**Victorian Certificate of Education
2014**

Letter

STUDENT NUMBER

VCE VET INFORMATION AND COMMUNICATIONS TECHNOLOGY
Written examination

Thursday 6 November 2014

**Reading time: 9.00 am to 9.15 am (15 minutes)
Writing time: 9.15 am to 10.45 am (1 hour 30 minutes)**

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	15	15	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 23 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.

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

Environmental assets are

A.   land, water, soil and air.

B.   temperature and air quality in the office.

C.   the size of the land and office space available.

D.   the number of air conditioners that a company has installed.

Question 2

A large software developer has several people working on the user guide for its new software product. Version control is required in order to keep track of what different writers create.

Which one of the following complies with accepted version control?

A.   Each additional change to a document is saved with a number smaller than the previous version.

B.   Each additional change to a document is saved with a number larger than the previous version.

C.   Each additional change to a document is saved with a letter that occurs earlier in the alphabet.

D.   Each additional change to a document is saved with a letter that occurs later in the alphabet.

Question 3

Before a Help Desk operator implements the solution to a problem, they should

A.   obtain approval from the client.

B.   contact the operating system (OS) developer.

C.   arrange to meet with the hardware supplier.

D.   document the technical support provided to the client.

Question 4

Meeting relevant laws, by-laws and regulations or best practice or codes of practice for environmental performance and sustainability are examples of

A.   compliance.

B.   referencing standards.

C.   environmental impacts.

D.   sustainability covenants.

Question 5

As more computers were added to Evan's workplace network, he found that the network was slowing down. Evan increased the network speed by replacing **all**

A. switches with hubs.

B. hubs with switches.

C. motherboards with network interface cards.

D. central processing units with network interface cards.

Question 6

Which one of the following will immediately reduce the environmental impact of an organisation?

A. referencing standards and guidelines

B. investigating a waste management hierarchy in the workplace

C. giving preference in future purchases to recyclable materials

D. determining the organisation's most appropriate waste disposal plan

Question 7

A service level agreement between the IT Support Department and a client is

A. a schedule of when maintenance, updates and repairs will be conducted by the IT Support Department.

B. a formal agreement between the IT Support Department and a client, detailing the level of service to be provided.

C. an informal agreement between the IT Support Department and a client, detailing the level of service to be provided.

D. a verbal agreement to an outline of the obligations that the client has to the IT Support Department.

Question 8

Clarissa was able to reduce the use of paper in her company's office by

A. using lower-wattage printers.

B. switching to renewable or green electricity.

C. only using paper made from plantation-grown timber.

D. setting smaller margins and font sizes in the company's word processor.

Question 9

An IT technician provides on-site warranty repairs.

What critical information must be logged on the completion of a job?

A. progress on the task, contact details of the client, size of the business

B. progress on the task, a description of the problem, size of the business

C. a description of the problem, contact details of the client, size of the business

D. a description of the problem, contact details of the client, progress on the task

Question 10

If a computer is running slowly due to 'disk thrashing', which one of the following provides a long-term solution?

A. clean up temporary files

B. run fewer programs at one time

C. increase the amount of RAM in the computer

D. replace programs with similar programs requiring less memory

Question 11

CryptoLocker is a new form of ransomware. It is a trojan virus that encrypts all your files with 2048 bit encryption and then demands you pay or your files will stay encrypted and, therefore, be of no use to you.

Which one of the following actions will protect the integrity of your data if your computer gets infected with ransomware?

A. have off-site backups

B. keep antivirus software up to date

C. never open emails from unknown sources

D. maintain the currency of security patches on the OS

Question 12

Adam tested a new word processor, Poretext, on a client's computer. This new word processor is to be adopted across the client's company. He found that the client cannot share word processor documents as the client is the only one with this software. Adam documented a solution to this issue.

