

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

**2002**

**HIGHER SCHOOL CERTIFICATE  
EXAMINATION**

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Centre Number

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Student Number

# Industrial Technology

## Multimedia 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 13–19

#### 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.

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**Marks**

Use the following information to answer Questions 1, 2 and 3.

I-Tech, a company operating in the multimedia industry, has been on the same site for a number of years. Owing to recent urban expansion and new Government legislation, the company reviews its current facilities, policies and practices.

**Question 1 (20 marks)**

(a) As a result of this review I-Tech needs to reduce its pollution levels.

(i) Identify TWO different forms of pollution that I-Tech might produce. **2**

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(ii) How would the forms of pollution identified in part (a) (i) affect the local community? **2**

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**Question 1 continues on page 3**

Question 1 (continued)

(b) I-Tech has decided to introduce an extensive recycling program.

(i) Identify the advantages and disadvantages of recycling for I-Tech. **4**

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(ii) Outline a suitable recycling program that I-Tech could introduce. **4**

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**Question 1 continues on page 4**

Question 1 (continued)

- (c) I-Tech’s review concluded that an Environmental Impact Statement (EIS) would need to be prepared. Discuss issues that would be included in the EIS. **8**

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**End of Question 1**

**Industrial Technology  
Multimedia Industries**

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Centre Number

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Student Number

**Section I (continued)**

**Marks**

**Question 2 (20 marks)**

- (a) Employees may be involved in the treatment of workplace injuries. What essential resources must I-Tech provide for this purpose? **2**

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- (b) What strategies could I-Tech implement to ensure the effective induction of new staff? **2**

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**Question 2 continues on page 6**

Question 2 (continued)

- (c) How could I-Tech ensure that Equal Employment Opportunity (EEO) principles are followed in the company? **4**

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**Question 2 continues on page 7**

Question 2 (continued)

- (d) Describe the possible role of unions as I-Tech considers changes to its workplace policies and practices. **4**

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**Question 2 continues on page 8**

Question 2 (continued)

- (e) There are many issues involved in the reorganisation of I-Tech's operations. Discuss the implications of improved materials and technologies on environmental, and occupational health and safety (OHS) issues. **8**

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**End of Question 2**



Industrial Technology  
Multimedia Industries

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Centre Number

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Student Number

Section I (continued)

Marks

Question 3 (20 marks)

A worker has sustained a back injury while lifting a computer monitor, resulting in admission to the local hospital. As a result of this accident, I-Tech’s OHS committee is to review current work practices.

- (a) Outline the procedures that the OHS committee would use to obtain information for this review. **4**

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- (b) As a result of the review, the OHS committee needs to prepare and present a report for management. Outline the use of computer software in the preparation and presentation of this report. **4**

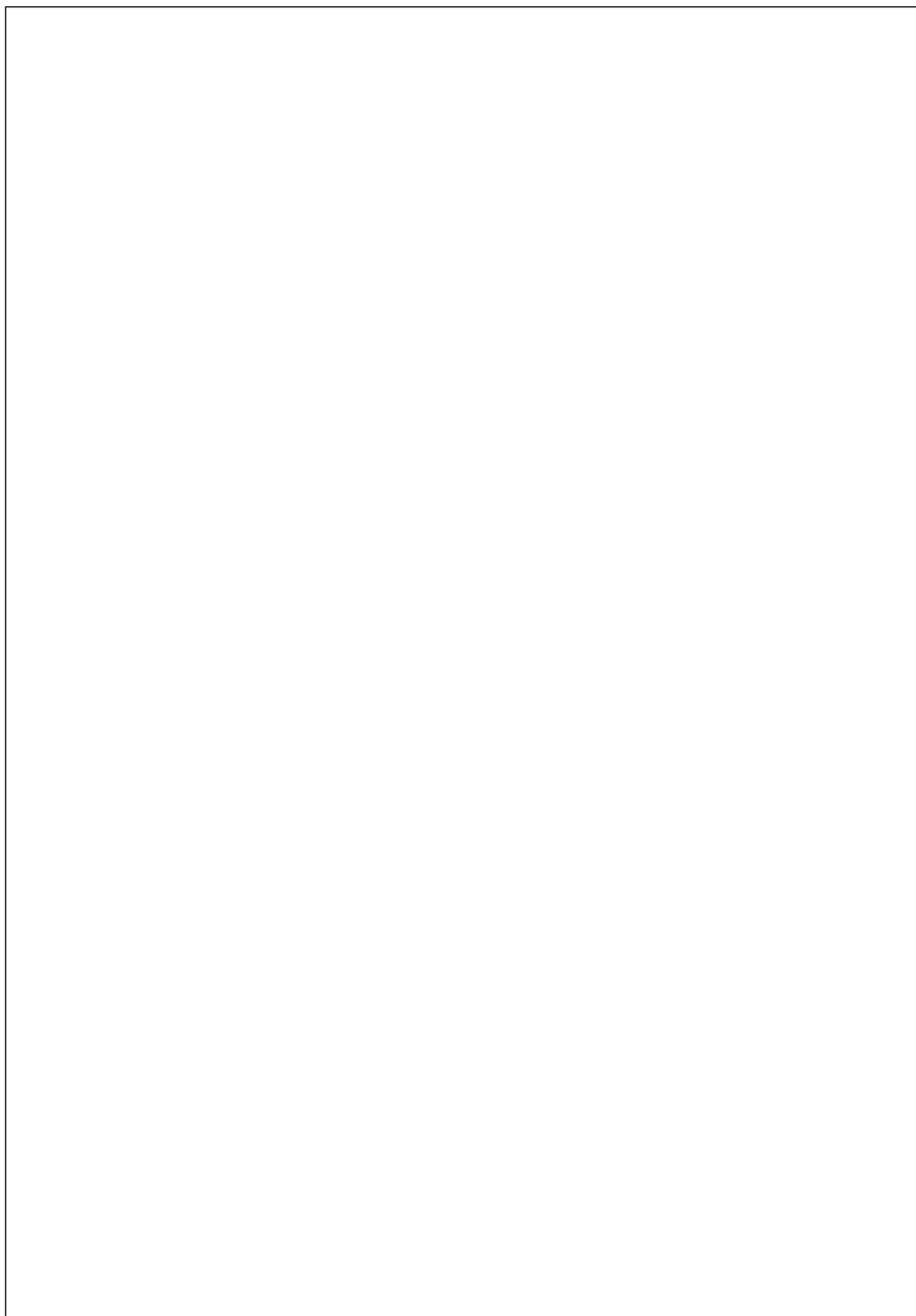
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Question 3 continues on page 10

