



STUDENT NUMBER

CENTRE NUMBER

HIGHER SCHOOL CERTIFICATE EXAMINATION

2000

INDUSTRIAL TECHNOLOGY

2 UNIT

SECTION II

GRAPHICS AND MULTIMEDIA
INDUSTRIES

OPTION—ARCHITECTURAL DRAFTING

*Total time allowed for Sections I and II—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.
- Where appropriate, show all working for solutions neatly and clearly.
- You may use Board-approved drawing instruments and calculators.

Section II—Architectural Drafting (15 marks)

- Question 4 is COMPULSORY.
- Attempt TWO questions from Questions 5, 6, and 7.
- Answer the questions in the spaces provided in this paper.

MARKER'S USE ONLY

Question				
4				
5				
6				
7				

SECTION II—ARCHITECTURAL DRAFTING OPTION

(15 Marks)

QUESTION 4 This question is COMPULSORY. (5 marks)

- (a) A leading architectural hardware supply company is updating its catalogue to include the stainless steel door handle shown in Figure 1.

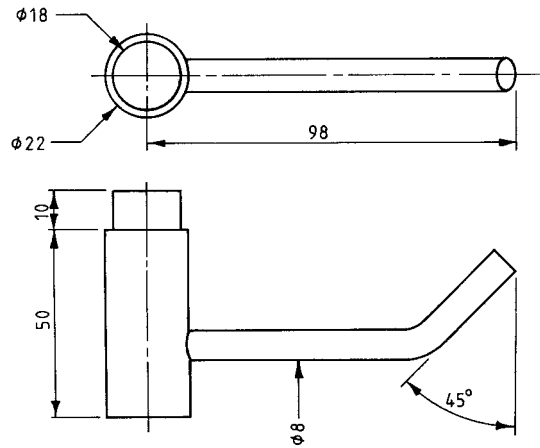


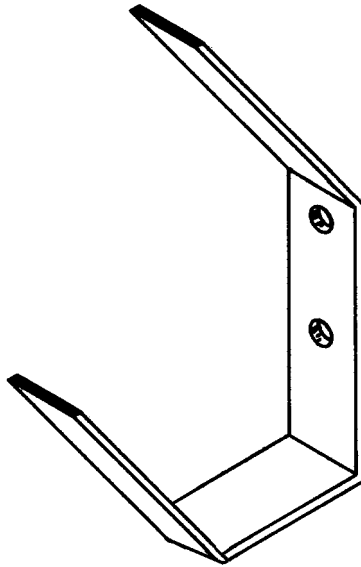
FIG. 1

The stainless steel door handle (Figure 1) is drawn to scale.

In the space below, complete a rendered freehand isometric sketch of the product.

QUESTION 4 (Continued)

(b)



ISOMETRIC PROJECTION

Complete (in third-angle projection) an orthogonal sketch of the coat hook illustrated above. Show sufficient views to represent every surface as a true shape. Label each view.

QUESTION 4 (Continued)

(c) Drawing office personnel have become aware of the need for ergonomic workspaces.

(i) Explain what is meant by *ergonomic*.

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(ii) List FOUR factors that should be taken into account when a person is organising an ergonomic workspace for people working with computer terminals.

1
2
3
4

Attempt TWO questions from Questions 5, 6, and 7.

QUESTION 5 (5 marks)

The sectional view (Figure 2) and plan view (Figure 3) of a proposed restaurant are shown below.

- (a) Complete the roof lines on the plan view (Figure 3).

