

Quality Assessment Task

Practice Examination 1

VCE Information Technology
— IT Applications

INTRODUCTION

Unit 3 & 4

This Examination relates to Units 3 and 4 in VCE IT Applications.

Reading time: 15 minutes

Writing Time Allocated: 2 hours

This paper contains 2 sections:

Section A - Multiple choice

Section B - Short Answer

Total marks: 90

Marks for each question indicated.

Section A: answer on the separate provided answer sheet.

Section B: answer in the spaces provided in this booklet.

NAME: _____

SECTION A: Multiple Choice. Answer on provided sheet.**Question 1**

Slack is best defined as

- A. time wasted through poor project management.
- B. the amount of time a task can be extended without affecting later tasks.
- C. the amount of time a delayed task holds up other tasks.
- D. the amount of time two concurrent tasks overlap by.

Question 2

Strategic planning involves

- A. Short term planning
- B. Medium term planning
- C. Long term planning
- D. Emergency planning

Question 3

Which of the following audience characteristics is the least important for the author of an amusing website to consider?

- A. Age
- B. Language spoken
- C. Religion
- D. Occupation

Question 4

A design tool used to design web sites is a

- A. Storyboard
- B. Flowchart
- C. Org chart
- D. IPO chart

Question 5

A relational database has more than one related

- A. Report
- B. Query
- C. Table
- D. Filter

Question 6

Databases follow which hierarchical order

- A. Table, record, field
- B. Table, track, field
- C. Table, data, query
- D. Key field, field, data

Question 7

A type of control used in interfaces to allow the user to pick only one option from a group of options is a

- A. Check box
- B. Radio button
- C. Menu bar
- D. Frame

Question 8

Electronic validation is most appropriate for validating

- A. the spelling of surnames.
- B. whether a business letter is easy to understand.
- C. whether a person's address is accurate.
- D. that a person's age is within reasonable limits.

Question 9

An example of a preferred convention is

- A. using the Australian Post Office's method of addressing envelopes.
- B. driving on the left hand side of the road in Australia.
- C. putting page numbers centred in a footer of each page.
- D. putting the words "Tax Invoice" at the top of an official receipt.

Question 10

If a newly installed network reduced the number of staff required to maintain a corporate helpdesk, the benefit would be classed as:

- A. Effectiveness
- B. Efficiency and effectiveness
- C. Neither efficiency nor effectiveness
- D. Efficiency

Question 11

A Decision Support System would often be used to help make

- A. Tactical decisions
- B. Strategic decisions
- C. Operational decisions
- D. Non-management decisions

Question 12

A drawback of fibre optic cable is

- A. its limited maximum length.
- B. its sensitivity to electromagnetic interference.
- C. its low bandwidth.
- D. its cost.

Question 13

As Elena prepares a large and complex document, every time she saves interim versions she updates the filename, e.g. DOC-v01, DOC-v02, DOC-v03, DOC-v04. This strategy is useful because

- A. it saves on disk space.
- B. it reduces time taken to produce large documents.
- C. it allows Elena to roll back to an earlier version if necessary.
- D. if the hard disk crashes, it's easier to recover the lost file.

Question 14

A Victorian private company which turns over \$2 million per year negligently allows a staff member to copy customers' credit card numbers and sell them to criminals. What likely effect might their carelessness have?

- A. They could be charged under The Privacy Act 1988.
- B. They could be charged under the Copyright Amendment (Digital Agenda) Act 2000.
- C. They would lose the confidence of their customers and suffer loss of business.
- D. They could be charged under The Privacy Amendment (Private Sector) Act 2000.

Question 15

Good backups are

- A. regular, encrypted and stored offsite.
- B. encrypted, stored offsite, virus-scanned.
- C. regular, tested and stored offsite.
- D. incremental, partial and full.

Question 16

To protect data, all staff should be trained how to

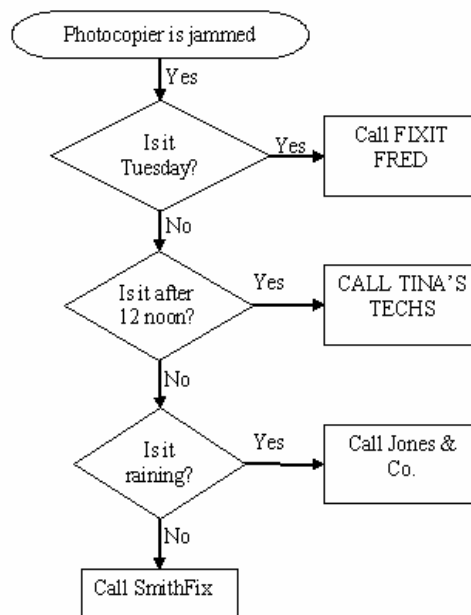
- A. perform daily backups on the file server.
- B. install antivirus software.
- C. change the administrator's password regularly.
- D. deal with emails that have unexpected attachments.