His solution states that the client is to

A. reinstall the OS.

B. use the same software that everyone else is using.

C. change the network card so that the client can share files using the intranet.

D. receive training on saving the file in a format that is compatible with everyone else's files.

Question 13

Emma purchased second-hand computers for her company. She then found there were multiple computers with the same IP address on the network. This affected the ability of 57 users to access the internet, share documents and read emails. The solution to this problem is to change the IP address setting from static to dynamic.

The efficient way of achieving this solution is to

A. visit each user on a one-to-one basis, make the changes and verify that they work.

B. produce a YouTube clip showing how to make the changes and email the link to all users.

C. start a forum that lists the changes, and let the users create threads and support each other.

D. have a group training session, then follow up with users who could not understand the changes at a time convenient to the user.

Question 14

Strathbogie Secondary College asked Mr Yung to reduce the energy use in his classroom, which has 20 computers, without causing loss of data or inconveniencing users. Mr Yung achieved this aim by altering the computer settings.

Which one of the following is the correct group of settings?

A.   Set the screensaver to begin after 10 minutes, requiring a login to resume.
          Set the monitor to sleep after 20 minutes.
          Set the OS to shut down after 30 minutes.

B.   Set the screensaver to begin after 10 minutes.
          Set the monitor to sleep after 20 minutes.
          Set the OS to shut down after 30 minutes.

C.   Set the screensaver to begin after 10 minutes.
          Set the OS to shut down after 30 minutes.
          Set the hard disk drives (HDDs) to park the heads after 30 minutes.

D.   Set the screensaver to begin after 10 minutes, requiring a login to resume.
          Set the monitor to sleep after 20 minutes.
          Set the HDDs to park the heads after 30 minutes.

Question 15

Ladnit High School has decided to use FreeWare Applications in order to save money on purchasing commercial software packages for basic applications. The changeover from the existing system to the new system will commence with staff. Most of the staff are familiar with using word processors, spreadsheets and presentation packages, but have not previously used FreeWare Applications.

Which one of the following is the quickest and cheapest method of creating user documentation to assist the staff with learning to use the software?

A.   Get one of the local IT technicians to create the documentation from the beginning.

B.   Employ a technical writing company to produce the documentation to assist the staff with using the software.

C.   Tell the staff to use the documentation provided by FreeWare as this should be sufficient.

D.   Have a local IT technician look at the documentation provided by FreeWare and modify it to suit the school's staff.

Question 16

The box below shows three process types.

> a real-time system
>
> a multi-tasking system
>
> a batch system

The following lists each have three examples of process types.

Which list has the examples in the order shown in the box above?

A. output from a video card
mouse movement in a graphical user interface
(GUI)
computer file system

B. mouse movement in a GUI
computer file system
connecting to a web page for the first time

C. computer file system
connecting to a web page for the first time
output from a video card

D. connecting to a web page for the first time
output from a video card
mouse movement in a GUI

Question 17

ICT is an important part of a school's budget. The Education Authority has an agreement with preferred suppliers of ICT, where certain recommended systems are offered at special low prices. The information about these deals changes every three months. There are 3000 schools eligible for the special prices.

Which one of the following is the correct way for this information to be provided to schools?

A. Put the information on a public website.

B. Put the information on the Education Authority's WAN.

C. Email each school an updated user manual every three months.

D. Mail a hardcopy user guide once and then only mail updates as required.

Question 18

Which one of the following lists contains only information required to assess the impact of a printer on the environment?

A. 24-hour service guarantee
construction materials of the printer
recycling at the end of the printer's life
ability to use recycled paper
electricity usage

B. electricity usage
A4 and A3 paper cassettes
amount of paper used
construction materials of the printer
recycling of toner cartridges

C. ability to use recycled paper
recycling of toner cartridges
construction materials of the printer
number of prints made
amount of paper used

D. amount of paper used
ability to use recycled paper
recycling at the end of the printer's life
PIN number to control printing
number of prints made

Question 19

Jerry was unhappy with the support from her company's Help Desk. Mick, the Help Desk Manager, decided to investigate Jerry's concerns.

