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Centre Number

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Student Number

2004
HIGHER SCHOOL CERTIFICATE
EXAMINATION

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, 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 graphics industry employing a mix of male and female employees. Management has decided to investigate the viability of introducing new technologies to stimulate productivity and expansion in the market.

Question 1 (20 marks)

- (a) Identify an example of a new technology that IND-TECH could investigate. **1**

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- (b) Outline the implications of the introduction of new technologies on IND-TECH's existing technologies. **3**

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Question 1 continues on page 3

Question 1 (continued)

- (c) Describe ways in which IND-TECH’s management could evaluate the viability of introducing new technologies. 4

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- (d) Explain how the introduction of new technologies could stimulate IND-TECH’s productivity. 4

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Question 1 continues on page 4

Question 1 (continued)

- (e) Propose and justify ways in which IND-TECH could measure the efficiency of new technologies after they have been introduced. **8**

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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)

Marks

Question 2 (20 marks)

- (a) Identify sources of finance that IND-TECH may use to support the introduction of the new technologies. **2**

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- (b) Outline possible changes to the production manager’s responsibilities when new technologies are introduced. **2**

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Question 2 continues on page 6

Question 2 (continued)

- (c) The introduction of new technologies may enhance IND-TECH’s position in the product market. 4

Discuss how the introduction of new technologies could improve the marketability of IND-TECH’s products.

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- (d) As a result of the introduction of new technologies, a number of IND-TECH’s employees are identified as being redundant and are to be dismissed. 4

Outline the industrial rights of these employees, and identify appropriate action that can be taken by them.

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Question 2 continues on page 7

Question 2 (continued)

- (e) IND-TECH’s management proposes to retrain their female employees to be specialist users of the new technologies. **8**

Analyse this proposal and discuss the responsibilities of IND-TECH’s management towards all its employees.

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End of Question 2

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Student Number

Section I (continued)

Question 3 (20 marks)

Marks

- (a) Identify the sign shown and state how IND-TECH's employees should respond to it. 2



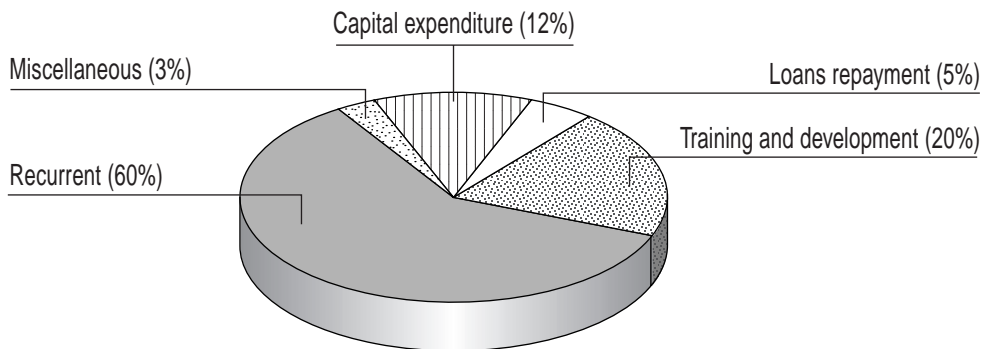
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- (b) The graph shows IND-TECH's expenditure in the year following the introduction of the new technologies. 2



Identify reasons for the proportion being spent on training and development.

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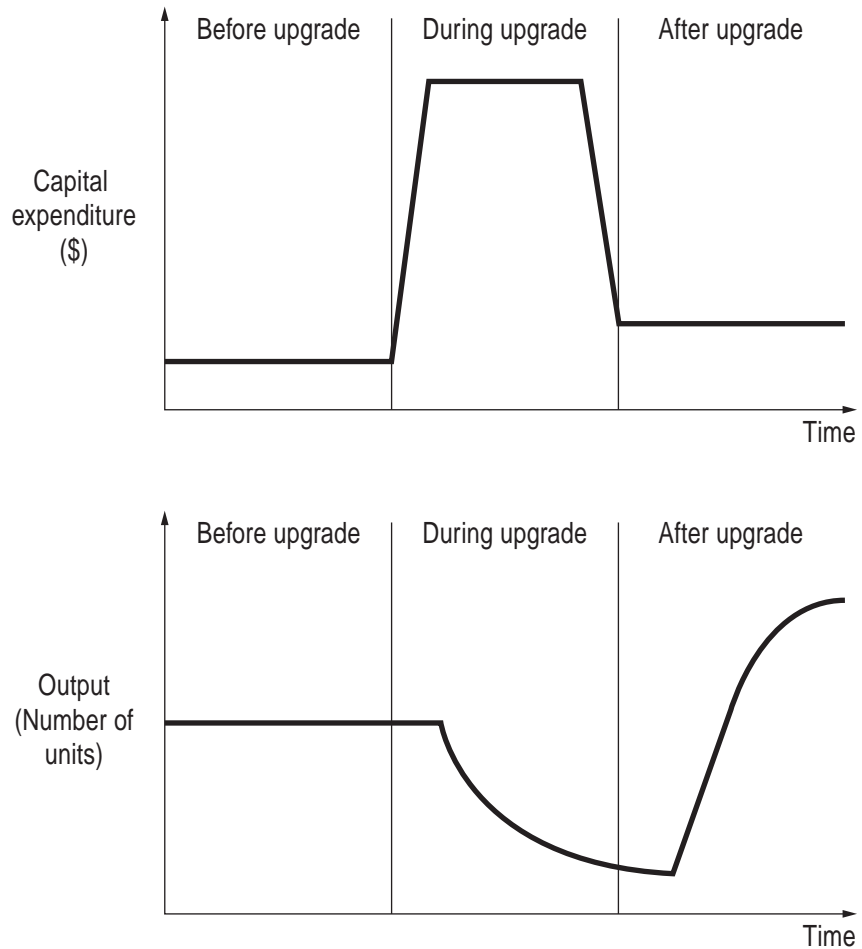
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Question 3 continues on page 10

Question 3 (continued)

- (c) The graphs below illustrate IND-TECH's capital expenditure and output before, during and after the introduction of new technologies. 4



Explain the reasons for the changes in capital expenditure and output during and after the upgrade phases.

