

2014 HSC Textiles and Design Marking Guidelines

Section I

Multiple-choice Answer Key

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

Section II

Question 11 (a)

Criteria	Marks
<ul style="list-style-type: none"> Clearly outlines the link between globalisation and jobs available in the Australian textile industry 	2
<ul style="list-style-type: none"> Provides some information on globalisation or the Australian textile industry 	1

Sample answer:

The Australian textile industry relies heavily on overseas manufacturing, therefore the types of jobs available will more likely be in the design of the products.

Answers could include:

- Computer aided design, patternmaking, and grading are highly skilled jobs available in the Australian textile industry.
- Globalisation provides opportunities for jobs in the import/export area of textiles. For example, in fabric design, either computer-aided or hand-drawn, or in the production and development of quality raw materials, eg wool and cotton.
- Production of raw materials in Australia, which are then processed overseas.

Question 11 (b)

Criteria	Marks
<ul style="list-style-type: none"> Provides an example to show how textile items can be recycled Clearly relates the benefit(s) to the environment 	3
<ul style="list-style-type: none"> Demonstrates some understanding of the recycling of textile items and/or the benefits of recycling to the environment 	2
<ul style="list-style-type: none"> Provides some information on recycling 	1

Sample answer:

Recycling textile products through hand-me-down or garment exchanges extends the life of the products and assists the environment by reducing landfill pollution.

Answers could include:

- The use of waste clothing and fabrics being recycled into, for example, carpet underlay, gives the product new life, aiding the environment by not having as many products going into landfill which is detrimental to the condition of the land.
- Used garments can be deconstructed to be re-made into new products.

Question 12 (a)

Criteria	Marks
• Clearly identifies the characteristics of embroidery	2
• Identifies a characteristic of embroidery	1

Sample answer:

Embroidery is a fabric decoration technique done by machine or hand, using a needle and thread, which creates a raised surface on the fabric.

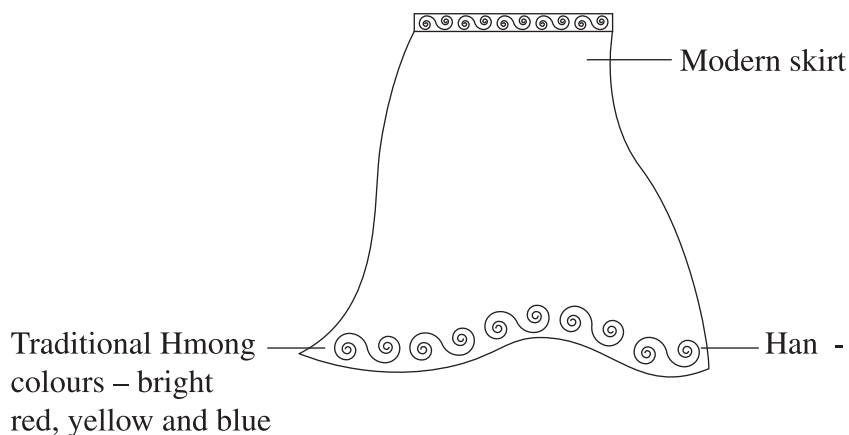
Question 12 (b)

Criteria	Marks
• Clearly outlines how a textile art form from a culture studied can be incorporated decoratively into a contemporary textile item	3
• Shows a link between a textile art form from a culture studied and a contemporary textile item	2
• Provides some information relevant to a textile art form of a culture	1

Sample answer:

Culture studied: Hmong
Textile art form: hand embroidery

The Hmong people use brightly coloured hand embroidery to decorate their clothing. This same design can be done on a modern skirt.

**Answers could include:**

Culture studied: Japan
Textile art form: Kimono

The Japanese kimono can be adapted and adjusted to wear in 'harajuku-style'. The kimono could be cut off short, wrapped and tied with a contemporary black leather belt and the shoulders of the sleeves could be gathered up. It could be worn with leggings, printed with a traditional 'cloud' design.

