

# 2016 VCE VET Information and Communications Technology examination report

## General comments

Overall, students performed well in the 2016 VCE VET Information and Communications Technology examination and attempted most questions. The majority of the students handled questions from each unit of competency very well. Students must be familiar with all elements, performance criteria, and underpinning knowledge and skills in the following units of competency.

- ICTICT301 Create user documentation
- ICTICT302 Install and optimise operating system software
- ICTSAS305 Provide ICT advice to clients
- ICTSAS306 Maintain equipment and software
- ICTSAS307 Install, configure and secure a small office or home office network

Students need to be familiar with industry terms such as 'Wake-on-LAN'.

## Specific information

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.

## 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	12	16	8	63	'Wake-on-LAN' is an industry-standard protocol for waking up computers from a very low mode remotely. It requires the power to be on.
2	70	12	9	9	
3	85	5	0	9	
4	7	13	31	50	An online help document is the most efficient type of user documentation for a small business worker to refer to.
5	1	86	12	1	

Question	% A	% B	% C	% D	Comments
6	41	38	17	4	Both screenshots (option B) and spelling and grammar (option C) could impact on the clarity and readability of the manual.
7	7	85	7	1	
8	8	9	3	80	
9	90	3	6	1	
10	0	0	3	97	
11	87	0	12	1	Students were asked for the next task after the installation of the new printer/scanner. Printing a test image (option A) is part of the installation process. Training the staff is the next task following installation.
12	45	26	19	10	Students must be familiar with the setup of UTP cable.
13	38	14	31	18	Paging is the process of swapping backwards and forwards between RAM and the HDD.
14	16	21	57	6	
15	6	22	59	14	Students should be aware of the tests that can be done when checking a screen that has no red in the display.
16	29	22	33	16	A byte (10 GB) is made up of 8 bits (50 Mbps).
17	10	5	64	21	
18	6	80	6	8	
19	6	51	28	14	Students should be able to draw conclusions when an error message is given, follow the appropriate steps to test network settings and resolve problems of connectivity.
20	15	62	7	16	

## 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	2	Average
%	31	32	37	1.1

The Help Desk operator should use the Help Desk response-level escalation procedures and explain the terms of response times.

**Question 2**

Marks	0	1	2	3	Average
%	10	8	16	66	2.4

Installation options	Definition
<i>full</i>	installs all the components of the operating system
<i>typical</i>	installs the usual components of the operating system
<i>custom</i>	installs the components of the operating system selected by the user

**Question 3**

Marks	0	1	2	Average
%	43	47	10	0.7

Reasons why software should **not** be evaluated immediately after its installation include:

- users need time to learn the new software
- users who are accustomed to the old system may not evaluate the new software positively as they are still learning the new system
- the new system may have more advanced features that are not immediately appreciated but in time will be critical to the business operations
- users may be stressed by the change, which might cause them to evaluate the new product negatively.

**Question 4a.**

Marks	0	1	Average
%	4	96	1

An antivirus program is expected to check regularly for infected or 'misbehaving' files, particularly ones 'arriving' in the computer.

**Question 4b.**

Marks	0	1	Average
%	92	8	0.1

A 'zero-day attack' is an attack by a new virus that is as yet unknown to the antivirus software.

**Question 4c.**

Marks	0	1	Average
%	30	71	0.7

- quarantine the file (usually done automatically)
- delete the file

- send the file to be analysed by AV company
- offer to restore the file from known backup

**Question 5**

Marks	0	1	2	3	Average
%	24	41	27	8	1.2

Factors to consider when designing and creating an appropriate feedback form include (three of):

- the feedback received is only as good as the questions or information asked of the client (user-friendly)
- the method to use to deliver the form
- what information needs to be gathered
- what instructions will be needed
- how data will be collected and analysed
- how results will be published
- the intended audience.

**Question 6a.**

Marks	0	1	Average
%	12	88	0.9

Thakshila needs to either clean the filter herself or organise for someone else to have it cleaned (this could be to report it to the help desk).

**Question 6b.**

Marks	0	1	2	Average
%	7	65	28	1.2

This should be done:

- as soon as possible
- at a time that will have minimal impact on the organisation.

**Question 6c.**

Marks	0	1	2	Average
%	26	50	24	1

The filter should be cleaned because:

- the projector may overheat and
  - its lamp life will be reduced (highly likely)
  - be damaged (possible)
  - catch fire (unlikely)
- its warranty could be voided (possible).

