



**Victorian Certificate of Education
2003**

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

Letter

Figures									
Words									

**INFORMATION PROCESSING
AND MANAGEMENT**
Written examination

Monday 10 November 2003

Reading time: 3.00 pm to 3.15 pm (15 minutes)

Writing time: 3.15 pm to 5.15 pm (2 hours)

QUESTION AND ANSWER BOOK

Structure of book

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	20	20	20
B	13	13	70
			Total 90

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- No calculator is allowed in this examination.

Materials supplied

- Question and answer book of 21 pages.
- Answer sheet for multiple-choice questions.

Instructions

- Write your **student number** in the space provided above on this page.
- Check that your **name** and **student number** as printed on your answer sheet for multiple-choice questions are correct, **and** sign your name in the space provided to verify this.
- All written responses must be in English.

At the end of the examination

- Place the answer sheet for multiple-choice questions inside the front cover of this book.

Students are NOT permitted to bring mobile phones and/or any other electronic communication devices into the examination room.

SECTION A – Multiple-choice questions**Instructions for Section A**

Answer **all** questions in pencil on the answer sheet provided for multiple-choice questions.

Choose the response that is **correct** or that **best answers** the question.

A correct answer scores 1, an incorrect answer scores 0.

Marks will **not** be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

Question 1

A store manager of Red Fried Chicken only makes operational decisions based on daily reports.

An example of a decision the manager would make is

- A. changing the type of products sold.
- B. reducing the price of unsold chickens.
- C. implementing a national TV campaign.
- D. opening a new store in a nearby suburb.

Question 2

Which one of the following is a computer network protocol?

- A. ISP
- B. TCP
- C. ADSL
- D. ISDN

Question 3

A graphics program allows the user to alter and enhance images.

Which step of information processing does this involve?

- A. output
- B. validation
- C. acquisition
- D. manipulation

Question 4

A flat-bed scanner connected to a network allows the user to

- A. share files across the network.
- B. retrieve files from a network server.
- C. convert electronic files to optical characters.
- D. convert printed documents into electronic files.

Question 5

Which of the following design tools shows the process to be followed when producing a solution?

- A. flow chart
- B. storyboard
- C. hierarchy chart
- D. layout mock-up

Question 6

As part of upgrading to a new information system a manager decides to have software specially written for the organisation.

Writing the new software program occurs in which phase of the Systems Development Life Cycle?

- A. design
- B. evaluation
- C. development
- D. implementation

Question 7

Which one of the following actions would be illegal under the Copyright Amendment (Digital Agenda) Act 2000?

- A. Citing a quote from a web site in a Year 12 research assignment.
- B. Making a back up of a computer program you have just purchased.
- C. Selling a program you wrote for your employer to another company.
- D. Obtaining the owner's permission to insert a photograph on your web site.

Question 8

An instruction pamphlet for updating data on a new web site should be provided to staff

- A. before the site is uploaded.
- B. before the site links are tested.
- C. before the site evaluation is completed.
- D. before the site is available to customers.

Question 9

A chain of video lending libraries has established a range of goals and objectives.

Which of the following sentences contains an information system objective?

- A. Management wish to increase their market share.
- B. The directors wish the company to make a profit of 10% of sales income.
- C. Management wish to install self-service terminals to improve the speed of service by 15%.
- D. The directors of the company wish to provide a fast, efficient service to clients of all age groups.

Question 10

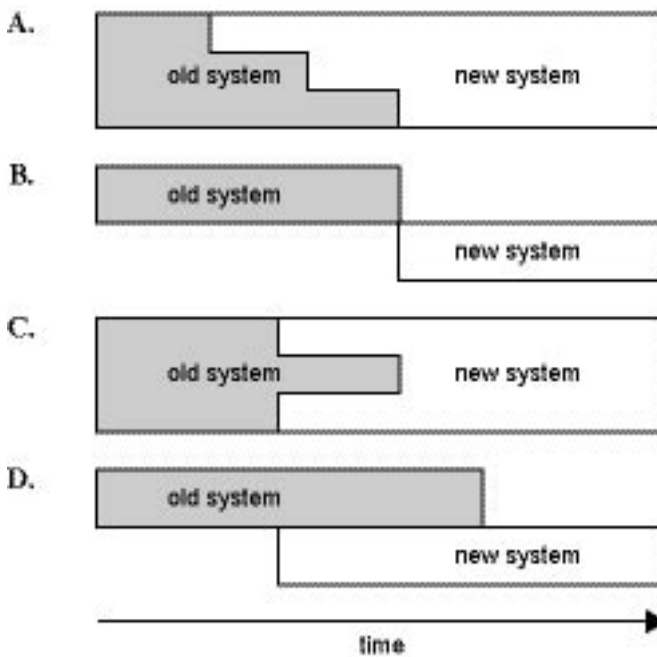
A privately owned organisation has established a shared network drive accessible by all staff. It contains a folder called Images which stores all the photos used for staff ID cards.

