terms and not specifically related to the outfit shown. Response may be confused and inaccurate.			(1–3 marks)

- Candidate shows understanding of the use of linings and relates this knowledge to the outfit shown. There will be a limited number of points made -–these will tend to emphasise the positive aspects of using linings.
General points, not always related to outfit shown.   (4–7 marks)

- Candidate shows detailed knowledge and understanding of the use of linings and will relate this knowledge to the outfit shown, weighing up the pros and cons.   (8–10 marks)

(d)   E.g. velvet fabric is very slippery and thick which can be difficult to sew, it will tend to 'walk' when stiched and there may be problems keeping seam lengths even. It is easily marked so care must be taken when stitching and pressing so as not to leave needle marks or flatten the pile. It is a directional fabric and must be cut one way. Components, including fastenings and interfacings can be difficult to apply because of the thickness of the fabric and the danger of spoiling the pile.

Marks awarded as follows:

- Little understanding, simplistic statements only, candidate will describe fabrics/product rather than potential manufacturing problems.   (1 – 3 marks)

- Candidate shows understanding of the problems associated with fabric and product but will concentrate on one or two at the expense of the others.   (4 – 7 marks)

- Candidate shows sophisticated understanding of the likely difficulties and is able to give a clear explanation relating to several aspects of fabric/product.   (8 – 10 marks)

Total 40 marks

AQA

Question 2

(a) (i) Candidate should describe the use of various textile products which can cut down on heat loss, from interior spaces, e.g. curtains (especially heavy lined ones and thermal interlinings), bedding such as blankets and quilts, floor coverings – carpets and rugs, throws.

Marks awarded as follows:

- Little knowledge or understanding of textiles as insulators. Response will be very descriptive of products with no analysis of their ability to conserve heat.

  (1–2 marks)

- Candidate shows some understanding of how textiles insulate the home and gives a limited range of appropriate examples. There will be some confusion and inaccurate information. (3–5 marks)

- Sound detailed knowledge shown, candidate understands how insulation works and gives a number of examples. (6–7 marks)

(ii) Candidates should describe the use of various items of clothing used to insulate the body from cold in a range of situations. E.g. coats and jackets especially lined and padded ones, keeping as much of the body covered as possible to prevent heat loss, especially the use of hats or other headwear, style features such as high necklines and cuffs which prevent heat loss, knitted garments used as insulating layers under closely woven fabrics prevent heat loss especially in moving air, use of 'smart' materials as appropriate.

Marks awarded as follows:

- Little knowledge or understanding of the ways in which clothing insulates the body – will probably refer to 'woolly jumpers' without analysing their ability to conserve heat.   (1–3 marks)

- Candidate shows some understanding of how clothing insulates the body and gives a limited range of appropriate examples. There will be some confusion and inaccurate information.   (4–6 marks)

- Sound detailed knowledge shown, candidate understands how insulation works and gives a number of examples of the way in which various garments insulate in a range of situations.   (7–9 marks)

(b)   Candidate should explain the contribution made by various fibres, yarns and fabric construction can help improve thermal insulation. E.g. wool fibres, hollow polyester fibres, loosely twisted yarns, brushed, knitted and layered fabrics all trap air and help prevent heat loss.

Marks awarded as follows:

- Basic information with evidence of only limited knowledge, fibre, yarn and fabric properties will be given scant coverage. Candidate will not understand basic principles of insulation. Information will be generalised rather than specific, it may be confused and inaccurate.   (1–4 marks)

- Candidate shows knowledge of the fibre, yarn and fabric properties but there will be a lack of specific information. Some understanding of the principles of insulation but there will probably be elements of confusion. Examples given but some will be inappropriate.   (5–8 marks)

- Candidate shows detailed knowledge and understanding of the properties of fibres, yarns and fabrics and has a clear understanding of the principles of insulation. A wide range of accurate examples will be given to support points made.   (9–12 marks)

Total 28 marks

AQA

Question 3

(a)   (i)   E.g. zips – open-ended, concealed, chunky, lightweight
              buttons in different materials and shapes. Velcro in different
              widths, colours and weights. Decorative fastenings such as
              frogs, laces, ties.

              Name of fastening,   (1 mark)
              Description of fastening,   (2 marks)
              (3 x 3 marks)

                                                                                  (9 marks)

       (ii)   Candidate should sketch 3 different uses of each fastening
              described.

              Marks awarded as follows:

              Sketch may lack detail, will be stereotyped and difficult to see
              fastening clearly. Limited reasons for choice.   (1 mark)

              Sketch shows clearly what is intended, product is interesting,
              and different fastenings have been selected. Sound reasons
              for choice.   (2–3 marks)

              3 sketches, 3 marks each.   (9 marks)

(b)   E.g. weight and size in relation to fabric and style of product, colour
       – matching or contrasting, ease of use in relation to target market,
       cost, compatibility of care with fabric used, decorative or
       inconspicuous/purely functional.

       Marks awarded as follows:

       • Little understanding of issues involved, simplistic statements
          only, candidate will typically describe components rather than
          what needs to be considered when selecting them for specific
          applications. Few examples given.   (1–3 marks)

       • Candidate shows understanding of a number of points to be
          taken into consideration and will give some examples to
          illustrate points made. There will be some description of
          components rather than an analysis of the issues involved.
          Narrow response.   (4–7 marks)

       • Candidate shows sophisticated understanding of the issues
          involved and gives a wide range of examples to illustrate this.
          There will be detailed evaluation of the appropriateness of a
          number of components for specific applications.   (8–10 marks)

                                                                      Total 28 marks

Question 4

(a)

Natural	Regenerated	Synthetic
Cotton	Tencel	nylon
wool	viscose	Lycra
silk		polyester
		Tactel
		Trevira

1 mark for each fibre correctly placed.

(10 marks)

(b)   E.g.

	Viscose	Polyester
Strength	Weak, especially when wet. Modern viscose modified to improve strength. Not as hardwearing as other fibres.	Very strong both wet and dry. Good resistance to abrasion.
Absorbency	Very absorbent so will take longer to dry than polyester. Absorbency linked to comfort of fibre. Also causes fibre to shrink badly.	Very little moisture absorbed making it a 'dry' fibre which is affected by static.
Crease resistance	Creases badly unless treated or is a modified viscose. Low elasticity of fibre leads to creasing.	Little creasing unless subjected to high heat when creases when heat setting of the fibres will take place.
Flammability	Like all cellulose fibres it is very flammable setting alight easily.	Said to be inherently flame retardant. Fibre does not set alight but melts which can give more serious burns than the flames of viscose.

Marks awarded as follows:

- Basic and confused explanation with evidence of only simplistic understanding. There are likely to be some inaccuracies in information offered.   (1 mark)

- Sound and detailed knowledge of both fibres with effective comparison made.   (2–3 marks)

4 properties, 3 marks each.   (12 marks)

AQA

(c)   E.g. to reduce cost, improve strength and abrasion resistance,
        enable fabric to be heat set, reduce absorbency.
        Must be related to polyester/viscose blend.

        Any six reasons, 1 mark each. An expansion may count as
        a point.
        General statement – 1 mark
        Points must be specific with accurate examples.   (6 marks)

                                                                  Total 28 marks
Question total   **96 marks**
Quality of written communication   **4 marks**
Paper total   **100 marks**