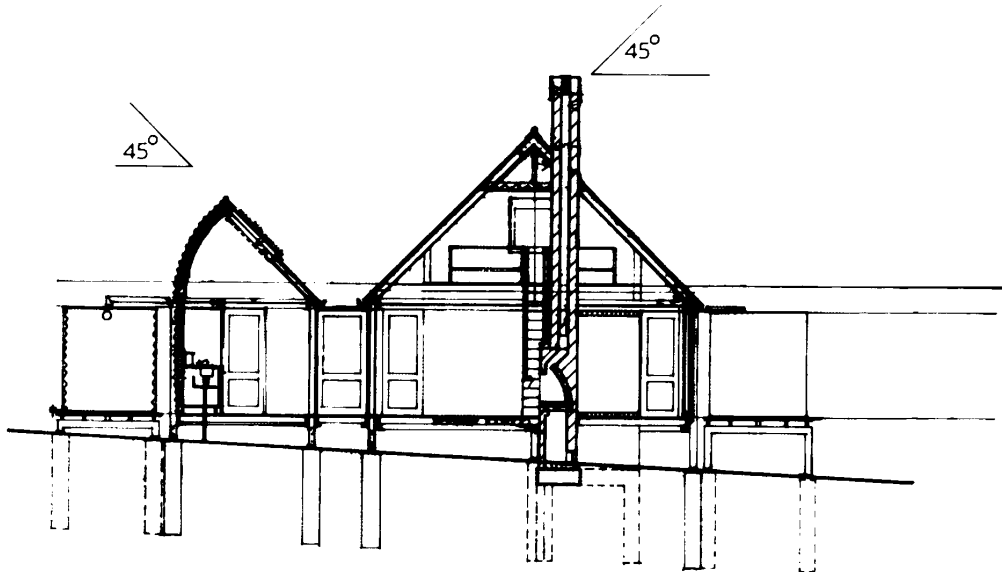


FIG. 2. SECTION A—A

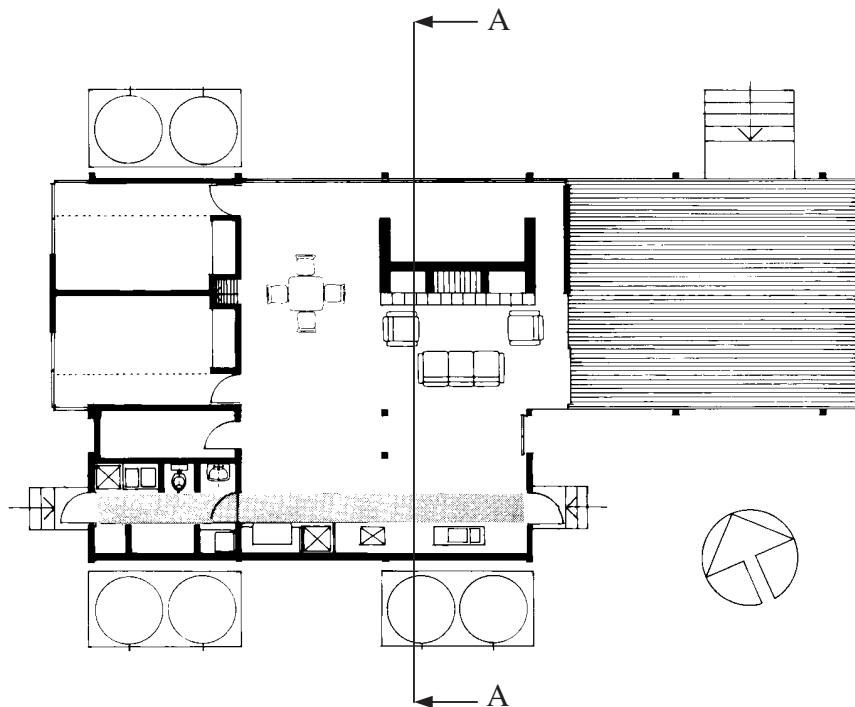


FIG. 3

Question 5 continues on page 6

QUESTION 5 (Continued)

(b) The client would like the restaurant to be able to seat thirty patrons at any time. For each of the areas listed below, describe three requirements that need to be considered by the architect during planning.

(i) Dining area

Requirement 1.....

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Requirement 2.....

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Requirement 3.....

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(ii) Kitchen

Requirement 1.....

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Requirement 2.....

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Requirement 3.....

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(iii) Toilets

Requirement 1.....

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Requirement 2.....

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Requirement 3.....

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(iv) Foyer/Entry

Requirement 1.....

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Requirement 2.....

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Requirement 3.....

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QUESTION 5 (Continued)

(c) After consultation with the client, the architect has determined that the restaurant (Figures 2 and 3 on page 5) is to be situated in a national park, and that the cuisine will be contemporary Australian.

(i) Complete the following material specification with regard to the building component. Give ONE reason for each choice.

<i>Building component</i>	<i>Material specification</i>	<i>Reason for choice</i>
Ceiling lining		
Verandah flooring		
Roofing		
Wall framing		

(ii) List FOUR issues that would need to be considered in an environmental impact assessment of the restaurant development and subsequent use of the building.

- 1
- 2
- 3
- 4

Attempt TWO questions from Questions 5, 6, and 7.

QUESTION 6 (5 marks)

(a) Architects are bound by a range of government regulations. Outline **THREE** regulations put in place by the following levels of government, and describe the impact of each regulation on building development.

(i) Local Council

Regulation 1

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Regulation 2

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Regulation 3

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(ii) State Government

Regulation 1

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Regulation 2

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Regulation 3

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QUESTION 6 (Continued)

- (b) Describe TWO design issues that need to be taken into account when buildings are designed for community use.

Issue 1

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Issue 2

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- (c) Architects use hand-drawn rendering techniques on their drawings to help create a feeling of reality that will appeal to their clients.

Describe TWO other techniques that could be used to present design ideas realistically.

Technique 1

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Technique 2

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Question 6 continues on page 10

QUESTION 6 (Continued)

- (d) The owners of a block of land wish to build a family home. They have approached an architect to design the house for them.

When designing the house, the architect must consider many aspects of the site. Name TWO of these aspects, and explain how they will affect the design of the house.

Aspect 1

Explanation

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Aspect 2

Explanation

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- (e) Outline the procedure the owners must follow to gain building approval before building work can commence.

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Attempt TWO questions from Questions 5, 6, and 7.

QUESTION 7 (5 marks)

For an architect to present information clearly to the various people involved in the design stages and construction of a building, he or she must use different types of drawings and relevant documentation.

(a) Explain the purpose of the following.

(i) Schematic drawings

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(ii) Development drawings

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(iii) General location drawings

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(iv) Component/ Detail drawings

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(v) Assembly drawings

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QUESTION 7 (Continued)

(b) Describe the function of a specification document.

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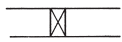

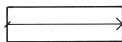
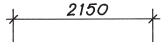

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(c) (i) The table below shows architectural standard symbols.

In the spaces provided in the table, name or describe each symbol and explain where each symbol is used.

<i>Symbol</i>	<i>Name or description</i>	<i>Where the symbol is used</i>
		
		
		
		
		
		

(ii) Explain the necessity for using standard symbols on drawings.

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QUESTION 7 (Continued)

- (d) Housing design has changed considerably in recent years, with the development of new materials and production processes. Greater concern about environmental factors and population density have also contributed to these recent changes in housing design.

You are involved in planning a medium density development. Discuss the importance of the following factors.

- (i) Appropriateness of design to locality

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- (ii) Environmental factors

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- (iii) Functional factors

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