Which of the following measures would enable the organisation to meet the provisions of the Privacy Amendment (Private Sector) Act 2000?

- A. using the photos for publicising the company
- B. allowing all staff full access to the Images folder
- C. distributing to staff a memo stating how the images will be secured
- D. allowing all staff the ability to view all files in the Images folder

Question 11

Which diagram best represents phased conversion?

**Question 12**

If the condition 'Sales are greater than or equal to 100' needs to be tested, what would be the best test data?

- A. 90, 95, 99
- B. 98, 99, 100
- C. 95, 100, 105
- D. 100, 150, 1000

Question 13

Telecommuting is becoming widely used by companies.

The impetus for this change would be classified as

- A. human.
- B. economic.
- C. procedural.
- D. structural.

Question 14

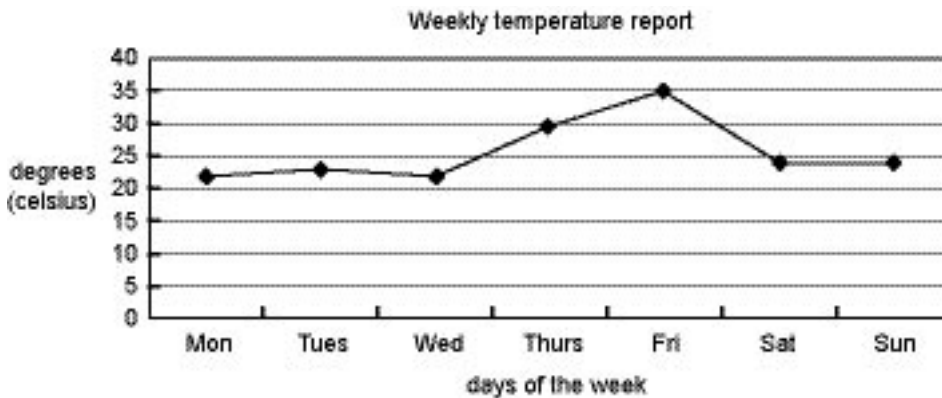
A legal aid firm aims to improve the efficiency of electronically processing application forms.

This is an example of

- A. a legal objective.
- B. an organisational goal.
- C. an information system goal.
- D. an information system objective.

Question 15

The maximum daily temperature of a computer laboratory is recorded for one week with the results shown in the chart below.



The structure of this information is

- A. detailed.
- B. annotated.
- C. aggregated.
- D. summarised.

Question 16

Task	Description	Time in weeks							
		1	2	3	4	5	6	7	8
A	Do preliminary market analysis								
B	Develop preliminary product design								
C	Do preliminary manufacturing study								
D	Evaluate and select best product design								
E	Develop detailed marketing plans								
F	Design manufacturing process								

In the table above, Task D – Evaluate and select best product design – is a predecessor for

- A. Tasks E and F.
- B. Tasks B and C.
- C. Tasks C and F.
- D. Tasks B and E.

Question 17

When saving a template file for producing a weekly calendar of events, which would be the best folder and filename to use?

- A. \Weekly\events
- B. \Calendar\weeks
- C. \Templates\template
- D. \Templates\weekly events

Question 18

The most significant constraint on a suburban video store's ability to increase video rental transactions would be having an information system with only one

- A. colour printer.
- B. barcode reader.
- C. flat-bed scanner.
- D. set of user manuals.

Question 19

An on-line survey of users showed that all users understood where to enter their responses.

Which solution attribute was tested by this survey?

- A. layout
- B. usability
- C. accuracy
- D. functionality

Question 20

Which one of the following criteria would evaluate the effectiveness of file management procedures?

- A. a reduction in customer complaints
- B. an increase in sales by each department
- C. an increase in the number of files created
- D. a reduction in the difficulty of retrieving a file

SECTION B – Short-answer questions

Instructions for Section B
Answer **all** questions in the spaces provided.

Question 1

An advertising agency produces high quality A3 and A4 posters which use high resolution graphics to communicate their message. State two reasons why a black and white A4 InkJet printer is unsuitable for this purpose.