Question 12 (c)

Criteria	Marks
<ul style="list-style-type: none"> • Demonstrates a detailed understanding of how expertise and the availability of facilities have influenced the success of a contemporary textile designer • Uses relevant examples 	5
<ul style="list-style-type: none"> • Demonstrates a sound understanding of how expertise and the availability of facilities have influenced the success of a contemporary textile designer • Uses relevant example(s) 	4
<ul style="list-style-type: none"> • Demonstrates some understanding of how expertise and/or facilities have influenced a contemporary textile designer • Provides relevant example(s) 	3
<ul style="list-style-type: none"> • Demonstrates some understanding of a contemporary textile designer and/or how expertise and/or facilities influence textile designers 	2
<ul style="list-style-type: none"> • Provides some relevant information 	1

Sample answer:

Contemporary textile designer: Akira Isogawa

The internal factors, expertise and the availability of facilities significantly influence the success of a contemporary designer by shaping the market they address and the quality of the product. Akira caters to a niche market therefore his expertise must reflect that, he has been trained according to his style that reflects his culture. Akira was trained at a tertiary level and he has an exceptional ability to turn vintage fabric, with history, Shintu connotations into a contemporary textile product that reflects not only his culture but the elegance of the human body. Akira's facilities often reflect his niche market, he has a studio in Sydney and a warehouse, however not all his work is done in Australia it is done overseas ie embroidery. His small scale facilities allow him to go overseas to get work cheaper and allows him to immerse himself in other cultures for inspiration. A contemporary designer's expertise and facilities are vital to the success of a designer and without a quality amount of both, a designer will not be successful as they will lack the skill and the means to create a product.

Question 13 (a)

Criteria	Marks
• Clearly outlines TWO features of bicomponent yarns	2
• Identifies a feature of bicomponent yarns	1

Sample answer:

A bicomponent yarn is made from two polymers of different chemical and /or physical properties which are extruded from the same spinneret.

Answers could include:

In a bicomponent yarn, two polymers are extruded in the same filament and may be either side by side or have a sheath and core arrangement.

Bicomponent yarns can be engineered to make a yarn for a specific end purpose.

Question 13 (b)

Criteria	Marks
• Identifies a fabric finish • Clearly shows the link between the application of this fabric finish and the enhancement of fabric performance	3
• Shows some understanding of how fabric performance could be enhanced through the application of a fabric finish	2
• Provides some information on the enhancement of fabric performance or a fabric finish	1

Sample answer:

Fabric finish: Soil resistant finish

NanoTex is an innovative finish that can be applied to cotton. The finish attaches to the individual cotton fibres at the molecular level, improving its functional properties. The result is a crisp, cool, comfortable cotton fabric that resists wrinkles and repels liquids that may stain. Garments stay fresh looking and are more durable than untreated cotton.

(Note: Students are not required to include names of commercial finishes).

Answers could include:

Flame retardant, soil resistant, antibacterial, crease resistant.

Question 13 (c)

Criteria	Marks
<ul style="list-style-type: none"> Provides a thorough explanation of how computer-aided design (CAD) and computer-aided manufacture (CAM) have influenced contemporary textile production Supports answer with a specific example of each 	5
<ul style="list-style-type: none"> Demonstrates a good understanding of how CAD and CAM have influenced contemporary textile production Provides relevant examples for both CAD and CAM 	4
<ul style="list-style-type: none"> Demonstrates a sound understanding of how CAD and/or CAM can be used in contemporary textile production Provides relevant example(s) for CAD and/or CAM 	3
<ul style="list-style-type: none"> Demonstrates some understanding of how CAD and/or CAM can be used in textile production 	2
<ul style="list-style-type: none"> Provides some information on CAD or CAM 	1

Sample answer:

Widespread use of CAD and CAM in contemporary textile production has led to faster and more efficient design and manufacturing processes.

A computer-aided design (CAD) software package, such as OptiTex, allows the designer to create 2D patterns for apparel, incorporating easy design alterations and grading for different sizes. Designs can be stored electronically for more efficient repeat orders.

Computer-aided manufacture (CAM) is the computerised control of manufacturing. The generation of cutting instructions and pattern layouts on screen minimises fabric waste especially for napped fabrics such as plaids and stripes. Instructions are then sent electronically to the automated cutters, which could be anywhere in the world.

Answers could include:

- Knitwear designs can be generated using a CAD system, and electronically sent to knitting machines, where samples are made and production can be started quickly. This can reduce the production turn-around time from 6 months to 6 weeks.
- 3D computerised draping allows the pattern maker to make changes on the 2D pattern and visualise them on a 3D human form.
- The use of CAM systems allows for consistency in large-scale production. Tasks such as colour matching, dye weighing and fabric printing can all be automated.

