

# VCE VET Information, Digital Media and Technology

## Written examination – End of year

### Sample questions

#### SECTION A – Multiple-choice questions

##### Question 1

Nathan wants the network speed at his office to be fast.

Which one of the following speeds is the fastest?

- A. 10 Base-F
- B. 100 Base-F
- C. 100 Base-T
- D. 1000 Base-T

##### Question 2

To help secure the wireless network of her small business from unwanted intrusion, Sophia will

- A. disable DHCP.
- B. use a static IP.
- C. use MAC filtering.
- D. enable SSID broadcasting.

##### Question 3

Which one of the following describes the primary function of a firewall?

- A. It stops viruses from activating on a computer.
- B. It blocks spam emails from entering a network.
- C. It prevents unauthorised access to or from a network.
- D. It throttles the speed of uploading data to the internet.

##### Question 4

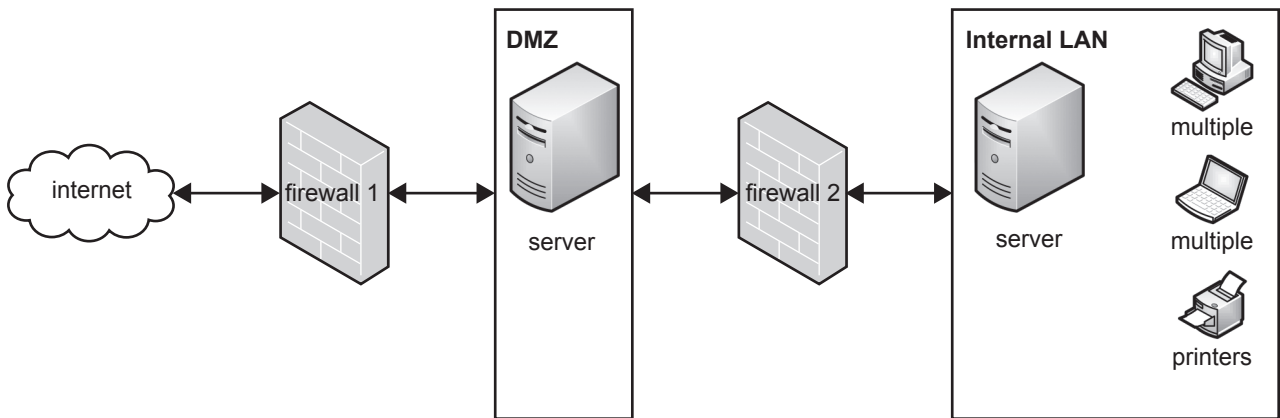
Tom is responsible for maintaining the computer network at his uncle's hardware business. The salesman in the plumbing section at the back of the store is complaining that it takes too long for the point-of-sale (POS) computer to respond.

Which one of the following would address this problem?

- A. replacing the network hub with a switch
- B. replacing the network router with a hub
- C. replacing the network switch with a hub
- D. upgrading the computer network interface card

**Question 5**

Some small businesses have a demilitarised zone (DMZ) between their internal LAN and the internet. Usually some of their server functions are located in the DMZ and some are placed in the internal LAN, as shown in the diagram below.



An advertising agency has two servers that handle the functions of database server, file server, FTP server and web server.

Which one of the following arrangements for the agency's server functions is the best for easy access and good security?

- A.**
- |   |   |
|---|---|
| <b>DMZ</b><br><br>database & web server | <b>Internal LAN</b><br><br>FTP & fileserver<br>multiple desktop computers<br>multiple laptops<br>printers |
|---|---|
- B.**
- |                                     |  |
|-------------------------------------|--|
| <b>DMZ</b><br><br>file & web server | <b>Internal LAN</b><br><br>database & FTP server<br>multiple desktop computers<br>multiple laptops<br>printers |
|-------------------------------------|--|
- C.**
- |                                    |  |
|------------------------------------|--|
| <b>DMZ</b><br><br>FTP & web server | <b>Internal LAN</b><br><br>database & fileserver<br>multiple desktop computers<br>multiple laptops<br>printers |
|------------------------------------|--|
- D.**
- |   |   |
|---|---|
| <b>DMZ</b><br><br>database & fileserver | <b>Internal LAN</b><br><br>FTP & web server<br>multiple desktop computers<br>multiple laptops<br>printers |
|---|---|

**Question 6**

Jannah was trying to practise her French language skills by reading a French news website. She has a shortcut to the site that she uses every morning <<https://frenchnews.fr/>>.

