**Victorian Certificate of Education
2005**

STUDENT NUMBER

Letter

Figures

Words

INFORMATION PROCESSING AND MANAGEMENT
Written examination

Tuesday 8 November 2005

**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

Section	Number of questions	Number of questions to be answered	Number of marks
A	20	20	20
B	12	12	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 22 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 unauthorised electronic devices into the examination room.

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SECTION A – Multiple-choice questions

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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.

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Question 1

Which of the following file extensions both indicate image file formats?

A.   .gif and .pdf

B.   .jpg and .zip

C.   .bmp and .gif

D.   .jpeg and .wav

Question 2

The best measure for evaluating the effectiveness of a website would be

A.   ease of navigation.

B.   speed of download.

C.   cost of ongoing maintenance.

D.   communication of the message.

Question 3

Fastfind Street Directories has received numerous emails complaining that the text on their website is too small to read.

This is a problem relating to

A.   structure.

B.   accessibility.

C.   functionality.

D.   completeness.

Question 4

A not-for-profit charity with three stores wants to improve the quality and consistency of its reports.

The best option to achieve this goal would be to

A.   let each store buy their own computer.

B.   buy one computer and place it in one of the three stores.

C.   buy a computer for each store and set up a report template.

D.   design a report template and ask each store to fill in the blanks by hand.

Question 5

Crazy Cartoons applies for and receives copyright for all cartoons created by its artists. On their invoice to a client, Crazy Cartoons lists the copyright details and charges and the GST charges related to the copyright.

This is an example of which type of convention?

A.   preset

B.   optional

C.   preferred

D.   mandatory

Question 6

Manipulation of an image captured by a mobile phone would be demonstrated if the image was

A.   saved.

B.   edited.

C.   deleted.

D.   emailed.

Question 7

The correct order of the listed stages for the systems development life cycle is

A.   design, development, implementation.

B.   development, design, evaluation.

C.   analysis, evaluation, design.

D.   analysis, implementation, development.

Question 8

Which one of the following is a characteristic of information?

A.   unedited

B.   evaluated

C.   summarised

D.   unorganised

Question 9

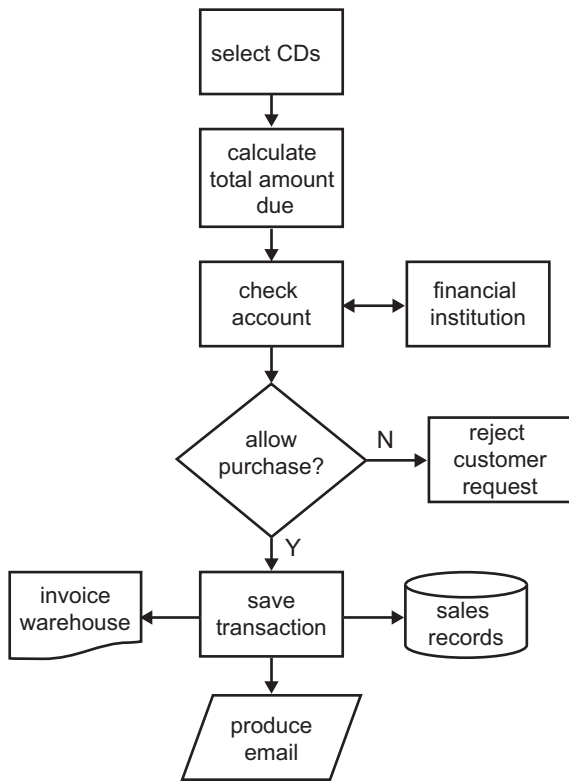The information technology manager plans for computer equipment to be obsolete in three years.

