

Design and Technology Fashion and Textiles

Answers and commentaries
A-level (7562)

Paper 1: Technical principles

Marked answers from students for questions from the June 2022 exams. Supporting commentary is provided to help you understand how marks are awarded and how students can improve performance.

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Answers and commentaries

This resource is to be used alongside the A-level Design and Technology: Fashion and Textiles June 2022 Question Paper 1 Technical principles and inserts.

3-mark question

Short response

Question 3.1

Describe the appearance and characteristics of crêpe fabric.

[3 marks]

Mark scheme

AO4 1a

Any 3 relevant points, 1 mark each.

Illustrations may be given, award credit for any appropriate information.

Indicative content

- Crêpe fabric has an irregular rippled or crimped surface appearance
- Made with highly twisted or crêpe yarns
- Recognised for its give/stretch/good draping qualities
- Usually made from wool/polyester/silk fibres
- Plain/crepe weave/loose structure
- Luxurious.

This question is about appearance and characteristics, not properties.

Do not accept insulating, hard wearing, light, breathable, heat setting, sheer/translucent.

Award any other valid responses.

Student responses

Response A

- it has a ~~crinkled~~ crimped / crinkled surface which gives it a small amount of stretch.
- can range from heavy weight to light weight
- drapes well, ~~soft~~ textured handle
- plain weave or special crêpe weave

This is a high-level response

The response is presented in bullet points, although this is not a requirement, it can be useful for the student to organise their answer. For this short response question, one mark is credited per correct point from indicative content; marks were awarded for the following three correct points: 'crimped surface', 'stretch' and 'plain weave'. This is a very good response; it is clear the student is knowledgeable and can describe the fabric with confidence. For information, the answer refers to both 'stretch and drapes well' - either is acceptable for the same mark, as they are similar in characteristics.

3 marks

Response B

~~Se~~ crêpe fabric is mostly made from silk or a synthetic material such as polyester and it has a distinct texture where it feels crinkly. It is a satin weave.

This is a mid-level response

This response was awarded two marks for describing crêpe as: 'made from silk' and 'feels crinkly'. Silk and polyester are given in the answer, however they are both fibre types, so only 1 mark here, not 2 marks; note that they are presented in the same bullet point in the indicative content. There is incorrect reference to satin weave, showing some confusion, however this has not impacted on the way examiners mark this type of response.

2 marks

6-mark question

Extended response

Question 4

Explain the importance of trademarks and logos to a designer.

[6 marks]

Mark scheme

AO4 1b

Mark	Description
5–6 marks	Detailed explanation of the importance of trademarks and logos to a designer. A perceptive understanding of the key principles of both logos and trademarks. In this mark band the information is successfully linked with their importance to a designer, and both logos and trademarks are discussed in fairly equal measure. Points raised are mostly accurate; there may be a lack of detail at the low end of the mark band, however there is an overall understanding of their importance to a designer.
3–4 marks	Good explanation of the importance of trademarks and logos to a designer. Some understanding of the key principles of logos and trademarks. In this mark band the information is mostly linked with their importance to a designer, although there may be more focus on either logos or trademarks. Points raised are generally accurate, but there is likely to be a lack of detail and understanding of the issues at the low end of the mark band.
1–2 marks	Basic explanation of the importance of trademarks and logos to a designer. Limited understanding of the key principles of logos and trademarks. In this mark band the information is not always linked with their importance to a designer, and may focus on a narrow, or one area only. The information may be confused and inaccurate, especially at the low end of the mark band.
0 marks	No response or nothing worthy of credit.

Indicative content

Logos:

- logos are unique visual symbols that distinguishes a designer from the competition
- they identify a company through specific colours, shapes or fonts and create brand loyalty
- designers work can be easily recognised through a logo, raising the profile of a brand

- a logo can help promote a brand for a designer, and become popular, increasing sales in the UK and globally.

Trademarks:

- a logo or a specific design can be registered as a trademark, shown by the TM or ® symbols
- a trademark is used to identify and promote a brand unique to a designer
- it offers a designer protection from other companies copying or reproducing their work
- designers can take legal action against counterfeiters or those who create designs similar to those that are protected by trademarks and logos.

This question is about promoting brands and protecting designs.

Do not accept: Fairtrade mark, lion mark, CE, health and safety logos etc.

Award any other valid responses.

