

# 2018 VCE VET Information, Digital Media and Technology examination report

## Specific information

### Section A – Multiple-choice questions

The table below indicates the percentage of students who chose each option. The correct answer is indicated by shading.

Question	% A	% B	% C	% D	Comments
1	46	39	6	8	Switches can connect to multiple networks but multiple switches are needed. One single router can connect to multiple networks.
2	0	63	36	1	
3	1	1	91	7	
4	18	6	8	69	
5	7	2	14	77	
6	42	9	24	24	
7	5	0	1	94	
8	58	27	10	5	Option B was correct as the drive should be partitioned before it is formatted.
9	3	47	42	7	Online help documentation would be best for users of a new game for mobile devices as it is quick and easy to access online. Option B, user guide, does not indicate that it is online/downloadable.
10	4	2	2	91	
11	21	14	61	4	
12	3	33	51	13	
13	0	1	27	72	
14	8	88	4	0	
15	6	84	2	7	
16	80	4	5	10	
17	39	8	45	8	Best practice is to hang up the phone and then check the network connections before restarting the printer.
18	15	47	18	20	
19	61	14	21	4	
20	53	9	25	13	

## Section B – Short-answer questions

This report provides sample answers or an indication of what answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.

The statistics in this report may be subject to rounding resulting in a total more or less than 100 per cent.

### Question 1

Marks	0	1	Average
%	44	56	0.6

Students were asked to describe a purpose of technical documentation and a range of responses was accepted. The following is an example of a suitable response:

Technical documentation is designed to offer users who are technical ICT specialists the information needed to maintain and repair hardware and software.

### Question 2

Marks	0	1	2	3	Average
%	11	28	24	36	1.9

face-to-face meeting	verbal communication – using detailed and clear language, and variable content, structure, style, tone and vocabulary to suit the needs of the audience
over the phone	
video link	
remote session	
a report	written communication – using appropriate vocabulary, grammatical structures and conventions to accurately convey the required information
direct mail	
SMS	
email	

### Question 3

Marks	0	1	2	Average
%	6	31	63	1.6

Advantages: can be tailored to the individual, get the trainee's full attention, not everyone is suited to group training, covers more than group training, training time is shorter

Disadvantages: cost, time, does not scale well for large organisations

### Question 4

Marks	0	1	2	Average
%	9	64	27	1.2

- missing or broken network cables
- network switch is off or faulty

- server is off
- static IP on their computer that is not on the LAN range
- wrong VLAN
- DHCP server not working

Wrong user name and wrong password were not accepted.

**Question 5a.**

Marks	0	1	Average
%	51	49	<b>0.5</b>

Students were required to identify an appropriate issue with the misuse of smart-home voice assistance. For example:

- A criminal could just say ‘Open the door/Log me in’ and once logged in, deliberately instruct the assistant to disable locks and networks.
- A voice recording could be used to unlock doors.

**Question 5b.**

Marks	0	1	Average
%	52	48	<b>0.5</b>

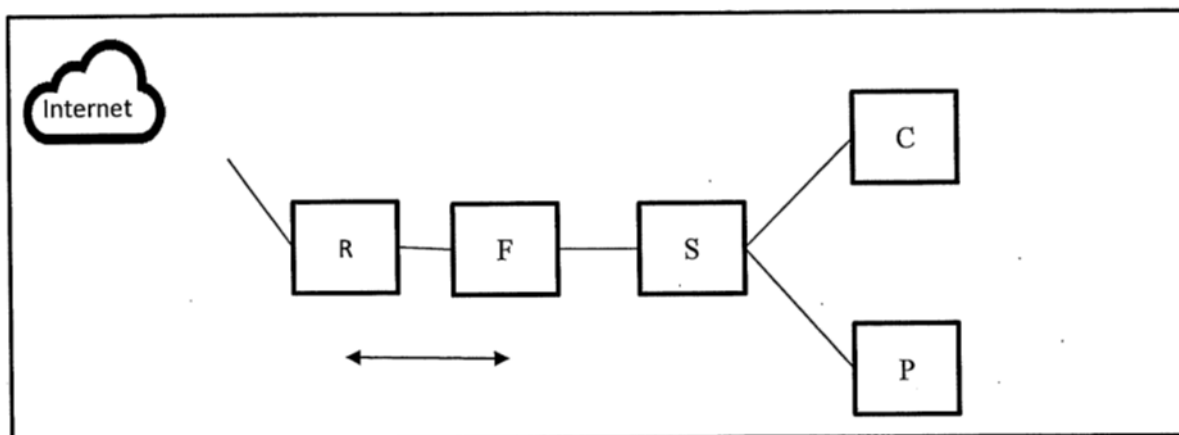
Students were awarded one mark for an appropriate solution to the issue identified in part a. For example:

