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Centre Number

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Student Number

2001
HIGHER SCHOOL CERTIFICATE
EXAMINATION

Industrial Technology

Building and Construction Industries

General Instructions

- Reading time – 5 minutes
- Working time – 1½ 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 page 13

Total marks – 100

Section I Pages 2–10

60 marks

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

Section II Pages 13–18

40 marks

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

Question 1 (continued)

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(b) Outline how the expansion of the company could impact on its organisation and management. 2

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(c) Describe TWO marketing features that would support the expansion of the company. 2

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Question 1 continues on page 4

Question 1 (continued)

(d) Owing to increased sales, mass production and quality control techniques are investigated to meet the demand for the new products and to improve services to the consumer.

(i) What is mass production? Explain how the introduction of mass production could affect the profitability of the company. **4**

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(ii) Describe how quality control could be used to improve BOTH the products and the services provided to the consumer. **4**

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End of Question 1

Question 2 (20 marks)

The same company needs to improve its efficiency in order to expand.

- (a) List the implications for the company of purchasing new equipment to improve its efficiency. **2**

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- (b) The company has decided to multiskill its workforce.
 - (i) Outline how multiskilling could make this company more efficient. **2**

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- (ii) Describe personnel issues other than multiskilling that would directly influence efficient production. **4**

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Question 2 continues on page 6

Question 2 (continued)

- (c) Describe how computer software applications can be used to assist in the effective planning, development and management of production projects. **6**

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- (d) Discuss training methods that the company could use to ensure that staff are competent in their use of its software applications. **6**

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End of Question 2

Question 3 (20 marks)

- (a) Workplace injuries account for a large amount of lost production time.

In order to address this concern, a company from the building and construction industries has decided to display a number of safety signs throughout the workplace. A sample is shown.



- (i) What message does the safety sign convey? 1

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- (ii) Explain how the features of this sign add to its effectiveness in communicating the intended message. 3

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Question 3 continues on page 8

Question 3 (continued)

- (iii) Why is it important to carefully consider the placement of this safety sign in the workplace? **2**

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- (iv) Name strategies, other than signage, that this company could use to reduce workplace injuries. **2**

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Question 3 continues on page 9

Question 3 (continued)

- (b) (i) The company has decided to develop a safety manual containing both text and graphics. Outline the range of information-processing skills required to prepare and present this manual. Make reference to appropriate computer software in your answer. 9

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Question 3 continues on page 10

Question 3 (continued)

- (ii) The company has decided to produce 80 copies of the new safety manual. Each manual contains 15 pages. 3

Complete the table, indicating the costs of producing these manuals.
All prices are inclusive of GST.

<i>Item</i>	<i>Unit cost</i>	<i>Total cost</i>
Artwork	\$200.00	\$200.00
Printing	50 cents per page	
Reams of paper	\$6.00 per ream (500 sheets)	
Binding for manual	\$4.00 per manual	

End of Question 3

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Industrial Technology
Building and Construction
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

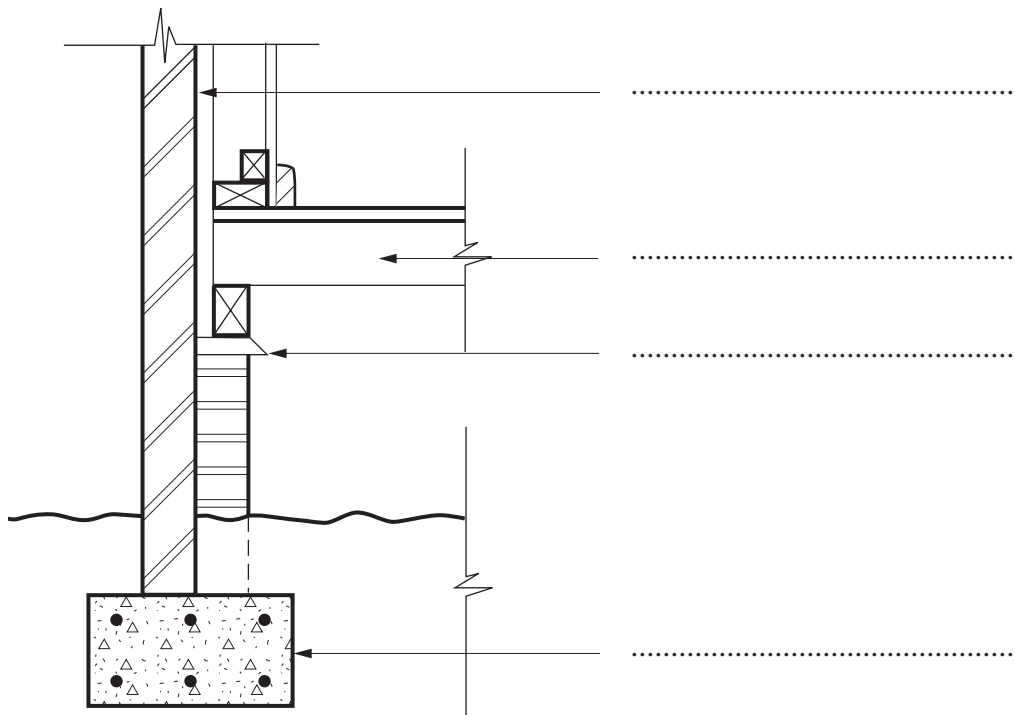
Answer the questions in the spaces provided.

Marks

Question 4 (20 marks)

- (a) The sketch depicts the floor, wall and subfloor portions of a brick-veneer house with a suspended timber floor. 2

Label the items indicated by the arrows.



Question 4 continues on page 14

Question 4 (continued)

- (b) Describe FOUR criteria you might use to choose between tiles and corrugated steel as a roofing material for a house. 4

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- (c) One of the major concerns of the Building Code of Australia is to ensure that all buildings comply with minimum standards in relation to fire. 6

Explain how these standards might influence the design and construction of a public building.

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Question 4 continues on page 15

Question 4 (continued)

- (d) Discuss how standardisation of building components has increased efficiency in the building and construction industries.

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End of Question 4

Question 5 (20 marks)

(a) (i) Why is steel used in steel-reinforced concrete? **1**

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(ii) Identify ONE form of reinforcing steel used in concrete floor slabs. **1**

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(b) A moderately-sized house is to be built on a relatively flat site in a tropical area of Australia.

(i) Why is it common for such buildings to be constructed with the floor level elevated to create a large open space beneath? **1**

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(ii) Explain why it is better for such a building to be constructed as a framed building, clad in weatherboards rather than brick. **3**

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Question 5 continues on page 17

Question 5 (continued)

- (c) Identify and explain the appropriate use of different internal lining materials in a timber-framed or steel-framed house. **5**

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Question 5 continues on page 18

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