Student responses

Response A

new brand message + stand out to customers morally
 protect work being copied - designs + styles
 Designers use trademarks to protect any of their work from being copied or plagiarised. A trademark allows the designer to have protection over any design and styles they use in their garments. This means that designers can create many more designs using their 'signature' styles that they may have trademarked. Logos are important to designers as they can be part of the branding and marketing of their brands, but also can be used to relay brand morals and traits to the consumer. These logos will then gain a reputation from consumers and the designer may gain loyal consumers that are willing to pay more for that brand. Logos can convey the brand morals by using certain fonts, such as upper case for bold and strong people or curved lines for a more feminine brands, or messages. Logos can be symbols or names - e.g. the Nike tick or the Hugo Boss capitals.

This is a high-level response

A detailed response, with very clear knowledge and understanding of the importance of trademarks and logos to the designer. It meets the descriptors in the top mark band, 5-6 marks, where the level of understanding is very high, showing accurate information. A five-mark response may show a lack of detail, however, in this case there is specific detail with well explained points and examples to support the answer.

The response was credited for the following explanations:

Designers use trademarks to protect their work, enabling them to create designs and styles using their signature style

Logos are part of branding, can help stand out amongst others and represent brand morals

Brand reputation is likely to gain loyal customers, who may pay more for branded goods

Logos are represented by specific font types, symbols or names eg Nike tick and Hugo Boss capitals/monogram.

The response describes both trademarks and logos with appropriate information. Most points from the indicative content have been explained by the student, and although examples are not a requirement of the question, it does help to show the students' understanding of the topic.

6 marks

Response B

- Designers rely on trademarks to ensure their work is not copied and sold for a cheaper price therefore causing them to lose money.
- Trademarks provide consumers reassurance that the product they are buying is the original and meets regulations.
- If a designer trademarks a design it means no other designer or manufacturer can produce that product bearing the original design authentic.
- Logos connect a design to a brand meaning ~~so~~ customers can see a logo and automatically relate it to the brand, such as Nike.

This is a mid-level response

This is a mid-mark band response, (3-4 marks) and was awarded 3 marks. The student shows some understanding of the importance of trademarks and logos to a designer, points are generally accurate, with a slight lack of detail. The student understands that, Trademarks ensure a designer's work is not copied, gives customer reassurance the work is original, and designs can be connected to a brand meaning. Nike is given as an example to support the answer.

There is some good knowledge and understanding, with repeated information about 'copying' and 'original' designs. Because of the lack of detail, this response just meets the demands for 3 marks, and shows better understanding than the descriptors for the 1-2 mark band.

3 marks

9-mark question

Extended response

Question 13

Compare and contrast modern fabric printing methods with fabric printing by hand.

[9 marks]

Mark scheme

AO3 2a

AO3 2b

Marks	Description
7–9 marks	Detailed comparison of modern fabric printing methods with fabric printing by hand. In this mark band the response illustrates an in-depth understanding of the two different ways of printing onto fabric. There are a number of relevant and accurate points in the response. At the top end of the mark band the student shows an excellent analysis and evaluation of the advantages and disadvantages of both methods. At the lower end there may be a slight element of inaccuracy, however the overall comparison of modern fabric printing methods with fabric printing by hand is thorough, and shows an excellent knowledge and understanding of specific types of printing methods for both modern and printing by hand.
4–6 marks	Good comparison of modern fabric printing methods with fabric printing by hand. In this mark band the response illustrates a satisfactory understanding of the two different ways of printing onto fabric. There are a few relevant and accurate points in the response. At the top end of the mark band the student shows some analysis and evaluation of the advantages and disadvantages of both methods, although not necessarily in equal balance. At the lower end the information has some inaccuracies, however the overall comparison of modern fabric printing methods with fabric printing by hand shows a good awareness and understanding of specific types of printing methods for both modern and printing by hand.

1–3 marks	Basic comparison of modern fabric printing methods with fabric printing by hand. In this mark band the response illustrates a weak understanding of the two different ways of printing onto fabric. A lack of clear understanding leads to a limited analysis and evaluation of the advantages and disadvantages of both methods. There is little or no attempt to give drawbacks and the response focuses on a narrow area, with only a few relevant discussion points. There is limited awareness of the key points at the top end of the mark band. At the lower end there are inaccuracies and confusion, with minimal analysis and comparison of modern fabric printing methods with fabric printing by hand.
0 marks	No response or nothing worthy of credit.