- discussion of voice recognition – expert software that cannot be fooled by recorded voices that are not real
- a manual way of unlocking the doors
- don’t use smart locks.

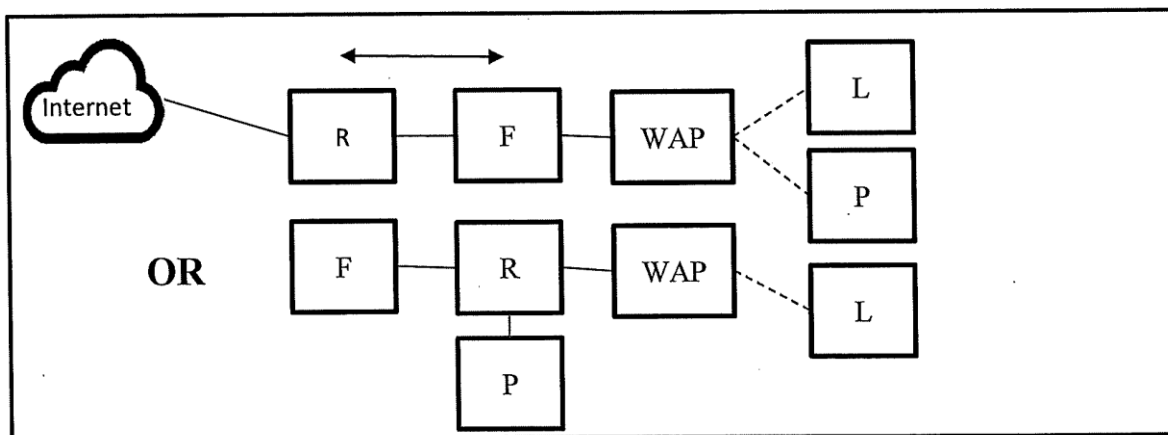
**Question 6**

Marks	0	1	2	Average
%	20	17	63	<b>1.5</b>

An example of a standard wired network that connects to the internet using a switch, computer, firewall, router and printer could look like the following:



Examples of a standard wi-fi network that connects to the internet using WAP, a laptop, firewall, router and printer include the following:



**Question 7**

Marks	0	1	2	Average
%	53	4	43	0.9

Students were awarded marks for an appropriate choice and an appropriate explanation. For example, WPA2 – 256-bit encryption using ASE (Advanced Encryption Standard). Much higher level of security than WEP, also better than WPA as the encryption standard for the 256-bit encryption is a more secure home network than WPA/offers more protection to the home network than WPA.

WPA3 was also accepted even though it is not expected to be available until 2019.

**Question 8**

Marks	0	1	2	3	4	5	6	Average
%	12	16	17	23	18	10	6	2.7

- File system
  1. A file system is used to control how data is stored and retrieved. Without a file system, information placed in a storage medium would be one large body of data with no way to tell where one piece of information stops and the next begins.
  2. By separating the data into pieces and giving each piece a name, the information is easily isolated and identified. Each group of data is called a ‘file’. The structure and logic rules used to manage the groups of information and their names is called a ‘file system’.
- Memory management
  1. Memory management is the function responsible for managing the computer’s primary memory.
  2. The memory management function keeps track of the status of each memory location, either allocated or free.
  3. It determines how memory is allocated among competing processes, deciding which gets memory, when they receive it and how much they are allowed. When memory is allocated it determines which memory locations will be assigned. It tracks when memory is freed or unallocated and updates the status.
- Process scheduling
  1. It is also called a job scheduler. A long-term scheduler determines which programs are admitted to the system for processing.
  2. It selects processes from the queue and loads them into memory for execution.

