

**GCE**  
**AS and A Level**

**Product Design**  
**(Textiles)**

**AS exams 2009 onwards**  
**A2 exams 2010 onwards**

**Unit 1:**  
**Specimen mark scheme**

**Version 1.1**



Version 1.1



ASSESSMENT and  
QUALIFICATIONS  
ALLIANCE

# Design and Technology: Product Design (Textiles)

## Mark Scheme – TEXT1

*Specimen Paper*

The specimen assessment materials are provided to give centres a reasonable idea of the general shape and character of the planned question papers and mark schemes in advance of the first operational exams.

Mark schemes are prepared by the Principal Examiner. Alternative answers not already covered by the mark scheme are legislated for and will receive credit if appropriate.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' 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.

| Side bars indicate changes that have been made to the previous version.

Further copies of this Mark Scheme are available to download from the AQA Website: [www.aqa.org.uk](http://www.aqa.org.uk)

Copyright © 2007 AQA and its licensors. All rights reserved.

#### COPYRIGHT

AQA retains the copyright on all its publications. However, registered centres for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to centres to photocopy any material that is acknowledged to a third party even for internal use within the centre.

Set and published by the Assessment and Qualifications Alliance.

**Unit 1 Mark Scheme****Section A**

<b>1(a)</b>	Cotton, linen, ramie Any 1 natural cellulosic fibre	1 mark
<b>(b)</b>	Wool, silk, cashmere, angora, mohair Any 1 natural protein fibre	1 mark
<b>(c)</b>	eg Acetate, viscose, modal, Tencel, lyocell Any 1 regenerated fibre	1 mark
<b>(d)</b>	eg, polyamides, polyesters, elastomeric, acrylic, chlorofibre Any 2 synthetic fibres, 1 mark each	2 marks
<b>2(a)</b>	Staple fibres have a short length, filament fibres are continuous length.	1 mark
<b>(b)</b>	eg Cotton or wool fibres (1 mark), are carded/ combed/ drawn /brought together into a sliver /soft rope /strand, (1 mark), and spun/ twisted together (1 mark). Accept other appropriate examples.	3 marks
<b>(c)</b>	eg to reduce costs, improve care, give special effects, allow for thermoplastic setting. Any 2 reasons, 1 mark each	2 marks
<b>3(a)</b>	Twill weave	1 mark
<b>(b)</b>	eg, denim, drill, gabardine, cavalry twill. Any appropriate twill woven fabric	1 mark
<b>(c)</b>	eg, produces a definite right and wrong side with a distinctive diagonal line on face side, gives a firm, hardwearing fabric, fabrics tend to fray easily, Any 2 features, 1 mark each	2 marks
<b>4(a)</b>	Fabrics produced directly from webs of fibres	1 mark
<b>(b)</b>	eg interfacings, no grain means that they do not fray, surgeons gowns because they are cheap enough to be thrown away after use. Any 2 appropriate uses with reason, 1 mark each	2 marks
<b>5</b>	eg, colour woven, printed, stencilled, embroidered. Any 2 appropriate methods, 1 mark each	2 marks

### Section B

6(a)	<p>Reference should be made to fibre content and fabric structure, eg <b>Wool</b> is warm, soft, water repellent, hardwearing, luxurious, resistant to soiling, resists creasing, has low electrostatic charge. <b>Raised nap</b> adds to warmth, softness, helps repel water, drapes well, makes fabric aesthetically pleasing, has good dimensional stability.</p> <p><b>Marks awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• Little understanding, simplistic statements only, candidate typically concentrates on limited fibre qualities without reference to structure of the fabric or intended use. There will be confused and inaccurate information. <span style="float: right;">0-2 marks</span></li> <li>• Candidate shows understanding of the contribution made by at least one aspect of the fabric structure but most points will relate to fibre content. There will be sound attempts to evaluate appropriateness of fabric for a coat. There may be minor confusion but most points will be accurate. <span style="float: right;">3-4 marks</span></li> <li>• Candidate shows sophisticated understanding of the contribution made by several aspects of the fabric structure and fibre content in relation to a coat. Information will be accurate and there will be a true evaluation of the fabric's suitability for coat. <span style="float: right;">5-6 marks</span></li> </ul>	6 marks
(b)(i)	<p>eg <b>Polyester</b> is strong, hardwearing, filament yarn helps make fabric shiny, lightweight, reduces costs.  <b>Satin structure</b> is slippery, aesthetically pleasing, smooth on skin, can be dry cleaned, has good drape.  <b>Not</b> 'washable' since this is inappropriate for this coat, not 'absorbent' because polyester is not, not abrasion resistant because satin is not.</p> <p><b>Marks awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• Candidate shows little understanding of the contribution made by the fabric structure and will concentrate on properties of polyester fibre. There will be many inaccurate and confused points. <span style="float: right;">0-2 marks</span></li> <li>• Sound understanding of the contribution made by at least one aspect of the fabric structure and there will be a range of points related to the fibre content. The candidate will have analysed the appropriateness of fabric for the coat and information will be accurate. <span style="float: right;">3-4 marks</span></li> </ul>	4 marks