Indicative content

Modern printing

- Examples may include digital printing, transfer printing/dye sublimation, rotary screen printing.
- Technology allows printed fabric to be created with many layers and various shades of colour at the same time eg digital printing.
- Fabric travels at high speed on a printing table, with heaters to dry and cure the pigment in-between the application of each colour.
- Many hundreds of metres of fabric run through machines at a quick rate.
- Complex designs, including photographic images can be created easily using CAD.
- CAM allows for fast production.
- Usually, inexpensive compared to hand printed fabric, although some designs can be more exclusive.
- Technology helps to create good quality printed fabric with high levels of accuracy.
- Allows quick editing and short sample runs.

However, it is costly to set up.

Printing by hand

- Examples may include block, stencil and screen printing.
- It is usually applied in blocks of colour, with each colour applied separately.
- Drying time is added between each application of pigment, to build up the layers of colour.
- One piece of fabric is printed at a time.
- Printing by hand is a creative process which makes individual and unique fabrics.

However, printing by hand is very time consuming.

- It is labour intensive and usually expensive to produce.
- Mistakes and mis-prints are easily made.
- Printing by hand can only produce small quantities of printed fabric at one time.

- Hand printed fabric is usually made up of a few colours only.
- Designs are limited to the stencil or carved block.

Do not accept quick/easy/cheap without further explanation.

Award any other valid responses.

Student responses

Response A

Fabric printing by hand ^{may} include block printing. This ^{was} one of the very first printing methods. It can be done by carving out a design putting it on a block with ink and stamping it onto the fabric surface. The designs can be very intricate but take along time for a person to do. These prints are usually more expensive as they are hand done. Printing by hand is not as expensive as modern printing as it doesn't involve machinery. Similar ~~set~~ design styles can be done by hand ~~and modern printing~~ and modern fabric printing. More modern methods include screen printing where a screen with dye on is printed onto the fabric. This uses both ~~work~~ and machinery usually. Printing can also be done computerised where the design is created and printed straight from the machine to the fabric. This is a very accurate way of printing and usually used when a perfect repeat of the pattern is needed. ~~But~~ hand printing is less accurate. Hand printing requires the worker to be skilled so training them costs money, whereas machines can be programmed to do it automatically.

This is a high-level response

A detailed response, with a high level of understanding of the two different ways of printing onto fabric. There are a number of relevant and accurate points in the response, with a very good comparison of the two printing methods given in the answer. The information meets the descriptors in the top mark band (7-9 marks) and was awarded 7 marks.

The response was credited for the following:

- accurate information of two printing methods
- block printing is given as an example of fabric printing by hand, and screen printing as a modern printing method
- excellent analysis and evaluation of both printing methods
- reference to specific printing methods, cost & time considerations and reference to accuracy.

Many points from the indicative content have been given, with correct knowledge and understanding. The response just meets the demands for the top mark band. Although there is a slight lack of detail, overall, the response shows an in-depth understanding.

7 marks

Response B

Fabric printing by hand is a time consuming method which creates unique designs, unlike modern printing which accurately replicates exact patterns. Modern printing is also much quicker, but can be more expensive. It has a high start up cost for the machines and the computer systems used to run them. Whereas, printing by hand can be fairly cheap and use inexpensive materials. Modern printing can complete hundreds of metres of fabric in one go, whereas hand printing is usually completed on bespoke items only on the fabric that will be used for the piece. Hand printing methods such as batik and tie dye use wax and knots to resist dye the fabric. Whereas, modern printing uses chemicals to break down the dye already applied.

This is a mid-level response

This is a mid-mark band response, (4-6 marks) and was awarded 5 marks. The answer compares and contrasts modern fabric printing with hand printing, with a few relevant and accurate points in the response. There is some analysis and evaluation, with no real inaccuracies in terms of content.

The student understands that:

Printing by hand is time consuming, unique, inexpensive and may be used for bespoke items. In comparison, modern printing offers contrasting benefits and drawbacks.

However, there is inaccurate information in terms of an awareness and understanding of specific types of methods, as batik and tie dye are named as printed effects, which would not be credited. The response meets with most of the descriptors in the middle mark band.

5 marks

Response C

Fabric printing by hand is very time consuming and a more expensive process. Modern fabric printing is more efficient and can get more garments done at a time, it can be more precise with less human errors from doing it by hand. Chemicals can be used to prevent areas picking up the dye then after the product is dyed the chemicals will be washed off.

This is a low-level response

This is a low mark band response, (1-3 marks) and was awarded 2 marks. The student does show a little understanding of modern and hand printed fabric methods, and gives a limited amount of analysis and evaluation. However, the answer focuses on a narrow area, with only a few relevant discussion points.