**Question 9**

Marks	0	1	2	3	4	5	6	Average
%	6	2	11	5	32	7	37	4.3

Issue	Equipment or procedure	Reason
data loss as a result of a fire in the server room	<ul style="list-style-type: none"> <li>back up of data offsite or in the cloud</li> <li>take equipment to data recovery experts</li> </ul>	<ul style="list-style-type: none"> <li>reports can be restored quickly on a new server</li> <li>Department of Education staff have experience/knowledge and equipment to recover data</li> </ul>
unauthorised users trying to modify electronic term reports	<ul style="list-style-type: none"> <li>username and password</li> <li>firewall</li> <li>anti-spyware</li> <li>encrypt files</li> <li>authentication server with activity log</li> </ul>	<ul style="list-style-type: none"> <li>only allows authorised users to gain access</li> <li>stops hackers from entering the network</li> <li>prevention of password harvesting</li> <li>in the event that an unauthorised user entered the network, they would not be able to open files</li> <li>allows tracking of what users did</li> </ul>
electronic term reports accidentally deleted by an authorised user	<ul style="list-style-type: none"> <li>assess hierarchy so that only appropriate staff have access to reports</li> <li>warnings if files are to be deleted</li> <li>backing up of data (can be onsite)</li> <li>a system that stores deleted files</li> <li>new training for all authorised users</li> </ul>	<ul style="list-style-type: none"> <li>only allows authorised users who have rights to gain access</li> <li>roll back short-term changes</li> <li>reports can be restored from backup so the deleted files can be recovered</li> <li>because it was accidental the user may not have known what they were doing, so training could be provided to them</li> </ul>

**Question 10a.**

Marks	0	1	Average
%	35	65	0.7

One mark was awarded for suggesting a form of appropriate technical support. For example:

- add uninterrupted power supply (UPS) emergency power when power to the gate fails
- buzzer/speaker for help
- send a technician
- suggest to charge the battery more often
- photovoltaic – solar power system setup
- user/technical guide on charging/replacing battery

**Question 10b.**

Marks	0	1	Average
%	42	58	<b>0.6</b>

Students were awarded one mark for giving an appropriate authority for approval. For example, the Business Manager or Pool Manager.

**Question 11**

Marks	0	1	2	Average
%	13	32	55	<b>1.4</b>

Students were required to give a jargon-free explanation of the damage and of the solution. For example, 'Sorry, your files are gone. Your hard disk drive is damaged/we've had to redo your hard disk drive and reinstall the operating system.'

**Question 12a.**

Marks	0	1	Average
%	41	59	<b>0.6</b>

Students were awarded one mark for a point-to-point wi-fi bridge or microwave link.

Answers that were not accepted:

- used the internet to do the connecting
- required a physical connection with a monthly fee (they have no right to tunnel under or string wires over a public road).

**Question 12b.**

Marks	0	1	Average
%	73	27	<b>0.3</b>

Students were required to suggest an appropriate means of addressing the problem. For example:

- raise the aerials high enough to be above the level of the traffic
- make sure the wi-fi has security installed
- increase the signal strength to overcome interference from the traffic.

**Question 13a.**

Marks	0	1	2	Average
%	23	49	28	<b>1.1</b>

Open-ended responses are sometimes contextualised/unique responses that make the problem more difficult to identify and action because they are not specific.

**Question 13b.**

Marks	0	1	2	3	4	5	6	Average
%	14	6	26	30	14	7	3	2.6

Students were required to design a better online feedback form for clients and add features or information such as:

- contact
- problem(s)
- drop-down box or multiple-choice lists
- open-ended question
- Boolean responses
- submit button
- cancel button.

**Question 14a.**

Marks	0	1	2	Average
%	4	10	85	1.8

Students were awarded one mark for each appropriate reason. For example:

- yellow background – contrast might be hard to read
- low resolution – pictures may be hard to see or interpret
- add index – hard to find specific help
- sans serif font – easier to read for blocks of text.

