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Write your **student number** in the boxes above.

Letter

VET Information and Communications Technology

Question and Answer Book

VCE Examination – Friday 8 November 2024

- Reading time is **15 minutes**: 9.00 am to 9.15 am
- Writing time is **1 hour 30 minutes**: 9.15 am to 10.45 am

Approved materials

- One scientific calculator

Materials supplied

- Question and Answer Book of 20 pages
- Multiple-Choice Answer Sheet

Instructions

- Follow the instructions on your Multiple-Choice Answer Sheet.
- At the end of the examination, place your Multiple-Choice Answer Sheet inside the front cover of this book.

Students are **not** permitted to bring mobile phones and/or any unauthorised electronic devices into the examination room.

Contents	pages
Section A (20 questions, 20 marks)	2–7
Section B (16 questions, 70 marks)	8–19

Section A – Multiple-choice questions

Instructions

- Answer **all** questions in pencil on your Multiple-Choice Answer Sheet.
 - 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

Which one of the following is a computer network protocol?

- A. ISP
- B. TCP
- C. HTTPS
- D. encryption

Question 2

Cathy is learning about coding in school. She speaks to her teacher about the school's ICT policy. The teacher states that the school does not have an ICT policy.

What should the school include when developing its ICT policy?

- A. copyright and privacy
- B. copyright, ethics and privacy
- C. ethics and intellectual property
- D. intellectual property, privacy and ethics

Question 3

Call Us First computer solutions has been asked to provide a small office / home office (SOHO) network solution to a small law firm in the western suburbs of Melbourne. Eliza is the owner of the law firm.

Once a solution is in place, it is important to

- A. tell Eliza to phone if she has questions.
- B. discuss with Eliza how to troubleshoot.
- C. discuss and reach agreement with Eliza about the level of support required.
- D. tell Eliza how many phone calls she can make to Call Us First at no charge.

Question 4

Once a level of technical support has been agreed upon with a client, it is important to tell the client

- A. to consult the manual first.
- B. who is their first point of contact for support.
- C. to arrange a schedule of times when support and training can take place.
- D. how many times a month they can request technical support before an extra support charge occurs.

Question 5

A SOHO network has a number of computers along with a printer. The IP address of one of the computers is found to be 192.168.1.25

An appropriate IP address to be allocated to the printer would be

- A. 192.168.1.25
- B. 192.168.2.26
- C. 192.168.2.25
- D. 192.168.1.26

Question 6

Phil is interested in trialling new software for his graphics company and has found an unauthorised downloadable version from a file-sharing site. Phil thinks that trialling the software for free before buying a copy will be beneficial to the company.

As a system administrator, what security risk is the most concerning to you regarding Phil's idea?

- A. The company will not have a licence for the software and may be fined.
- B. Nothing. It's a great idea for Phil to trial a free version before having the company spend money on it.
- C. The illegally downloaded software will not work and Phil will have wasted company bandwidth and time in his pursuit of the trial software.
- D. Cracked software often has malware embedded in the download, so it may compromise the security of the organisation if Phil's computer contains sensitive information.

Question 7

As the technician responsible for computer laboratory maintenance at the local secondary college, Jamie is tasked with general maintenance of the computers.

The maintenance he carries out should be done

- A. whenever there is an issue.
- B. on a regular basis, according to the college maintenance procedures.
- C. only when there is an issue that is stopping a computer from functioning.
- D. only when he is told by a teacher, student or the school principal that computers are going slow.

Question 8

A SOHO network has a number of laptops along with a central wireless printer. There will only be one wireless access point in the network.

This wireless access point should be located

- A. near the centre of the building.
- B. close to the printer at the rear of the building.
- C. close to the reception at the front of the building.
- D. close to the manager's office at the corner of the building-front.

Question 9

Which is **not** one of the 13 Australian Privacy Principles?

- A. anonymity and pseudonymity
- B. how to display medical records
- C. use or disclosure of personal information
- D. open and transparent management of personal information

Question 10

Jennifer is the only computer technician working at the local secondary college, which has 1250 students and 96 teaching staff. The school has three computer laboratories and up to five computers in every ordinary classroom. Jennifer's time is usually spent removing computers, resetting standard settings, and reinstalling standard software.