Which one of the following is the correct sequence for Mick to follow?

A. Obtain Jerry's comments and consider alterations to the Help Desk's procedures.
   Check previous logs for requests from Jerry.
   Inform Jerry of his findings and provide her with advice and support.
   Review and document the support issues affecting Jerry.

B. Inform Jerry of his findings and provide her with advice and support.
   Review and document the support issues affecting Jerry.
   Obtain Jerry's comments and consider alterations to the Help Desk's procedures.
   Check previous logs for requests from Jerry.

C. Check previous logs for requests from Jerry.
   Review and document the support issues affecting Jerry.
   Inform Jerry of his findings and provide her with advice and support.
   Obtain Jerry's comments and consider alterations to the Help Desk's procedures.

D. Check previous logs for requests from Jerry.
   Obtain Jerry's comments and consider alterations to the Help Desk's procedures.
   Inform Jerry of his findings and provide her with advice and support.
   Review and document the support issues affecting Jerry.

Question 20

When upgrading the hardware for a mission critical computer, which of the following shows the sequence in the correct order?

A. ask key users when to upgrade
   get approval for the upgrade
   review specifications for the computer
   obtain the equipment
   install the required software
   replace the computer
   follow up

B. ask key users when to upgrade
   review specifications for the computer
   obtain the equipment
   install the required software
   get approval for the upgrade
   replace the computer
   follow up

C. review specifications for the computer
   get approval for the upgrade
   install the required software
   obtain the equipment
   ask key users when to upgrade
   replace the computer
   follow up

D. review specifications for the computer
   get approval for the upgrade
   obtain the equipment
   install the required software
   ask key users when to upgrade
   replace the computer
   follow up

END OF SECTION A
TURN OVER

SECTION B – Short-answer questions

Instructions for Section B

Answer **all** questions in the spaces provided.

Question 1 (2 marks)

List four actions that a Help Desk can take when investigating an issue for a client.

1. _____

2. _____

3. _____

4. _____

Question 2 (2 marks)

The new Finance Manager has asked for details of who has access to the payroll system and the levels of access they have. You provide the Finance Manager with the following list.

Name	Position	Access level	Access start
C Laurance	HR Manager	enquiry	15 Aug. 2012
B Exelby	Finance Manager	full control	2 Apr. 2013
A Collins	Payroll Coordinator	full control	21 Feb. 1986
C Haynes	Payroll Clerk	data entry	8 Dec. 2010
R Morrow	IT Manager	full control	30 Sep. 2012
C Taylor	Help Desk Officer	enquiry	26 Apr. 1999

a. Why is access to the payroll system restricted? 1 mark

_____

_____

b. The Finance Manager says that the IT staff (R Morrow and C Taylor) should not have access to the payroll system.

How should the IT Manager respond to this comment? 1 mark

_____

_____

_____

Question 3 (2 marks)

The template of a Change Request Log to document changes in software that is being written for a client is shown below.

	Job description	**Request date**	**Assigned to**	**Response date**
1.				
2.				
3.				
4.				
5.				

An evaluation of the Change Request Log revealed:

- it was hard to identify the person who had made the request for changes when using this log
- programmers were completing some of the changes after the request had been closed
- programmers were not clear whether anyone had already begun or completed the request.

In the space provided below, redesign the above template to address the issues that have arisen.

Question 4 (3 marks)

Rendi has been employed by a software development company to write a user guide for installing and operating the software for an application that counts the kilojoules burnt in an activity. Rendi was given a set of instructions that included guidelines on how the document is to be formatted. These include:

- headings
- lists
- numbers and dates
- rules for chapter, figure and table headings.

a. Name the type of instructions provided to Rendi to create this documentation. 　　1 mark

_____

b. What are **two** benefits of the instructions to Rendi as he writes the user guide? 　　2 marks

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Question 5 (5 marks)

The remote Asgard office of the Midgard Water Authority provides information to the public and a bill payment service. Currently, there are two computers in the office, both of which are used by Freyja. These computers run continually during office hours. One computer, located at the counter, is used to provide information to the public and for the processing of bills. The other computer is used for secretarial work and is located at a nearby standard office desk.

