



HIGHER SCHOOL CERTIFICATE EXAMINATION

1998
**INDUSTRIAL
TECHNOLOGY**
2 UNIT
SECTIONS I AND II

STUDENT NUMBER

CENTRE NUMBER

AREA OF STUDY

Automotive

Ceramics

Industrial
Drawing

Electronics

Metal

Plastics

Wood

*Total time allowed for Sections I, II and III—One hour and a half
(Plus 5 minutes reading time)*

DIRECTIONS TO CANDIDATES

- Write your Student Number and Centre Number at the top right-hand corner of this page and indicate the Area of Study you have undertaken.

Section I (10 marks)

- Attempt ALL questions.
- Complete your answers in blue or black pen, or in pencil on the Answer Sheet provided.

Section II (15 marks)

- Attempt ALL questions.
- Answer the questions in the spaces provided in this paper.

Section III (15 marks)

- Attempt ALL questions from your Area of Study.
- Answer the questions in the spaces provided in the Section III paper.
- Write your Student Number and Centre Number at the top right-hand corner of the first page of the Section III paper.

SECTION I

(10 Marks)

Attempt ALL questions.

Each question is worth 1 mark.

Select the alternative A, B, C or D that best answers the question.

Complete your answers in blue or black pen, or in pencil on the Answer Sheet provided.

1. Mass production has significant benefits for an industry because it
 - (A) is a means of increasing productivity.
 - (B) is a means of reducing material costs.
 - (C) promotes staff morale.
 - (D) improves the safety record.

2. Mechanisation is used by industry to
 - (A) reduce staff.
 - (B) decrease waste.
 - (C) ensure quality control.
 - (D) decrease capital costs.

3. Occupational safety in an industry can be improved through
 - (A) mechanisation of the production process.
 - (B) retrenching workers.
 - (C) developing new materials for the product.
 - (D) structured management practices.

4. A design process is best described as
 - (A) a generation of creative ideas.
 - (B) a sequence leading to the realisation of a concept.
 - (C) the production of sketches and drawings.
 - (D) the modification or creation of a product.

5. Improved accuracy in the production of components enables
- (A) greater interchangeability.
 - (B) improved mechanisation.
 - (C) increased labour costs.
 - (D) decreases in capital expenditure.
6. The use of computer-operated machinery
- (A) increases the cost of a product.
 - (B) allows production workers greater flexibility.
 - (C) reduces working hours.
 - (D) maximises production time.
7. To encourage consumers to recycle, product manufacturers should
- (A) set up recycling centres.
 - (B) label all component parts for recycling.
 - (C) ensure that all packaging is recyclable.
 - (D) manufacture the products from recycled materials.
8. The noise from the extraction system in a manufacturing plant is greater than that allowable by Workcover. The best solution to the problem for the workforce is to
- (A) provide the employees with ear muffs.
 - (B) build a wall around the extraction system.
 - (C) insulate the extraction system.
 - (D) call a stop-work meeting.
9. Unions argue that employees should belong to a union so that
- (A) unions have a strong influence on management.
 - (B) the number of union representatives can be reduced.
 - (C) employees have an influence on who is employed.
 - (D) disruption within the workplace can be reduced.

10. Ergonomic hazards in the workplace include

- (A) heavy lifting, poor lighting, and repetitive work.
- (B) working long hours, poor lighting, and repetitive work.
- (C) cramped working conditions, and working long hours.
- (D) repetitive work, heavy lifting, and cramped working conditions.

SECTION II

(15 Marks)

The two questions in this Section are **COMPULSORY**.

Answer the questions in the spaces provided in this paper.

MARKER'S
USE ONLY



QUESTION 11. (10 marks)

Answers to this question must be written in terms of the Area of Study undertaken, that is, Automotive, Ceramics, Industrial Drawing, Electronics, Metal, Plastics or Wood as indicated on the front cover of this paper.

Area of Study

A family-owned business has a staff of fifteen employees. The company has a suburban location. This specialised company makes products that are relevant to the Area of Study you have undertaken.

(a) (i) Use a diagram to show a possible organisational structure for the company.

(ii) Refer to your diagram above. Outline **THREE** aspects of the role of **ONE** employee occupying a management position.

Name of management position

1.

2.

3.

QUESTION 11. (Continued)

MARKER'S
USE ONLY

(b) The company has grown as a result of an increase in technological equipment and resources. List THREE sociological changes that could occur as a result of this growth.

- (i)
- (ii)
- (iii)

(c) Name TWO procedures that could be used by the company to improve environmental conditions.

- (i)
- (ii)

(d) List THREE possible advantages to the company of using the Internet as a tool for research and development.

- (i)
- (ii)
- (iii)

(e) The company is structured on the principle of specialisation. Explain what is meant by the term *specialisation*.

.....
.....
.....

(f) Describe the process that the Occupational Health and Safety Committee must follow in the event of a workplace accident.

.....
.....
.....
.....

QUESTION 11. (Continued)

MARKER'S
USE ONLY

(g) Describe different short-term and long-term effects of automation through computerisation on:

(i) workplace efficiency:

Short-term

Long-term

(ii) company profitability:

Short-term

Long-term

(h) (i) Outline TWO advantages the company has as a result of its suburban location.

1.

2.

(ii) Outline ONE disadvantage of having a suburban location.

.....

(i) The company wishes to expand its production facilities. List THREE sources of funding for this expansion.

(i)

(ii)

(iii)

QUESTION 12. (5 marks)

MARKER'S
USE ONLY



(a) Explain the phrase *universal language*, when referring to graphical communication.

.....
.....
.....

(b) (i) What is the role of the organisation *Standards Australia*?

.....
.....

(ii) Give TWO examples of Australian Standards being used in the design of a product.

- 1.
- 2.

(c) Describe ONE advantage of using pictorial drawings when designing a prototype.

.....
.....

(d) (i) Explain the purpose of detailed orthogonal drawings.

.....
.....
.....

(ii) List TWO features of detailed orthogonal drawings.

- 1.
- 2.

BLANK PAGE

BLANK PAGE

BLANK PAGE