An important component of the school's computer maintenance procedures could be

- A. a fault-reporting procedure/application, which creates a list of jobs for Jennifer to work on.
- B. having an open-door policy for students and staff to walk into the technician's room to ask Jennifer to resolve issues with computers they are using.
- C. to allow students to leave class when they encounter an issue with a computer so that they can ask Jennifer to resolve it.
- D. having two or three laptop computers on standby in Jennifer's workspace for students and staff to use when they have a fault with a computer.

Question 11

A client has called the Help Desk several times in the last few days about an issue with their use of the software, as evidenced by the logs.

Which is **not** an effective solution that the Help Desk could undertake to support the client to resolve the issue?

- A. Ask the client to attend additional training.
- B. Check that the software is compatible with their hardware.
- C. Ask the client more questions to find out more about the problem.
- D. Offer to come to the client's desk to work with them to solve the problem.

Question 12

If you were looking for a business's privacy policy, where would you find it?

- A. on the business's website
- B. on the business's intranet
- C. in the manager's desk drawer
- D. privacy policy is not needed

Question 13

A new IT business has set up an office along the Yarra River. They are concerned about recent flooding events and the security of their data.

What three network protections could be suggested to safeguard the business's data?

- A. Run a ping test, set up a cloud backup, and ensure the server is set above the highest known flood level.
- B. Change the SSID to an offsite location, set up a cloud backup, and use a reciprocal business location.
- C. Set up a cloud backup, set up a reciprocal business share agreement with an offsite company, and store physical backups above the highest known flood level.
- D. Keep physical backups in a weatherproof safe, store a copy of the backup in the cloud, and set up real-time data logging to track all information from staff, so that no information is lost.

Question 14

When providing advice on software, hardware or a network, you should

- A. create an appropriate evaluation or feedback form.
- B. investigate and document support issues affecting the client.
- C. provide the client with instructions on how to complete the form.
- D. confirm software, hardware or network requirements with the client.

Question 15

The *Copyright Act 1968* applies to

- A. new application ideas.
- B. equations and formulas.
- C. a homemade soup recipe.
- D. someone's ideas or information that have been written down.

Question 16

What is a common way for a data breach to occur?

- A. file transfer protocol
- B. encrypted data sharing
- C. two-factor authentication
- D. integrated file-sharing software

Question 17

A student has come to the Help Desk after having a fault at home with their personal laptop. The student has completed a system restore and now cannot find their essay due today.

Which of the following actions occur during a system restore?

1. Documents from before a certain date are deleted.
2. Some device drivers are rolled back.
3. Some applications are deleted.
4. Some updates are deleted.

- A. 1 and 4
B. 1, 2 and 3
C. 2, 3 and 4
D. 1, 2, 3 and 4

Question 18

Adam owns a small ICT consultancy business and spends a lot of his time out of the office, meeting with his clients. He read that a virtual private network (VPN) would assist him while meeting with his clients.

What would be the best way the VPN would assist him?

- A. It would bypass the clients' proxy servers.
B. It would give Adam access to the network at his office.
C. It would block Adam from gaining access to his network.
D. It would allow anyone to gain access to Adam's network.

Question 19

Guido and Andrew are working together at a school Help Desk. Guido has found a fix for a common student issue; however, Guido has applied for a promotion, so he does not share his fix with Andrew in an attempt to look more competent.

What ethical behaviour is Guido failing to adhere to?

- A. privacy
B. cooperation
C. communication
D. social responsibility

Question 20

Adrian is interested in increasing the network security in his office. He currently only uses virus protection. You are tasked with redesigning his network. You suggest a firewall, but Adrian is not sure what it does.

You tell him that a firewall

- A. checks all the software entering Adrian's network to ensure that it does not contain viruses or malware.
- B. blocks remote management of the WPS by enabling WPA2 protection to ensure that any data entering the network cannot make password changes.
- C. checks all people entering the network to ensure that users are legitimate and are not trying to hack into the data stored in Adrian's network.
- D. monitors network data packets received from the modem to ensure that they are part of expected data traffic requested by users from inside the network.

Do not write in this area.

Section B

Instructions

- Answer **all** questions in the spaces provided.
 - Write your responses in English.
 - Unless otherwise indicated, the diagrams in this book are **not** drawn to scale.
-

Question 1 (3 marks)

Outline what a modem and a router do in a small office, and the order in which the modem and the router should be installed or connected.

Question 2 (4 marks)

As the owner of a small regional computer support business, Alice provides help to many small businesses. She wants to know how well her help is being received by her customers.