Both of these computers are due for replacement as part of the three-yearly equipment renewal cycle, but an alternative is being considered. The alternative is to use just one computer at the office desk and to connect it via extension cables to a second monitor, second keyboard and second mouse at the counter.

Usual upgrade	Alternative upgrade
2 computers	1 computer
2 monitors	2 monitors and 1 extension cable
2 keyboards	2 keyboards and 1 extension cable
2 mice	2 mice and 1 extension cable

a. List **two** advantages that the alternative upgrade has over the usual upgrade.   2 marks

_____

_____

b. List **two** disadvantages that the alternative upgrade has over the usual upgrade.   2 marks

_____

_____

c. Briefly explain why the Midgard Water Authority replaces its computers every three years.   1 mark

_____

_____

Question 6 (8 marks)

An organisation has decided to look for options for storing user data. The aim is to have a lower impact on the environment. The current storage systems are a mixture of various capacity 3.5 inch 5400 rpm hard disk drives (HDDs). There are three alternative options to choose from:

*   network attached storage (NAS)
*   solid state drives (SSDs)
*   2.5 inch 7200 rpm HDDs

a. Place the above three storage options in order from having the least impact to having the most impact on the environment and justify your choice. 6 marks

	Options	**Justification**
Least impact		
Medium impact		
Most impact		

b. After looking at this year's budget, it was decided that the current storage HDDs for a group of 20 computers will be upgraded.

Which one of the above storage options is optimal? Explain why. 2 marks

_____

_____

_____

_____

Question 7 (5 marks)

Until today, contacting the IT Help Desk at a large architectural firm was via email, telephone or an online form. As of today, the firm has decided that IT help must be requested only through the online form that is available on the staff intranet site. Bill rings the IT Help Desk and says he has forgotten his password.

a.   Explain how the IT Help Desk should respond to Bill.   2 marks

_____

_____

_____

b.   Suggest **two** reasons why the firm wants to use the online form.   2 marks

_____

_____

_____

c.   From the client's viewpoint, what is **one** disadvantage of using the online form?   1 mark

_____

_____

Question 8 (5 marks)

a. Almost all operating systems (OSs) boot into a graphical user interface (GUI).

Provide three reasons why a GUI is provided in an OS. 3 marks

- _____

- _____

- _____

b. What are the additional hardware needs for supporting a GUI? 1 mark

_____

_____

c. Most OSs have a command line interface that is accessible to users if they know where to find it.

Briefly explain **one** advantage that the command line interface has over a GUI. 1 mark

_____

_____

_____

Question 9 (2 marks)

A company's evaluation of storage devices in a set of computers concluded that the devices are using too much energy and are slower to respond than desired. The following sequence of steps outlines the normal company routine for assessing a problem.

1. Assess the problem.

2. ☐

3. Perform a comparison of the existing technique with a possible replacement.

4. ☐

5. Review the specifications of both the existing technique and the potential replacement.

6. ☐

7. ☐

8. Obtain the components.

9. Replace the equipment.

The following steps are missing from the sequence above.

Write the letter of each step in the boxes above to complete the sequence in the correct order.