This impetus for change is

A.   social.

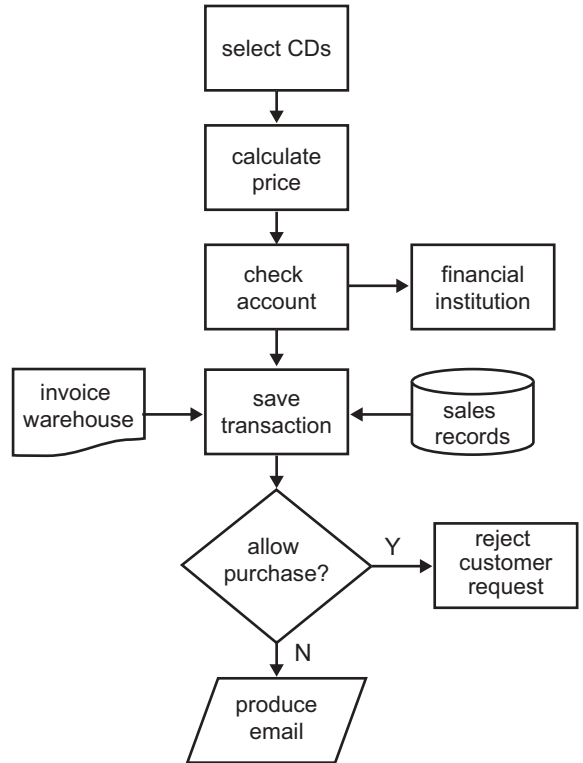**B.**   economic.

C.   technological.

D.   environmental.

Question 10

Which of the following visual representations correctly represents the procedure for selling CDs from an online music store?
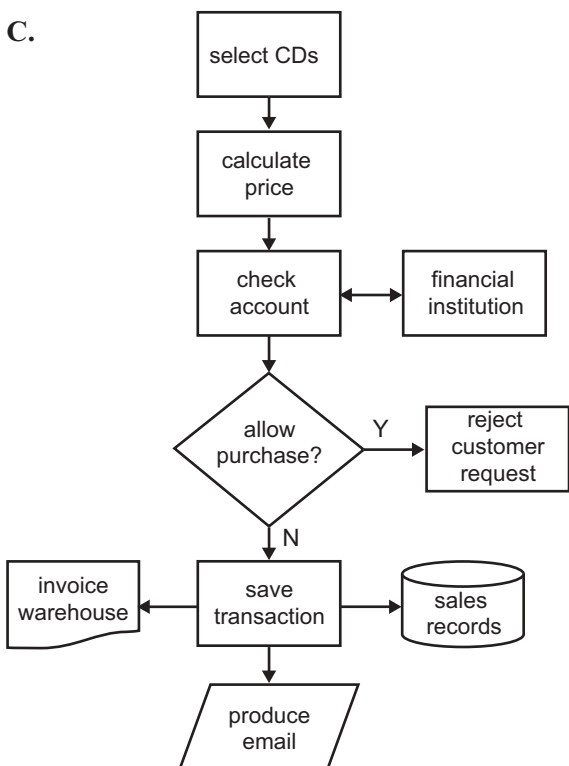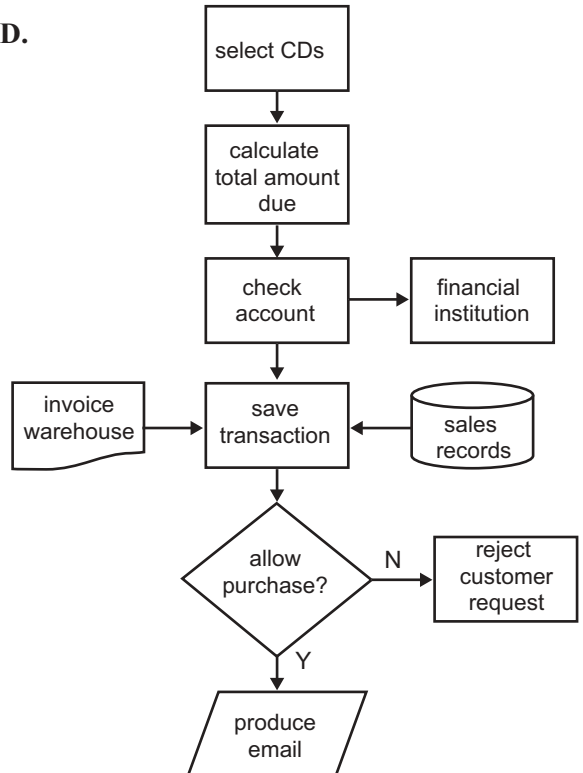
A.

B.

C.

D.

Question 11

A small business with 10 desktop computers wants to share template files.

The cheapest and most appropriate cabling to connect these computers in a small building is

A. infrared.

B. fibre optic.

C. Universal Serial Bus (USB).

D. Unshielded Twisted Pair (UTP).

Question 12

A taxation agency stores its data files in a separate directory from its software application files on the same hard drive.

