



**General Certificate of Education (A-level)
January 2011**

**Design and Technology:
Product Design (Textiles)**

TEXT1

(Specification 2560)

Unit 1: Materials, Components and Application

Report on the Examination

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General

The format of the paper was very similar to that of previous examinations and candidates appeared to have coped well with the questions. Scripts were mostly well presented although some candidates' handwriting is difficult to read, especially if they do not use black ink as instructed. Attempts to reduce the number of additional pages used by including more lines in the combined question/answer booklet seems to have worked well, although a sizeable number continued their answers in the side margins of the paper, writing at a 90° angle to the main body of the answer. This is very difficult for examiners to read. Where it is necessary for candidates to continue their answer well beyond the space allowed, they should use an additional page.

Of the two optional questions in Section B, Question 8 was chosen by approximately 80% of candidates. However, those who chose Question 9 tended to fare better in part (a) than those answering the corresponding 8(a).

It was evident that many candidates have benefitted from the materials used at the recent CPD meetings for teachers of this specification, but some are using the information with a lack of understanding, or ability to apply it to a specific situation.

Section A

- Q1 Approximately two-thirds of candidates correctly identified the twill weave and were able to name an appropriate fabric. Many thought that it was a satin weave. It was pleasing to see that the majority were able to identify the warp and weft.
- Q2 The classification table was a very good discriminator although less than 10% placed all six fibres correctly. Tencel® appears to be the least well-known fibre.
- Q3 The majority of candidates were unable to name a fancy yarn, often suggesting fabrics instead. Slub and bouclé were the most popular correct examples of yarns.
- Q4 A very well answered question with well over 80% of responses awarded full marks.
- Q5 A surprising number of candidates believe that Gore-Tex® is a smart material. This question ought to have been more accessible, especially given the number of times that this issue has been raised in reports on previous examinations.
- Q6 There was some good understanding that a combination of dry fibres and friction gives rise to the development of static electricity in some textile materials and there were some excellent explanations.
- Q7 Many candidates confused the seam with the machine stitch with many of the checks relating to the distance between stitching and raw edge, and reverse stitching at the end of the seam. Very few candidates scored two marks here.

Section B

- Q8(a) Many candidates showed good knowledge of the properties of cotton and were able to relate these to the child's dressing gown. But it was also necessary to consider the effects of the towelling structure in order to access the higher marks and this is what a very high proportion failed to do with any success. Candidates should be aware that a construction method can dramatically change the characteristics of a fabric as it does in this case, turning a cool fibre into a warm fabric, and making a normally strong fibre into one which is more easily snagged and worn.
- Q8(b)(i) There was good recognition of the symbol for pure/100% cotton, and some were aware that it is a quality assurance mark. A very high percentage of candidates erroneously described it as a mark for organic or Fair Trade cotton.
- Q8(b)(ii) Almost all referred to the superior strength of polyester thread but few referred to its elasticity and ability to *give*, or appeared to know that it is used to prevent the spread of flames along a seam.
- Q8(c) Candidates were expected to evaluate the polyester satin and fleece fabrics against the specification points given, but not necessarily make a specific recommendation. A worrying number of candidates do not understand that polyester is a *fibre* which can be used in a variety of different fabric *construction* methods, such as a satin weave or to produce a knitted and brushed fabric, commonly known as *fleece*. Far too many constantly referred to *the blend* of satin and polyester, or fleece and polyester, indicating a complete lack of knowledge and understanding. The manufacture of different fabric types from one specific fibre is basic knowledge and candidates would do well to become better acquainted with this aspect of the specification. Additionally, they should learn that *fleece* does not always equate with *sheep*, and that it is not necessary for a fleece fabric to be made from wool fibre. That apart, many candidates referred to the smooth, lustrous, silky feel of satin, and the warm soft feel of the fleece, but few were able to relate these qualities to either the polyester fibre or the fabric construction. Consideration of the ease of laundering of the fabrics should have been related to the low absorbency of polyester together with its thermoplastic and crease shedding qualities, and these remain largely unchanged whether it is used for a satin or a fleece fabric. One of the main problems frequently overlooked by candidates is the way in which the satin fabric construction renders it prone to snagging, and this is the reason why it is considered to be a weak fabric. Many candidates managed to present some very muddled accounts and this, together with a failure to show understanding of the relationship between fibre and fabric was the reason why so many failed to achieve high marks on this question.
- Q9(a) There were some well explained points covering a range of qualities and well over 50% of answers were awarded 3 or more marks. There was some confusion related to insulation and absorbency, and the ability of curtain fabrics to block light.
- Q9(b) As with similar questions where there is a need to relate to both fibre and fabric construction, many candidates failed to make appropriate connections and to present a coherent discussion. Answers tended to relate to velvet with little accurate reference to the acrylic fibre content.
- Q9(c) Candidates found this to be a challenging section of the question, and was probably the main reason why many were deterred from attempting this question. There was some good knowledge of the role of the BSI in setting flammability standards, and the need for warning labels on textile furnishing products. Many were also aware of the potential dangers associated with the use of textiles in both domestic and commercial environments. Unfortunately, many did not take this knowledge far enough, or provide examples to substantiate their discussion in order to achieve the highest marks.

