

# 2021 HSC Industrial Technology Timber Products and Furniture Technologies Marking Guidelines

## Section I

### Multiple-choice Answer Key

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

## Section II

### Question 11

| Criteria                   | Marks |
|----------------------------|-------|
| • Correctly names the tool | 1     |

**Sample answer:**

Sliding bevel.

### Question 12

| Criteria                                    | Marks |
|---------------------------------------------|-------|
| • Provides the advantages of kiln seasoning | 2     |
| • Provides at least one advantage           | 1     |

**Sample answer:**

Timber can be dried to an exact moisture content.  
Reduction in time for seasoning (quick method).

**Answers could include:**

- Weather does not affect the process
- Does not require a lot of space
- Seasoned timber is always available
- Kills insects and fungi.

### Question 13

| Criteria                                                  | Marks |
|-----------------------------------------------------------|-------|
| • Provides the correct answers to all 3 calculations      | 3     |
| • Provides the correct answers to at least 2 calculations | 2     |
| • Provides the correct answers to at least 1 calculations | 1     |

**Sample answer:**

| Member      | Number | Length | Width | Thickness | Cost per metre | Total cost |
|-------------|--------|--------|-------|-----------|----------------|------------|
| Legs        | 4      | 431    | 40    | 40        | \$10.00        | \$17.24    |
| Long rails  | 2      | 920    | 75    | 40        | \$5.00         | \$9.20     |
| Short rails | 2      | 400    | 75    | 19        | \$5.00         | \$4.00     |
| Top         | 4      | 1080   | 140   | 19        | \$20.00        | \$86.40    |
|             |        |        |       |           | Total cost     | \$116.84   |

Note – 3 calculations = correctly determine size of top: correct multiplication; correct addition.

## Question 14

| Criteria                                                       | Marks |
|----------------------------------------------------------------|-------|
| • Provides characteristics and features of plywood manufacture | 4     |
| • Sketches in general terms features of plywood manufacture    | 3     |
| • Provides a feature of plywood manufacture                    | 2     |
| • Provides some relevant information                           | 1     |

### **Sample answer:**

Plywood is usually made by bonding three or more thin sheets of timber, known as plies, so that the grain is at right angles in adjacent layers. The number of layers is usually odd, ranging from 3 to 21.

### **Answers could include:**

Veneer is produced from logs using rotary peeling or slicing; veneer sheets are glued, with grains at ninety degrees to each other; pressure applied; trim edges and cut to size.

## Question 15

| Criteria                                                                                                                                                                      | Marks |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| • Provides a comprehensive understanding of the characteristics and features of environmental considerations for the timber industry                                          | 5     |
| • Provides a sound understanding of the characteristics and features of environmental considerations for the timber industry                                                  | 4     |
| • Sketches in general terms environmental considerations for the timber industry<br>OR<br>• Provides characteristics and features of at least one environmental consideration | 3     |
| • Shows some understanding of environmental issues                                                                                                                            | 2     |
| • Provides some relevant information                                                                                                                                          | 1     |

### **Answers could include:**

- Use of plantation timbers
- Recycling/reusing timbers
- Waste minimisation
- Pollution control (dust, noise, chemicals)
- WHS issues.

## Section III

### Question 16 (a)

| Criteria                                                                                                                                                                                                                                                                      | Marks |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <ul style="list-style-type: none"> <li>Demonstrates comprehensive understanding of the characteristics and features of industrial relations issues that would occur to adapt to the company's changes</li> </ul>                                                              | 5     |
| <ul style="list-style-type: none"> <li>Demonstrates a sound understanding of the characteristics and features of industrial relations issues that would occur to adapt to the company's changes</li> </ul>                                                                    | 4     |
| <ul style="list-style-type: none"> <li>Sketches in general terms industrial relations issues that would occur to adapt to the company's changes</li> </ul> OR <ul style="list-style-type: none"> <li>Provides characteristics and features of one industrial issue</li> </ul> | 3     |
| <ul style="list-style-type: none"> <li>Shows some understanding of industrial relations issues that would occur</li> </ul>                                                                                                                                                    | 2     |
| <ul style="list-style-type: none"> <li>Provides some relevant information</li> </ul>                                                                                                                                                                                          | 1     |

#### **Sample answer:**

If the company is going to downsize this could lead to employee job losses and retrenchments. This requires redundancy packages and union negotiation in regards to individual contracts. The company needs to ensure that employees' rights are protected in accordance with government legislation and policies. The retrenchment process needs to be conducted in an equitable fashion.

