

STUDENT NUMBER Letter

VCE VET INFORMATION AND COMMUNICATIONS TECHNOLOGY

Written examination

Wednesday 2 November 2016

Reading time: 11.45 am to 12.00 noon (15 minutes)

Writing time: 12.00 noon to 1.30 pm (1 hour 30 minutes)

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	21	21	70
			Total 90

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners, rulers and one scientific calculator.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or correction fluid/tape.

Materials supplied

- Question and answer book of 19 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

‘Wake-on-LAN’ allows ICT workers to

- A. set alarms on long night-time rosters.
- B. facilitate remote installation from an image.
- C. facilitate driver-signing for safe removal of peripherals.
- D. set up equipment to be disconnected from the power source when not in use.

Question 2

Installing protection against malicious software helps to defend a computer system against

- A. greyware.
- B. biometrics.
- C. social engineering.
- D. poor computer code.

Question 3

A LAN is usually spread over

- A. one site.
- B. many sites.
- C. one country.
- D. large organisations.

Question 4

What is the **most** efficient type of user documentation to assist a worker in a small business with sending a job to a networked 3D printer in the office?

- A. online help
- B. local ICT support
- C. the 3D printer’s user manual
- D. a hard-copy step-by-step guide to printing on the network

Question 5

A network operating system (NOS) is

- A. hardware that controls printing.
- B. software that controls the operations of the network.
- C. software that allows users to communicate with each other.
- D. hardware that controls the amount of data that individual users can download.

Question 6

The most important feature of a manual for the installation of accounting software is

- A. consistency.
- B. screenshots.
- C. spelling and grammar.
- D. sentence and paragraph lengths.

Question 7

Eddie contacts his workplace ICT support provider and demands assistance within two hours.

This time requirement of his service-level agreement is the

- A. reply time.
- B. response time.
- C. resolution time.
- D. realisation time.

Question 8

A service-level agreement identifies

- A. how to fix an issue with a client.
- B. the amount of time needed to complete a job.
- C. the contact details of the manager of the ICT support company.
- D. the roles and responsibilities of service providers who support users.

Question 9

Tom was using his computer to chat online with his gaming club members about how those members have all been affected by the latest virus.

Tom's computer has not been affected because he

- A. has his antivirus automatic update turned on.
- B. has his antivirus automatic update turned off.
- C. has not accessed the internet on his computer recently.
- D. does not have antivirus software installed on his computer.

Question 10

The Help Desk log shows that a problem has been categorised as 'pending'.

Which one of the following indicates that the job is pending?

- A. The problem has been resolved.
- B. The problem cannot be resolved.
- C. The problem is not allowed to be resolved.
- D. The problem requires a resource before it can be resolved.

Question 11

Mary, a technician from the Big Paper Processing Company, has just installed a new 'A1 printer/scanner' at the Kaddy Lake CAD (computer-aided design) company.

What should be her next task?

- A. Print a test image.
- B. Show a staff member how to load a ream of paper.
- C. Ask the manager when she can train the staff in its use.
- D. Show the manager how to install new ink cartridges in the printer.

Question 12

Cat 6 UTP wiring is one of the most common network wiring standards in current use. UTP stands for Unshielded Twisted Pair.

Why does UTP cable have pairs of wires that are twisted together?

- A. to minimise interference from other cables nearby
- B. to strengthen the cable for pulling through conduits
- C. so that each pair is easily identifiable for correct connections
- D. to prevent kinking in the cable as it is pulled from the bulk supply box

Question 13

When a computer has insufficient RAM, some programs and data that have not been recently used can be moved to a special area on the hard disk drive (HDD).

The process of swapping backwards and forwards between RAM and the HDD is called

- A. paging.
- B. loading.
- C. spooling.
- D. formatting.

Question 14

The Linux and UNIX operating systems can be installed with no graphic user interface (GUI) and both operating systems are totally controlled by a command line interface (CLI). The Windows Server Core operating systems are also almost purely controlled by a CLI.

