
2020 HSC Design and Technology Marking Guidelines

Section I

Multiple-choice Answer Key

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

Section II

Question 11 (a)

Criteria	Marks
<ul style="list-style-type: none"> • Sketches in general terms how a designer could protect their intellectual property, with reference to one of the cups shown 	2
<ul style="list-style-type: none"> • Provides some relevant information 	1

Sample answer:

A designer is able to protect the intellectual property of their cup design by ensuring they register their design through IP Australia. For example, the designer of the glass cup can register the designs of the rubber lid and band.

Question 11 (b)

Criteria	Marks
<ul style="list-style-type: none"> • Describes a positive design feature and a negative design feature of one of the cups shown 	3
<ul style="list-style-type: none"> • Outlines a positive design feature and/or a negative design feature 	2
<ul style="list-style-type: none"> • Provides some relevant information 	1

Sample answer:

The stainless steel cup has the feature of a double wall skin to ensure that the liquid remains hotter for a longer period of time, while protecting the user from the heat. A negative feature of the design of this cup is that it does not have a handle and has a smooth surface. This means that it might slip from the user's grip with no handle to hold.

Question 11 (c)

Criteria	Marks
<ul style="list-style-type: none"> • Demonstrates a comprehensive understanding of how environmental factors may have influenced social acceptance of using the reusable cups 	4
<ul style="list-style-type: none"> • Demonstrates a sound understanding of how environmental factors may have influenced social acceptance of using the reusable cups 	3
<ul style="list-style-type: none"> • Demonstrates some understanding of environmental factors which may influence social acceptance of using reusable cups 	2
<ul style="list-style-type: none"> • Provides some relevant information 	1

Sample answer:

The interest in using reusable coffee cups such as the stainless steel cup and/or the glass cup with rubber grip, as opposed to the polystyrene foam cup, is most likely to be due to people's desire to lessen the impact on the environment by reducing waste and landfill and adopting production methods that are environmentally friendly.

Society is now well informed and concerned about the use of products made from non-reusable materials. Hence, there has been a growing interest in reducing the demand for single-use products. As a result people are now more prepared to adopt new habits and practices and to even experience minor inconvenience to benefit the environment.

In doing so, people hope that this should in turn lessen the long-term demand on finite resources and change the management of waste products. Awareness of environmental issues such as these have most likely been very important in influencing and helping shape social conscience and the acceptance of these products.

Question 12

Criteria	Marks
<ul style="list-style-type: none"> Makes the relationship evident why technological advancements in production techniques have influenced changes in design Provides relevant examples 	6
<ul style="list-style-type: none"> Provides characteristics and features of technological advancements in production techniques that have influenced changes in design Provides examples 	5
<ul style="list-style-type: none"> Indicates the main features of technological advancements in production techniques that have influenced changes in design Provides example(s) 	4
<ul style="list-style-type: none"> Demonstrates some understanding of technological advancements in production techniques and/or changes in design 	2–3
<ul style="list-style-type: none"> Provides some relevant information 	1

Sample answer:

Technological advancements in modern production techniques give greater versatility in the way materials can be combined, formed, shaped and labelled. Hence the range of materials and functions allows products to meet a broader social demand. For example, technological developments have affected and influenced the process in design and manufacture of products like the take-away coffee cup. Equipment and production techniques that can now be used to produce the rippled paper have allowed the designer to use the insulating rigid features in a simple cost-effective mass-produced process.

Technological developments in laser cutting and automated production techniques have begun to change the way traditional production techniques are used to develop or produce a given design. For example, these advancements have led to a shift in the way products are designed for assembly. The design and development of flat pack products will reduce laser costs and costs to the consumer which will continue to stimulate the need for further design refinement.

However, these advancements in production techniques often require the additional and necessary expense of equipment, staff training and an increased demand for alternative and/or additional resources. Hence, in some cases the advancements have not influenced changes in design as much or as quickly as they could have.

Section III

Question 13

Criteria	Marks
<ul style="list-style-type: none"> • Demonstrates a comprehensive and detailed understanding of the rights and responsibilities of a designer when developing a new product • Draws out and relates implications of the rights and responsibilities of a designer when developing a new product • Provides a logical and cohesive response supported by relevant examples 	13–15
<ul style="list-style-type: none"> • Explains the rights and responsibilities of a designer when developing a new product • Provides a mostly logical and cohesive response supported by some relevant examples 	10–12
<ul style="list-style-type: none"> • Describes the rights and responsibilities of a designer when developing a new product • Provides a mostly logical and/or cohesive response supported by some relevant example(s) 	7–9
<ul style="list-style-type: none"> • Outlines the rights and/or responsibilities of a designer • May provide relevant example(s) 	4–6
<ul style="list-style-type: none"> • Provides some relevant information about the rights and/or responsibilities of a designer 	1–3

Answers could include:

- Safety
 - End-user
 - During production
 - WHS
- Ethical issues
 - Conduct
 - Moral concerns
 - Appropriate material selection
 - Production techniques
 - Use of resources
- Legal implications
 - Ensuring adherence to standards and codes
 - Confidentiality
- Intellectual Property
 - Designer has the right to have their design protected
 - Responsibility to not copy existing products/designs
- Inclusive where possible
 - Consideration of minority groups
- Cultural appropriateness

- Environmental Issues
 - Ecological footprint
 - Life cycle analysis
 - Awareness of environmental impact
- Ease of use
- Up-skilling/training
- Working conditions
 - Make a profit
 - Work in a safe environment
 - Protected by law/legislation
 - Work to award conditions.

2020 HSC Design and Technology Mapping Grid

Section I

Question	Marks	Content	Syllabus outcomes
1	1	Factors affecting design	H1.1
2	1	Research methods	H5.2
3	1	Factors affecting design	H1.1
4	1	Sustainability	H1.1, H2.2
5	1	Factors affecting design	H1.1, H3.1
6	1	Changing nature of work	H2.1
7	1	Life-cycle analysis	H1.1, H1.2
8	1	Communication	H3.2, H5.2
9	1	Design practice	H1.1, H1.2, H6.2
10	1	Ethical considerations	H2.2

Section II

Question	Marks	Content	Syllabus outcomes
11 (a)	2	Intellectual property	H2.2
11 (b)	3	Design features	H1.1
11 (c)	4	Environmental factors	H1.1, H2.2
12	6	Technological advancements	H2.1, H6.2

Section III

Question	Marks	Content	Syllabus outcomes
13	15	Rights and responsibilities of designers	H2.2