
A-LEVEL DESIGN & TECHNOLOGY: FASHION AND TEXTILES

7562/1 Paper 1
Report on the Examination

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General Comments

Paper 1 concerns the technical principles of the specification subject content. This year teachers and students were given advance information about the focus of the higher tariff questions because of the ongoing impacts of the Coronavirus (COVID-19) pandemic. Some students had clearly taken the opportunity to prepare for Paper 1 as their responses showed in depth knowledge of the topics covered in the extended response questions.

In general the majority of students attempted most questions with the exception of one of the more challenging maths questions.

The following points should be noted: -

- Where students are asked to analyse and evaluate or compare and contrast (AO3) both positive and negative points are required to gain the higher marks.
- When students are asked to explain (AO4), general points gain few marks. Detailed examples within the response gain the higher marks especially for those questions where there is a requirement for examples.
- Those that took a moment to plan their answers for higher tariff questions tended to gain more marks overall.
- It was important to keep responses focussed on the specific set question; some students offered detailed knowledge and understanding of subject areas not relevant to the question and so lost the opportunity to gain marks.
- Some students were unsure how to calculate answers for maths questions but showed their working out, which was the right approach as credit could be given for method even if the final answer was incorrect.

Question 1

This question tested knowledge of fibre classification; it was pleasing to see that it was attempted by all students. Most placed silk correctly as a protein fibre, many knew that ramie is a cellulosic fibre but some students confused polyvinyl with PTFE. Those that put more than 1 fibre into the fibre box were not awarded a mark for that category. Students found it most challenging to identify a Chlorofibre and Fluorofibre.

Question 2

Most students demonstrated a good knowledge of the properties of Gore-Tex®. Correct answers frequently stated that it was waterproof and breathable, and some went on to explain how the fabric works, describing the membrane in great detail although the command word for this question indicated that lengthy descriptions were not required. Often students included absorbency, insulation or strength in their list of properties for Gore-Tex® but these properties are not specific to the Gore-Tex® membrane and no marks were awarded for those points.

Question 3

Students were asked to describe the appearance and characteristics of three different fabrics for Question 3. Properties of the named fabrics were often listed, rather than a description of their appearance and characteristics. Students found taffeta the most challenging fabric to recall and describe. Some had listed a range of very general characteristics and properties perhaps in the hope that they picked up a mark out of the long list provided. But this type of response showed no knowledge of the specific characteristics and failed to describe the particular fabric so gained no

marks. Some students described fabrics as ‘textured’ which was too vague for a mark as the type of texture had not been indicated. Students found it difficult to recall the performance characteristics of the wide range of woven fabrics listed in the specification subject content.

Question 3.1

Those who thought the bumpy surface of crêpe fabric was heat set rather than formed as a result of using highly twisted crêpe yarns could not achieve full marks for this question.

Question 3.2

Many students were familiar with the use of gingham fabric for school uniforms which is correct, but not a requirement of the question. Marks were frequently awarded for description of the checked design of the fabric, but many failed to gain full marks because they referred to ‘coloured warp and weft yarns’ or ‘multi-coloured yarns’ instead of two different colour yarns.

Question 3.3

Over 6% of students did not attempt this question and overall there was clearly some confusion about what was meant by taffeta; about 40% of students gained no marks at all. Correct answers often described the rustling sound of taffeta when in use and the two-tone colour effect.

Question 4

It was pleasing that all students attempted this question that tested students’ understanding of the importance of trademarks and logos to a designer. Some responses referred only to the significance of logos for consumers and their preferences for particular brands so could only be awarded marks in the lowest mark band. Most students understood that trademarks offer designers some protection from their designs being copied. Some students used examples of iconic logos to explain the importance to designers; for example Vivienne Westwood’s ‘Orb’ or Gucci’s double G logo, and the importance of brand recognition was a very common point. Weaker responses confused safety and Fairtrade marks with designer logos.

Question 5.1

Students were asked to calculate the distance around the circle in the logo, requiring them to know the formula for working out a circumference. About 50% of students could recall the formula and applied it to the question, successfully substituting the value of the radius or diameter of the circle into the formula and calculating the correct answer. About 50% of students mistakenly used the formula for finding the area of a circle instead of the circumference, so their calculations were inappropriate, and no marks were awarded. A few students forgot to give their answer to the nearest cm and so lost a mark.

Question 5.2

This was a challenging question for many students. It was indicated in the question that students should use their knowledge of isosceles triangles to work out the shaded area of the logo. The height of the triangle was given, so students needed to work out half of the width of the base first, then calculate the area of the rectangle formed by two triangles. The sum of the two right angled triangles gave the area of the isosceles triangle. Some understood how to work through the calculation using trigonometry, although others confused the adjacent with the opposite side and so the resulting calculation was incorrect. Some tried to use Pythagoras’ theorem to find the base

(or half of it) but there was insufficient information either on the whole triangle or on the half sized right-angled triangle so this method could not gain any marks.