What is the advantage to an organisation of deliberately setting up a fileserver that has no GUI?

- A. It is easier to manage.
- B. The licensing costs are reduced.
- C. It requires less advanced hardware.
- D. Less technical knowledge is required.

Question 15

Tavin, an ICT support staff member, gets a report from Felix, a staff member, that his computer screen does not have any red in the display. All other colours are still visible. The same problem has previously been reported, but it was never visible when an ICT support staff member arrived to check it.

When Tavin arrives and checks the screen, it is normal and red is displayed.

The correct thing for Tavin to do now is

- A. tell Felix to log the problem again the next time it occurs.
- B. wiggle the video connectors on the computer and the screen.
- C. tell Felix to take a picture of the screen with his mobile phone and include it when he logs the problem the next time it occurs.
- D. tell Felix that he will connect remotely to the computer the next time the problem occurs so he can see it immediately.

Question 16

Gerry had a wireless broadband account with a 10 GB per month data allowance. His access point had a speed of 50 Mbps.

If everything worked at its rated speed and was used continuously, Gerry's data allowance would run out after

- A. 200 seconds (3 minutes and 20 seconds).
- B. 1600 seconds (26 minutes and 40 seconds).
- C. 2000 seconds (33 minutes and 20 seconds).
- D. 160 000 seconds (1 day, 20 hours, 26 minutes and 40 seconds).

Question 17

Binh, an ICT support team member, is due for his morning tea break, but is currently busy with a printer that has a complicated paper jam. He then gets a call on his mobile phone, informing him that the internet connection for the whole business is not working.

Binh needs to reassess his tasks for today.

The **best** order for his tasks is to

- A. complete the removal of the jammed paper, investigate and fix the internet connection problem, and then have his morning tea break.
- B. complete the removal of the jammed paper, have his morning tea break, and then investigate and fix the internet connection problem.
- C. put an 'out of order' sign on the printer, investigate and fix the internet connection problem, and then fix the jammed printer before having his morning tea break.
- D. put an 'out of order' sign on the printer, investigate and fix the internet connection problem, and then have his morning tea break before returning to the jammed printer.

Question 18

The six steps below are followed when providing advice to clients. The steps are not correctly sequenced.

1. Design the solution.
2. Apply the solution.
3. Gain client approval.
4. Supply instruction and user documentation.
5. Identify the client's needs.
6. Investigate a solution.

Which group of steps is in the **correct** sequence?

- A. 3-2-1
- B. 6-1-2
- C. 2-3-4
- D. 1-2-3

Question 19

Callum looks forward to wearing his favourite costume to the Comic Fans Convention in California. When attempting to connect to the website (<http://www.ComicFans.com>) to purchase a ticket, he receives an error message.

He then tries a ping test, 'ping ComicFans.com', and gets 'Request timed out'.

Next he tries 'tracert ComicFans.com' and gets the following result.

```
Tracing route to ComicFans.com (103.224.182.219)
over a maximum of 15 hops:

  1  192.168.0.1 (192.168.0.1)  0.1 ms  0.1 ms  0.1 ms
  2  * * *
  3  * * *
  4  * * *
  5  * * *
  6  * * *
  7  * * *
  8  * * *
  9  * * *
 10  * * *
 11  * * *
 12  * * *
 13  * * *
 14  * * *
 15  * * *

Trace complete.
```

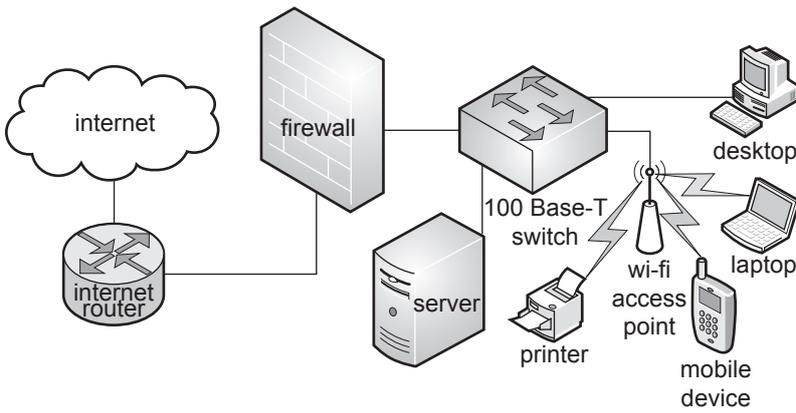
From the results, Callum correctly concluded that