- a. Detail **two** things Alice could include in an online form to obtain feedback from her clients.

2 marks

- b. In the areas that Alice services there are many clients who are not familiar with technology.

Detail why it is important to provide clients with instructions on how to complete feedback forms, and why alternative methods of feedback should be provided.

2 marks

Question 3 (2 marks)

Trudy is a travelling computer technician who visits remote secondary schools in outback New South Wales. Trudy's maintenance of ICT equipment often involves replacing the same printer cartridge in many printers. All schools have the same model of printer.

What data should Trudy have been collecting and storing in order to advise each school how many cartridges they should purchase in advance of her arrival?

Question 4 (3 marks)

The internet provides access to many hours of video footage on almost any subject. It is easy to download a video created by others and then include it on a business website.

- a. State the key legal requirements related to this type of activity. 1 mark

- b. Outline the circumstances in which the requirements apply and do not apply. 2 marks

Question 5 (4 marks)

Sasha wants to set up a small office at the rear of her house, as indicated in Figure 1. NBN Co terminated the connection from the street at the very front of the house, and the ISP installed a wireless router at the same location. Sasha tries to get her laptop and printer to connect from the office to the wireless router via wireless, but the connections keep dropping out.

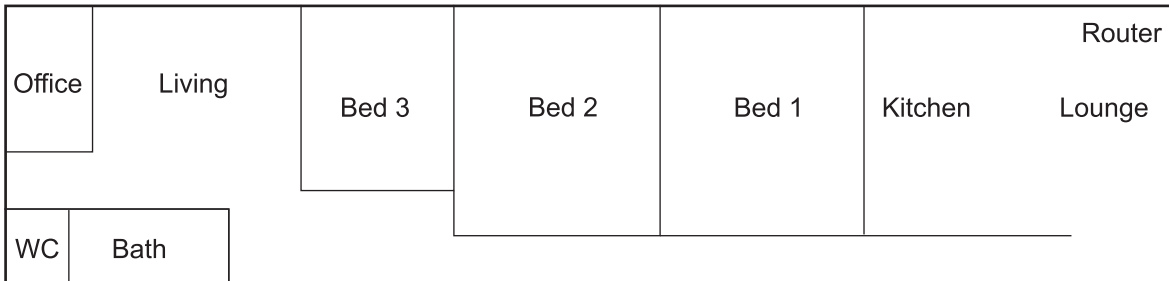


Figure 1

- a. Recommend a specific cost-effective type of wired alternative for connecting from the office to the router. 1 mark

- b. Explain why your recommended wired alternative is the most appropriate. 2 marks

- c. List **one** extra piece of equipment that may be required at the office end of the house to enable Sasha’s laptop and printer to have a stable wireless connection. 1 mark

Do not write in this area.

Question 6 (4 marks)

Barry runs a small food ordering and delivery business. He has hired you to set up his new computer system. He would like to have 10 computers, a phone system and several label printers. He is considering a range of hardware and software options. Before you undertake the set-up, you need to know what the computer system is required to do.

Write four questions you could ask Barry before making any recommendations to him.

Question 1 _____

Question 2 _____

Question 3 _____

Question 4 _____

Question 7 (4 marks)

a. Explain the role of a DNS server in a small business. 2 marks

b. List **one** advantage of a DNS server. 1 mark

c. List **one** disadvantage of a DNS server. 1 mark

Do not write in this area.

Question 8 (5 marks)

Magda has bought a second-hand, networkable, dual-purpose scanner/printer to use in her home office. She wants to be able to access it from both a desktop and laptop computer.

Magda connects the scanner/printer to an available port on the network router using a CAT5 cable, and the port light starts to flash slowly.

- a. What does the slow flashing port light indicate? 1 mark

- b. When Magda tries to use the scanner, nothing happens. When she checks the scanner/printer set-up, Magda finds that the IP address has been set at 172.16.6.5
She pings the printer IP address.

What does this do?

1 mark

- c. The IP address of the desktop is 172.16.1.5

Explain why the desktop will not be able to access the scanner/printer, and what needs to be changed to enable access.

2 marks

- d. What component of the network could automatically allocate the IP address?

1 mark

Question 9 (4 marks)

When working from home, Natasha often sits on her sofa and works on her phone rather than sitting at her desk in her office. She says that her external monitor does not connect well to her laptop and often stops displaying, and that her desk chair is too low.

