2019 VCE VET Information, Digital Media and Technology examination report

General comments

The two sections in the 2019 VCE VET Information, Digital Media and Technology examination were Section A (Multiple-choice questions) and Section B (Short-answer questions).

Most students handled questions on each unit of competency well. Students must be familiar with the knowledge evidence as described in the elements, performance criteria and assessment conditions 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.

Some students had difficulty with questions relating to some of the elements of the units of competency ICTICT302 and ICTSAS307.

Students did not appear to have any issues following the examination instructions. Answers were consistently provided in the correct sections of the answer book, and formulaic answers were not observed.

Students are reminded that the number of marks allocated to a particular question is a good indicator of the type of response required and the level of detail expected.

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.

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	%No answer	Comments
1	94	1	2	2	1	
2	19	6	24	52	0	
3	91	5	1	4	0	
4	25	23	13	39	1	Option B as SSD is last to boot. Optical drives and flash drives need to boot before the hard drive; the computer can be rebooted using one of the other drives if the hard drive is faulty.
5	99	0	1	0	0	
6	16	64	12	7	1	
7	67	15	10	8	0	
8	8	65	5	22	0	
9	1	0	1	96	1	
10	0	4	21	74	0	
11	24	56	19	1	1	Option C is the best answer. Virtual memory should be at least 1.5 times the RAM, so (32 GB {RAM} × 1.5) + 25 GB {OS} = 73 GB minimum required.
12	5	0	94	1	1	
13	24	32	8	35	1	Option B as two unique identifiers are MAC/Physical or IP/Logical address.
14	0	9	18	72	1	Option C – A and B are not standards and D is not the applicable authority for online manuals.
15	34	12	26	27	1	Option D as this step should occur immediately after the level of technical support has been discussed and agreed upon.
16	35	20	14	31	1	Option B as anti-wi-fi paint is a protection measure for a wireless home network.
17	12	1	21	66	1	
18	5	2	86	7	1	
19	89	1	7	2	1	
20	4	31	64	1	1	

Section B – Short-answer questions

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

Question 1a.

Marks	0	1	Average
%	76	24	**0.3**

DNS stands for (E/M) Domain Name System/Server.

Question 1b.

Marks	0	1	Average
%	83	17	**0.2**

The function of the DNS (M) is to convert an internet name or URL into an IP4 or IP6 address.

Question 2

Marks	0	1	2	Average
%	38	24	38	**1.0**

Students needed to identify one possible cause of the problem and describe a test the Help Desk could use to identify the problem.

Possible causes of problem:

- tablet PC is not connecting with the phone via Bluetooth
- tablet PC is not connecting with phone via wi-fi
- tablet PC is not connecting with phone via USB cable or similar
- the phone's signal is not strong enough for data transfer
- the settings are not correct or the race report file is still open, has not been saved or is corrupt
- the phone may have run out of data.

Tests the Help Desk could run to identify the problem:

- ask the user to check both Bluetooth connections for the phone and the tablet PC
- ask the user to check both wi-fi___33 connections for the phone and the tablet PC
- ask the user to check the USB or similar (e.g. network cabling) connection for the tablet PC
- ask the user to check the signal strength (number of bars/reception) in the user's location, ask if the phone is working for voice reception, ask them to try opening a website
- ask the user to check that the race file report has been saved and closed, and then ask them to turn the tablet PC off and turn it on again
- restarting both devices
- ping test to test that the phone data/network connection is functioning.

Question 3

Marks	0	1	2	Average
%	15	62	23	**1.1**

Students were asked what would be the best way to deliver advice on passwords and provide an example of the advice required to explain why a strong password is important. Acceptable answers included:

- the best way to deliver advice about how to create a strong password would be in person, showing the student exactly what you mean by the security guidelines
- include the advice about how to create a strong password in a help document or password manual.

Acceptable examples included:

- a strong password makes it a lot harder for people to guess your password and reduces the chances of a password generator program working it out
- it is recommended to use at least 16 characters, and include at least one number, one uppercase letter, one lowercase letter and one special symbol or similar.

Question 4

Marks	0	1	2	3	Average
%	16	36	32	16	**1.5**

Students needed to provide a description of the following functions.

- **Batch system** is a technique in which an Operating System collects the programs and data together in a batch before processing starts (allocates memory and then releases it).
- **Real-time system** or real-time computing (RTC)/reactive computing describes hardware and software systems subject to a 'real-time constraint', for example, from event to system response. Real-time responses are often understood to be in the order of milliseconds, and sometimes microseconds.
- **Multi-tasking system** refers to an operating system in which multiple processes, also called tasks, can execute (i.e. run) on a single computer seemingly simultaneously and without interfering with each other.

Question 5a.