- A. his network card is broken and needs replacing.
- B. his router is not connecting to the ISP and needs to be rebooted.
- C. the Comic Fans website is down, so he will have to wait for it to be fixed.
- D. a remote router is out of order, so he has to wait for it to be fixed or try again tomorrow.

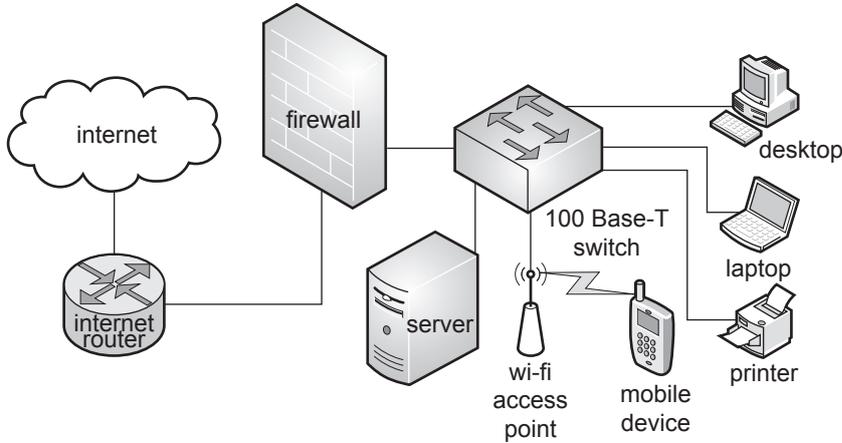
Question 20

Which one of the following network designs will give the **best** speed for printing and internet use?

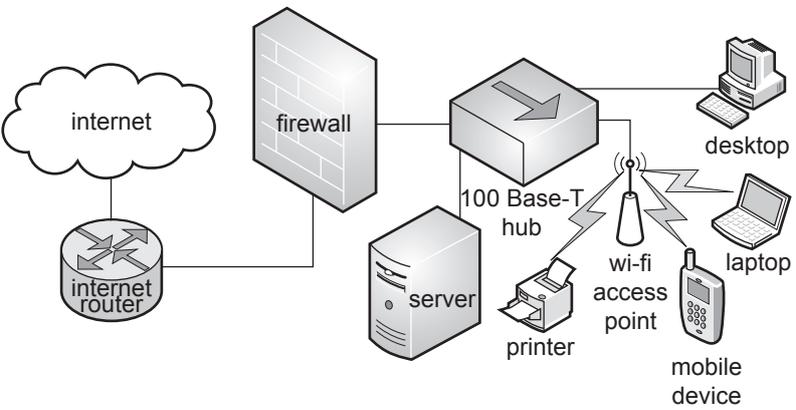
A.



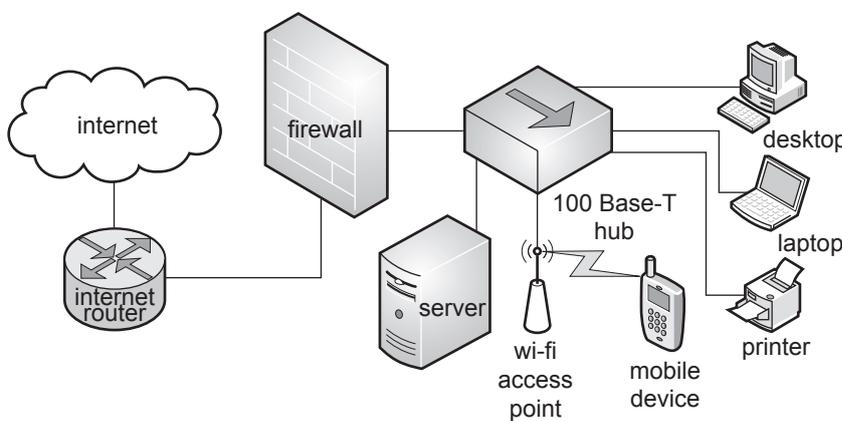
B.