Reason 1 _____

Reason 2 _____

2 marks

Question 2

Many information technology experts believe that ‘to be useful, information must be relevant’. Describe what is meant by relevant and provide **one** example of relevant information.

2 marks

Question 3

In the report shown below, identify two conventions that have been used in formatting numeric data.

Building Supplies and Services

Quarterly Sales Budget for 2004

Location	Jan	Feb	Mar
	\$	\$	\$
City	432,567	437,231	654,985
Eastland	236,867	247,645	296,873
Northland	345,678	232,982	233,343
Total	\$1,015,112	\$917,858	\$1,185,201
Queensland	567,456	346,869	267,654
Tasmania	45,876	43,589	46,972
Total	613,332	390,458	314,626
Grand Total	\$1,628,444	\$1,308,316	\$1,499,827

Convention 1 _____

Convention 2 _____

2 marks

Question 4

An information system has a 48x speed CD-ROM drive. Explain the role of the drive and describe one capability and one limitation of the drive.

Role _____

Capability _____

Limitation _____

3 marks

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Question 5

One Step Games is a new company specialising in providing tips and tricks for customers who purchase their computer games. The manager, Mr Fedora, wishes to establish a web site with a ‘Members Only’ area.

- a. State **one** method of identifying members that Mr Fedora could use on his web site, and describe how it would apply.

Mr Fedora plans to include in the Members Only area a list of all members, their email addresses and the games they have purchased. This data is taken from the warranty cards lodged with the company.

- b. Discuss, in the context of current legislation, **one** concern you would have regarding Mr Fedora’s plans.

2 + 2 = 4 marks

Question 6

Using **either** a spreadsheet **or** a database example, describe **one** electronic technique used to validate input data. Illustrate your answer with an example of a data item that might be rejected.

Spreadsheet or Database

2 marks

Question 7

Classify each of the decisions below as one of the following types.

operational (o)

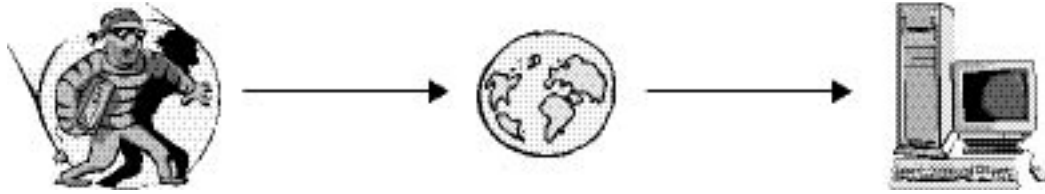
tactical (t)

strategic (s)

- i. A customer is given an extra discount on damaged stock.
- ii. A company decides to close two of their smaller branches.
- iii. A receptionist orders a different brand of photocopy paper.

3 marks

Question 8



The cartoon above shows a thief attempting to steal data/information from a network. One possible way to prevent this is to install a firewall.

a. Describe how a firewall works.

b. Describe one limitation of using a firewall.

Another strategy that can be used to protect data is encryption.

- c. Select the email that is most likely to be encrypted and justify why it is more likely to be encrypted than either of the other two choices.
- i. an email message confirming a date and time for a meeting
 - ii. an email with an attached file asking for bank account details
 - iii. an email containing a user's login name and password

i. ii. or iii.