A. Plan the component upgrade.

B. Gain approval for the replacement.

C. Identify the component concerned.

D. Analyse the test result.

Question 10 (6 marks)

Jack is the CEO of a company that has previously provided computing hardware and software to its employees. Recently, Jack has heard CEOs from other companies talking about the idea of employees bringing their own devices to work. Jack wants to proceed with this idea and contacts the Help Desk for advice.

a. List and explain two network issues that the Help Desk might raise with Jack.   4 marks

Issue 1 _____

_____

_____

Issue 2 _____

_____

_____

b. Provide a solution that will fix each issue listed in **part a.**   2 marks

Solution to issue 1 _____

_____

Solution to issue 2 _____

_____

Question 11 (7 marks)

Alice has been appointed to a position in a large mining company in outback Australia. Extreme temperatures are experienced in the summer months. The usage patterns for the IT equipment in her section currently cause an increase in the office temperature in summer.

a. Suggest **two** techniques available to Alice for obtaining information about the IT equipment's effect on the office environment. 2 marks

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_____

_____

b. Suggest **two** strategies to reduce this effect. 2 marks

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_____

c. Identify the stakeholders in the office. 1 mark

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d. A significant amount of energy is used when printing.

Suggest **four** strategies to reduce this energy use. 2 marks

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_____

Question 12 (5 marks)

A company has created customised proprietary software. Your task is to create user documentation that will allow a client to use the hotkeys efficiently.

a.   Briefly explain why the user documentation should be created 'in-house'.   1 mark

_____

_____

_____

b.   The documentation can be either electronic or printed.

Which form of documentation should be used? Justify your answer.   2 marks

_____

_____

_____

c.   In the space below, provide the layout for your form of documentation.   2 marks

CONTINUES OVER PAGE

Question 13 (5 marks)

A company has had power meters monitoring the energy use of the components of its computer workstations, which are currently always left on. The meter measurements were as follows.

Component	Energy use in watts (W)	Component	Energy use in watts (W)
NAS	50 W	router	30 W
modem	20 W	switch	100 W
computer on computer sleep mode	200 W 15 W	laser printer printing laser printer idle	500 W 25 W
monitor on monitor sleep mode	40 W 4 W	scanner scanning scanner idle	50 W 25 W

Recommend resource efficiency improvement plans for five of the above components.

1. _____

_____

_____

2. _____

_____

_____

3. _____

_____

_____

4. _____

_____

_____

5. _____

_____

_____

Question 14 (7 marks)

Ronnie rings the Help Desk and complains that he cannot print from his notebook to the network printer, which is turned on and in use by other users.

a. Describe how the Help Desk will solve this problem. 4 marks

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b. Describe what the Help Desk will add to the user manual about using network printers. 3 marks

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_____

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Question 15 (6 marks)

Gavin is the technician in charge of deploying new computers at Money Makers. The company replaces one-third of its desktop computers each year. This year it is replacing 150 desktop computers as usual.

The computers arrive from the supplier with version 7 of a 64 bit OS on a single 500 GB HDD.

Money Makers has specific requirements for how Gavin is to configure the computers.

The company requires that version 8 of the 64 bit OS be placed on a 120 GB SSD and that the existing 500 GB drive be split into two partitions for programs and data. The additional SSDs have already been purchased. All the licences have been purchased and all the required utilities are available.

Starting conditions		Required configuration	
HDD	**SSD**	**HDD**	**SSD**
Partition 1	{blank}	Partition 1	Partition 1
ver. 7 64 bit OS virtual memory programs data		programs Partition 2 data	ver. 8 64 bit OS virtual memory

a. Complete the table below to state the significant differences between a traditional HDD and an SSD. Use the words provided in the second column in each row to complete the table. 2 marks

Difference	Words to be used	SSD	HDD
cost per GB	less costly or more costly		
capacity	smaller or larger		
power usage	greater or lesser		
file storage speed	slower or faster		

b. How will Money Makers benefit from the OS being placed on the SSD and not on the HDD? 1 mark

_____

_____

c. Gavin will set up both drives on one computer.

What steps will Gavin need to complete to efficiently set up the remaining 149 computers? 3 marks

_____

_____

_____

_____

_____

_____

END OF QUESTION AND ANSWER BOOK