C.



D.



SECTION B – Short-answer questions**Instructions for Section B**

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

Question 1 (2 marks)

A Help Desk operator is unable to assist a client.

Explain what procedures the Help Desk operator should follow.

Question 2 (3 marks)

Define the following three installation options for computer operating systems.

Installation options	Definition
full	
typical	
custom	

Question 3 (2 marks)

It is **not** recommended that software be evaluated immediately after its installation.

Suggest two reasons why.

1. _____

2. _____

Question 4 (3 marks)

Antivirus software is necessary for all computers that are connected to the internet.

a. What is an antivirus program expected to do on a computer? 1 mark

b. What is a 'zero-day attack'? 1 mark

c. An antivirus program is not able to repair a file.
What is **one** option that the antivirus program may offer to deal with the problem? 1 mark

Question 5 (3 marks)

Identify three factors to consider when designing and creating an appropriate feedback form.

1. _____

2. _____

3. _____

Question 6 (5 marks)

Thakshila, an ICT support member, is told by a worker that the data projector in the meeting room shows the message ‘Please clean the filter’ whenever the projector is turned on. However, the message goes away in 30 seconds, and workers ignore it and get on with their presentations.

a. What does Thakshila need to do now that she is aware of this message? 1 mark

b. When should this be done? 2 marks

c. Explain why the filter should be cleaned. 2 marks

Question 7 (2 marks)

Within an organisation, what are the name and the purpose of the document that advises staff about the following?

- level of formality to be applied to different documents
- spelling system to use
- punctuation rules
- presentation recommendations
- formatting of dates and numbers

Name of document _____

Purpose of document _____

Question 8 (2 marks)

A Help Desk service provider wants to give a client information about using remote desktop software to provide assistance.

Describe one advantage and one disadvantage of having the Help Desk located away from the client's business location.

Advantage _____

Disadvantage _____

Question 9 (3 marks)

Outline the steps required to complete user documentation once the documentation has been created.

Question 10 (3 marks)

A newspaper has an internet 'conditions of use' policy in place for staff and a firewall that monitors all traffic to and from the internet.

- a. Suggest **one** activity that is normally permitted in an internet 'conditions of use' policy. 1 mark

- b. Suggest **one** activity that is **not** normally permitted in an internet 'conditions of use' policy. 1 mark

- c. How can the management of the newspaper find out if a staff member has not followed the policy? 1 mark

Question 11 (4 marks)

Helen has an old computer and her computer-literate son has offered to upgrade it for her.

Identify and explain four features of her computer that her son will upgrade.

1. _____

2. _____

3. _____

4. _____

Question 12 (2 marks)

A business is looking at potential web designers for its new web store. A potential designer is identified. At a meeting to decide if this designer will be selected, a sample web page is considered. The web page is visually appealing. A member of the marketing team notices a few spelling errors on the web page.

Give two reasons why the business would not select this web designer.

1. _____

2. _____

Question 13 (5 marks)

A client is considering using cloud storage.

Provide advice to the client by describing three advantages and two disadvantages of using cloud storage.

Advantage 1 _____

Advantage 2 _____

Advantage 3 _____

Disadvantage 1 _____

Disadvantage 2 _____

Question 14 (3 marks)

Two methods of providing a user manual are:

- print the document and include it with the product
- make an electronic version available to the user online.

Select one of the methods above and provide two advantages and one disadvantage of this method.

Method _____

Advantage 1 _____

Advantage 2 _____

Disadvantage _____

Question 15 (2 marks)

A hospital is conscious of the need to protect the privacy of patients and staff, so a regular program of maintenance is performed on its ICT systems, where patient and staff data are stored.

