2020 HSC Textiles and Design Marking Guidelines

Section I

Multiple-choice Answer Key

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

Section II

Question 11 (a)

Criteria	Marks
• Identifies what has led to the increased availability of work clothing with UPF50+ sun protection factor	2
• Provides some relevant information	1

Sample answer:

Increased awareness that damage from exposure to the sun can lead to skin cancer.

Responsibility taken by employers to supply sun-protective clothing due to WHS legislation.

Question 11 (b)

Criteria	Marks
• Demonstrates a sound understanding of the use of used PET bottles as an appropriate and sustainable use of resources	3
• Demonstrates some understanding of the use of used PET bottles as an appropriate and sustainable use of resources	2
• Provides some relevant information	1

Sample answer:

This is an appropriate use of resources as recycling waste PET bottles for the production of polyester fibre reduces the number of bottles going into landfill, reduces pollution in environments such as waterways and reduces the need for the production of new fibre from non-renewable unsustainable petroleum resources.

Question 11 (c)

Criteria	Marks
• Explains the purpose of government legislation related to pollution associated with the textile industry • Provides a relevant example	3
• Identifies the purpose of government legislation related to pollution associated with the textile industry and provides an example	2
• Provides some relevant information	1

Sample answer:

Legislation provides guidelines about reducing and controlling the type and amount of pollutants released into the air and water supply as well as methods for the safe disposal of waste products.

For example, there is legislation to help reduce and control the use of chemicals (insecticides, fertilisers, herbicides) which can leach into the soil and waterways when growing cotton.

Answers could include:

- Excess printing paste, wastewater containing dye particles, metals and salts, toxic gases/fumes produced during printing and dyeing
- Minimising the amount of yarn waste, fabric offcuts, packaging.

Question 12 (a)

Criteria	Marks
• Explains what happens during migration and fixation in the dyeing process	3
• Describes migration and/or fixation as they relate to the dyeing process	2
• Provides some relevant information	1

Sample answer:

During migration the dye molecules move from the dye bath to the fibre, reducing the amount of dye in the dye bath.

During fixation the dye molecules are secured to the fibres by the use of heat or mordants, making the fabric colourfast.

Question 12 (b)

Criteria	Marks
• Explains how traditional textile production methods or art forms can be used in a contemporary textile item to express cultural identity • Provides relevant examples	5
• Describes how traditional textile production method(s) or art form(s) can be used in a contemporary textile item to reflect cultural identity • Provides relevant example(s)	4
• Outlines the link between textiles and culture through the use of a traditional textile production method or art form	3
• Shows some understanding of cultural textiles	2
• Provides some relevant information	1

Sample answer:

Culture studied – Japan

A contemporary textile item which can express a Japanese identity is the obi belt, which, when worn with a contemporary dress or hip-length top, gives a feeling of Japanese culture.

The fabric could be dyed by the shibori method using an indigo dye to give a Japanese look. For Shibori, the fabric is folded or manipulated in some way and then tied or clamped to restrict the dye from entering certain areas, in order to create a pattern. The fabric is then wetted out and placed in the dye bath for the required amount of time to allow the traditional indigo colour to develop.

To mimic the traditional obi, the obi belt will have a cord tied around the middle which could use Japanese braiding techniques using gold and silver cords, knotted in front with the traditional reef knot.

Question 13 (a)

Criteria	Marks
• Describes how the use of CAD saves time in the production of textile items	3
• Outlines how the use of CAD saves time in the production of textile items OR • Outlines an application of CAD in textile production	2
• Provides some relevant information	1

Sample answer:

CAD makes the design of textile items quicker eg a neckline or collar shape can be altered before pattern pieces are finalised. Styles, colour schemes and accessories can easily be changed on-screen using software. The software can then send the instructions electronically to the laser cutter for fabric cutting.

Question 13 (b)

Criteria	Marks
• Justifies the selection of a fibre and fabric structure combination that is suitable for the end-use requirements of umbrellas used in outdoor areas	5
• Describes why a fibre and fabric structure is suitable for use in umbrellas used in outdoor areas OR • Justifies the selection of a fibre or fabric structure that is suitable for the end-use requirements of umbrellas used in outdoor areas	4
• Outlines the suitability of a fibre and/or fabric structure for use in umbrellas	3
• Identifies a fibre and/or fabric structure for umbrellas OR • Identifies some requirement(s) for umbrellas	2
• Provides some relevant information	1

Sample answer:

Outdoor umbrellas need to protect the user from the weather such as sun, heat or cold. A nylon, plain weave would be a suitable fibre and fabric combination.

Nylon is strong so it will resist tearing when in use. It has good dimensional stability so the umbrella will hold its shape and structure even in windy weather. It is a durable fibre so the umbrella will resist abrasion during use and nylon is naturally resistant to sun damage, prolonging the life of the umbrella.

A plain weave adds to the strength of the umbrella, and has good flexibility to allow for repeated opening and closing and for compact storage. A tightly woven plain weave will block a considerable amount of light and heat, providing protection for the users.

Section III

Question 14

Criteria	Marks
• Provides a comprehensive explanation of how a designer has responded to identified internal and/or external factors in order to succeed	8
• Provides a sound explanation of how a designer has responded to identified internal and/or external factors in order to succeed	6–7
• Describes how a designer has responded to identified internal and/or external factors	4–5
• Demonstrates some knowledge of internal and/or external factors affecting designers OR • Demonstrates some knowledge of the identified designer	2–3
• Provides some relevant information	1

Sample answer:

Akira Isogawa has the capacity to utilise his expertise and facilities to maintain his success in the Australian Fashion Industry and to respond to changing economic, social and ecological factors.

