



BOARD OF STUDIES  
NEW SOUTH WALES

**2011**

HIGHER SCHOOL CERTIFICATE  
EXAMINATION

# Industrial Technology

## Timber Products and Furniture Technologies

### General Instructions

- Reading time – 5 minutes
- Working time –  $1\frac{1}{2}$  hours
- Write using black or blue pen  
Black pen is preferred
- Draw diagrams using pencil
- Board-approved calculators may be used
- Write your Centre Number and Student Number at the top of page 5

**Total marks – 40**

**Section I** Pages 2–4

**10 marks**

- Attempt Questions 1–10
- Allow about 20 minutes for this section

**Section II** Pages 5–8

**15 marks**

- Attempt Questions 11–13
- Allow about 35 minutes for this section

**Section III** Page 9

**15 marks**

- Attempt Question 14
- Allow about 35 minutes for this section

## Section I

**10 marks**

**Attempt Questions 1–10**

**Allow about 20 minutes for this section**

Use the multiple-choice answer sheet for Questions 1–10.

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- 1** What is monitored to reduce the amount of splitting in timber during seasoning?

  - (A) pH
  - (B) EMC
  - (C) Temperature
  - (D) Mineral content
  
- 2** What is an example of a widening joint?

  - (A) A bridle joint
  - (B) A biscuit joint
  - (C) A scribed joint
  - (D) A mortise and tenon joint
  
- 3** What is a flitch?

  - (A) An upholstery nail
  - (B) The width of a saw cut
  - (C) A component of a chisel
  - (D) A timber size classification
  
- 4** What feature makes veneers cut from a burl desirable?

  - (A) Checks
  - (B) Colour
  - (C) Tracheids
  - (D) Wavy fibre alignment

- 5 What type of framing joint shows no end grain?
- (A) Mitre
  - (B) Bridle
  - (C) Box pin
  - (D) Halving
- 6 Which of the following is a common dovetail pitch?
- (A) 1:15
  - (B) 1:12
  - (C) 1:5
  - (D) 1:3
- 7 Which of the following is a non-waterproof adhesive?
- (A) PVA
  - (B) Hot melt
  - (C) Epoxy resin
  - (D) Urea-formaldehyde
- 8 Prior to honing, chisels are commonly ground to an angle within the range of
- (A) less than  $20^\circ$ .
  - (B)  $20^\circ - 30^\circ$ .
  - (C)  $40^\circ - 50^\circ$ .
  - (D) greater than  $50^\circ$ .

- 9** The price of nails needed for a job is \$2.20 per 100 grams and 1000 of these nails weigh 400 grams.

How many nails could be purchased for \$35.20?

- (A) 4 000
- (B) 6 400
- (C) 12 800
- (D) 16 000

- 10** A seat requires 65 staples for the upholstery to be attached.

How many seats could be upholstered with a box of 5000 staples, allowing for a wastage of 2.5% staples?

- (A) 73
- (B) 75
- (C) 77
- (D) 79

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Timber Products and Furniture  
Technologies**

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Centre Number

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Student Number

**Section II**

**15 marks**

**Attempt Questions 11–13**

**Allow about 35 minutes for this section**

Answer the questions in the spaces provided. These spaces provide guidance for the expected length of response.

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**Question 11** (8 marks)

**Please turn over**

**Question 11** (8 marks)

The photograph shows an Australian red cedar chair.



- (a) What is a sustainable plantation timber that could be used to manufacture the chair? **1**

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**Question 11 continues on page 7**

Question 11 (continued)

(b) Very few chairs are now manufactured from solid Australian red cedar. Give reasons for this. 2

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(c) With the aid of a labelled sketch, outline a method of attaching the seat to the seat rails on the chair. 2

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(d) Describe a method of manufacturing the front legs of the chair to ensure that both legs are exactly the same. 3

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**End of Question 11**

**Question 12** (3 marks)

What are the advantages of kiln seasoning over air seasoning?

**3**

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**Question 13** (4 marks)

Evaluate a range of industrial finishes that could be used on a timber dining room table.

**4**

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**Section III**

**15 marks**

**Attempt Question 14**

**Allow about 35 minutes for this section**

Answer the question in a writing booklet provided. Extra writing booklets are available.

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**Question 14** (15 marks)

A company is expanding its operations by establishing an interstate facility.

- (a) Describe personnel issues the company needs to consider when staffing the new facility. **5**
- (b) Analyse factors, other than personnel issues, that could affect the viability of the company at the new location. **10**

**End of paper**

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