**Question 14b.**

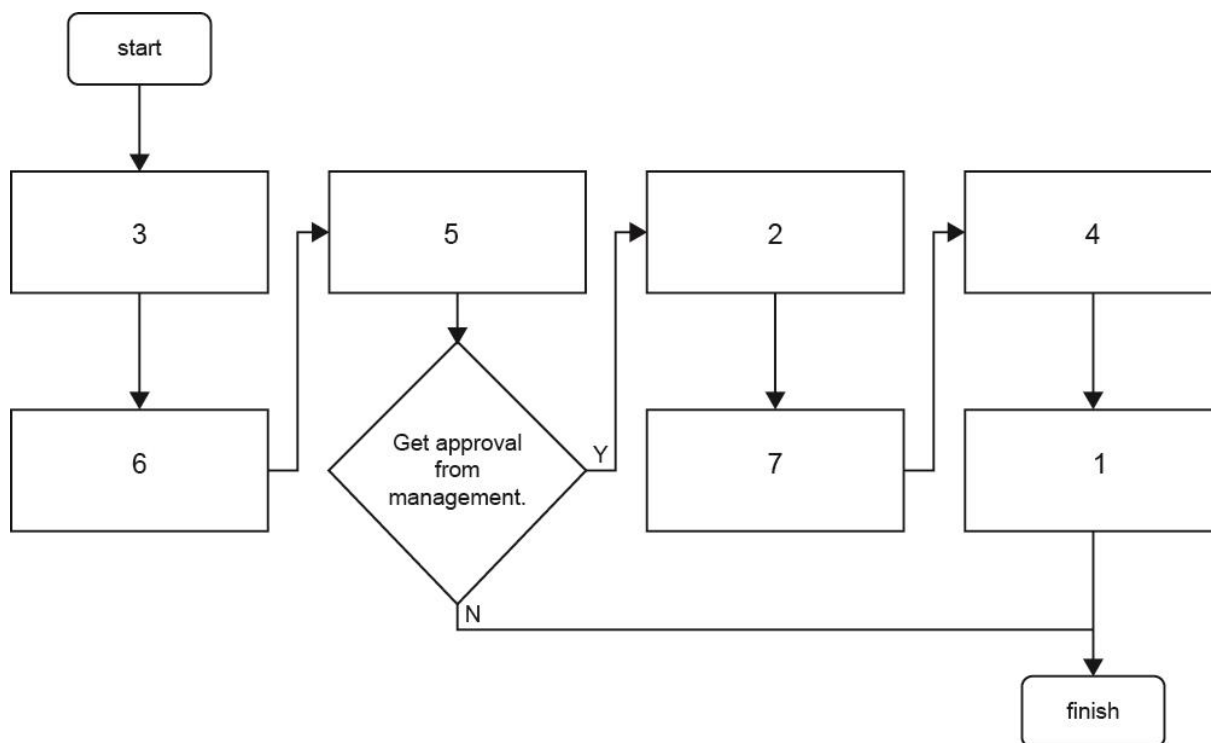
Marks	0	1	Average
%	29	71	0.7

One mark was awarded for an appropriate explanation. For example:

- It is industry standard or in the style manual.
- The serif fonts might have been headings.
- There is a limited file size, so pictures need to be a lower resolution.
- Other users disagree.

**Question 15**

Marks	0	1	2	3	4	Average
%	27	41	9	7	15	1.4



**Question 16a.**

Marks	0	1	2	Average
%	46	19	36	0.9

Students were awarded one mark for each appropriate description (up to a maximum of two marks). For example:

- It blocks access to the computer itself or to files possibly by encryption or by taking control of your computer and data.
- There may be a demand for payment to regain access to the blocked computer or files.

**Question 16b.**

Marks	0	1	2	Average
%	16	40	44	1.3

One mark was awarded for each appropriate description (up to a maximum of two marks). For example:

- keep the OS and other software up-to-date with their patches
- have antivirus software installed (sometimes antivirus software can spot encryption activity)
- strong passwords
- show caution when clicking on links or when dealing with people on the phone who are requesting access
- have a firewall in place.



