

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

2009

**HIGHER SCHOOL CERTIFICATE
EXAMINATION**

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Centre Number

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Student Number

Industrial Technology

Graphics 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, 7, 11 and 15

Total marks – 100

Section I Pages 2–9

60 marks

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

Section II Pages 11–17

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.

Use the following information to answer Questions 1–3.

Due to a slowing local and global economy, demand for IND-TECH’s products and services is decreasing. IND-TECH’s management has decided to investigate ways of maintaining sales.

Question 1 (20 marks)

(a) Name TWO strategies IND-TECH could consider to maintain sales. **2**

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(b) Outline possible changes IND-TECH could make to its management structure in order to improve the company’s efficiency. **3**

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Question 1 continues on page 3

Question 1 (continued)

- (c) Identify and describe a method IND-TECH could use to determine the reasons for the decrease in demand for their products and services. **4**

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- (d) IND-TECH is considering changes to their employee working hours. **4**

Discuss the impact that government legislation could have on this proposal.

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Question 1 continues on page 4

Question 1 (continued)

- (e) To improve efficiency, IND-TECH is considering implementing an emerging technology.

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Suggest an appropriate technology and analyse the possible impact of this technology on both the company and its employees.

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End of Question 1

Industrial Technology
Graphics Industries

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Centre Number

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Student Number

Section I (continued)

Question 2 (20 marks)

- (a) List TWO forms of effective workplace communication. **2**

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- (b) Outline personnel issues that could arise if IND-TECH were to reduce its employees' working hours. **3**

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- (c) IND-TECH plans to train its employees to be multi-skilled. **4**

Discuss how management could ensure a safe working environment during the training.

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Question 2 continues on page 6

Question 2 (continued)

- (d) Describe TWO methods IND-TECH's management could use to determine the viability of introducing new products and services. **4**

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- (e) Evaluate the use of computer software in the design and production of new products. **7**

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End of Question 2

Industrial Technology
Graphics Industries

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Centre Number

Section I (continued)

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Student Number

Question 3 (20 marks)

- (a) List TWO advantages of using freehand drawings to present initial design ideas. **2**

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- (b) Why are graphics often used in OHS signage? Use an example to support your answer. **3**

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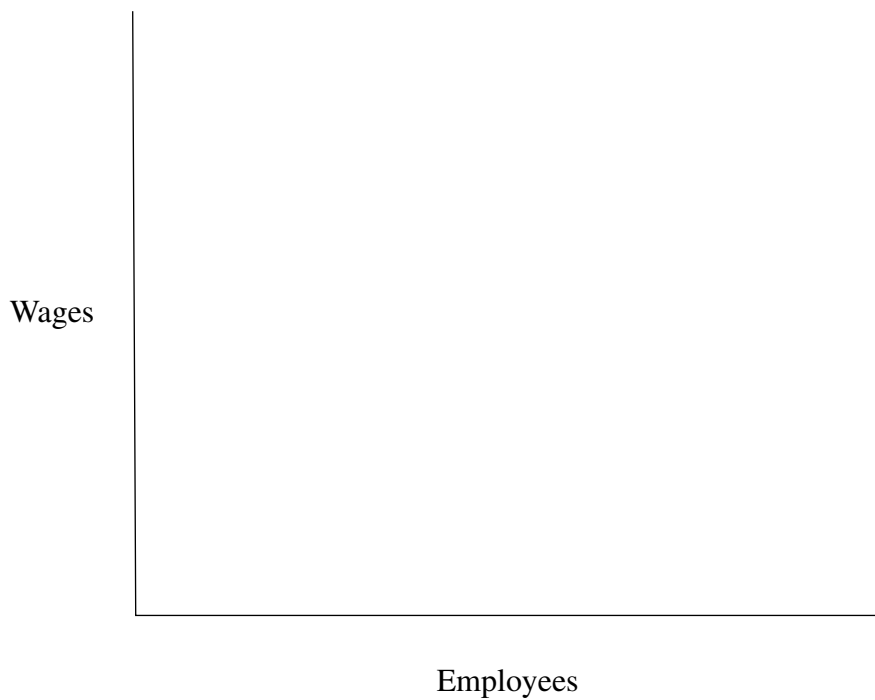
Question 3 continues on page 8

Question 3 (continued)

- (c) (i) Complete the following table to determine the weekly wages for a company. 2

<i>Employees</i>	<i>Number</i>	<i>Hourly rate (\$)</i>	<i>Hours worked</i>	<i>Weekly wages (\$)</i>
Administration staff	3	17	40	
Managers	2		40	4 400
Tradespeople		45	40	12 600
Apprentices	2	16		1 280
			<i>Total</i>	