His expertise is shown in his ability to manipulate fabric, and in his knowledge of and skills in traditional Japanese techniques, such as shibori and fabric origami. This has allowed him to produce unusual, unique designs that give him a point of distinction which attracts customers.

His ability to repurpose vintage kimono into contemporary garments has allowed him to respond to the popular ecological trend of recycling and using sustainable practices.

Akira chooses to operate his own retail facilities by only selling in his boutiques, and it is this factor that has allowed him to maintain a personal, face-to-face connection with his customers, which is in line with the individuality of his brand. He has yet to launch a website for online shopping, preferring his customers to feel and touch the garments in his boutique showrooms.

In response to economic factors, he has diversified his range to include furnishings, such as bespoke floor rugs, and costume design in collaboration with a modern dance company. This made his company less dependent on one area of production, and gave him a broader source of income. His response to financial circumstances includes using overseas manufacturing to minimise labour costs in order to remain competitive within the Australian market.

In response to the increasing popularity of social media, he successfully promotes his products to a wider audience using various platforms that appeal to a broad and diverse range of the population. Promoting his products both online and in-store has also led to success as he can connect and cater to a diverse clientele.

Question 15

Criteria	Marks
• Demonstrates extensive knowledge of the properties of the fibre and fabric structures of both jumpers • Makes a comprehensive comparison of the jumpers in relation to their end-use performance and care	8
• Demonstrates sound knowledge of the properties of the fibre and fabric structures of both jumpers • Makes some comparison of the jumpers in relation to their end-use performance and care	6–7
• Demonstrates some knowledge of the properties of the fibre and/or fabric structures of both jumpers • Describes the end-use performance and care of one or both jumpers	4–5
• Outlines some properties of the fibre and/or fabric structures of one or both jumpers OR • Outlines some end-use performance and/or care requirements of one or both jumpers	2–3
• Provides some relevant information	1

Answers could include:

- 100% wool is resilient with excellent elastic recovery so will not crush. It can be placed in a bag and will spring back without creases. Polyester also has excellent resiliency so it too will not crush easily.
- Wool is hygroscopic which means it can absorb a small amount of moisture, but remains dry to the touch, such as in light rain. Polyester is hydrophobic which means it does not absorb water easily, therefore under light rain conditions water may remain on the surface. Hence both jumpers allow the wearer to stay dry in light conditions.
- Wool is a poor conductor of heat so traps in body heat keeping the wearer warm. Polyester has moderate thermal retention so will not be as warm as a wool jumper. However, the pile fleece structure of the polyester jumper can increase the area where air can be trapped providing warmth.
- Wool is weaker than polyester when wet. Therefore, care needs to be taken when washing wool whereas polyester does not require special care. Wool is also easily harmed by alkalis so special wool detergents should be used for washing and harsh soaps should be avoided. Polyester is not harmed by alkalis and so can handle harsh detergents and tough washing conditions. Wool has poor dimensional stability so should be washed by hand and dried flat. Polyester has good dimensional stability and good abrasion resistance so can be machine washed and line dried.
- Wool is harmed by dry heat, and polyester is thermoplastic and will melt under high heat, so care needs to be taken if the jumpers require ironing
- Both jumpers are created using weft knitting, which produces a fabric that is stretchy, and adds to the resilience and crease resistance of the jumpers. Thus both jumpers will not crush easily but care needs to be taken when handling to prevent the jumpers from stretching. The hand weft knit has a loose loop construction and will stretch more easily, so the wool jumper will need to be stored flat and not hung up. The small loop machine pile weft knit in the polyester jumper stabilises the fabric and provides extra dimensional stability, so less care is needed in storage.
- The weft knit of both jumpers provides enough stretch to produce a form-fitting garment, and eliminates the need for closures such as buttons or zipper.

- The loop knit structure in both jumpers creates spaces to trap air and provide insulating warmth. The pile in the polyester fleece jumper will add additional warmth to the jumper as it traps more air to imitate the innate fuzziness and warmth of wool.
- Effect of crimp in wool in increasing insulation capacity.

2020 HSC Textiles and Design Mapping Grid

Section I

Question	Marks	Content	Syllabus outcomes
1	1	Design – cultural influences	H6.1
2	1	ATCFAI — current issues – globalisation	H5.2
3	1	Design — contemporary designers – inspiration	H6.1
4	1	Design — fabric colouration – digital printing	H1.3
5	1	ATCFAI — marketing – place, distribution, promotion	H5.1
6	1	Design — historical design development	H6.1
7	1	Properties and performance of textiles — innovation and emerging textile technologies – washable webs	H3.2
8	1	Properties and performance of textiles — innovation and emerging textile technologies – finishing	H3.2
9	1	Properties and performance of textiles — end-use application	H4.1
10	1	Properties and performance of textiles — end-use application	H4.1

Section II

Question	Marks	Content	Syllabus outcomes
11 (a)	2	ATCFAI — current issues – sun protection factor clothing	H5.2
11 (b)	3	ATCFAI — selection of appropriate technology in the industry – resources	H5.2
11 (c)	3	ATCFAI — appropriate and sustainable resources – government legislation	H5.2
12 (a)	3	Design — fabric colouration and decoration – dyeing	H1.3
12 (b)	5	Design — cultural factors that influence design	H6.1
13 (a)	3	Properties and performance of textiles — innovation and emerging technologies – CAD	H3.2
13 (b)	5	Properties and performance of textiles — fibre, yarn and fabrics – end use	H4.1

Section III

Question	Marks	Content	Syllabus outcomes
14	8	Design — internal and external factors that affect success of designers	H6.1
15	8	Properties and performance of textiles — fibre, yarn and fabrics – end use	H4.1