Section III

Question 14 (a)

Criteria	Marks
<ul style="list-style-type: none"> Provides a thorough description of current trends in society that have influenced designers 	5
<ul style="list-style-type: none"> Demonstrating a sound understanding of current trends in society that have influenced designers 	4
<ul style="list-style-type: none"> Identifies current trends in society that have influenced designers and provides an outline of one trend 	3
<ul style="list-style-type: none"> Identifies current trends in society that have influenced designers OR <ul style="list-style-type: none"> Outlines one current trend in society that has influenced designers OR <ul style="list-style-type: none"> Demonstrates some understanding of the link between a designer and society 	2
<ul style="list-style-type: none"> Provides some relevant information 	1

Sample answer:

A current trend is consumer awareness of environmental issues relating to textiles. For example, knowing that the growing of cotton involves high use of pesticides could lead to a designer using organic cotton to minimise the impact on the environment. Designers who want to appeal to the ethical nature of consumers could create a broader market therefore greater sales.

Consumer desire for a healthy and active lifestyle, and a willingness to embrace new technologies, has led to the trend of a higher demand for active sportswear incorporating smart textiles. Designers are using new fibres and fabric structures such as those with improved wicking of moisture for comfort in sportswear, or designing textile items which incorporate microchips to monitor heart rate.

Answers could include:

- The societal trend of embracing sustainability leads to the use of sustainable fibres that will not deplete the planet of finite natural resources, and therefore provide longevity for the industry. For example, a designer may choose to only use natural fibres such as bamboo, cotton, wool, silk and linen, which can be produced sustainably, as opposed to using petrochemical-based fibres, which are from a finite source.
- Other trends could include: SPF clothing, increasing sizes, current events, movies eg Great Gatsby, media.

Question 14 (b)

Criteria	Marks
<ul style="list-style-type: none"> • Demonstrates a thorough understanding of historical design development in a focus area • Clearly relates the historical design development in the focus area to societal factors 	9–10
<ul style="list-style-type: none"> • Demonstrates a good understanding of historical design development in a focus area • Links the historical design development in the focus area to societal factors 	7–8
<ul style="list-style-type: none"> • Demonstrates a sound understanding of historical design development in a focus area • Provides some link between the historical design development in the focus area and society 	5–6
<ul style="list-style-type: none"> • Outlines some historical design development(s) • Identifies relevant societal factor(s) 	3–4
<ul style="list-style-type: none"> • Provides some relevant information 	1–2

Sample answer:

Before the 1900s swimsuits looked like street clothes. Women wore neck to knee bathing dresses with heavy dark stockings and long knickers or bloomers, usually made from wool, and modesty was a priority.

Societal attitudes and the concept of modesty were changing and in 1907 Australian Annette Kellerman wore a one-piece fitted bathing suit that revealed her arms, legs and neck to assist her in competitive swimming.

The two-piece suit and the bikini were introduced in the 1940s and initially caused a stir, and Hollywood was pressured to keep them out of movies. Restrictions on showing the navel led to creative ties and straps crossing the front to cover the navel.

When technological developments such as latex and nylon were introduced, along with rayon knit jersey and crepe fabrics that had inbuilt stretch, the designs became more formfitting and functional. These qualities were further improved in the late '50s when Lycra was invented, and as a result designers were able to stop using zippers, buttons and elastic casing in their designs.

By the '70s the sexual revolution saw attitudes towards bathing suits change again. It saw the introduction of the thong as well as the one-piece high cut leg showing the hips. The tan thru swimsuit became popular, as did the crochet and string bikini.

Having a healthy suntan was popular, so designs developed to reveal more skin. However, by the late 1980s skin cancer awareness increased, and the development of SPF factor fabrics and finishes saw rash shirts appear especially in children's swimwear. This has further developed, along with societal attitudes, and rash shirts are now commonly worn by people of all ages.

Interest in competitive racing, such as at the Olympic Games, has also influenced swimwear fabric and design. Speedo went on to design its racer-back style, which has become a design classic in competitive swimwear. Recent developments in microfibres, are producing more functional swimwear designs such as those seen in the sharkskin and fast skin racers of today.

Today a huge variety of swimwear styles can be observed, which reflects the freedom and diversity of Australian society.

Question 15 (a)

Criteria	Marks
• Provides a thorough description of the impact on consumers of the use of microfibres	5
• Demonstrating a sound understanding of the impact on consumers of the use of microfibres	4
• Outlines the impact on consumers of the use of microfibres	3
• Identifies use(s) of microfibres and/or impact on consumers	2
• Provides some relevant information	1

Sample answer:

Microfibres can be made into a wide variety of innovative fabrics with a diverse range of uses.

The desirable characteristics of being lightweight, with excellent drape, lustre and a soft handle make them suitable for use in apparel such as formal gowns and suiting, and home-wares such as sofas and cushions. In this case microfibre fabrics mimic the finest silks, but at a much lower cost to the consumer, and they are easy care and don't require dry cleaning.

