2023 HSC Industrial Technology
Timber Products and Furniture Technologies
Marking Guidelines

Section I

Multiple-choice Answer Key

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

Section II

Question 11

Criteria	Marks
• Provides the correct category of the fittings	1

Sample answer:

Catch

Answers could include:

Latch, roller catch, magnetic catch, ball catch

Question 12

Criteria	Marks
• Outlines an environmental benefit of using manufactured boards	2
• Provides some relevant information	1

Sample answer:

Manufactured boards are normally made from waste from the production of wood planks or from recycled timber. This means fewer trees need to be cut down and resources are conserved.

Question 13

Criteria	Marks
• Demonstrates a clear understanding of how to calculate the cost of the finished coat on the table top	3
• Demonstrates some understanding of how to calculate the cost of the finished coat on the table top	2
• Provides some relevant information	1

Sample answer:

$$
\begin{aligned}
\text{Table top area} &= 2.5 \times 1.5 \\
&= 3.75 \text{ square metres} \\
\text{For 2 coats area} &= 3.75 \times 2 \\
&= 7.5 \text{ square metres} \\
\text{1 litre covers 15 square metres} &= 7.5 \div 15 \\
&= 0.5 \text{ litres of finish} \\
\text{Cost of 1 litre \$45.00} &= 0.5 \times 45 \\
&= \underline{\$22.50}
\end{aligned}
$$

Question 14

Criteria	Marks
• Provides a sound description of the process of cutting veneers for plywood	4
• Provides some description of the process of cutting veneers for plywood	3
• Provides a feature of cutting veneers for plywood	2
• Provides some relevant information	1

Sample answer:

Veneer is cut and manufactured from long sections or saw flitches. Veneer is produced by slicing or rotary peeling of logs. It is sliced at approximately 0.6 mm (this is normal thickness for the Australian market) or can be peeled at various thicknesses. Several cut methods are used to create various wood grain patterns.

Question 15

Criteria	Marks
• Provides a thorough explanation of the process of seasoning timber through natural air drying	5
• Provides a sound explanation of the process of seasoning timber through natural air drying	4
• Provides some explanation of the process of seasoning timber through natural air drying	3
• Provides feature(s) of air drying	2
• Provides some relevant information	1

Sample answer:

In seasoning timber through air drying, the boards are stacked and divided by narrow pieces of wood called stickers so that the air can circulate freely about each board. The stack is slanted to facilitate drainage of rain. The process is inexpensive, easily managed, no specialist labour required, no expensive equipment needed.

Section III

Question 16 (a)

Criteria	Marks
• Provides a sound description of how ONE new technology is being used to improve the timber products and furniture industry	3
• Demonstrates some understanding of ONE new technology used to improve the timber products and furniture industry	2
• Provides some relevant information	1

Sample answer:

Drones are flying robots that can be remotely controlled. In the timber industry, one purpose of drones is to create detailed 3D maps of forests, automatically count trees and identify species. As a result, we are able to assess inventory to better select timber for harvest and plan for a more sustainable future.

Answers could also include:

- Microwave seasoning
- Laser cutting
- Handheld CNC router
- Global positioning systems.

Question 16 (b)

Criteria	Marks
• Provides a comprehensive discussion of the impact of mass production and automation on the timber products and furniture industry • Integrates relevant industry examples to support response	11–12
• Provides a sound discussion of the impact of mass production and automation on the timber products and furniture industry • Makes detailed reference to industry examples to support response	8–10
• Provides some discussion of the impact of mass production and automation on the timber products and furniture industry • Makes some reference to industry examples to support response	5–7
• Demonstrates some understanding of the impact of mass production and/or automation on the timber products and furniture industry	3–4
• Provides some relevant information	1–2

Answers could include:

Advantages
- Increase efficiency and therefore production rates
- More products can be produced in a shorter amount of time, leading to increased profits
- Consistency across products
- Minimisation of errors
- Cost saving as automated machines incur less costs in the long term
- Allow the meeting of consumer demands at a lower cost
- Reduced labour costs
- Lower product prices.

Disadvantages
- Does not allow customisation
- Negative impact on the environment
- High initial investment in equipment
- Decreased quality
- Lost of jobs due to machinery and automated processes taking over
- Need of train employees to operate new machinery.

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Mapping Grid

Section I

Question	Marks	Content	Syllabus outcomes
1	1	Processes, tools and machinery	H1.2
2	1	Processes, tools and machinery	H1.2
3	1	Processes, tools and machinery	H1.2
4	1	Processes, tools and machinery	H4.3
5	1	Tools and machinery	H1.2
6	1	Materials	H1.2
7	1	Processes, tools and machinery	H1.2
8	1	Materials	H1.2
9	1	Materials	H1.2
10	1	Processes, tools and machinery	H1.2

Section II

Question	Marks	Content	Syllabus outcomes
11	1	Materials	H1.2
12	2	Materials	H6.1
13	3	Processes, tools and machinery	H3.2
14	4	Materials	H4.3
15	5	Materials	H4.3

Section III

Question	Marks	Content	Syllabus outcomes
16 (a)	3	Technical considerations — new and emerging technologies	H7.2
16 (b)	12	Technical considerations — mass production	H1.3