2021 HSC Textiles and Design Marking Guidelines

Section I

Multiple-choice Answer Key

Question	Answer
1	D
2	B
3	C
4	C
5	D
6	A
7	A
8	B
9	B
10	C

Section II

Question 11 (a)

Criteria	Marks
• Demonstrates a sound understanding of TWO strategies that could be used to extend the life cycle of the active sportswear	3
• Demonstrates some understanding of strategy(ies) that could be used to extend the life cycle of the active sportswear	2
• Provides some relevant information	1

Sample answer:

The life cycle of textile sportswear (eg yoga pants) can be extended by adding features to attract a different customer base interested in healthy life strategies, eg add pocket to back of pants for gym key/pocket on thigh for phone. The company could also repackage its products in biodegradable materials to reflect consumers' current interest in environmental sustainability.

Answer could include

Another strategy would be to expand or modify the distribution channels to make the products more easily accessible to customers, eg online shopping or distribution through large retail outlets.

Question 11 (b) (i)

Criteria	Marks
• Distinguishes between *niche* and *mass-produced* products	2
• Provides some relevant information	1

Sample answer:

Niche products are produced for a specific target market usually in smaller quantities and can be personalised for the customer. Mass-produced products are produced in large quantities often in a range of colours, styles and sizes.

Question 11 (b) (ii)

Criteria	Marks
• Provides a sound comparison of how the products are marketed, with examples provided	3
• Provides some comparison of how the products are marketed	2
• Provides some relevant information	1

Sample answer:

Socks are a product that can be produced for a niche or mass-produced market. Both niche and mass-produced socks can be marketed online. However, mass-produced socks are usually marketed through department stores or retail outlets. They can be advertised in catalogues and on radio and television. Niche produced socks are usually marketed and sold directly to customers at local craft or artisan markets or via an e-business.

Question 12 (a)

Criteria	Marks
• Explains how available resources and religious practices are evident in the chosen culture's textile designs supported with relevant examples	4
• Describes how available resources and religious practices are evident in the chosen culture's textile designs, with example(s) provided	3
• Outlines the link between resources or religious practices and the chosen culture OR • Shows some understanding of cultural textiles	2
• Provides some relevant information	1

Sample answer:

Japan's own resources and its close proximity to China have made textiles including cotton, hemp, ramie and silk fibres easily available. As a result of this availability, in Japanese textile designs we see many items made of cotton and silk.

Indigo plants grow in abundance in Japan and are used to produce indigo dye that is used by artisans in the production of shibori fabrics. These fabrics are extensively used for traditional Japanese textile art forms, such as the kimono.

Japanese Shinto religion holds nature sacred and the textile designs often reflect this by the extensive use of cherry blossoms, birds such as cranes for longevity and animals printed or embroidered on fabrics.

Question 12 (b)

Criteria	Marks
• Explains TWO ways in which society has influenced the historical design development of a focus area, supported with relevant examples	4
• Describes TWO ways in which society has influenced the historical design development of a focus area, with example(s) provided	3
• Outlines the historical design development of a focus area	2
• Provides some relevant information	1

Sample answer:

Focus area: Apparel. Events such as world wars influenced the construction and type of fabric used for apparel items. For example, during WWII, Fibres and fabrics were used for items to support the war efforts, limiting their availability for the domestic market. For example, silk and nylon previously used for stockings were used for parachutes, and wool that may have been used for men's suits was used for blankets. The fabrics available to those at home were military-like and the designs were functional.

The role of women also changed during world wars influencing the design of their clothes. Women worked in factories and on farms and therefore the style of clothing worn by many women changed to allow them to wear pants or jeans and blouses rather than dresses.

Answers could include:

- Technological development of fibres and fabrics
- Availability of resources – drought or world events
- Trends in society – repurposed clothing, eco-textile
- Influence of celebrities.

Question 13 (a)

Criteria	Marks
• Explains how the performance of a fabric can be enhanced by the use of a fibre finish OR fabric finish, supported with a relevant example	4
• Describes how the use of a fibre finish OR fabric finish can enhance the performance, of a fabric, with an example provided	3
• Shows some understanding of a fibre finish OR fabric finish OR the enhanced performance of a fabric	2
• Provides some relevant information	1

Sample answer:

Carpets can be made from cotton, wool or acrylic which are all prone to soiling. A soil resistant finish using nano technology can be applied to a carpet to enhance its performance. The treated carpet repels water or oil-based liquids and stains and also allows other stains to be washed out. The treated carpet looks better for longer, does not feel harsh underfoot and the finish will last for the duration of the carpet.