Question 6

Students were asked to explain the benefits of electronic point of sales (EPOS) for fashion manufacturers and retailers but few were able to gain marks in the top mark band. Many responses correctly referred to using barcodes and ordering stock but gave limited information and often didn't show understanding about the automatic communication of sales information directly between retailer and manufacturer. Higher level responses often gave detailed information about marketing and manufacturing to specific consumer demands such as size, colourways and demographics; while some went further by discussing the use of JIT to facilitate manufacturing.

Question 7

This extended response question provided a fibre content label for a knitted jumper and asked for an explanation of how the fibre content enhanced the properties of the jumper. Almost every student attempted this question, with lengthy explanations at every level - the majority gained marks in the mid mark band. Most students commented on all four fibres and were able to explain to some extent how the fibres worked together in the blend. Weaker responses listed the properties of each fibre individually and simply knew that nylon was strong, wool warm and elastane stretchy. Those gaining marks in the higher mark band were able to relate a wide range of properties in the blend of fibres including such aspects as the after care and the overall comfort of the jumper; they understood the counterbalance between the properties of the fibres. There was some confusion about the 10% metal fibre content. Weaker responses stated this would contribute strength to the jumper whilst others who knew about silver as an antimicrobial agent thought 10% was added for hygiene and healthcare reasons. This might have been a valid point if the inclusion of metal had been far less than 10%. Students who recognised that metal fibres were added as a decorative feature tended to gain higher marks overall.

Question 8

This was a two part maths question. Students were asked to work out the mean fibre production of one of five countries, then draw a diagram to represent the data including their own answer from the first part of the question.

Question 8.1

Over 90% of students gave the correct mean value for fibre production in the USA.

Question 8.2

The majority of students correctly drew some form of bar chart; though a small number of responses presented a scatter graph which was incorrect. Examiners were looking for an accurate drawing, in line with maths expectations, to achieve full marks. The heights of the bars were mostly accurate but a common error was to confuse the scale for production in tonnes by not starting at zero or including incorrect increments along the y axis. Students also frequently lost a mark by not including gaps that are equally spaced in between the bars. There was a good spread across the range of marks.

Question 9

It was pleasing to see that all students attempted this question about creating a specification for children's fancy dress clothing. Many wrote with enthusiasm, gaining marks in the mid mark band. Most focussed on a range of appropriate safety points such as specifying that there should be no choking hazards and that flammability issues needed to be addressed. Other common correct answers focussed on comfort and ease of dressing for children and specifying use of appropriate fastenings for the target market. It was surprising to see that few responses included detailed reference to fabric enhancement, novelty effects and fabrics with special interest for children.

Question 10

This question was about the environmental sustainability of Lyocell® that was structured to include reference to the source of raw material, fibre manufacturing and transportation, and most students reflected this structure in their response. The majority of students were only able to gain marks in the lowest mark band. For some there was confusion between synthetics and regenerated fibres and the weakest responses included fibre properties instead of environmental sustainability. Correct reference to the closed-loop system and the sustainable raw material from managed woodlands was included in many responses. Students found it straightforward to gain marks for reference to transport and carbon emissions and could write at length about this aspect. Some analysed and evaluated in detail the sustainability of cotton and then compared it to that of Lyocell® but providing so much information about cotton deviated from the question.

Question 11

The question required an outline of the differences between batch and bespoke production of fashion products. Almost every student attempted this question although very few gained full marks. There was good understanding of the difference between batch and bespoke fashion products, but some gave limited information about the production methods and points were very generalised so were only able to gain marks in the lowest mark band. Similarly, some wrote at length giving many examples of fashion products but said little about the production methods. Most often students described bespoke products correctly as 'one-offs' and 'expensive' whilst batch was mistakenly described by some as 'mass produced'.

Question 12

Almost every student attempted this question and overall demonstrated good subject knowledge and level of understanding although very few gained full marks. This question was structured to include reference to fibres, fabrics and finishes and many students addressed each aspect of the qualities required in work trousers for use on a construction site. Weaker responses listed names of fibres but didn't link them to qualities required or fibre properties or to the context of the question. Some recalled ceramic fibres and fluorofibres and whilst a few were able to provide relevant details about these, others were confused or unclear about their use. This question was not about pockets, hems or belt loops; some students were determined to write about the style of trousers and wrote little about fibres, fabrics or finishes, gaining few marks. Common correct answers included strong and durable nylon, Kevlar for protection against injury from sharp objects, Gore-Tex® for protection against poor weather conditions, denim with a twill weave for a hard-wearing fabric and fabric with a waterproof, stain resistant or flame retardant finish. Some higher level answers referred to high visibility fabrics and a wide range of specific finishes for use on construction sites.

