

B O A R D O F S T U D I E S
NEW SOUTH WALES

2007

**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, 2 and 3.

IND-TECH is a company in the timber products and furniture industry. The company has been awarded a major contract. To meet increased production requirements, the company needs to review its current facilities and practices.

Question 1 (20 marks)

- (a) Outline a method of maintaining quality control during increased production. **2**

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- (b) Identify strategies that the company could use to obtain information for the review of its current facilities and practices. **3**

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Question 1 continues on page 3

Question 1 (continued)

- (c) (i) Define the term *automation*. **1**

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- (ii) Explain how automation can be used to improve the efficiency of production practices. **3**

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- (d) Discuss how increased production could impact on the organisation and management of the company. **4**

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Question 1 continues on page 4

Question 1 (continued)

- (e) IND-TECH is to investigate using other specialist organisations to supply some components for their products.

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Discuss the advantages and disadvantages of using other organisations in the production process.

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End of Question 1

Industrial Technology
Timber Products and Furniture
Industries

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Centre Number

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Student Number

Section I (continued)

Marks

Question 2 (20 marks)

- (a) Identify strategies that could be used to minimise waste from the increased production at IND-TECH. 2

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- (b) What is meant by the term *workplace culture*? Outline a strategy that IND-TECH could use to enhance workplace culture. 3

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Question 2 continues on page 6

Question 2 (continued)

- (c) Discuss using examples, the impact of government legislation on employees. **4**

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- (d) Evaluate the role of computer technology in training employees. **4**

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Question 2 continues on page 7

Question 2 (continued)

- (e) As a result of the review, IND-TECH may need to restructure its facilities and practices. **7**

Identify and discuss personnel issues that could arise between management and employees.

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End of Question 2

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**Industrial Technology
Timber Products and Furniture
Industries**

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Centre Number

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Student Number

Section I (continued)

Marks

Question 3 (20 marks)

IND-TECH'S production targets for a 6-month period are shown.

<i>Month</i>	<i>Units</i>
January	1000
February	1500
March	1900
April	1800
May	2000
June	2300

(a) Outline reasons for producing production targets.

2

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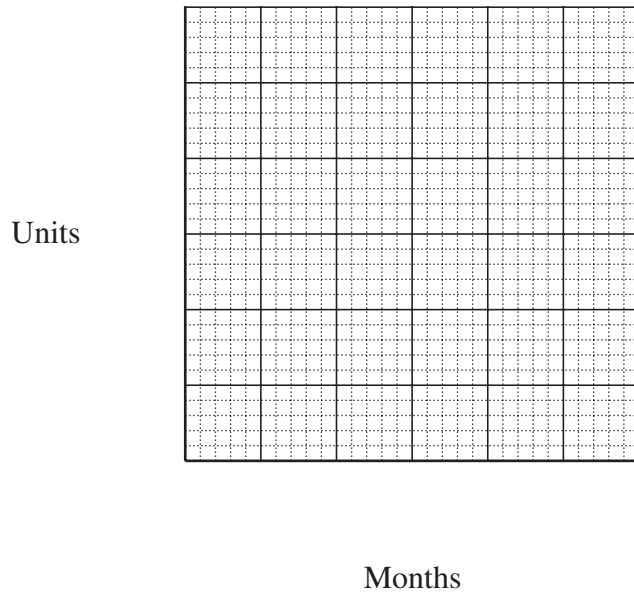
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Question 3 continues on page 10

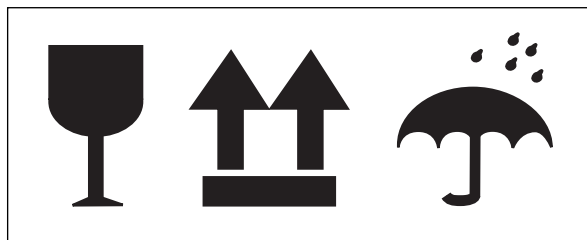
Question 3 (continued)

- (b) Draw a graph on the grid to represent IND-TECH's production targets. 3



- (c) The symbols shown are examples of signage commonly used on packaging. 4

Discuss the purpose of placing graphical images on packaging.



Question 3 continues on page 11

Question 3 (continued)

- (d) The company is required to package 10 500 units for distribution.

4

Complete the table indicating the cost of packaging these units. All prices are inclusive of GST.

<i>Item</i>	<i>Cost</i>	<i>Total cost</i>
Artwork	\$2100	\$2100
Materials	70c per unit	
Printing	35c per unit	
Labour	\$75 per 100 units	
	Total cost of packaging	
	Cost per unit	

Question 3 continues on page 12

Question 3 (continued)

(e) Outline and assess the use of computer-developed techniques and hand-drawn techniques in the development of packaging artwork.