The main reason for this procedure is to

A. save space on the hard drive.

B. increase the risk of file corruption.

C. decrease the risk of file corruption.

D. enable easy running of the daily backup.

Question 13

Output is said to contain timely information if it is produced

A. for the user.

B. when required.

C. within working hours.

D. for a specific purpose.

Question 14

Sarah is the network manager of I Wish Investments. She has decided to improve the physical security of the network.

Which strategy would achieve her objective?

A. update virus protection software

B. implement a password aging policy

C. install video cameras in network server rooms

D. complete incremental backups every night during the week

Question 15

A new system is to be installed which will require the electrical extension cord for the data projector to be laid on the floor across a doorway.

In what way is this a risk for employees?

A. Repetitive Strain Injury (RSI)

B. Electromagnetic Interference (EMI)

C. Radio Frequency Interference (RFI)

D. Occupational Health and Safety (OH&S)

Question 16

A marketing manager of an IT company makes a decision regarding the type of hardware to be sold for the next twelve months.

The type of decision being made is

A. tactical.

B. strategic.

C. economic.

D. operational.

Question 17

To limit the options available to users in a software solution the designer could use

A. a list box.

B. a print button.

C. comment boxes.

D. a reset button.

Question 18

Sheena purchased a music CD. She liked the music and converted it to an MP3 file. She decided to upload the MP3 file to her Internet website.

In relation to the Copyright Amendment (Digital Agenda) Act 2000, Sheena's use of the file on her website could best be described as

A. legal because she purchased the CD.

B. illegal because she converted the music to MP3 format.

C. legal because her website is personal and permission is not required.

D. illegal because she did not obtain permission from the artist to upload the file.

Question 19

One organisational goal of a soft-drink vending machine company is to

A. increase the range of no name lines in the vending machines by 10%.

B. install soft-drink vending machines in every school in Victoria.

C. decrease the time taken to refill the machines by 10%.

D. investigate the use of the Internet to inform the company when vending machines need servicing.

Question 20

A project, employing four full-time staff members, is running a week (5 working days) behind schedule.

The quickest option for the project manager to get back on schedule would be to

A. have all staff work on Saturdays.

B. employ one additional staff member.

C. employ four additional staff members next week.

D. have all staff work an additional two hours each day next week.

END OF SECTION A

SECTION B – Short-answer questions

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

Question 1

Due to copyright restriction,
this material is not supplied.

a. List **two** features that improve password security.

feature 1 _____

_____

feature 2 _____

_____

2 marks

b. Select **one** feature from part **a.** and explain why this is necessary.

_____

_____

_____

_____

1 mark

Question 2

An electronic customer file is currently organised in the following way.

Customer	Address	Phone	Highest purchase
Jan Appleby	35 Smith St Geelong	5298 3467	$560
Bill Owen	14 Railway Pde Chelsea	03 9753 4563	$345
Kim Anderson	215 Barnes Ave Ararat	5313 1329	$459

Suggest **two** changes to the design that would make this file more efficient for sales staff wanting to look up customer details.

change 1 _____

_____

_____

change 2 _____

_____

_____

2 marks

Question 3

Select **two** of the three storage mediums listed below and identify one limitation and one capability, and explain the method by which data is recorded for each.

• USB Flash Drive
• DVD (RW)
• Internal Hard Drive

Item 1 _____

limitation _____

_____

_____

capability _____

_____

_____

method of recording data _____

_____

_____

_____

Item 2 _____

limitation _____

_____

_____

capability _____

_____

_____

method of recording data _____

_____

_____

_____

6 marks

SECTION B – continued

Question 4

a. Identify **two** ways (methods) in which detailed information in a paper-based television guide could be organised.

method 1 _____

_____

_____

method 2 _____

_____

_____

2 marks

b. When planning to convert the television guide to a screen-based output, explain **three** features that you would include to improve the value and suitability of the information produced.

feature 1 _____

_____

_____

_____

feature 2 _____

_____

_____

_____

feature 3 _____

_____

_____

_____

3 marks

Question 5

Select **one** of the following items of hardware.

- digital camera
- flatbed scanner

For this item of hardware

- state one type of software that could be used to manipulate the data
- describe one way in which the data could be manipulated
- identify a possible file type used when the data is stored
- name one type of output that can be produced.

