

BOARD OF STUDIES
NEW SOUTH WALES

2006

HIGHER SCHOOL CERTIFICATE
EXAMINATION

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Centre Number

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Student Number

Industrial Technology

Timber Products and Furniture Industries

General Instructions

- Reading time – 5 minutes
- Working time – $1\frac{1}{2}$ hours
- Write using black or blue pen
- Draw diagrams using pencil
- Board-approved calculators may be used
- Write your Centre Number and Student Number at the top of this page and pages 5, 9, 13 and 17

Total marks – 100

Section I Pages 2–12

60 marks

- Attempt Questions 1–3
- Allow about 55 minutes for this section

Section II Pages 13–20

40 marks

- Attempt Questions 4–5
- Allow about 35 minutes for this section

Section I

60 marks

Attempt Questions 1–3

Allow about 55 minutes for this section

Answer the questions in the spaces provided.

Marks

Use the following information to answer Questions 1 and 2.

IND-TECH is a company in the timber products and furniture industry. Competition from cheap imports has led the company to investigate organisational changes to prevent closure. The present workforce is to be retained.

Question 1 (20 marks)

- (a) Identify organisational changes that IND-TECH could make to become more competitive. **2**

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- (b) Outline reasons why IND-TECH would want to keep their present workforce. **3**

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Question 1 continues on page 3

Question 1 (continued)

- (c) Discuss how retraining some of the workforce could help IND-TECH remain competitive. **4**

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- (d) Outline possible roles for unions during the organisational change. **4**

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Question 1 continues on page 4

Industrial Technology
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Industries

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Student Number

Section I (continued)

Marks

Question 2 (20 marks)

- (a) Identify ways in which IND-TECH's costs could be reduced through recycling. **2**

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- (b) Name an emerging technology, and outline how it could improve IND-TECH's production system. **3**

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Question 2 continues on page 6

Question 2 (continued)

- (c) What is *mass production*? How could mass production help IND-TECH compete with cheap imports? **4**

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- (d) Describe safe material handling practices and how these practices could improve efficiency and reduce costs for IND-TECH. **4**

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Question 2 continues on page 7

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Student Number

Section I (continued)

Marks

Question 3 (20 marks)

- (a) List TWO characteristics of Occupational Health and Safety (OHS) signage that would help employees to understand safe working procedures. **2**

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- (b) Outline the advantages of using computer software graphics to create company documentation. **3**

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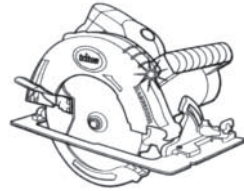
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Question 3 continues on page 10

Question 3 (continued)

(c) An extract from a catalogue is shown.

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2000 W 184 mm
Circular Saw

Magnesium,
bevel adjustment from 0–45°,
parallel guide. TCS184.

Discuss the advantages of displaying graphics AND text in this catalogue extract.

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Question 3 continues on page 11

Question 3 (continued)

(d) An extract from a Material Safety Data Sheet (MSDS) for toner is shown.

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| <p>Section VI – Health Hazard Data</p> <hr/> <p><i>Health Hazards (Acute and Chronic):</i> This material when used as intended, does not represent a health or safety hazard.</p> <hr/> <p><i>Signs and Symptoms of Exposure:</i> Nil</p> <hr/> <p><i>Medical Conditions:</i> None when used as described by product literature.</p> |
| <p>Section VII – Precautions for Safe Handling and Use</p> <hr/> <p><i>Steps to be Taken in Case Material is Released or Spilled:</i> Loose toner can be removed using a vacuum cleaner. Residue can be removed with soap and cold water. After removal of loose toner, garments may be washed or dry-cleaned.</p> <hr/> <p><i>Waste Disposal Method:</i> Do not incinerate. No special techniques beyond normal practice. Ensure conformity with federal, state or local regulations.</p> <hr/> <p><i>Precautions to be taken in Handling and Storing:</i> Avoid inhalation of excessive dust. Store below 30°C.</p> |

Outline reasons why these sheets are produced, and their relevance for IND-TECH.

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Question 3 continues on page 12

**Industrial Technology
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Student Number

Section II

40 marks

Attempt Questions 4–5

Allow about 35 minutes for this section

Answer the questions in the spaces provided.

Question 4 (20 marks)

Please turn over

Question 4 (20 marks)

Use the illustration of the hall table to answer Question 4.



Hall table

- (a) Identify TWO advantages of making the table top from more than one piece of solid timber. 2

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- (b) The table top is to have a decorative edge. Sketch a suitable edge profile, and outline how this profile would be manufactured. 3

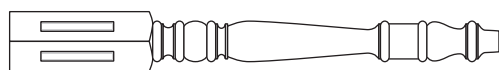
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Question 4 continues on page 15

Question 4 (continued)

(c) A completed rear leg of the table is shown.

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Identify and describe the procedures for the mass production of the rear legs of the table.

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(d) Name TWO suitable clear finishes for the table, and outline the advantages of each.

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Question 4 continues on page 16

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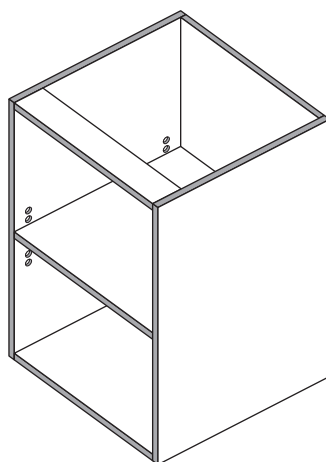
Student Number

Section II (continued)

Marks

Question 5 (20 marks)

A pictorial drawing of a kitchen cabinet is shown.



Kitchen cabinet

- (a) Identify suitable materials for the manufacture of the sides of the kitchen cabinet. 2

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- (b) Identify and describe a suitable fastener that could be used to assemble the sides to the base and top rail of the kitchen cabinet. 3

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Question 5 continues on page 18

Question 5 (continued)

(c) The kitchen cabinet will have doors fitted with the type of hinge shown.

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Outline the advantages of using this type of hinge, both when fitting AND during its operation.

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Question 5 continues on page 19

Question 5 (continued)

(d) The kitchen doors are made from a frame with a raised panel as shown.

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Outline a suitable manufacturing process for:

- the frame
- the panel.

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Question 5 continues on page 20