**Question 7**

Marks	0	1	2	Average
%	50	20	30	0.8

Name of document: Style guide (style sheet or convention guide was also acceptable)

Purpose of document: To ensure consistency in organisational documents and direct subordinates to management preferences

### Question 8

Marks	0	1	2	Average
%	27	53	20	1

#### Advantages

- cheaper as the provider can service multiple clients with one Help Desk
- each client has access to all of the provider's resources
- a better-resourced Help Desk will potentially provide more immediate solutions

#### Disadvantages

- hardware issues will require the service provider to move a technician to the location to resolve the issue
- Help Desk staff are just voices at the end of the phone, more difficult to build trust and confidence
- offsite Help Desk may lack local knowledge
- if the connection is down (for example, router not working), cannot connect to Help Desk

### Question 9

Marks	0	1	2	3	Average
%	31	31	28	10	1.2

The steps required to complete user documentation once the documentation has been created are:

- submit user documentation to target audience for review
- gather and analyse feedback
- make changes to user documentation
- submit user documentation to appropriate person for approval.

### Question 10a.

Marks	0	1	Average
%	25	75	0.8

Activities normally permitted in an internet 'conditions of use' policy include (one of):

- use for business purposes
- limited personal use during tea-break
- limited social media use.

### Question 10b.

Marks	0	1	Average
%	23	77	0.8

Activities not normally permitted in an internet 'conditions of use' policy include (one of):

- visiting illegal/unlawful/inappropriate/NSFW (not safe for work) sites
- harassment of others
- running a personal business
- gambling
- social media

- installation of software from the internet.

**Question 10c.**

Marks	0	1	Average
%	27	73	0.8

The management of the newspaper can find out if a staff member has not followed the policy through:

- checking the logs on the firewall
- emails to the systems administrator from the firewall.

**Question 11**

Marks	0	1	2	3	4	Average
%	5	5	12	20	58	3.2

Features that can be upgraded include (four of):

- HDD (to SSD, keep old HDD for data)
- RAM
- graphics card with more RAM/faster GPU
- new monitor with faster refresh rate
- replace motherboard
- upgrade CPU
- new OS.

**Question 12**

Marks	0	1	2	Average
%	14	68	18	1.1

Reasons why the business would not select this web designer include (two of):

- their credibility is diminished due to their lack of attention to detail
- lack of care the designer puts into the product
- whether the potential client would want their potential customers to view a webpage with spelling errors
- whether the errors would reflect on the company and not the web designer
- how technically competent the designer is if they cannot use a spellchecker
- if you as the client have to check for errors, your time and money is wasted
- errors in spelling could indicate errors in coding.

**Question 13**

Marks	0	1	2	3	4	5	Average
%	2	1	2	18	37	38	4

Advantages of using cloud storage include (three of):

- multiple users can access it from anywhere in the world
- usually provides greater storage capacity
- do not have to buy hardware that needs to be maintained
- back-up procedure is provided by the service provider.

Disadvantages of using cloud storage include (two of):

- potential loss of control of data (for example, hacking)
- need internet access to retrieve and store data
- there may be privacy issues as the storage servicer may be anywhere in the world and the data storage/privacy laws of the country they are physically in apply, which may not be as strict as Australian laws in this area
- provider diligence on maintenance/patching
- possible costs
- data limits for ISP may interfere with large transfers.

**Question 14**

Marks	0	1	2	3	Average
%	3	6	38	52	2.4

Printed user manual

Advantages

- accessible without internet access
- speedy navigation, can annotate

Disadvantages

- out of date as soon as printed
- bulky, where to store, location, access
- slow search
- single access
- disposal when equipment/software no longer used
- costly/hard to replace
- fixed format

Online user manual

Advantages

- easy to update
- no need to store, does not waste paper
- accessible outside the work environment
- change viewing size, etc.
- cheaper
- animation and movable graphics
- multiple access

Disadvantages

- need internet access/some components are especially dependent (NIC, modem)
- sometimes difficult to find

**Question 15a.**

Marks	0	1	Average
%	37	63	0.7

A regular program of maintenance is considered preventative maintenance – dealing with issues before they become problems.

**Question 15b.**

Marks	0	1	Average
%	55	45	<b>0.5</b>

Examples of vulnerabilities that ethical hackers will look for include (one of):

- SQL injection into DBs (bypass server login)
- ports that are left 'open'
- unpatched OS
- non-updating AV
- test for insecure passwords.