6(b)(ii)	<p>Lining makes the coat easier to wear and helps prevent creasing. It may add an insulating layer, help the coat drape better, make it more comfortable next to the skin, and help prevent damage to the outer fabric from perspiration, deodorants and cosmetics. It adds quality to the coat, covers construction processes and may make it more durable.</p> <p><b>Marks awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• Candidate shows limited understanding of the use of linings but this will not be related to the coat shown. There will be a limited number of points made. 0-1 mark</li> <li>• Limited knowledge of the use of linings related to the coat shown. There may be some irrelevant and/or confused points but most will be reasonably well considered. 2-3 marks</li> <li>• Candidate shows detailed knowledge and understanding of the use of linings and will relate this knowledge to the coat shown. Points will be accurate. 4-5marks</li> </ul>	5 marks
(c)(i)	<p>eg collar, lapels and front, neck area, armhole area, pocket flaps, hem, behind pockets, pockets.</p> <p><b>2 areas, 1 mark each</b></p>	2 marks
(c)(ii)	<p>Explanation of why interfacing is needed in that particular area, eg to give shape/structure/density, add weight, provide crispness, support buttons/buttonholes so they do not pull away.</p> <p>Candidate should explain the function of interfacing and why it is needed, eg ‘the collar is interfaced to give it shape and structure so it doesn’t flop round the neck’, ‘the pockets are interfaced to provide strength and shape because they are in constant use’.</p> <p><b>3 reasons for interfacing in areas named, 1 mark each</b></p>	3 marks

7(a)(i)	<p>Candidate may respond through a diagram and/or written description. A quilted fabric is sandwich of different fabrics (1 mark), a top ‘fashion’ layer (1 mark), a middle wadding layer (1 mark), a lower lining/inside layer (1 mark) stitched together, usually in a decorative pattern (1 mark).  <b>Any 4 points, 1 mark each</b></p>	4 marks
(a)(ii)	<p>The wadding traps air (1 mark), air is an insulator (1 mark), which prevents heat loss /cold air from reaching the body (1 mark)</p>	3 marks
(b)(i)	<p>eg <b>Polyester</b> is strong, hardwearing, filament yarn helps make fabric shiny, lightweight, reduces costs, is easy care.  <b>Satin structure</b> is slippery, aesthetically pleasing, smooth on skin, can be washed ordry cleaned, has good drape.  <b>Not</b> ‘absorbent’ because polyester is not, not abrasion resistant because satin is not.</p> <p><b>Marks awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• Candidate shows little understanding of the contribution made by the fabric structure and will concentrate on properties of polyester fibre. There will be many inaccurate and confused points. <span style="float: right;">0-2 marks</span></li> <li>• Sound understanding of the contribution made by at least one aspect of the fabric structure and there will be a range of points related to the fibre content. The candidate will have analysed the appropriateness of fabric for the quilt, information will be accurate and there will be a sound justification for the use of the fabric. <span style="float: right;">3-4 marks</span></li> </ul>	4 marks
(b)(ii)	<p>eg polyester wadding is lightweight, has ‘loft’/bulk, washable, flame retardant, contains lots of spaces for air entrapment, does not crease, soft, dries quickly, relatively cheap, can be made in different thicknesses.</p> <p><b>Marks awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• Limited knowledge of the properties and use of polyester wadding related to the quilt shown. There may be some irrelevant and/or confused points but most will be reasonably well considered. <span style="float: right;">0-2 marks</span></li> <li>• Candidate shows detailed knowledge and understanding of the use of polyester wadding and will relate this knowledge to the quilt shown. Points will be accurate. <span style="float: right;">3-4marks</span></li> </ul>	4 marks

(c)(i)	<p>eg piping gives a decorative finish, provides strength on vulnerable edges, helps retain shape of quilt.  <b>3 points 1 mark each</b>                      An expansion of a reason may count as a point</p>	3 marks
(c)(ii)	<p>Polyester thread (1 mark)                      Reasons may refer to need for some ‘give’ for strength, non-shrink, compatible care, flame retardancy.                      1 mark for each acceptable reason</p>	2 marks

**Section C**

8(a)(i)	<p>eg, colour weaving, printing. 2 appropriate methods, 1 mark each</p>	2 marks
(a)(ii)	<p>eg Cutting on cross grain, change of pattern direction between skirt and jacket, few seams to maximise impact, dolman sleeves allow for checks to flow in opposite directions on front sections, and also for check to lie straight across sleeves, large pleats on skirt emphasize large size of check.</p> <p><b>Marks awarded as follows</b></p> <ul style="list-style-type: none"> <li>• Little analysis of fabric use, descriptive account which does not fully consider the use of the fabric to maximise effect of check pattern. Few references to outfit. <span style="float: right;">0-2 marks</span></li> <li>• Sound analysis which gives detailed consideration to the way in which the checks have been used and exploited to give interest to the outfit. There are numerous examples to illustrate the points made. <span style="float: right;">3-5 marks</span></li> </ul>	5 marks
(b)	<p>eg use of different materials, different designs, more elaborate production methods, more care with matching of checks and choice of components, wider colour/size ranges.</p> <p><b>Marks awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• Little relevant knowledge shown, candidate typically makes superficial comments without considering the differences between the two ranges. Few examples given. <span style="float: right;">0-3 marks</span></li> <li>• Candidate shows some knowledge of the constraints and opportunities afforded by the different ranges and gives some examples to illustrate points made. There may be some irrelevant or confused points. <span style="float: right;">4-6 marks</span></li> <li>• Candidate is knowledgeable about the opportunities to design for different ranges and makes detailed comparisons across a number of areas of consideration. There will be a range of appropriate examples to illustrate the points made. <span style="float: right;">7-9 marks</span></li> </ul>	9 marks