Functional properties such as good absorbency and sound dimensional stability enable microfibres to be used in cleaning cloths which can perform their tasks without. They do not require the use of harsh chemicals, thus lessening the negative environmental impact, which is very appealing to some consumers. As they are reusable, they are also economical for long-term use.

Answers could include:

Their good insulation and thermal properties make microfibres appropriate for use in ski jackets. When spun and woven tightly they create fabrics that are wind resistant, yet lightweight – ideal for outdoor recreation apparel.

Question 15 (b)

Criteria	Marks
<ul style="list-style-type: none"> • Thoroughly justifies the suitability of an appropriate fibre, yarn and fabric structure for a jacket to be worn in cold weather • Clearly relates the fibre, yarn and fabric properties to the desirable features of the jacket 	9–10
<ul style="list-style-type: none"> • Provides some justification for the suitability of an appropriate fibre, yarn and fabric structure for a jacket to be worn in cold weather • Links the fibre, yarn and fabric properties to the desirable features of the jacket 	7–8
<ul style="list-style-type: none"> • Describes the properties of a suitable fibre and/or yarn and/or fabric structure for a jacket to be worn in cold weather • Provides some link between these properties and the desirable features of the jacket 	5–6
<ul style="list-style-type: none"> • Outlines some properties of a fibre and/or yarn and/or fabric structure for a jacket • Identifies the desirable features of the jacket 	3–4
<ul style="list-style-type: none"> • Provides some relevant information 	1–2

Sample answer:

The jacket could be made from 100% pure wool fibre, woollen spun, loose twill weave.

- Wool fibre – suitable for a winter jacket as it has excellent insulation properties due to the natural crimp of the wool fibre, which will keep the wearer warm. Also, it is comfortable to wear as it has good absorption, and in light rain it won't feel wet to the touch, although the fibres will be weaker when wet, and it will be heavy with the absorbed water. Wool is not soft on the skin, but this can be avoided by lining the jacket with a smooth fabric. The excellent absorbency of wool means it is easy to dye, making it available in a wide range of colours.
- Woollen yarn – this is suitable as it is a soft spun yarn, which will further enhance and increase the insulation properties of the wool fibre by trapping air in between the fibres. Also it will have a lofty handle, providing bulk for the fabric of the jacket. The yarn will enhance the resilience of the wool fibre, leading to good crease resistance.
- Twill weave – this is a strong and durable weave, which will ensure a long life for the jacket. It also allows a pattern to be woven into the fabric, adding interest to the surface texture. A loose weave is desirable so as to not deplete the insulating properties of the soft spun woollen yarn. The good drape of the twill weave suits the basic styling of a jacket, and allows it to retain its appearance while being worn.

Answers could include:

End use	Fibre	Yarn	Fabric
ski jacket	polyester	multi filament	plain weave
sports jacket	nylon	filament	weft knit
winter jacket	cotton/polyester	soft spun staple	pile knit

Textiles and Design

2014 HSC Examination Mapping Grid

Section I

Question	Marks	Content	Syllabus outcomes
1	1	Market place – target markets	H5.1
2	1	Designer – Sources of inspiration	H6.1
3	1	Innovations – digital printing	H3.2
4	1	Innovations – washable webs	H3.2
5	1	Current issues – organic sources	H5.1
6	1	End-use applications – finishing	H4.1
7	1	Specific end-use application	H4.1
8	1	Principles of printing	H1.3
9	1	Marketplace – aspects of marketing	H5.1
10	1	End-use applications – properties	H3.1

Section II

Question	Marks	Content	Syllabus outcomes
11 (a)	2	Current issues – globalisation	H5.2
11 (b)	3	Environmental sustainability – recycling and environment	H5.2
12 (a)	2	Fabric colouration and decoration – embroidery	H1.3
12 (b)	3	Cultural factors – textile design in contemporary society	H6.1
12 (c)	5	Contemporary designers – internal factors	H6.1
13 (a)	2	Innovations – bicomponent yarns	H3.2
13 (b)	3	Innovative finishing techniques – impact on fabric performance	H3.2
13 (c)	5	Technological advances – CAD/CAM – impact on the industry	H3.2

Section III

Question	Marks	Content	Syllabus outcomes
14 (a)	5	Trends in society that influence designers	H6.1
14 (b)	10	Historical design development – influence of society	H6.1
15 (a)	5	Innovations and emerging textile technologies – fibre Impact on society	H3.2
15 (b)	10	End-use applications – influence of fabric, yarn and fibre properties	H4.1