Credit was awarded for stating that:

Printing by hand is time consuming and expensive, while modern printing is more precise.

There is vague information about specific methods at the end of the answer that refers incorrectly to dyeing and not printing. Overall, there is limited awareness of the topic, and the answer meets the descriptor for the low mark band.

2 marks

12-mark question

Extended response

Question 10

Analyse and evaluate the environmental sustainability of Lyocell® fibre.

In your answer include:

- the source of raw material
- fibre manufacturing
- transportation.

[12 marks]

Mark scheme

AO3 2a

AO3 2b

Marks	Description
9–12 marks	Detailed analysis and evaluation of the ways in which Lyocell® is sourced, manufactured and transported. In this mark band all three elements from the question; sourcing, manufacturing and the transportation of Lyocell® have been correctly analysed, not necessarily in equal balance, but there is a clear understanding of the issues, and the points raised accurately relate to the environmental sustainability of Lyocell®. The analysis includes a range of benefits and drawbacks, which largely relate well to sustainability issues. At the top end of the mark band there are some perceptive comments, while at the low end there may be more positive than negative points, but this does not detract from the overall quality of the response.
5–8 marks	Good analysis and evaluation of the ways in which Lyocell® is sourced, manufactured and transported. In this mark band there is some attempt to analyse all three elements from the question; sourcing, manufacturing and the transportation of Lyocell®, but probably not in equal measure. Some responses may focus on two of the three elements only, however there is some understanding of the issues and most points accurately relate to the environmental sustainability of Lyocell®. The analysis is likely to include both positive and negative points, but these may not always relate to sustainability issues. At the top end of the mark band there are some valid comments, while at the low end there may be a lack of detail, and more generalised information.

1–4 marks	Basic analysis and evaluation of the ways in which Lyocell® is sourced, manufactured and transported. In this mark band there is limited reference to the three elements from the question, or the response may focus more generally on one or two areas only. There is little understanding of the issues and few points accurately relate to the environmental sustainability of Lyocell®. There may be some attempt to discuss negative points, but these do not always relate to sustainability issues and may be presented as generalised concerns. At the top end of the mark band there is a little understanding, while at the low end there is likely to be a lack of knowledge with confusion and inaccuracies.
0 marks	No response or nothing worthy of credit.

Indicative content

Sourcing:

- Lyocell® is a cellulose based fibre sourced from that is made from wood pulp
- the pulp used to make the fibre is mostly sourced from eucalyptus, and sometimes from oak and birch trees
- eucalyptus is a fast-growing tree that needs no irrigation
- it can easily grow on land that is unsuitable, or not fit for food or farming
- most of the raw material is sourced from managed forests, where trees are replanted for those cut down
- unlike many other fibres, the raw material used to make Lyocell® does not require pesticides or fertilisers
- to be environmentally sustainable, it must be sourced from managed forests
- however, sourcing the raw material uses heavy machinery that relies on non-renewable materials such as coal and oil.

Manufacturing:

- Lyocell® is manufactured through a wet spinning process
- the raw material is cut into small chips, made into a pulp and dissolved by a chemical to make the spinning solution
- the chemical used, amine oxide, is non-toxic
- the spinning solution is pushed through spinnerets to make the fibre
- Lyocell® is made in a closed-loop process; the solvents are recovered, purified and reused, creating minimal waste
- Lyocell® is biodegradable, and can fully degrade in eight days
- it is processed in factories where machinery use fossil fuels and other forms of non-renewable energy.

Transportation:

- Lyocell® is usually made off-shore, mostly in China and Asia
- transporting the fibre or fabric has a significant impact on the environment
- packaging may be plastic or not environmentally sustainable
- transportation such as lorries, planes and ships use non-renewable fossil fuels
- the burning of these fuels release CO² emissions, contributing to global warming
- oil spills from ships can pollute waterways and cause harm to marine life
- transportation to warehousing and retailers from ports causes further air pollution.

Award any other valid responses.