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End of Question 3

**Industrial Technology
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Industries**

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Centre Number

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Student Number

Section II

40 marks

Attempt Questions 4–5

Allow about 35 minutes for this section

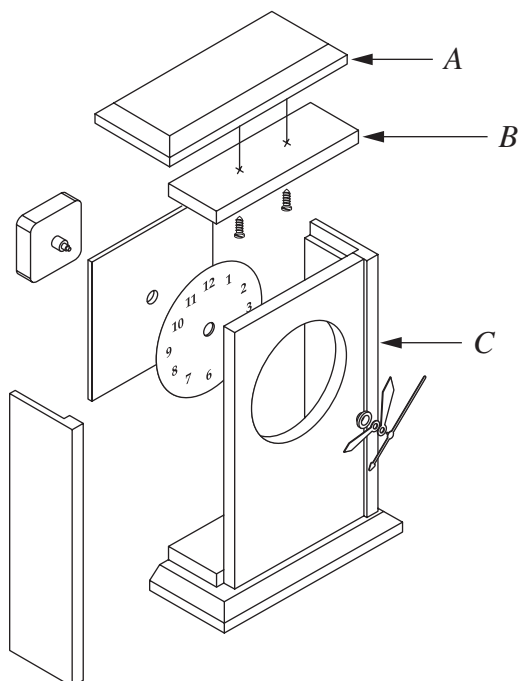
Answer the questions in the spaces provided.

Question 4 (20 marks)

Please turn over

Question 4 (20 marks)

The diagram shows an exploded view of a clock. All parts of Question 4 refer to this diagram.



- (a) Name a glue that could be used to assemble the clock and give a reason for its suitability. 2

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- (b) Describe a suitable method to support and machine the decorative edge on part A. 3

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Question 4 continues on page 15

Question 4 (continued)

- (c) A stopped corner rebate is used to join parts *B* and *C*. 4

Sketch and name TWO other suitable joints that could be used.

Joint 1

Joint 2



- (d) Parts *A* and *B* are to be attached by countersunk screws, as shown in the diagram on page 14. 4

Outline the steps required to complete this process.

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Question 4 continues on page 16

Question 4 (continued)

- (e) The clock will be sprayed with a non-water-based finish. 7

Describe the procedures involved in preparing and spraying the clock to ensure a quality finish.

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End of Question 4

Industrial Technology
Timber Products and Furniture
Industries

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Centre Number

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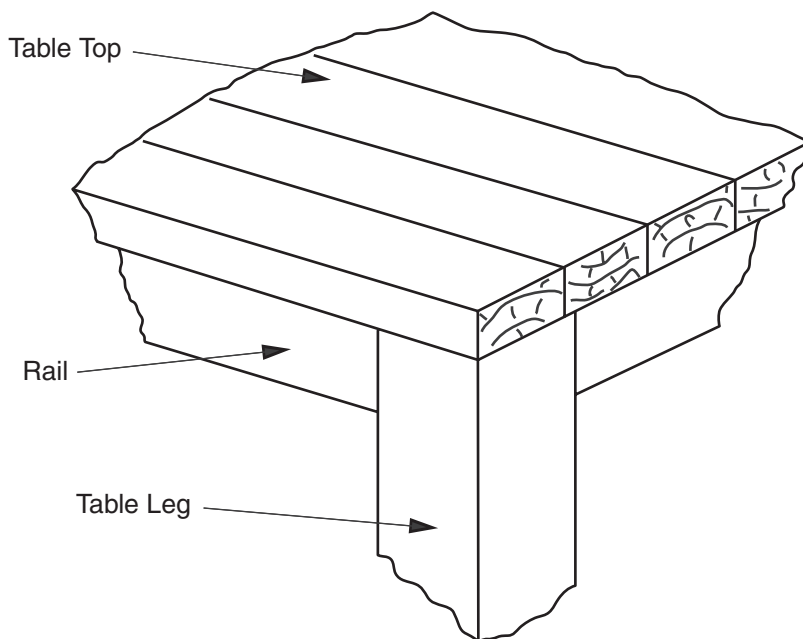
Student Number

Section II (continued)

Marks

Question 5 (20 marks)

Details of a dining table corner are shown below. All parts of Question 5 refer to this diagram.



- (a) Outline an industrial process that produces a flat table top.

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Question 5 continues on page 18

Question 5 (continued)

- (b) Describe, with the use of sketches, a method of attaching the table top to the rails. 3

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- (c) What needs to be considered when selecting solid boards for the table top? 4

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Question 5 continues on page 19

Question 5 (continued)

- (d) Describe, with the use of sketches, a method of cramping the solid timber boards together. **4**

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Question 5 continues on page 20

Question 5 (continued)

- (e) Discuss the advantages and disadvantages of using manufactured boards in place of solid timber for the table top. 7

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