If the company is going to expand, recruitment of new staff will be necessary. Existing staff can be retained and upskilled. Unions play a major role in the negotiation of group and individual contracts. Equal Employment Opportunity legislation has implications for the hiring of new staff. This includes new employees and the promotion of existing staff.

## Question 16 (b)

| Criteria                                                                                                                                                                                                                                                                                                                                                                                              | Marks |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <ul style="list-style-type: none"> <li>Provides detailed strategies the company could implement to provide career and training opportunities to its employees and links the strategy to the desired outcome</li> </ul>                                                                                                                                                                                | 9–10  |
| <ul style="list-style-type: none"> <li>Provides sound strategies the company could implement to provide career and training opportunities to its employees and makes some link to the outcome</li> </ul>                                                                                                                                                                                              | 7–8   |
| <ul style="list-style-type: none"> <li>Describes some strategies the company could implement to provide career and training opportunities to its employees</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>Identifies a strategy the company could implement to provide career and training opportunities to its employees and provides points for and/or against the strategy</li> </ul> | 5–6   |
| <ul style="list-style-type: none"> <li>Outlines strategies the company could implement to provide career and training opportunities to its employees</li> </ul>                                                                                                                                                                                                                                       | 3–4   |
| <ul style="list-style-type: none"> <li>Provides some relevant information</li> </ul>                                                                                                                                                                                                                                                                                                                  | 1–2   |

### **Answers could include:**

Strategies for company expansion:

- Employees have opportunities to train and further develop their knowledge and skills in the industry they work in
- If the company brings in a new machinery or technology, it must make sure all employees get trained to use the machinery or technology
- All employees must be provided with the opportunity to further their career by training through TAFE or universities
- Training to use special machines or technologies through outside agencies or in-house training
- On the job training where employees get trained while they are working
- Multi-skilling of employees
- Management opportunities/change structure/leadership opportunities/internship traineeships
- Recruitment/hiring of new staff to meet the significant change in demand.

Strategies for downsizing:

- Employees can be retrained
- Voluntary redundancies
- Employees who go for regular training in new courses are not likely to be made redundant
- Part time / casual work
- Government subsidy
- Management structure change.

# 2021 HSC Industrial Technology Timber Products and Furniture Technologies Mapping Grid

## Section I

| Question | Marks | Content                                                        | Syllabus outcomes |
|----------|-------|----------------------------------------------------------------|-------------------|
| 1        | 1     | Processes, tools and machinery – preparation of timber         | H1.2, H4.3        |
| 2        | 1     | Fittings and allied materials – hardware and fittings          | H1.2, H4.3        |
| 3        | 1     | Processes, tools and machinery – carcase joints                | H1.2, H4.3        |
| 4        | 1     | Processes, tools and machinery – other construction techniques | H1.2, H3.1        |
| 5        | 1     | Fittings and allied materials – hardware and fittings          | H1.2              |
| 6        | 1     | Processes, tools and machinery – construction techniques       | H1.2, H4.1        |
| 7        | 1     | Processes, tools and machinery – carcase joints                | H1.2, H6.1        |
| 8        | 1     | Fittings and allied materials – hardware and fittings          | H1.2, H3.2        |
| 9        | 1     | Processes, tools and machinery                                 | H1.2              |
| 10       | 1     | Materials – timber recovery and conversion                     | H1.2              |

## Section II

| Question | Marks | Content                                         | Syllabus outcomes |
|----------|-------|-------------------------------------------------|-------------------|
| 11       | 1     | Processes, tools and machinery – carcase joints | H1.2, H3.1        |
| 12       | 2     | Materials – timber recovery and conversion      | H1.2, H4.3        |
| 13       | 3     | Processes, tools and machinery – planning       | H3.1, H3.2        |
| 14       | 4     | Materials – manufactured boards                 | H1.2, H6.1        |
| 15       | 5     | Materials – timber selection considerations     | H1.2, H6.2        |

## Section III

| Question | Marks | Content          | Syllabus outcomes |
|----------|-------|------------------|-------------------|
| 16 (a)   | 5     | Personnel issues | H1.2, H7.1, H7.2  |
| 16 (b)   | 10    | Personnel issues | H1.2, H7.1, H7.2  |