2 + 1 + 3 = 6 marks

Question 9

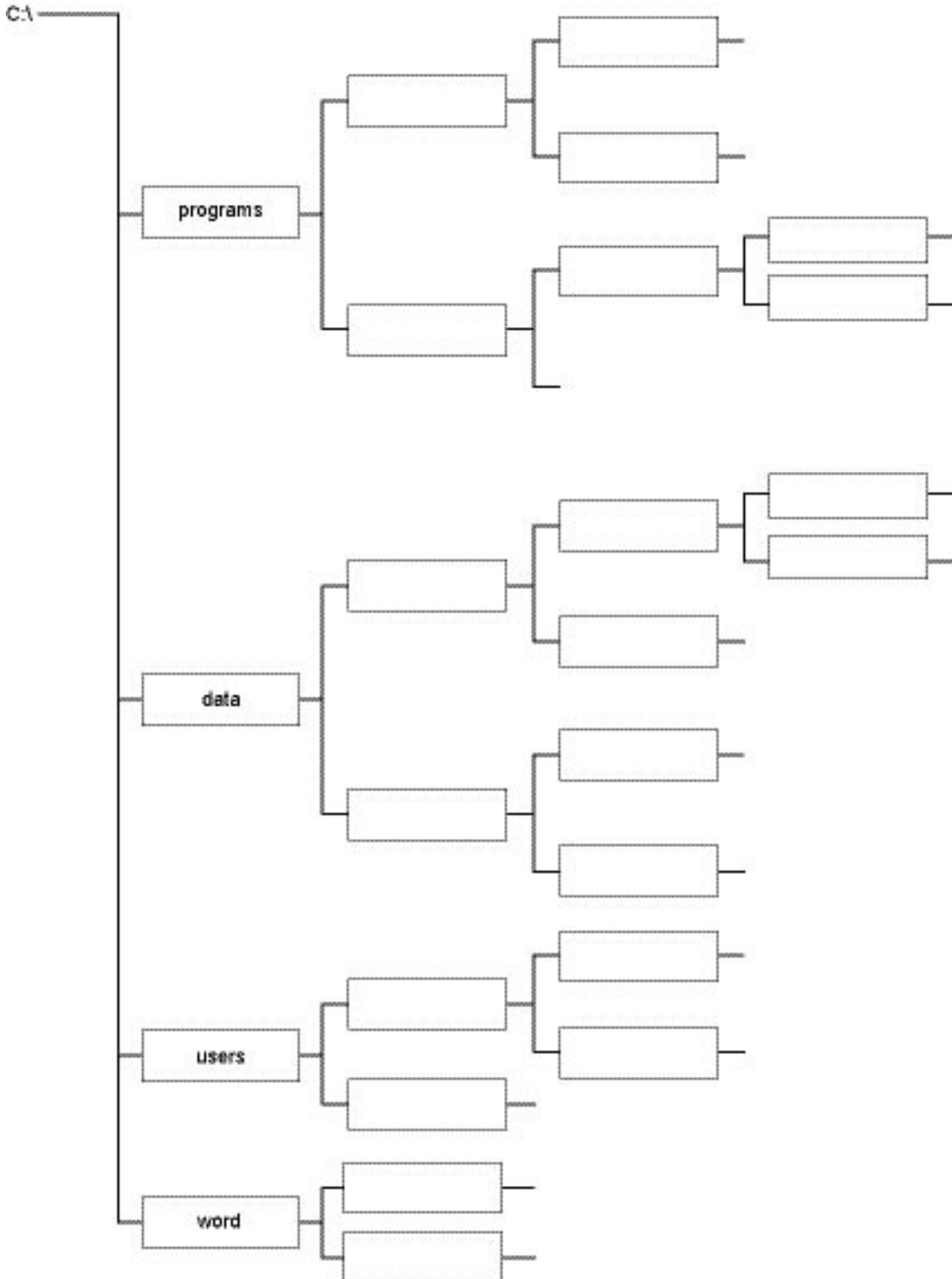
Label only those sections of the diagram below that are needed to show the path to each of the following files.

File 1: Test 1.mdb is stored in C:\data\users\teacher\smith

File 2: C:\data\users\student1\outcome1.xls

File 3: C:\programs\office\word\word.exe

File 4: Answers.txt is stored in C:\programs\notepad



4 marks

Question 11

Distance education teachers will no longer be able to hide their bad hair days, as new satellite technology will enable students to see their teachers online . . . As part of a three-year, \$17 million project, three School of the Air teaching studios in NSW (Dubbo, Broken Hill and Port Macquarie) and two distance education centres in the Northern Territory (Darwin and Alice Springs) will be supplied with new equipment. Each studio will have computers with large touch screens, video cameras and satellite broadband infrastructure. Students will have a satellite dish, a dedicated PC and software in their homes. Once fully operational, they will be able to see their teachers on their screens as well as hear them . . .

Initially due to costs and bandwidth limitations, teachers won't be able to see students, nor students see other students.

The Age Next p.10 Tuesday, 11 February 2003

- a. What type of network is described in the above article?

- b. Explain what is meant by 'bandwidth limitations' by referring to the article.

In the future 'on an outback station, a student communicates in real-time with the teacher and other students via a web cam attached to the PC. Email replaces the slow and unreliable postal service'.

- c. Discuss **two** benefits of upgrading to a real-time system with email facilities for students.

Once the network with the web cam has been fully implemented, students will be surveyed about the success of the change.

- d. Prepare two questions for inclusion in the survey. The first question must focus on identifying any improvements in the efficiency of the network. The second question must focus on the effectiveness of the new network.