Question 13 (b)

Criteria	Marks
• Describes one innovation in yarn development in terms of benefits to the consumer	4
• Outlines one innovation in yarn development in terms of benefits to the consumer	3
• Shows some understanding of innovation in yarn development	2
• Provides some relevant information	1

Sample answer:

The development of electronic yarns allows the production of smart textile fabrics that can be used to regulate, monitor and measure various health areas such as heart rate and blood pressure. These can assist the consumer to monitor their health. This innovation features a cellulose yarn that is dyed with an electrically conductive polymer. The yarn is sewn into the garment with a standard sewing machine and the body heat creates small electric charges. The cellulose product is renewable, non-toxic and uses natural materials that would be an advantage to the eco or environmentally aware consumer.

Answers could include:

Bicomponent yarns used to produce products such as strong school tights.

Section III

Question 14

Criteria	Marks
• Selects an appropriate method of printing fabric for furnishings • Provides a comprehensive explanation of how this printing method is carried out and why it is suitable for this use	8
• Selects an appropriate method of printing fabric for furnishings • Provides a sound explanation of how this printing method is carried out and why it is suitable for this use	6–7
• Selects an appropriate method of printing fabric for furnishings • Demonstrates some knowledge of how it is carried out and/or why it is suitable for this use	4–5
• Demonstrates basic knowledge of a printing method	2–3
• Provides some relevant information	1

Sample answer:

An appropriate method for printing upholstery fabric is Direct Digital Printing. This method uses computer aided design (CAD) systems and programs to reproduce intricately detailed designs, photographs and drawings onto commercially prepared fabrics. Files are loaded into the print software and rolls of fabric are printed on large-scale specialist machines. Printer heads containing fine nozzles squirt tiny drops of inks onto the pre-treated fabric.

Digital printing has been developed for both the natural and synthetic markets. Fabrics are pre-treated with chemicals to help in the bonding of the print by the fibres. The digitally printed fabric is then treated to fix the dye into the fabric through the process of high heat pressing.

Digital printing is suitable to print onto a variety of fibres including silk, cotton, viscose and rayon.

The reasons for carrying out this printing method are based on the following factors:

- The complexity of the design, including the detail in the print and the number of colours used in the print. For example, if the print is a simple design featuring three or four coloured shapes that could be screen printed easily using three or four different screens, then screen printing would have been a suitable printing method to use. However, where a design consists of detailed patterns and fine lines, such as writing, then a more suitable method of printing is direct digital printing.
- The cost and facility to be able to produce a variety of different colourways of the one design, allowing customers to mix and match with their decor. A limitless number of colours can be used within one design and does not impact the cost of printing; colours are able to be changed with the click of a mouse with no set up or preparation required. This allows for a quick turn-around and for small run sampling as well as for printing large runs, complex designs and changing colourways without much delay. There is no need to clean the equipment after the first run and before the next.
- The initial number of metres required, which may be a long run for popular colourways or short runs for bespoke designs. For example, roller printing may be a suitable option when a large amount of printed fabric is required.

- For the care and use of the furnishing item by the consumer, the print does not fade or wear off during day-to-day use.
- The environmental friendliness of the printing method is a consideration to manufacturers and consumers alike. Because there is absolutely no dye waste to find its way into our waterways, direct digital printing is an environmentally friendly printing method.

Answers could include:

Answers could include but are not limited to screen printing, roller printing and sublimation printing. Factors should link to type of printing selected.

Question 15

Criteria	Marks
• Demonstrates comprehensive knowledge of the properties of a suitable fibre, yarn and fabric combination selected for the corporate shirt • Justifies comprehensively how the selected fibre, yarn and fabric combination meets the performance criteria of the corporate shirt	8
• Demonstrates sound knowledge of the properties of a suitable fibre, yarn and fabric combination selected for the corporate shirt • Provides a sound explanation of how the selected fibre, yarn and fabric combination meets the performance criteria of the corporate shirt	6–7
• Demonstrates some knowledge of the properties of the fibre and/or yarn and/or fabric selected for the corporate shirt • Describes how the selected fibre and/or yarn and/or fabric meet the performance criteria of the corporate shirt	4–5
• Outlines some properties of the fibre and/or yarn and/or fabric combination of the corporate shirt OR • Outlines some performance criteria of the corporate shirt	2–3
• Provides some relevant information	1

Sample answer:

For a childcare worker to perform the indoor and outdoor activities the shirt would need to be comfortable, easy to care for and durable.