Question 17

A factor to consider when evaluating the effectiveness of an information system could be

- A. how attractive its output is.
- B. how fast it produces results.
- C. how many staff are required to use it.
- D. how much it costs to operate for one year.

Question 18 uses the following chart



Question 18

The photocopier jams on a Monday afternoon. Who fixes it?

- A. Fixit Fred
- B. Jones & Co.
- C. Tina's Techs
- D. SmithFix

Question 19

A school network had a problem because students were guessing and using each other's passwords. This would best fixed by

- A. training students to choose better passwords.
- B. using biometric identification.
- C. installing improved security software.
- D. better supervision procedures.

Question 20

To protect a sensitive document being transmitted through email, a virtual team could use

- A. A motorcycle courier
- B. A firewall
- C. Encryption
- D. A virus scanner

END OF SECTION A

MULTIPLE CHOICE ANSWER SHEET

NAME: _____

Circle your selected response

- | | | | | |
|----|---|---|---|---|
| 1 | A | B | C | D |
| 2 | A | B | C | D |
| 3 | A | B | C | D |
| 4 | A | B | C | D |
| 5 | A | B | C | D |
| 6 | A | B | C | D |
| 7 | A | B | C | D |
| 8 | A | B | C | D |
| 9 | A | B | C | D |
| 10 | A | B | C | D |
| 11 | A | B | C | D |
| 12 | A | B | C | D |
| 13 | A | B | C | D |
| 14 | A | B | C | D |
| 15 | A | B | C | D |
| 16 | A | B | C | D |
| 17 | A | B | C | D |
| 18 | A | B | C | D |
| 19 | A | B | C | D |
| 20 | A | B | C | D |

SECTION B**Question 1**

Give an example of how each of the following factors affects the value or suitability of data or information.

a) Timeliness

2 marks

b) Completeness

2 marks

c) Relevance

2 marks

Question 2

A teacher creates a Flash animation to demonstrate how cell division occurs. The purpose of this information is to

1 mark

Question 3

Explain the responsibilities organisations have under the National Privacy Principles when carrying out the following activities.

a) Collecting Information

1 mark

b) Protecting Information

1 mark

c) When a person wants to see what information is held about them

1 mark

Question 4

A primary school wants to make a poster that will train its grade 4 students to choose good passwords. Using language suitable for grade 4 students, give FOUR tips that will help them learn to choose good passwords.

Tip 1

Tip 2

Tip 3

Tip 4

4 marks

Question 5

Recommend a storage medium for each of the following circumstances. For each one, justify your recommendation.

Case 1 - An IT engineer needs to travel constantly, carrying 40 gigabytes of software and data.

Storage medium chosen

Justification

2 marks

Case 2 - An accountant visits homes and businesses to help them with money matters. He often needs to copy up to 1 gigabyte of data from the client's computer, take it to his office to work on it, and return the data on his next visit.

Storage medium chosen

Justification

2 marks

Question 6

Give an example of the type of contents you would expect to find in files of the following formats. Do not repeat an example. The first one has been done as an example.

File Format	Example of image
<i>TXT</i>	<i>Plain text</i>
JPG	
GIF	
MP3	
SWF	

4 marks

Question 7

Fill in the missing stages of the information processing cycle, and for each stage you add, list one item of hardware that would typically be used during that stage.

STAGE	HARDWARE
Acquisition	
Validation	
Retrieval	
Disposal	

8 marks

Question 8

Elena does not have a lot of money, but she needs to buy a computer to help her with her university course.

She will be mainly using a word processor and spreadsheet, but also wants to get onto the internet to do research and use email.

She will only need to use the computer at home. She doesn't know a lot about computers, so she comes to you for some advice about what equipment to choose.

Answer her questions clearly and sensibly.

a) What size hard disk do I need?

1 mark

b) Should I use floppy disks for backups? Why or why not?

1 mark

c) Should I get a laptop *or* a desktop computer? Justify your choice.

2 marks

- d) I've heard people can download Microsoft Office and other expensive software for free. What do you think?

2 marks

- e) What are two risks in using email?

2 marks

- f) I'll need to print about 10 pages a week, never in colour. Should I get a laser or inkjet do you think? Explain why.