**Question 16a.**

Marks	0	1	Average
%	27	73	<b>0.8</b>

The wi-fi on the home router provides a wireless data link (or wireless LAN) between the router and correctly configured devices.

**Question 16bi.**

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

The best settings for Paul to use are:

- the choice for security should be the best of what the router offers in the following order: WPA2, WPA, WEP
- a strong password/key
- MAC address filtering can be included but this would preferably not be used by itself. (This is a home network so a Radius sever would not be appropriate).

**Question 16bii.**

Marks	0	1	2	Average
%	55	34	11	<b>0.6</b>

The settings given in part bi. are the best settings because:

- WPA2/WPA is more secure than WEP
- WEP is more secure than nothing
- prevents others from using your data quota
- helps protect your network from hacking.

**Question 16c.**

Marks	0	1	2	Average
%	11	62	27	<b>1.2</b>

Paul could choose a simple but secure password for his children to use by ensuring that the password is defined/described with a minimum of the following.

- length of at least six characters but preferably ten or more
- multiple character types (at least two of the four types)
- be changed regularly (no less than monthly or greater than six-monthly)



- be a phrase rather than a word
- be modified significantly (i.e. at least l = 1 or s = 5, etc.)

**Question 16d.**

Marks	0	1	Average
%	23	77	<b>0.8</b>

The most likely reason for the smart phone not connecting is:

- the phone does not have the modern protocols (EG 802.11n) and the router does not have the old protocols (EG 802.11b)
- the phone does not have WPA2 (or WPA) but only the older WEP
- the phone does not have wi-fi
- the phone's wi-fi is not working
- the eldest child has an incorrect password.

**Question 17**

Marks	0	1	2	3	4	Average
%	18	35	40	3	4	<b>1.4</b>

Identify the most suitable network technologies, devices, protocols, and network cables and connectors to meet the network design.	4
Ensure client sign-off for the proposed network design and associated components.	7
Develop and document the network design.	3
Identify and clarify the client's requirements for the small home office network.	1
Source vendors and service suppliers to obtain specifications, and determine the availability and cost of the identified components.	6
Review available network technologies, devices and protocols, and determine the most appropriate to meet the client's requirements.	5
Identify the most suitable network design to meet the client's requirements.	2

**Question 18a.**

Marks	0	1	2	Average
%	14	37	49	<b>1.4</b>

Physical examples include (one of):

- locked doors
- bars on window
- padlock on computer case or laptop bag.

Reason: stop intruders from gaining access

Electronic examples include (one of):

- username and password
- biometrics (fingerprint)
- firewall
- antivirus software installed
- security camera.

Reason: stop intruders from gaining access electronically to data and information

**Question 18b.**

Marks	0	1	2	Average
%	52	22	26	<b>0.8</b>

Wireless access point so that Alex can roam around her house and still be connected to the network.

**Question 18c.**

Marks	0	1	Average
%	18	82	<b>0.8</b>

Once the setup and installation has occurred, SJH Computing needs to provide:

- final network design and/or associated hardware and security features
- password and configuration details
- user documentation.

**Question 19**

Marks	0	1	2	Average
%	43	44	13	<b>0.7</b>

- 2 The Business Manager cannot email payroll details to the bank.
- 4 The Principal cannot access the internet to check the football scores.
- 1 The Curriculum Department's files server (main data server) is down.
- 3 There is an Education Department initiative to deploy (estimated to take three hours) with the deadline being later that day.

**Question 20a.**

Marks	0	1	2	Average
%	42	42	16	<b>0.8</b>

Information that the Help Desk operator would request includes (two of):

- make and model of workstation
- date of purchase
- serial number or asset number
- supplier.

**Question 20b.**

Marks	0	1	Average
%	75	25	<b>0.3</b>

- a database to collect all information about a workstation so that once the user is identified the help desk has all the required information
- procedures that garner information from sources other than the user; for example, use of manufacturer's website/database

**Question 21**

Marks	0	1	2	3	4	5	Average
%	37	19	20	18	5	2	<b>1.4</b>

The business would require:

- online access for different phone specifications
- shielding from Community Radio Station/CAT 7/fibre
- wi-fi/bluetooth to transfer images from phones
- cabling to printer/fabricator
- POS terminal/workstations/server.