A suitable fibre, yarn and fabric would be a polyester/cotton fibre blend, spun staple average twist yarn, plain weave fabric. The poly/cotton blend would result in a fibre that utilises the advantages of both fibres while minimising the effects of the negatives.

Comfort is the result of the fibre and fabric structure. It requires the shirt to be breathable, lightweight and have good wicking properties. Cotton is hydrophilic which means it absorbs moisture easily. It is also a good conductor of heat. Thus, cotton allows body heat to escape, absorbs moisture and perspiration making the shirt comfortable during hot weather when they are supervising children outside, by making the fabric breathable. Polyester is hydrophobic which means it will not easily absorb perspiration. However, it has excellent wicking properties which will assist in the transfer of perspiration from the body to the surface of the fabric, making the shirt comfortable.

To produce a polyester blend the polyester filament needs to be cut into the staple length of the cotton. A spun staple average twist yarn will provide a yarn that has a soft touch on the skin making the resulting fabric comfortable.

A plain weave has a smooth surface that will not irritate the skin adding to the shirt's comfort. Its structure will allow for body heat to escape, making the shirt comfortable.

Working with young children often means that the workers will get dirty hands and feet on them. An easy-care shirt should be easy to wash and iron, not stain easily and look good throughout the day. Cotton is very easy to wash, it can undergo harsh laundering and wet stains can easily be removed as it does not need delicate and carful laundering. Polyester is a very strong fibre and it too can withstand harsh laundering conditions. Its hydrophobic properties however mean that oil stains are more difficult to remove but as it is strong it can undergo harsh laundering. A cotton/polyester blend would therefore mean that the shirt would be easy to care for. A work shirt should also be low maintenance, meaning it should

require little or no ironing. Cotton creases easily, however when blended with polyester which has good recovery properties will produce an easy care, wrinkle-resistant fabric that requires little ironing, making it suitable for busy childcare workers.

A plain weave fabric has a smooth surface, good abrasion resistance and is easy to launder. Its crease recovery is fair to good so will be a suitable easy-care fabric structure.

A childcare worker's shirt also needs to be durable to withstand any tugging or pulling that may result with working with the children. Both cotton and polyester are strong fibres due to their high crystalline structures. A blend would therefore produce a strong fabric enabling the shirt to withstand the general wear and tear and frequent laundering that would be required for this shirt.

2021 HSC Textiles and Design Mapping Grid

Section I

Question	Marks	Content	Syllabus outcomes
1	1	ATCFAI – current issues, sun protection factor clothing	H5.1
2	1	ATCFAI – marketplace, target market	H5.1
3	1	Design – fabric colouration and decoration	H1.3
4	1	Properties and performance of textiles – microfibres	H3.2
5	1	Properties and performance of textiles – end-use application	H3.1
6	1	Properties and performance of textiles – innovations and emerging technologies – washable webs	H3.2
7	1	Design – contemporary designers – internal factors	H6.1
8	1	Design – contemporary designers – trends in society	H6.1
9	1	Properties and performance of textiles – innovations and emerging technologies – CAD, CAM	H3.2
10	1	Design – fabric colouration	H1.3

Section II

Question	Marks	Content	Syllabus outcomes
11 (a)	3	ATCFAI – marketplace – product life cycle	H5.1
11 (b) (i)	2	ATCFAI – current issues	H5.2
11 (b) (ii)	3	ATCFAI – marketplace	H5.1
12 (a)	4	Design – cultural factors that influence design and designers – religious practices and resources available	H6.1
12 (b)	4	Design – historical design development	H6.1
13 (a)	4	Properties and performance of textiles – innovations and emerging textile technologies – finishes	H4.1
13 (b)	4	Properties and performance of textiles – innovations and emerging textile technologies – the advantages and disadvantages of innovations and related textile technologies on the consumer	H3.2

Section III

Question	Marks	Content	Syllabus outcomes
14	8	Design – fabric colouration and decoration – printing	H1.3
15	8	Properties and performance of textiles – end-use application	H3.1