Item of hardware _____

software	
manipulation	
storage	
output	

4 marks

Question 6

A local supermarket currently prints receipts using black ink. They have decided to preprint advertisements for special deals on the back of their current receipts.

a.   List **two** constraints on the design of these advertisements.

constraint 1 _____

_____

constraint 2 _____

_____

2 marks

b.   Using the Input-Process-Output chart below, identify **one** input task, **one** process task and **one** output task the graphic artist would carry out when creating these advertisements.

Input task	Process task	Output task

3 marks

Question 7

The following statements are contained in a large insurance company's privacy document which is sent to all clients annually when they are sent a bill to renew their policy.

YOUR PERSONAL INFORMATION

Personal information held by us may include your name and contact details which are collected by us so we can contact you.

DISCLOSURE OF YOUR PERSONAL INFORMATION

We rely on third party suppliers (agents, legal advisers, other insurance companies and mailhouses) to perform specialised activities for us.

Your personal information may be provided to them so that they may carry out their agreed activities.

a. Explain, in relation to privacy legislation, **why** the document is sent to clients and the **reasons** for including the above statements.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3 marks

The document also states that

> We have adopted the following practices that relate to privacy.
> * Taken steps to protect your privacy if we send personal information about you outside Australia

b. If a large insurance agency needs to send your personal information overseas electronically, what actions should they take to protect your privacy?

_____

_____

_____

_____

_____

_____

_____

_____

_____

2 marks

Question 8

Jenny wishes to create videos and realises that her current computer is too old. She needs to purchase a new computer and has found the two alternative computer systems shown below.

	System 1	System 2
product components	Intel Pentium 4 3.2 GHz 1 GB RAM 120 GB desktop computer	Intel Celeron 3.2 GHz 256 MB RAM 40 GB desktop computer
CPU	Intel Pentium 4 3.2 GHz processor	Intel Celeron 3.2 GHz processor
RAM	1 GB RAM	256 MB RAM
hard drive	120 GB 7200 RPM	40 GB 7200 RPM
drives	8 × DVD RW	52 × CD RW
VGA card	256 MB ATI 9600LE 8 × AGP with TV connection	256 MB ATI 9600LE 8 × AGP with TV connection
monitor	17" LCD panel monitor	17" CRT monitor
other	Swann DV home Pro (3pt 1394 Firewire card)	Swann DV home Pro (3pt 1394 Firewire card)
operating system	Windows XP (home edition)	Windows XP (home edition)

Recommend and justify your choice of system for Jenny.

recommendation _____

_____

justification _____

_____

_____

_____

_____

_____

_____

3 marks

Question 9

Name **two** electronic validation techniques that could be used when entering Victorian postcodes from 3000 to 3999. For each technique describe how it tests the validity of data and identify the test data you would use.

validation technique 1 _____

test description	test data to be used

validation technique 2 _____

test description	test data to be used

6 marks

Question 10

Aloha Advertising is a small Geelong-based company providing services to the travel industry. Zelda Computing, based in Melbourne, employs 15 staff all of whom have a PC linked to a LAN. Zelda is providing Aloha with

- upgraded hardware – including servers, 20 computers, 5 printers
- Internet and email access
- network management – to be conducted remotely through a modem and dial-up connection
- a qualified technician to visit Aloha one morning per week to provide onsite hardware support.

a. Identify **two** security issues Aloha should discuss with Zelda Computing.

issue 1 _____

_____

_____

issue 2 _____

_____

_____

2 marks

b. Identify **two** constraints which might prevent the onsite technician from completing his proposed tasks in the allotted time.

constraint 1 _____

_____

_____

constraint 2 _____

_____

_____

2 marks

c. Identify and explain **one** additional support service that Aloha should get Zelda Computing to provide.

_____

_____

_____

_____

_____

_____

2 marks

Question 11

Due to parental pressure, Techwizz Primary School is considering the introduction of an online lunch-ordering system. Students will be able to login each morning to place their orders using their classroom computers. Teachers will collect the money and confirm the orders each morning. The only new equipment needed will be in the canteen – a computer, printer and LAN cabling. The canteen manager will produce the following documents.

- a print out of all orders for packing and delivery
- receipts to be added to the lunch pack for students to take home each day

a. Each classroom contains two networked computers that students use. Explain why this might be considered inadequate.