Efficiency _____

Effectiveness _____

1 + 2 + 4 + 2 = 9 marks

Question 12

Fleur’s Florist is a very successful chain of florist shops specialising in parties and weddings throughout Victoria. They are about to open new stores in Sydney and Brisbane and are keen to promote their stores in these two states.

- a. Outline **two** reasons why the manager might suggest a web site would best suit the intended customers.

Reason 1 _____

Reason 2 _____

- b. Outline **one** reason why the manager would request a screen layout mock-up as a design representation before approving the web site.

The solution attribute of functionality needs to be tested.

- c. State two tests that would test the solution’s functionality and explain how you would conduct each test.

Test 1 _____

Explanation _____

Test 2 _____

Explanation _____

- d. Identify a sample group of people who could be used to test the solution. Justify your choice.

Sample group _____

Justification _____

- e. Two possible criteria for evaluating the effectiveness of the web site would be

- i. number of hits

- ii. number of on-line orders placed by email has increased

Select the criterion you would recommend and justify your choice.

2 + 1 + 4 + 3 + 2 = 12 marks

Question 13

Cheapway Supermarkets is planning to introduce a self-scanning system into its supermarkets. Instead of checkout attendants, customers will take their items to a self-scanning terminal. Customers will scan each item and press a button. After all items have been scanned the terminal will print a docket, which will be taken to the cashier for payment. There will be one cashier for every four terminals.

- a. Identify and explain one health and safety requirement that will need to be considered when customers use this new system.

Health and safety requirement _____

Explanation _____

The first set of four terminals will be installed in the city store three months before installations in other stores.

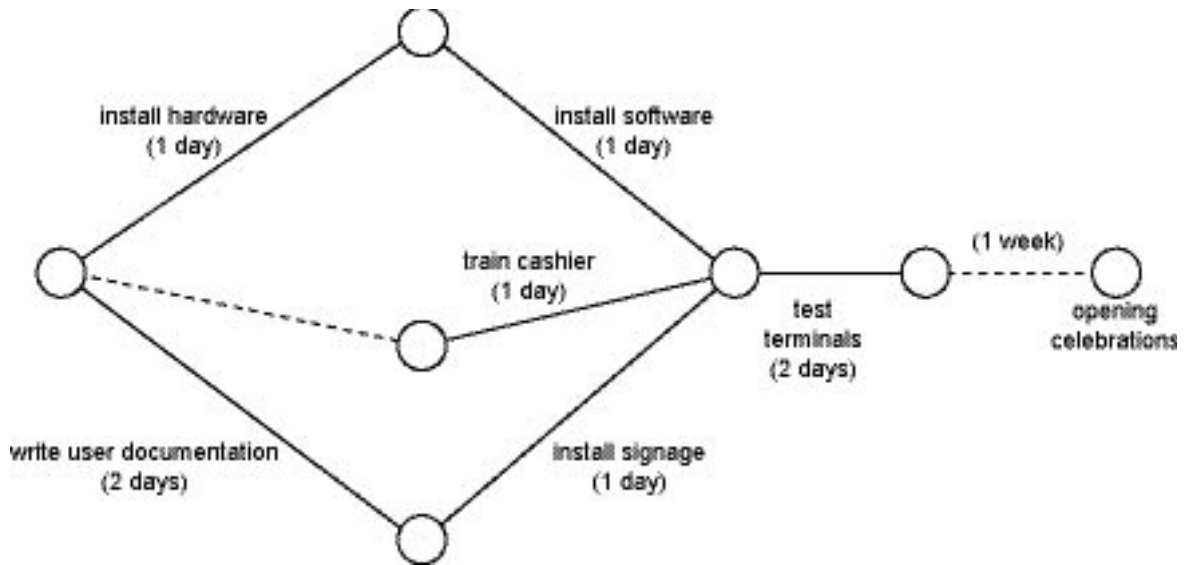
- b. Identify the method of changeover that is being used by Cheapway.

Management thinks that self-scanning terminals will reduce company costs.

- c. Using one example, discuss why this may not occur.

The diagram below represents some of the tasks to be completed to install the terminals in the city store.

d. i. Mark the critical path.



ii. Explain why Cheapway Supermarkets has allowed a week between the completion of the project and the opening celebrations.

e. List two groups of people who will need to be trained to use the new system and explain the type of training you would recommend for each group.

Group 1 _____

Recommended training _____

Group 2 _____

Recommended training _____

2 + 1 + 2 + 2 + 6 = 13 marks