Section C

- Q10(a) Knowledge of fibre blends is an important part of the specification content, and candidates should be aware that it is the combined properties of the fibres in a blend that give a fabric its unique qualities. Many wrote at length about the individual fibres, although the properties of lyocell were less well known than those of the other fibres, and their link with the fabric requirements outlined in the question. But the inability to understand the synergism between the fibres meant that many answers failed to reach the high mark band.
- Q10(b)(i) Describing a fabric construction is not untypical of questions on the AS paper and many responses scored highly. Those who presented a well labelled diagram showing three or more rows of the weft knit structure tended to score better than those who relied solely on a written description.
- Q10(b)(ii) *Stretch* was the most commonly identified quality of the weft knit, and many also referred to enhanced *breathability* of the fabric. There were some references to the ability of the fabric to shred creases but many responses lacked accurate detail.
- Q10(c) The majority of candidates correctly explained the meaning of the symbols shown on the care label, although there is confusion between the instructions for dry cleaning and tumble drying. Questions of this nature also require an explanation of the advice in relation to the fibre/fabric qualities in order to achieve high marks. There was improved knowledge of the effects of excess heat on thermoplastic fibres compared with that shown in previous examinations but there is still a lack of knowledge about the effects of chlorine bleach, especially on coloured fabrics. Many incorrectly referred to the *do not bleach* symbol as having something to do with staining or dyeing.
- Q10(d) There were many different opinions about the effect of the packaging and examiners accepted a wide range of points. Many centred around environmental issues and the ability to attract potential consumers but there was a general lack of awareness, obvious in other parts of this question, that the garment shown is a basic product with which many consumers would be very familiar. Marks tended to be lost because candidates did not fully evaluate the effectiveness of the packaging, tending to stick with one side or other of the debate.
- Q10(e) The T-shirt is a basic garment and it is probable that the only variant, other than colour, will be the size as the shape is unlikely to change for the differing consumer groups. The most astute candidates spotted this and recommended mass or batch manufacture of white T-shirts to be garment dyed according to market demand on a *Just-in-time* basis. Many also recognised that details of consumer requirements would be identified from an *EPOS system* in retail outlets. This alone was sufficient to allow for the award of a high mark, some detail of how a mass or batch manufacturing system operates would have secured full marks! Unfortunately many candidates went no further than to offer *mass manufacture* or *batch manufacture*, instead concentrating their efforts on explaining which colours they considered would be the most popular, or expounding the need for a range of different colours.
- Q10(f) Limited information meant that few candidates were awarded more than two marks. Answers tended to concentrate on consumers' awareness of the brand at the expense of a range of different benefits.

Q10(g) Candidates are showing increased awareness of the environmental impact of textile production and there were some very detailed and well explained accounts. As always, some went down the route of social and moral issues which was not required on this occasion and did not earn them any marks. Where marks were lost it was because candidates were vague in their description of the damaging effects, eg *dyes are put into rivers, cotton causes a lot of damage to the environment, transport of textile goods produces fumes*. In order to reach the top mark ranges answers should explain exactly what the problem is and be specific about the damage caused, eg *growing cotton crops involves the use of pesticides and fertilisers which can leech into water supplies and render land infertile*. A variety of different issues is also expected, eg in relation to the source of raw materials, the processing of fibres/fabrics and manufacture of end-products, the transportation of materials and products, care and disposal of products. Many appeared to be unaware that lyocell fibres have been specifically developed to have a low impact on the environment.

A significant number began a discourse about how the wearing of the T-shirts would be beneficial by encouraging people to abandon their cars in favour of running, walking or cycling, thereby reducing the environmental impact of the use of motorised transport.

Mark Ranges and Award of Grades

Grade boundaries and cumulative percentage grades are available on the [Results statistics](#) page of the AQA Website.