Question 3 (continued)

- (c) Design a wall chart, incorporating text and graphics, that could be used to inform all employees of the procedure to follow should they witness a workplace accident. Use the spaces provided. **8**

*WALL CHART*

A large, empty rectangular box with a thin black border, intended for the student to draw a wall chart. The box is centered on the page and occupies most of the lower half of the page.

**Question 3 continues on page 11**

Question 3 (continued)

Working space for part (c) if required.

**Question 3 continues on page 12**

Question 3 (continued)

- (d) How should I-Tech’s management inform all employees about the OHS committee’s recommendations regarding the new work practices? 2

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- (e) During the past year, FOUR accidents have occurred resulting in losses to the company. These losses are detailed in the table. 2

Complete the table and calculate the average cost to the company per accident.

<i>Item</i>	<i>Number</i>	<i>Cost</i>	<i>Total</i>
Ambulance fees	3	\$136.00	
Days lost	23	\$111.00	
Hire of temporary staff	15	\$130.00	
Visits to doctor	5	\$45.00	
	Total cost		

Average cost to the company per accident \$.....

**End of Question 3**

Industrial Technology  
Multimedia 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.

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Marks

Question 4 (20 marks)

(a) Name the basic storyboard layout indicated in the sketch.

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(b) Outline methods by which a colour photographic image can have its palette reduced so that it can be included in a multimedia presentation.

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Question 4 continues on page 14

Question 4 (continued)

- (c) Outline a range of operations that could take place when editing a video sequence. **3**

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- (d) (i) Identify and describe an external device that would be suitable for the storage of large multimedia files. **2**

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- (ii) Discuss factors that will affect the quality and file size of digitised sound. **3**

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**Question 4 continues on page 15**

Question 4 (continued)

(e) The inclusion of video in multimedia presentations often places heavy demands on a computer. Discuss hardware and software solutions that could be employed to reduce this demand.

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End of Question 4

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Centre Number

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Student Number

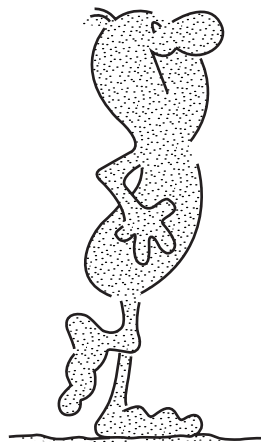
Section II (continued)

Marks

Question 5 (20 marks)

(a) The following images show the start and finish of a motion sequence.

1



Start



Finish

Name a technique that can be used to create the intermediate images.

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(b) Explain how bitmapped images are stored in memory.

3

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Question 5 continues on page 18

Question 5 (continued)

- (c) Discuss factors to be considered when evaluating the effectiveness of a multimedia presentation. 3

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- (d) (i) Explain why copyright is an important issue when obtaining audio material from the internet. 2

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- (ii) Identify and explain the operation of an audio file format utilising compression that would be suitable for transferring files over the internet. 3

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Question 5 continues on page 19

Question 5 (continued)

(e) A multimedia company is considering creating a website to promote itself. Analyse the advantages and disadvantages of outsourcing the design and maintenance of the website, compared to doing it in-house.

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