Question 13

Almost every student attempted this question, writing at length and with enthusiasm about fabric printing methods, with most gaining marks in the mid mark band. Many described hand printing techniques that they had clearly used themselves with mixed success; higher marks may have been awarded had they considered hand printing techniques used by small scale businesses. A few explained in detail about preparing the fabric for printing, but the question was not about this and the opportunity to gain marks was lost. Some weaker responses demonstrated a confusion between methods of printing. Specific methods of printing weren't directly asked for in the question but those who compared and contrasted a range of different types of modern and hand printing methods often scored higher marks by making relevant and appropriate points through the use of the examples referenced. Weaker responses gave limited comparisons between the two methods and used the terms 'quick', 'time consuming' and 'efficient' without further explanation. Some students wrote about surface decoration techniques such as dyeing, tie-dye and batik without reference to printing methods and gained no marks for comparing and contrasting these techniques. There were some detailed descriptions of a wide range of printing methods that could only be rewarded with marks in the lowest mark band because no comparisons or contrasts had been made. This demonstrated the importance of reading the question with care and understanding the requirements of the question.

Question 14

Students showed greater confidence in their approach to this maths question when calculating the percentage decrease for printing a second batch of fabric. There was a good spread of marks with over 20% of students awarded full marks. Many were able to work out the first step of finding out the time taken for one or both batches. Some rounded up their answer which was not required.

Question 15

This question was about adding a decorative feature to home furnishings, enhancing the shape and giving structure and making the seams stronger or more durable by using piping. Common incorrect answers were 'to prevent fraying', 'to hide seams' and 'to neaten edges'. High scoring students often put more detail in their concise responses to give clarity to the reason given for using piping. Most students gained either 1 or 2 marks out of the 2 marks with a 50/50 split.

Question 16

Students were asked to state why a designer might use a prediction company when creating a new collection. It was clear that some students did not know what was meant by a prediction company. Some incorrectly referred to current trends and predicting sales; this question was about creating a new fashion collection. Over 40% of students gained full marks and were aware that designers use a prediction company to design successful future collections.

Question 17

Overall, a limited analysis and evaluation of quick response manufacturing (QRM) was demonstrated. Those that knew about QRM often failed to consider its impact on environmental and ethical issues. A lack of detail about the environmental and ethical issues meant that many students could not reach the top mark band, which required a wide range of points which were mostly accurate; most responses were placed in the lowest mark band. Some compared QRM with mass manufacturing systems and wrote at length about workers getting bored and having less job

satisfaction in mass production which was not relevant to the question. Those who focussed on the role of QRM in sustaining fast fashion and discussed both the environmental and ethical issues surrounding fast fashion gained the highest marks. Some responses described environmental issues at length in a very generalised way and did not relate their points to QRM.

Question 18.1

This was the first part of a challenging maths question which involved providing the working out to show that the radius of the given hemisphere was 43cm. The formula for calculating the volume of the hemisphere was given in the question. Nearly 7% of students did not attempt this question and almost 70% of those who did gained no marks but more than 15% were awarded full marks. Working out the volume of the cylinder first using the formula πr^2h was essential to the success of this question. The first two marks were gained by using the given diameter to substitute the correct value for the radius into the formula and working out the volume of the cylinder. Many students were awarded the 1st method mark for substituting and understanding how to calculate the volume of the cylinder, but many were not able to go further with the calculations. To gain the 3rd and 4th marks the given formula for the volume of the hemisphere had to be rearranged to include the volume of the cylinder, since both volumes had the same value. Students who merely substituted the value of the radius into the given formula did not show a sufficient level of knowledge and understanding to be awarded any marks.

Question 18.2

Part two of the maths question gave the cost to fill the hemisphere with wadding and asked how much m³ of this wadding would cost. It was possible to use incorrect values from 18.1 and still score in 18.2 though it was unusual to see this. Nearly 30% of students did not attempt this question and over 60% of those who did gained no marks, only just over 8% gained full marks. A common mistake was to divide the volume of the cylinder by 8p instead of the other way round. Some didn't give the cost to the nearest penny as asked for in the question and so lost a mark.

Question 19

Students responded positively to this question and were able to explain the characteristics of the sales and marketing cycles in the diagrams. Most students gained marks in the mid mark band; nearly 5% of students were awarded full marks. Successful responses often gave examples of fad, standard and classic fashion and textiles products to illustrate points made in their answers. The weakest responses often described the cycles but gave no further explanation. The standard cycle was the least understood of the three; many students stated incorrectly that standard products include everyday mass produced products such as T shirts, socks and bedding. Stronger responses were able to give details about length of time for the cycles eg weeks for a fad, or a season or two for a standard sales and marketing cycle.

Mark Ranges and Award of Grades

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