



HIGHER SCHOOL CERTIFICATE EXAMINATION

1997

**DESIGN AND
TECHNOLOGY**

3 UNIT (ADDITIONAL)
(20 Marks)

*Time allowed—One hour
(Plus 5 minutes reading time)*

DIRECTIONS TO CANDIDATES

- Attempt TWO questions.
- The question in Section I is COMPULSORY.
- Attempt ONE question from Section II.
- Answer each question in a *separate* Writing Booklet.
- You may ask for extra Writing Booklets if you need them.

SECTION I

The question in this Section is **COMPULSORY**.
Answer the question in a *separate* Writing Booklet.

QUESTION 1. (12 marks)

Methods of communication in the twentieth century have developed rapidly. Today, a broad cross-section of the community utilises an extensive range of communication technologies.

With reference to ONE communication technology used extensively in this century, answer *each* of the following questions.

- (a) Name the communication technology.
- (b) Indicate an innovative step in its recent development.
- (c) Explain the significance of this innovation, and comment on the effects it has had on individuals and society. Refer to specific examples in your answer.
- (d) Critically evaluate the effect of entrepreneurial activity on the rate of development of this technology.
- (e) Discuss aspects of intellectual property as it relates to this technology.

SECTION II

Attempt ONE question.

Each question is worth 8 marks.

Answer the question in a *separate* Writing Booklet.

EITHER

QUESTION 2

Australia is known as an innovative nation.

- (a) Using one significant example, discuss this statement with reference to the history and nature of innovation and change in Australia.
- (b) Suggest how a design process can be utilised to improve Australia's success rate in realising innovation.
- (c) Analyse how marketing can assist in improving Australia's success rate in realising innovation.
- (d) Propose and describe an entrepreneurial activity that was or could be applied to the example you gave in part (a).

OR

QUESTION 3

'Simulation' is used in many fields, ranging from entertainment to the workplace. Examples include prototypes, models, mock-ups, computer games, and flight-training simulators.

- (a) Describe a simulator or simulation (words and sketches) that you are familiar with, and discuss what need it fulfils.
- (b) Outline the criteria that would have to be evaluated to ensure that the need discussed in part (a) is met.
- (c) Identify an innovation and explain how it led to the development of the simulator or simulation described in part (a).
- (d) Critically discuss the factors that influenced the degree of success of the innovation identified in part (c).

OR

Please turn over

QUESTION 4

Innovations in medicine, ecology, transportation, and the built environment have impacted on society.

Select ONE of the areas of innovation mentioned above.

- (a) Discuss a significant innovation and the social change that has occurred as a result.
- (b) Indicate the commercial implications of this innovation, highlighting entrepreneurial aspects.
- (c) Explain the ethical issues raised by this innovation.
- (d) Identify possible legal aspects of this innovation.