- a. Is a regular program of maintenance considered reactive maintenance or preventative maintenance? Explain why. 1 mark

- b. As part of this regular program of maintenance, the hospital employs ethical hackers to test its website and firewall for vulnerabilities.

What is **one** example of the type of vulnerability that the ethical hackers will look for? 1 mark

Question 16 (7 marks)

Paul has three children who each have a smart phone and they always seem to be running out of mobile data. He is trying to avoid excessive mobile network charges by setting up wi-fi on the new home router. So far the wi-fi has not been turned on.

- a.** What does wi-fi on the home router do? 1 mark

- b.** The manual for the router set-up includes a section about wi-fi security. Paul wants to turn the wi-fi security on but does not know what settings to use.

- i.** What are the best settings for Paul to use? 1 mark

- ii.** Explain why the settings given in **part b.i.** are the best settings. 2 marks

- c.** Paul knows not to use '123456' as the password for the router.

Explain how Paul could choose a simple but secure password for his children to use. 2 marks

- d.** The wi-fi is now turned on. Paul's eldest child is unable to connect their smart phone to the wi-fi on the router, although the other children can connect without any problem.

What is the most likely reason for the smart phone not connecting? 1 mark

Question 17 (4 marks)

Sasha has been hired to develop a network design for a small home office.

Number the steps that Sasha will need to follow from 1 to 7 in the table below.

Identify the most suitable network technologies, devices, protocols, and network cables and connectors to meet the network design.	
Ensure client sign-off for the proposed network design and associated components.	
Develop and document the network design.	
Identify and clarify the client's requirements for the small home office network.	
Source vendors and service suppliers to obtain specifications, and determine the availability and cost of the identified components.	
Review available network technologies, devices and protocols, and determine the most appropriate to meet the client's requirements.	
Identify the most suitable network design to meet the client's requirements.	

Question 18 (5 marks)

Alex is starting a new business in a spare room at the side of her house. Alex thinks the office space is great as it has a door accessing the outside of the house as well as large windows so she can see anyone approaching. She has asked SJH Computing to assist her with setting up the ICT system in her new office space.

- a. Provide one physical example of security and one electronic example of security that SJH Computing would provide for the ICT system and give a reason for each. 2 marks

Physical example _____

Reason _____

Electronic example _____

Reason _____

- b. Alex has a three-year-old son and she does not want to be confined to her home office all the time. She plans on using her laptop to complete her work while looking after her son.

How would SJH Computing implement a solution that meets Alex's needs? 2 marks

- c. Once SJH Computing has completed the set-up and installation of the ICT equipment in the office space, what must SJH Computing do before completing the handover and signing off with Alex? 1 mark

Question 19 (2 marks)

On arrival at a school’s ICT support office, a senior technician is greeted by several staff members who are waiting with a number of issues requiring resolution.

Determine the order in which the issues should be resolved by writing 1 to 4 in the boxes provided.

The Business Manager cannot email payroll details to the bank.

The Principal cannot access the internet to check the football scores.

The Curriculum Department’s fileserver (main data server) is down.

There is an Education Department initiative to deploy (estimated to take three hours) with the deadline being later that day.

Question 20 (3 marks)

A workplace Help Desk receives a user report about a computer that will not boot.

- a. What two pieces of information would the Help Desk operator request before starting work on the problem? These two pieces of information will determine if the computer is covered by warranty. 2 marks

1. _____

2. _____

- b. Suggest a system that the Help Desk operator could use to obtain the information requested in **part a.**, rather than asking the user. 1 mark

Question 21 (5 marks)

URPhoneisU is a small business producing designer mobile phone cases. Its clients bring in their images on their mobile phones and pay URPhoneisU to produce an appropriate personalised phone case on the premises using the supplied images. URPhoneisU operates from a small shop that is next to a community radio station.

On the plan below, indicate the location of the required network components for URPhoneisU.