2 marks

Question 9

A club uses a database to calculate members' fees based on their age and sex. This is a summary of the fee rules:

Age	Males	Females
Under 18	\$25	\$20
18 to 55	\$45	\$40
56 and older	\$30	\$35

To test whether the database's fee formula is working properly, the club entered this test data:

Males, aged 10, 40 and 60
Females aged 10, 40 and 60

Is this test data adequate to thoroughly test the formula? Explain why.

1 mark

Question 10

CunningCODE, a custom software design business has just leased a new office in Melbourne. Income is currently low, but the owner, Ilan, is energetic and determined to be competitive. His aim for CunningCODE is to exceed \$100,000 in profit in the next year.

Ilan hires three employees, choosing them for their skill and inventiveness because he wants to get a name for clever, quality software products.

He needs to lease three desktop computers for them. Since his company's good reputation is based on always being willing to visit clients and work onsite, he decides a notebook computer will be the best option for him.

His company will use email extensively to communicate with clients, send them the programs he creates, and create a web site to promote his company.

Ilan needs advice on how to set up his information system. He wants to make sure it's reliable, cheap and easy to maintain.

- a) List one organisational objective of CunningCODE.

1 mark

- b) Give one effectiveness reason why Ilan should set up a local area network.

1 mark

- c) Give one advantage and one disadvantage of Ilan choosing an ADSL internet connection.

2 marks

- d) Why would Ilan need to lease computers that can use the same network cabling?

2 marks

- e) Does Ilan need to use fibre optic cable in his network - yes, no or maybe?
Justify your choice.

1 mark

- f) The advertisement for one PC says "Onboard 10/100 Gbps NIC". Correct the mis-print in the advertisement.

1 mark

- g) A salesman tells Ilan to spend more and install gigabit network cards and disable the onboard 10/100 NICs. How fast is a gigabit NIC?

1 mark

- h) Ilan needs to choose a router, and several decisions need to be made. From the following list, write your choice of option A or B in the third column. In the fourth column write a brief justification for your choice.

	Option A	Option B	Your choice (A or B)	Justification
i	4 port	6 port		
ii	WPA-PSK	No WPA-PSK		
iii	Mounted high on wall in plain sight	Hidden in cupboard		
iv	802.11b	802.11g		

4 marks

- i) After setting up his network, Ilan evaluates how successful his LAN has been. Identify one important criterion he should evaluate.

1 mark

Question 11

Softhouse, a small Ballarat-based software company, creates VisiThinker, a unique type of program that makes complex decisions making much easier. It is sold internationally to large and small organisations, governments and individual users.

VisiThinker is intuitive and very easy to use at a basic level, but it becomes very complex when its advanced functions and powerful scripting language are used. The current user manual is nearly a thousand pages long and weighs one kilogram. There has been feedback from customers saying the documentation is not the best.

You have been consulted about their documentation for the next major version of their software.

- a) The CEO of Softhouse asks you whether you think there is a need for printed documentation for the new version of VisiThinker. Give one argument *for*, and one argument *against* the idea.

2 marks

- b) What are the six most important criteria SoftHouse should keep in mind when producing on-screen documentation for their software? Explain why each criterion is important.

3 marks

Question 12

Explain why is it important that all programs written for Microsoft Windows and Apple Mac OS follow interface guidelines such as "On the menu bar, the File menu is always leftmost and the Help menu is always rightmost."

2 marks

SECTION A

Multiple Choice Answers	
1	B
2	C
3	D
4	A
5	C
6	A
7	B
8	D
9	A
10	D
11	A
12	D
13	C
14	C
15	C
16	D
17	A
18	C
19	A
20	C

SECTION B

Following is one suggested solution for each question. Teachers should consider the merits of other responses provided by students.

Question 1

Timeliness - Any example of when information loses value when it is not available when it's needed. eg. Late-arriving news of a stock price slump when you've already bought shares.

Completeness - eg. You buy a book to learn a particular thing, but that thing is missing in the book.

Relevance - eg. You're searching the web for the 1950s actress Sabrina and all you can find is mention of the films or cats called Sabrina.

Question 2

To educate.

Question 3

- a) Collecting Information - Information must only be collected if it's required by the organisation to do its job. Where practical and legal, a person has the right not to give information.
- b) Protecting Information - Organisations must take reasonable steps to protect people's information from accidental or deliberate damage, disclosure or improper access.
- c) When a person wants to see what information is held about them - Where legal, a person has the right to see and challenge information held about them. The organisation is not bound to change data, but if the person is unhappy an ombudsman can rule on the matter.