- a. State two health and safety risks Natasha is facing due to her current workspace. 2 marks

Risk 1 _____

Risk 2 _____

- b. Describe two improvements Natasha could make to her workspace, and how they might have an impact on her long-term health and safety. 2 marks

Improvement 1 _____

Improvement 2 _____

Question 10 (4 marks)

Abby is the manager of a small radiology clinic in rural Victoria. She is in the process of archiving records for patients who have not visited the clinic in more than two years. She gets an email from a university PhD student requesting that she send them any archived records to use in their research.

Discuss **one** legal obligation and **one** ethical concern, and the potential consequences of each of these for Abby.

Legal obligation _____

Ethical concern _____

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Question 11 (7 marks)

Emily is building a new home. She wants it to be a 'smart' home with appliances, lighting, music and video security connected to an integrated wi-fi network.

- a. List two security concerns that you would share with Emily in relation to her personal data in a smart home network.

2 marks

Security concern 1 _____

Security concern 2 _____

- b. Emily would like the entire network linked to her smartphone.

Explain one action you would advise Emily to take to increase her network security.

2 marks

- c. Emily has bought a smart fridge that can create a grocery list, track consumption of items, and link to her weekly shopping list with a major retail outlet. Emily has been informed by the smart refrigerator company that there has been a data breach at the company, and that her email address, password and full name may have been leaked. Emily reached out to her local technical support company for advice.

Discuss Emily's data safety and how the data breach could impact her data security in the future.

3 marks

Question 12 (3 marks)

Compare copyright and intellectual property. Explain the significance of any similarities or differences.

Question 13 (3 marks)

Ned is a student at the local secondary college. During a lunch break he discovered a way to transfer other students' printing credits to himself. Ned knows that his friend Ray needs to print a large assignment, but Ray currently does not have any printing credits. Ned has offered to print Ray's assignment, saving him \$20. Ned states that it is not stealing as the school gives every student \$10 printing credits at the start of each year.

State an ethical dilemma that Ray is facing with regard to Ned's offer.

State two possible impacts of this dilemma.

Ethical dilemma _____

Impact 1 _____

Impact 2 _____

Do not write in this area.

Question 14 (8 marks)

Carl is a farmer setting up a new agriculture business that will help other farmers with their accounting, soil testing and animal management. Carl has employed a system administrator to help him design and set up his new computer system.

Carl does not understand the importance of an antivirus software package and does not want to pay the annual fee for the software.

- a. Using everyday language, explain to Carl the purpose and benefits of having an antivirus system.

3 marks

- b. You advise Carl that he needs to consider how he is going to back up his system. You suggest using a cloud backup.

Outline to Carl two advantages and one disadvantage of using a cloud backup.

3 marks

Advantage 1 _____

Advantage 2 _____

Disadvantage _____

- c. Describe two key features of a password set-up protocol that Carl should adhere to.

2 marks

Feature 1 _____

Feature 2 _____

Question 15 (7 marks)

A local swim coach, Reni, is looking to expand the number of swimmers on his team. The team trains at a major aquatic facility that also has 40 other branches across Australia. To encourage recruitment, Reni runs a free summer swim camp where any students who take swimming lessons at the aquatic facility can participate. On an adverse weather day, Reni needs to contact the parents of each student to let them know that the program cannot run. Reni does not have the parents' contact details, so he speaks to the receptionist at the pool and asks if they would contact the families from the swim camp, or if they could provide the phone numbers to him so he can make contact. The receptionist at the pool is very busy, so they email a list of contact details for the parents to Reni.

- a. How much money does the aquatics company have to turn over in order to fall under the *Privacy Act 1988*? 1 mark

- b. State under what conditions the aquatics company is allowed to share the information with coach Reni. 2 marks

- c. At the end of the swim camp, Reni's phone is hacked. Malware has been installed by the hackers, who have stolen the parents' contact details and the children's full names and birth dates.
Outline the steps that Reni needs to undertake in relation to the data breach. 4 marks

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Question 16 (5 marks)

- a.** State two important aspects of positive non-verbal communication when you are dealing face-to-face with an upset client. 2 marks

Aspect 1 _____

Aspect 2 _____

- b.** List three things you can do to improve your non-verbal communication when talking face-to-face with a client. 3 marks

1 _____

2 _____

3 _____

Do not write in this area.