<p>8(c)</p>	<p>Problems for <b>designers</b> include, for example, large repeat size, bold colour, impact of checks.          Problems for <b>manufacturing</b> include, for example, cutting of large repeat pattern needs to be planned carefully to minimise waste, manufacture may be costly because of waste, may need to be cut with a nap layout, may need to ensure that a prominent stripe of line of check is centralised, joining of checks needs to be done with care to maximise impact, careful placement of pattern templates on straight grain for pattern accuracy. Stitching with differential feed to keep pattern match accurate.</p> <p><b>Marks awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• Little knowledge shown of care needed explanation will be in simplistic terms only, e.g. ‘take care to match the checks at seams’. <span style="float: right;">0-2 marks</span></li> <li>• Candidate shows some understanding of care needed but will lack precise knowledge. Some of the explanation will be sketchy/incorrect. <span style="float: right;">3-5 marks</span></li> <li>• Sound and detailed knowledge shown, candidate will give accurate information with examples drawn from both design and manufacture considerations. <span style="float: right;">6-8 marks</span></li> </ul>	<p>8 marks</p>
<p>(d)</p>	<p>eg to check design works and see any development of design that is needed, can see how fabric drapes, can be used for market research and testing, development of manufacturing specification, helps plan QC checks.          May refer to different types of prototype, eg computer generated ‘virtual’ prototype, fabric toile.</p> <p><b>Marks awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• Little knowledge shown of how prototypes are used, explanation will be in simplistic terms only. <span style="float: right;">0-2 marks</span></li> <li>• Candidate shows some understanding of prototyping but will lack breadth of knowledge. Some of the explanation may be sketchy/incorrect. <span style="float: right;">3-4 marks</span></li> <li>• Sound and detailed knowledge of different uses of prototypes, with accurate information and examples. <span style="float: right;">5-6 marks</span></li> </ul>	<p>6 marks</p>

<p>8(e)</p>	<p>There are many ways in which the manufacture, use and disposal of textile materials and products can be made ‘greener’ and reduce their carbon footprint. These include:</p> <ul style="list-style-type: none"> <li>• recycling of fabrics and the production of new fabrics from recycled materials can reduce waste.</li> <li>• development and use of new fibres, eg Tencel, which comes from sustainable sources and uses ‘clean technology’ in its manufacture. Ingeo, a new fibre to polyester, is made from plant starches and is fully bio-degradable.</li> <li>• use fewer dyes or develop fibres which grow ‘coloured’. Microfibres and dark colours use enormous amounts of dye and water to achieve the desired colour.</li> <li>• assessing a product’s life cycle and consider its impact on the environment from ‘cradle to grave’.</li> <li>• reduce the amount of packaging; ensure it is bio-degradable and recyclable.</li> <li>• recommend washing at lower temperatures (30°C), to reduce energy usage in after care.</li> <li>• consider using energy produced from renewable resources for manufacturing systems.</li> <li>• use more environmentally friendly forms of transport and consider manufacture of materials and products nearer to the places they will be sold.</li> <li>• reduce the need to discard serviceable products just because fashion has changed by having fewer changes in fashion.</li> <li>• consider how products will be disposed of when they are no longer serviceable, eg use of biodegradable fabrics and components.</li> </ul> <p><b>Marks awarded as follows:</b></p> <ul style="list-style-type: none"> <li>• Very basic information with limited number of points. Explanation is confused and there will be many inaccuracies and inappropriate points. <span style="float: right;">0-2 marks</span></li> <li>• Basic information covering a limited range of issues and which is mostly accurate although there will be some misunderstandings. Points will tend to be about localised issues and may cover a number of areas superficially or a few in some detail. <span style="float: right;">3-5 marks</span></li> <li>• Sound information covering a number of areas accurately. Candidate will be knowledgeable but there may be some misunderstandings or omissions. <span style="float: right;">6-8 marks</span></li> <li>• Sophisticated and accurate information covering a wide range of issues, both local and global. Candidate will be informed and information will be accurate and up-to-date. <span style="float: right;">9-10 marks</span></li> </ul>	<p style="text-align: right;">10 marks</p>
-------------	---	--

**Paper marks**

Section A	20 marks
Section B: 2 questions, 20 marks each. One to be answered	20 marks
Section C	40 marks
Paper total	80 marks