Today she is having problems accessing the website.

Having some troubleshooting skills, Jannah tries a ping test, 'ping frenchnews.fr', and gets 'Request timed out'.

Next she tries 'tracert frenchnews.fr' and gets the following result.

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Tracing route to frenchnews.fr (64.125.30.186)
over a maximum of 15 hops:

  1  gigabitethernet3-3.exi1.melbourne.telemelb.net (203.50.77.49)  0.4 ms  0.3 ms  0.4 ms
  2  bundle-ether3-100.exi-core10.melbourne.telemelb.net (203.50.80.1)  1.9 ms  1.5 ms  2.2
ms
  3  bundle-ether12.chw-core10.sydney.telemelb.net (203.50.11.124)  17.0 ms  16.2 ms  17.0 ms
  4  bundle-ether1.oxf-gw11.sydney.telemelb.net (203.50.6.93)  16.6 ms  16.4 ms  17.1 ms
  5  bundle-ether1.sydo-core03.router.co.com(203.50.13.98)  16.4 ms  16.3 ms  17.0 ms
  6  i-0-1-0-18.sydo-core04.bi.telemelbglobal.net (202.84.222.66)  17.6 ms
  7  i-0-2-0-4.lwlt-core01.bx.telemelbglobal.net (202.84.249.54)  159 ms
  8  i-0-4-0-3.eq1a01.bi.telemelbglobal.net (202.40.149.246)  157 ms
  9  zayo-peer.eq1a01.pr.telemelbglobal.net (134.159.63.18)  157 ms  157 ms  157 ms
10  * * *
11  * * *
12  * * *

Trace complete.
```

From this, Jannah correctly concluded that

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

**Question 7**

How long should it take to send a 100 MB file over a 10 Base-T cable?

- A. 10 seconds
- B. 20 seconds
- C. 80 seconds
- D. 10 minutes

## SECTION B

### Question 1 (3 marks)

Define the following terms.

Term	Definition
bluetooth	
ADSL	
full duplex	

### Question 2 (6 marks)

A small business has four employees. Each employee has a smart phone and a tablet.

List and explain **two** techniques that could be used to secure the business network.

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**Question 3** (4 marks)

Elizabeth runs a small nursery with two entrances. She has decided to set up a computer network for sales, orders and customer information.

On the plan below, indicate the required components for the network and where these components should be located.



**Question 4** (6 marks)

DHCP servers are commonly used on a LAN.

- a.** List **three** benefits of having a DHCP server on a LAN. 3 marks

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- b.** List **six** pieces of information needed to correctly set up a DHCP scope or range. 3 marks

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**Question 5** (8 marks)

For each situation described in the table below, determine the best type of LAN infrastructure to use – fibre optic, Cat 6 or wi-fi. Explain your choice of infrastructure.

<b>Situation</b>	<b>Infrastructure</b>	<b>Explanation</b>
a lawyer's office spread across four adjacent rooms in a historically protected building, where the interior cannot be damaged		
a small two-room office at one end of a large warehouse, where office staff receive orders and create invoices for those orders, and warehouse staff use mobile devices to access their inventory database system		
a computer-aided design (CAD) business with three CAD workstations next door to a welding workshop		
a new internet-connected television added to the second storey of a family home, where the router is located on the ground floor		

## Answers to multiple-choice questions

Question	Answer
1	D
2	C
3	C
4	A
5	C
6	D
7	C