Marks	0	1	2	3	Average
%	8	12	58	22	**2.0**

Students needed to list six key pieces of information that must be recorded about ICT Help Desk service request jobs. Any six of the following were acceptable:

- date/time logged
- person's contact number
- priority of job
- date/time closed
- length of time taken to implement solution.

- person who logged it
- equip ID or description
- technician assigned
- solution for problem

- person's location or company
- description of problem
- date/time for completion
- client feedback

Question 5b.

Marks	0	1	Average
%	22	78	**0.8**

Students needed to provide one benefit of reviewing Help Desk logs on a regular basis. Any one of the following was accepted:

- systematic faults or problems can be identified **and** an action plan developed to fix them
- allows auditing of Help Desk work (to check if over/under worked)
- check/reuse an old solution to problem / no need to redo the solution
- educate technicians on what not to do if something has gone wrong

- educate staff if consistent issues continue to arise
- ensures outstanding jobs are not forgotten.

Question 6a.

Marks	0	1	Average
%	45	55	**0.6**

(E/M) Drivers are software that translates information between the device and OS on the computer.

Question 6b.

Marks	0	1	Average
%	25	75	**0.8**

(E/M), When there are significant changes in the OS the driver may require updating. The producer of the scanner may also release a new driver with either improved code or even more features such as 2D scanning. An old driver could become corrupted.

Question 6c.

Marks	0	1	Average
%	16	84	**0.9**

(M/H). There was a possibility that the data part/connection of the cable had stopped working even though the power was still getting through.

Question 7a.

Marks	0	1	2	3	4	Average
%	2	4	21	22	51	**3.2**

The type of user that the user documentation is intended to help could be:

- someone using a particular piece of software, web solution or an app
- a novice, intermediate or expert user.

A brief description of the User Doc could include two or three of:

- ease of use or intended user level (ensure user level not given credit twice)
- major functions or features or purpose of the software/hardware
- appropriate instructions on how to navigate / use through the software / short cuts
- troubleshooting guide.

Question 7b.

Marks	0	1	Average
%	19	81	**0.8**

Using a template is important because:

- everyone creating the documentation can follow the same guidelines
- it meets industry standards
- it includes all required information.

Question 8a.

Marks	0	1	2	Average
%	32	50	19	**0.9**

- Acts as a user interface for peripheral management.
- Allows the sound board to integrate with other computer devices, e.g. memory, lights, sound, keyboard, USB.
- Facilitates the connection between the sound board and software.

Question 8b.

Marks	0	1	2	Average
%	49	30	21	**0.7**

- The application software for the sound board may require more RAM than is available in the computer.
- The computer would allocate virtual memory addresses in the HDD due to the large data files being used.

Question 8ci.

Marks	0	1	Average
%	11	89	**0.9**

Updates are important to address 'bugs', as security updates, for OS improvements and as patches for diagnosed issues.

Question 8cii.

Marks	0	1	Average
%	75	25	**0.3**

Ronnie should install the updates at a time when a concert is not on and not likely to be on the next day (in case there are installation problems), to avoid disruption to musical events.

Question 9a.

Marks	0	1	2	Average
%	31	62	6	**0.8**

- Compare existing software with new software and note which features are new and different.
- Talk to and observe the receptionist and the veterinarian when using the software and ask them what they need to know.

Question 9b.

Marks	0	1	2	Average
%	18	59	23	**1.1**

- Talk to the receptionist and the veterinarian prior to documentation changes.
- Get an independent person to run through the user documentation while doing tasks.
- Check complaints/feedback/issues logs.

Question 10a.

Marks	0	1	Average
%	2	98	**1.0**

Graph 3 (timing of installation).

Question 10b.

Marks	0	1	Average
%	34	66	**0.7**

Consult with clients to find an agreed time to install the software, outside of business hours. By having an agreed time people are less likely to be put out and upset about the timing being unsuitable.

Question 11

Marks	0	1	2	3	4	Average
%	8	24	45	20	3	**1.9**

- Bandwidth from your ISP has been maxed out = explaining that the (data/information/TV show) can't come through the internet fast enough or in real time
- ISP = the Internet Service Provider or Internet Provider
- To continually lag while buffering fresh data = repeated interruptions while the show is playing
- Cache the entire show before watching it = download the whole show before watching it / buffering for a few minutes before watching

Question 12a.

Marks	0	1	2	Average
%	16	26	58	**1.4**

- Email/WhatsApp would keep things professional and provide a record of the message. They already use social media so they are likely (but not necessarily) to have an email account.
- A private message could be used (if justified well), but there would need to be access to some remote facility to be able to store this information in a professional setting and retain its privacy.

Question 12b.

Marks	0	1	2	3	Average
%	10	21	38	30	**1.9**

Any three of the following were accepted. Sarah should:

- seek her manager's permission
- make sure there are funds available
- decide on an appropriate time for the installation to occur
- run the solution past users
- run the solution past the IT department
- notify users of the mooted change.