- (ii) Using the information in the table, graph the weekly wages for each group of employees. 2



Question 3 continues on page 9

Question 3 (continued)

- (d) Describe the advantages of using word processing software to produce a management folio. 4

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- (e) Identify and evaluate the types of computer graphics that could be used in the production of IND-TECH's annual report. 7

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End of Question 3

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Industrial Technology
Graphics Industries

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Centre Number

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Student Number

Section II

40 marks

Attempt Questions 4–5

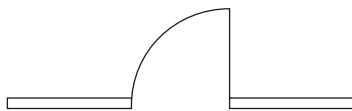
Allow about 35 minutes for this section

Answer the questions in the spaces provided.

Question 4 (20 marks)

(a) What do the architectural symbols below represent?

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(b) Outline the advantages of using three-dimensional drawings.

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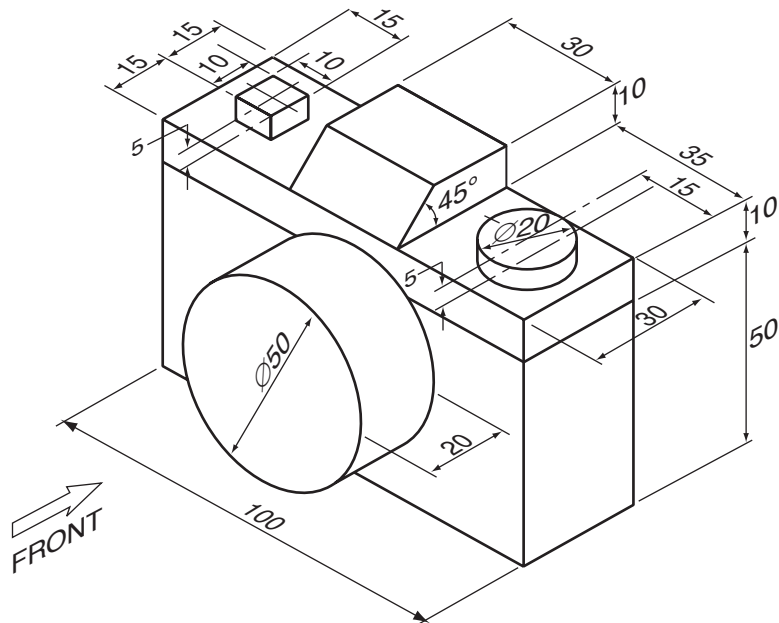
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Question 4 continues on page 12

Question 4 (continued)

(c) A camera is shown.

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Main Elevation of Camera, Elizabeth McHugh, Complete Graphics, Thomson New House (Cengage Learning), 2005, reproduced by permission

Using third angle projection, sketch a top view and a front view of the camera.