_____

_____

_____

_____

1 mark

b. You have been asked to write the student user documentation for this new system. There is a choice of screen-based or paper-based. Select one and justify your choice.

user documentation selected _____

justification _____

_____

_____

_____

_____

_____

_____

2 marks

c. Discuss **two** reasons why some teachers are unhappy with the proposed system.

reason 1 _____

_____

_____

_____

_____

_____

reason 2 _____

_____

_____

_____

_____

4 marks

d. Explain **one** advantage and **one** disadvantage of the proposed system for the canteen manager.

advantage _____

_____

_____

disadvantage _____

_____

_____

2 marks

e. Techwizz's business manager has asked you to draw up a project management plan. As part of preparing a Gantt chart, place the following tasks in the correct order by numbering them from 2 to 5.

Number	Task
1	write specification proposal
☐	train teachers and manager
☐	produce user documentation for training
☐	install new software, hardware and cabling
☐	test software on new equipment
6	evaluate project

1 mark

Question 12

Eldorado had to replace an IT system that had been used for 20 years. The General Manager, Bob Shepherd, says the replacement of their equipment (hardware and software) across 100 stores, each linked to their closest regional centre, was prompted by basic business needs. It was essential that daily operations were not disrupted.

The Victorian-based group wanted to boost sales by improving the product ranges available in their regional stores while reducing costs.

a. The supplier has recommended a one-month parallel method of changing over to the new system rather than a direct conversion. Justify this recommendation covering

- time
- method.

_____

_____

_____

_____

_____

_____

2 marks

SECTION B – Question 12 – continued

b. Two factors that need to be considered by Eldorado when implementing the changes to their IT system are
   • location of training
   • ergonomic requirements for users.

For each of these factors recommend and justify an appropriate strategy for Eldorado's 100 stores.

   i.   Location of training

Strategy	Justification of strategy

   ii. Ergonomic requirements for users

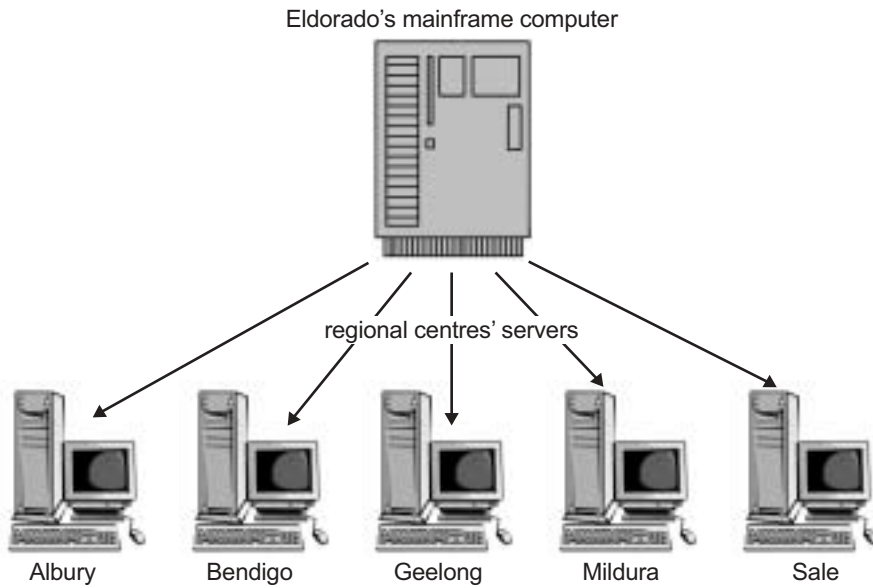| Strategy	Justification of strategy

4 marks

The system offers day-to-day merchandising operations to the stores including individual item management, costing, purchasing, pricing and inventory. It should allow each store to improve sales reporting and order planning and speed up reaction to sales trends.

c. Recommend **one** method of evaluating the success of the above mentioned proposed change. Indicate when the evaluation should be conducted and explain why it should be undertaken at that time.

_____

_____

_____

_____

_____

3 marks

SECTION B – Question 12 – continued

In the future it is proposed to use a central mainframe with an individual server for each regional centre as indicated in the diagram below. Eldorado wants to implement a consistent backup strategy for the five regional centres' servers.

Eldorado's mainframe computer

regional centres' servers

Albury   Bendigo   Geelong   Mildura   Sale

d. Explain and justify an appropriate backup strategy that covers
- timing
- storage location
- media to be used.

timing _____

_____

_____

_____

_____

storage location _____

_____

_____

_____

media to be used _____

_____

_____

_____

6 marks

END OF QUESTION AND ANSWER BOOK