

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

2005

**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

IND-TECH is a company in the timber products and furniture industry. The introduction of improved marketing strategies has increased demand for IND-TECH's products. Management is aware that a planned restructure and expansion program will impact on IND-TECH's production.

Question 1 (20 marks)

- (a) Greater demand for IND-TECH's products can be met through increased production. 2

Identify TWO ways in which increased production can be achieved.

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- (b) Identify a marketing strategy, and outline how this strategy could increase the demand for a product. 3

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Question 1 continues on page 3

Question 1 (continued)

- (c) Define the term *quality control*. Explain how quality control can be used to improve IND-TECH's products. 4

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- (d) IND-TECH's management is planning to restructure its workforce. 4

Discuss how management will ensure stable industrial relations during this operation.

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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) List TWO advantages of *multiskilling* in industry.

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(b) Explain an effect that specialisation could have on production and on the workforce.

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Question 2 continues on page 6

Question 2 (continued)

- (c) Explain the term *sustainable development*, and recommend ways in which IND-TECH might make its operation more sustainable. 4

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- (d) Discuss the influence of occupational health and safety (OHS) legislation on production. 4

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Question 2 continues on page 7

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Industries**

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Centre Number

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Student Number

Section I (continued)

Marks

Question 3 (20 marks)

- (a) Outline the purpose of a materials list in the planning or the production process. **2**

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- (b) Explain why shapes and colours are used in safety symbols. Use an example to support your answer. **3**

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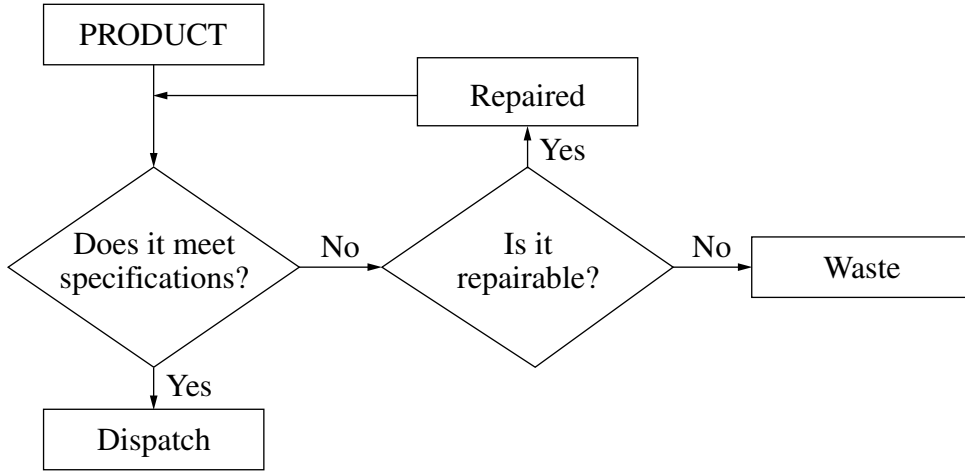
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Question 3 continues on page 10

Question 3 (continued)

(c) The diagram shows a process within a production system.

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Identify the type of diagram used. Explain why this type of diagram is suitable for representing the steps outlined in this production system.

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Question 3 continues on page 11

Question 3 (continued)

- (d) Outline the importance of function and aesthetics in the design of a product. **4**

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Question 3 continues on page 12

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Section II

40 marks

Attempt Questions 4–5

Allow about 35 minutes for this section

Answer the questions in the spaces provided.

Marks

Question 4 (20 marks)

IND-TECH is a company that mass-produces tables as shown.



- (a) The top is made from a veneered medium density fibreboard (MDF). 2

List TWO features of veneered MDF that make it suitable for this purpose.

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Question 4 continues on page 14

Question 4 (continued)

- (b) Health problems may be created when working with manufactured boards. 3

Identify potential health hazards, and indicate how they can be overcome.

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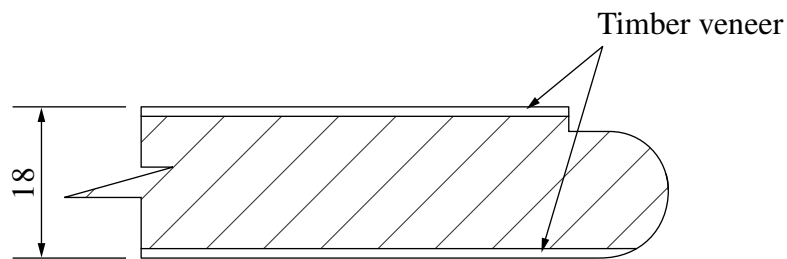
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- (c) The tabletop has a diameter of 700 mm and is 18 mm thick, with a profiled edge as shown. IND-TECH is required to produce 200 units. 4



Describe a method that could be used to manufacture the tabletops to these specifications.

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Question 4 continues on page 15

Question 4 (continued)

- (d) The feet can be joined to the pedestal with a traditional joint or by using cabinet hardware. **4**

Identify and sketch an example of each method.

Question 4 continues on page 16

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Student Number

Section II (continued)

Marks

Question 5 (20 marks)

A writing table made from hardwood is shown.



- (a) Name TWO properties of hardwood that make it suitable for the manufacture of the writing table. **2**

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- (b) Timber can be purchased either DAR or rough sawn. **3**

What is meant by DAR? Identify TWO advantages of purchasing timber DAR.

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Question 5 continues on page 18

Question 5 (continued)

- (c) The tabletop is made using two pieces of solid timber joined together. **4**

Identify and sketch TWO widening joints. Explain an advantage of each joint.

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Question 5 continues on page 19

Question 5 (continued)

- (d) Complete a sketch that shows a suitable method of attaching the rails to the solid timber tabletop. Explain the advantages of using this method. **4**

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Question 5 continues on page 20