**Question 16c.**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
<b>%</b>	75	25	

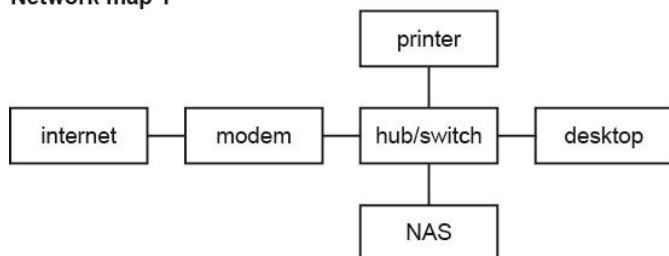
One mark was awarded for an appropriate solution. For example:

- have regular 'disconnected' backups so that files can be recovered, i.e. they cannot just be backups to another locally continuously connected drive
- educate users about ransomware.

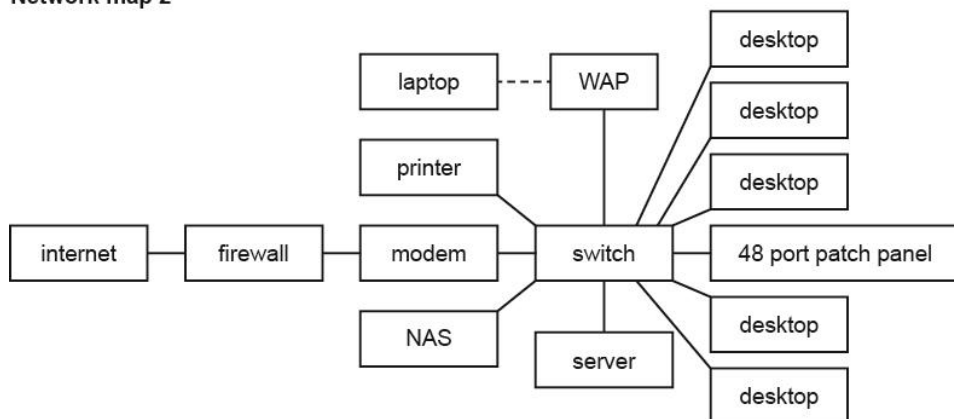
**Question 17a.**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
<b>%</b>	35	65	

Network map 1



Network map 2



**Question 17b.**

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
<b>%</b>	57	30	13	

Students were awarded full marks for an appropriate reasoning; for example, a hub broadcasts and a switch sends targeted/addressed messages. A hub is therefore less efficient when the number of network components increase. A switch can deal with more network traffic.

**Question 18a.**

Marks	0	1	Average
%	46	54	<b>0.6</b>

December would be the time of least use.

**Question 18b.**

Marks	0	1	2	Average
%	56	32	12	<b>0.6</b>

One mark each (up to a maximum of two marks) was awarded for an appropriate method. For example:

- check connectivity with input and output devices
- talk to Coach Craig about his view of the operating system
- observe system in action, check if running as intended
- compare data in and out before and after
- benchmark or stress test the OS.

**Question 19ai.**

Marks	0	1	Average
%	54	46	<b>0.5</b>

The installation software documentation should target the Network Manager or someone in a role who has high-level IT skills and is overseeing the network.

**Question 19aii.**

Marks	0	1	2	Average
%	48	42	10	<b>0.6</b>

One mark each (up to a maximum of two marks) was given for an appropriate assumption. For example:

- that they have high-level IT skills
- that they know the role of programs already on the network.

**Question 19b.**

Marks	0	1	2	Average
%	56	35	9	<b>0.6</b>

One mark (up to a maximum of two marks) was awarded for each appropriate difference. For example:

- level of technical detail or depth of content
- size of user documentation.

**Question 19c.**

Marks	0	1	2	Average
%	25	61	15	<b>0.9</b>

The installation documentation and the user documentation should be online/on a website/downloadable for users to access.

**Question 20**

Marks	0	1	2	3	4	5	Average
%	33	22	24	17	3	1	<b>1.4</b>

One mark (up to a maximum of five marks) was awarded for each appropriate/product suggestion. For example:

- RFID reader for borrowers as they leave the building
- RFID reader on the return chutes
- cabling
- extra data points
- software to run RFID scanners.