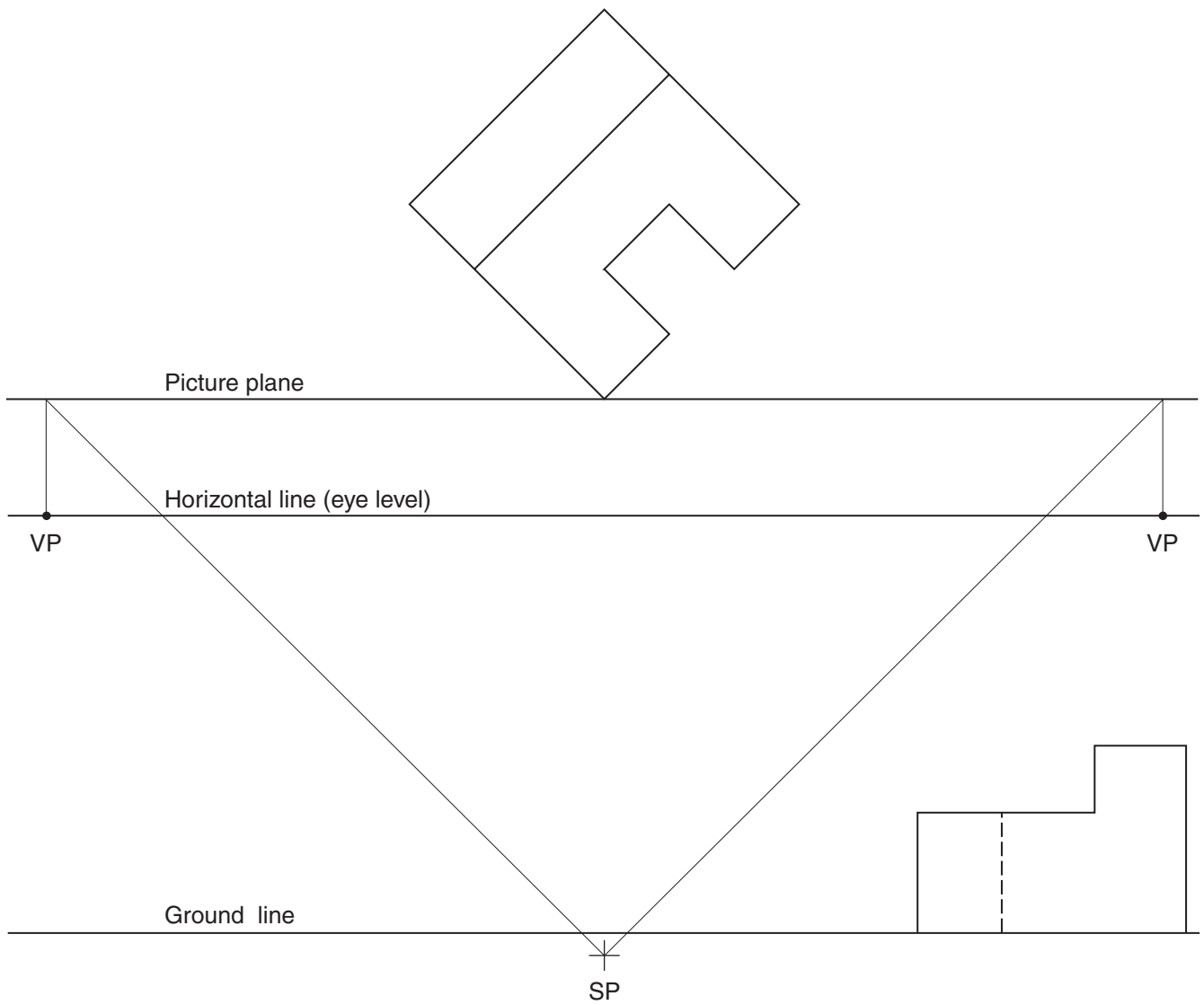
Question 4 continues on page 13

Question 4 (continued)

(d) A top view and a front view of a stepped block are shown.

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Complete the mechanical perspective drawing.



Question 4 continues on page 14

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Centre Number

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Student Number

Section II (continued)

Question 5 (20 marks)

- (a) Why do engineers use section drawings? **2**

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- (b) Explain the difference between first angle projection and third angle projection. **3**

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- (c) Discuss the importance of drawing standards for designers and manufacturers. **4**

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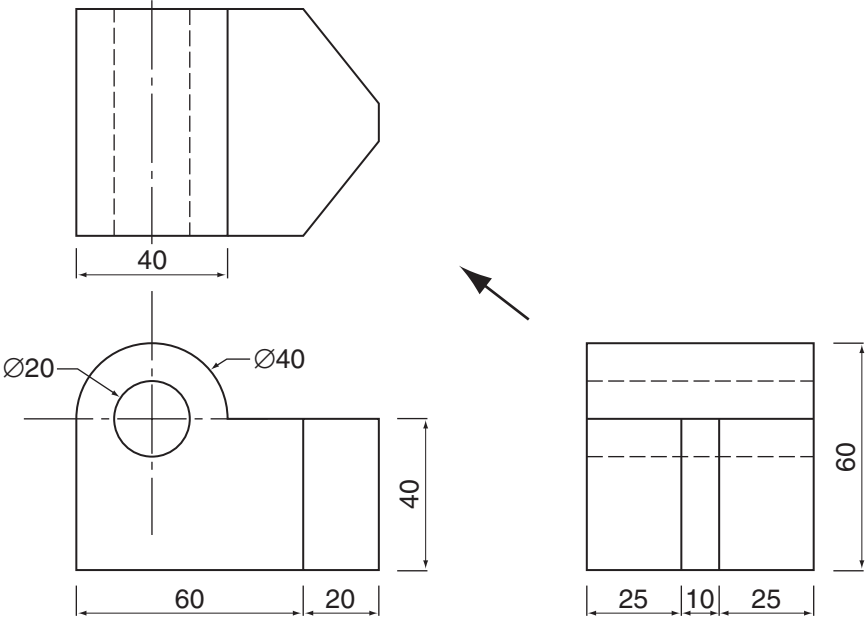
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Question 5 continues on page 16

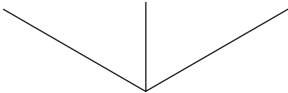
Question 5 (continued)

(d) A bearing has been drawn in orthogonal projection.

4



Sketch the bearing in isometric projection.



Question 5 continues on page 17

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