Student responses**Response A**

Lyocell fibres are cellulose, so are sourced from wood which is pulped to make the fibre. The trees do not need ^{much} water to grow, so less water is used eg. eucalyptus is used and is fast growing which is environmentally sustainable. It is also grown in managed forests; for each tree cut down, another one is planted. In manufacturing wood is made into pulp and mixed with chemicals before being made into a continuous fibre. The chemicals are re-used throughout the process so there is no waste and no pollution in rivers or the atmosphere. It does, ~~but~~ however use machines that are reliant on oil and coal, which is not a renewable source, so bad for the environment. Lyocell must be transported from factories, usually in China and oil and coal are used to power planes and boats which give off gases and pollute the environment, but fibres could be made closer to the factory to reduce the effects of the carbon footprint, lyocell fibres have negatives and positives.

This is a high-level response

A detailed response, with accurate information for all three elements from the question. The response meets the descriptors for the top mark band (9-12 marks) and was awarded 10 marks, with appropriate points which relate well to the environmental sustainability of Lyocell® fibres. The three areas have been presented with a fairly equal balance, and usefully, these key elements have been underlined, which may help the student organise their response to the question.

Credit was awarded for stating that:

- Lyocell® fibres are cellulose and sourced from wood pulp from eucalyptus, which needs little water, is fast growing and grown in managed forests
- The fibres are manufactured by mixing the pulp with chemicals to make a continuous filament fibre. The solvents are re-used, and do not pollute rivers or the atmosphere. However, machinery uses non-renewable coal and oil
- Fibres are transported from overseas and uses fossil fuels to power boats and planes, polluting the environment. Fibres could be made closer to manufacturing plants to offset these effects.

The analysis includes a range of benefits and drawbacks, there is some perceptive information, although there is a slight lack of in-depth points this does not detract from an overall quality response.

10 marks

Response B

Lycell is made with wood pulp, so they are regenerated fibres that come from trees from managed forests - ~~fore~~ for every one that is cut down, more are planted, making it environmentally friendly. It is also made in a sustainable way as the chemicals used are recycled, so ~~as~~ they do not leak into rivers and pollute wildlife and fish. However, this is an expensive process. The pulp are extended to make the fibre non-toxic as they are wet spun. Lycell can be made in the UK, which is environmentally ~~friendly~~ sustainable but most fibres are transported from overseas on planes which adds CO₂ to the atmosphere but other forms of transportation would be more sustainable.

This is a mid-level response

This is a good response, awarded 7 marks, which meets the criteria for the descriptors in the middle mark band (5-8 marks). There is some attempt to analyse all three areas of the question; sourcing, manufacturing and transportation, with most points accurately relating to sustainability issues.

The student understands that:

- Lyocell® is regenerated, made from wood pulp sourced from managed forests
- The chemicals used in the manufacturing process are recycled, they do not pollute, but it can be an expensive process. Fibres are wet spun and non-toxic
- Transportation causes CO² to leach into the atmosphere, although other forms of transportation could be more sustainable.

The information is mostly accurate, and are valid - at times the response lacks detail and developed analysis to be able to move up to the top mark band. However, there is some evaluation, which makes the response appropriate for higher end of the mark band.

7 marks

Response C

regerated fibre
from sustainably
sourced trees.

Lyocell is a regerated manufactured fibre which comes from sustainably managed forrests. wood pulp is extracted and then covered in solvent to solidify the filament fibres. Then the solvent covered wood pulp will be entered into a closed loop system, the solvent is washed off with water, ^{leaving the solidified} ~~and the water and~~ filament fibres behind. the water and solvent is then repurposed for the next batch of lyocell manufacture, so that no waste is produced from the manufacturing process. the whole production of lyocell is sustainably kept safe and so in transportation everything is kept compound packed to make the ~~best~~ least amount carbon footprint ~~of journeys~~ and efficiently transport everything on one transportation vehicle.

This is a low-level response

A basic response, with only two of the three elements from the question gaining credit. The response meets the descriptors for the low mark band (1-4 marks) and was awarded 4 marks. There is some limited information about sourcing of raw material and fibre manufacturing, and these are presented as more generalised concerns, with little detail.

Credit was awarded for stating that:

- Lyocell® fibres are regenerated, sourced from wood pulp obtained from sustainably managed forests
- fibres are made through a closed loop system, repurposing solvents so there is no waste in the manufacturing process.

The response meets the descriptors of the top end of the low mark band. Fairly basic information, which does not go beyond the more obvious points, there is also no real attempt to discuss negative points, which is essential to an evaluative question. No credit was given for the information at the end of the response, stating that items are 'compound packed' and transported on 'one vehicle' - the student has misunderstood the impact of transportation on the environment.

4 marks

Get help and support

Visit our website for information, guidance, support and resources at **aqa.org.uk/7562**

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