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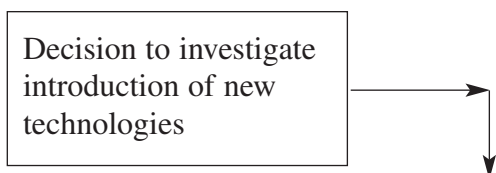
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Question 3 continues on page 11

Question 3 (continued)

- (d) Complete the diagram to show a sequence plan for the introduction of the new technologies at IND-TECH. 4

Introduction of new technologies plan



Question 3 continues on page 12

Industrial Technology

Graphics Industries

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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) Complete the table below, identifying the most appropriate type of drawing for each item listed. **2**

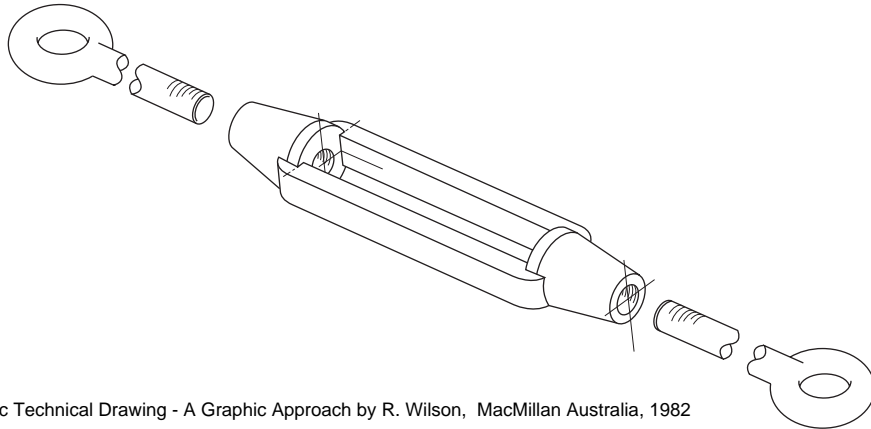
<i>Item</i>	<i>Type of drawing</i>
Internal features of a component	
Pictorial view of the exterior of a house	
Multi-view drawing of a single component	
Multi-view drawing of a machine	

Question 4 continues on page 14

Question 4 (continued)

(b) Outline reasons for the use of the drawing shown.

2



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(c) (i) Identify reasons why engineers use orthogonal drawings.

2

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(ii) Standards Australia endorses third angle projection as its preferred method for orthogonal drawings. Explain the term *third angle projection*.

2

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Question 4 continues on page 15

Question 4 (continued)

- (d) Two drawings by an architect are shown. Describe techniques used by the architect, in each of the drawings, to provide information to the client.

4



Figure 1



Figure 2

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Question 4 continues on page 16

Question 4 (continued)

(e) An architectural company has been employed by the Department of Housing to develop modifications to existing home designs to suit aged people. 8

Propose and justify the procedural and consultative steps that architects would need to take to modify housing for aged people.

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End of Question 4

**Industrial Technology
Graphics Industries**

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Student Number

Section II (continued)

Marks

Question 5 (20 marks)

- (a) Give reasons for the use of scaled drawings. **2**

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- (b) Explain why drawing standards developed by Standards Australia need to conform to international standards. **2**

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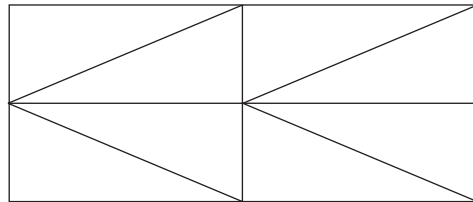
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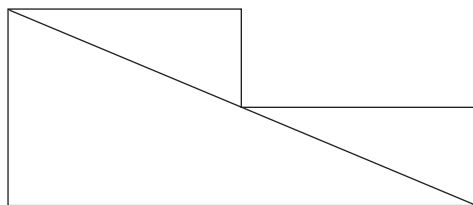
Question 5 continues on page 18

Question 5 (continued)

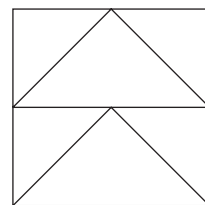
- (c) Three views of a shaped block are shown. Sketch a pictorial view of the block on the grid provided. Your sketch should be in proportion to the views provided, and show detail of the block. 4



Top View



Front View



Side View Right



Question 5 continues on page 19

Question 5 (continued)

- (d) Outline reasons for the increasing use of computer-aided drawing in the graphics industry. **4**

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Question 5 continues on page 20

Question 5 (continued)

- (e) Architectural companies often use scale models, in combination with drawings, for many large projects.

8

Explain the purpose of using scale models, and outline the responsibilities of architects in preparing and presenting them.

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