Some students suggested that Sarah sets up the alternative method herself. One mark was awarded for each acceptable action given.

Question 12c.

Marks	0	1	2	3	4	5	Average
%	4	5	16	32	26	16	**3.2**

Any five (within a reasonably clear layout) of the following were accepted:

- heading
- rating with drop-down box/radio buttons
- questions that relate to the reason for the email/WhatsApp
- submit button
- comments box
- date evaluation form completed
- Boolean entry

Question 12d.

Marks	0	1	Average
%	49	51	**0.5**

A possible response could be:

Not straight away, to leave enough time for the residents to become familiar with the new way of communicating before asking them to evaluate it.

Question 13a.

Marks	0	1	Average
%	33	67	**0.7**

- Reduces the chance that if someone has gained access to an employee's login they can continue to use it.
- If an illegal person logs in and changes the password, the business will be able to identify this when the current employee tries to log in.

Question 13b.

Marks	0	1	2	Average
%	9	44	47	**1.4**

- Employees will become disgruntled with having to change the password every 90 days.
- Employees will change their passwords to something easy to remember as they have to change it so many times.

Question 14a.

Marks	0	1	2	Average
%	49	37	15	**0.7**

A proxy server can act as an intermediary between the user's computer and the internet to protect from attack and unexpected access (one mark).

One mark was awarded for each acceptable answer from the following:

- any potential spy trying to track web traffic to figure out what a business is developing will not be able to track employees as easily if the business always uses a proxy server

- any sensitive tasks completed over the internet are more secure when first made anonymous through a proxy server
- may protect the business from employees accessing malicious sites or inappropriate sites and unknowingly introducing a virus
- it can cache web data and reuse it if it is requested again soon.

Question 14b.

Marks	0	1	Average
%	60	40	**0.4**

- The web proxy server may stop employees from getting to a particular website they might need for their work.
- The business would need to have a staff member who knows how to administer the web proxy server and troubleshoot user issues. (Could include inbuilt costs.)
- Can slow down internet access.

Question 15a.

Marks	0	1	2	Average
%	15	29	56	**1.4**

Any two of the following were accepted:

- increase the number of characters (length of password)
- specify the range/number of character types to be used as only acceptable if >=3 types, for example: upper case, lower case, numbers and special characters
- avoid using a real word that can be picked up easily by password cracking software
- don't accept a password image capture check or similar, as the wi-fi password can't integrate with that technology.

Question 15b.

Marks	0	1	Average
%	98	2	**0.0**

(E) Firmware is software that is installed into ROM (EEPROM)/flash storage on a hardware device.

Question 15c.

Marks	0	1	2	3	Average
%	44	7	13	36	**1.4**

The required steps are:

- check for an update
- check the specifications of the update and what it will require
- ensure it will be compatible with all compatible devices
- download the update
- schedule the update
- install the update
- reboot the WAP
- evaluate the update.

Question 15d.

Marks	0	1	Average
%	35	65	**0.7**

Any one of the following was accepted:

- user account authentication
- security certificates
- password access
- encryption of files (encryption on its own was not accepted).

Question 15e.

Marks	0	1	Average
%	61	39	**0.4**

- Authenticate who the user is for outgoing traffic.
- Implement a web proxy as well as the firewall.

Question 16a.

Marks	0	1	2	3	4	5	6	Average
%	20	9	24	8	25	3	10	**2.6**

At least three components were needed:

- RFID reader (one mark) to read original information (smartphone can be the RFID reader)
  Description: radio frequency identification reader to read the RFID tag on a package of coffee beans when used with a coffee-making machine and the barcode on a coffee-making machine (when purchased), wireless data capture and transaction processing.
- modem/router to communicate captured data with the network – can have a combined modem/router or use two separate devices
  Description: communicates the transaction processing data captured from the RFID tags with ISP/network.
- cable socket/WAP to set up a wireless router
  Description: plug the end of the ethernet cable into the router's WAN port to set up a wireless network so it can receive captured data from a package of coffee beans or when a coffee making machine is purchased.
- server (the location of the server needs to be identified)
  Description: to control payments, store RFID codes etc.

Question 16b.

Marks	0	1	2	Average
%	40	17	43	**1.0**

The smartphone app could communicate with the coffee-making machine from the following:

- Bluetooth direct: allows the smartphone to connect with the coffee machine and communicate data from the RFID tag
- WAP in vicinity: allows the smartphone to connect wirelessly to the RFID tag
- via the internet (e.g to make it ready for when they get home): allows the smartphone to access an application on a website that communicates with the coffee machine.

Explanation: must be a device that allows the smartphone app to share data/information on the RFID tag on the package of coffee beans with the coffee-making machine.