Question 4

Tips could include: Don't tell your friends your password. Don't write your password down. A long password is better than short password. Make your password easy to remember, but hard to guess, etc.

Question 5

Case 1 -

Storage medium - USB hard disk.

Justification - The required size rules out Flash memory or Ipods, even DVDs. The USB hard disk is portable and can be very large.

Case 2 -

Storage medium - USB Flash memory key.

Justification - Small, capacious, can read/write easily, reliable.

Question 6

File Format	Example of image
<i>TXT</i>	<i>Plain text</i>
JPG	colour photo
GIF	line art, logo, simple solid colour graphic
MP3	music or voice recording
SWF	Macromedia Flash movie

Question 7

STAGE	HARDWARE
Acquisition	
<i>Input</i>	<i>keyboard, mouse, scanner, barcode reader - not modem</i>
Validation	
Storage	hard disk, USB key, CD, DAT tape
Retrieval	
<i>Output</i>	<i>printer, plotter, monitor</i>
<i>Communication</i>	<i>modem, network</i>
Disposal	

Question 8

- a) About 20G minimum to hold the OS, apps and documents. She would not need more than about 40 or 80G - whatever size is good value.
- b) No. They are unreliable, slow, expensive and low-capacity.
- c) She will only work for home, so there is no need to spend extra on unnecessary portability.
- d) Bad idea. It would breach copyright and make you susceptible to virus and Trojan infestation.
- e) There is the risk of infection by worms and viruses; there are phishing exploits; spam is annoying and can fill up your mailbox.
- f) If short of money, a colour laser is a big initial expense, but cheaper in the long term. For only a few pages a week, inkjet will probably end up cheaper.

Question 9

No, the test data should test boundary conditions: the points at which the behaviour of the formula needs to change. So it should include men and women who are 17, 18, 19, 55, 56 and 57 to be complete.

Question 10

- a) To exceed \$100,000 in profit in the next year. Objectives are specific, measurable steps towards achieving a larger goal.
- b) Effectiveness = quality, accuracy. eg. Clearer communication with clients. Don't discuss saving time, money or effort.
- c) Advantages: faster, phone is not tied up, always-on internet, can deal with bigger uploads, no dialup costs, no line drop-outs. Disadvantages: more expensive; not available everywhere, having a static IP address increases the risk of being re-visited by hackers.
- d) For compatibility. They must use the same type of cable if they are to be networked together.
- e) No. FOC converters are expensive and he does not need cable lengths beyond what UTP can provide, and he does not need the massive bandwidth that FOC can give.
- f) "Gbps" should be "Mbps - megabits per second."
- g) Approximately 1000 Mbps.

h)

	Option A	Option B	Your choice (A or B)	Justification
i	4 port	6 port	B	While 4 port will do for now, it's wise to allow for expansion later, and the price difference is not great.
ii	WPA-PSK	No WPA-PSK	A	WPA-PSK gives secure encrypted communication between the router and the laptop.
iii	Mounted high on wall in plain sight	Hidden in cupboard	A	Wireless connections are hampered by obstacles. Clear line of sight is most effective.
iv	802.11b	802.11g	B	802.11b is older and slower at 11Mbps. 802.11g is rated at 54Mbps. This is a question for the A+ student or IT aficionado to shine in.

- i) Reliability, ease of use, cost over time, quality of communications etc. Whatever factors were identified in the case study as being important to him.

Question 11

- a) For: printed documentation can be read conveniently without a computer, and handwritten notes can be made on it. Against: printed docs are expensive, heavy to ship, bulky to store, slow to update, hard to search.
- b) Any SIX of: Clear, so it is easily understood. Searchable, so needed information can be quickly found. Good contrast, so text is easily readable. Concise, so words are not wasted. Accuracy, so readers are not misled. Comprehensive, so important info is not left out. Current, so it's not out of date.

Question 12

So users can become familiar with a standard way of doing things and don't have to relearn a lot of new tricks and procedures for every program they get (as happened in the bad old days of DOS. It makes learning new software much faster and less frustrating.

Question 13

Any three of the following.

What sort of programs will you be running - really big ones that need a lot of processing power or storage? - This determines the amount of RAM and size of hard disk required.

Does it need to be portable? - This determines if a notebook or desktop PC is better.

Do you know a lot about IT - could you handle Linux, for example? An unskilled user would not be wise to tackle an OS that required significant skill or experience.

How much can you afford? Would you rather spend more on a reliable big-name brand, or be more self-sufficient and get a cheaper machine? - Lack of money may limit the choice of brands and accessories.

Do you need any special types of accessories that may limit your choices? eg. video editing may require a Firewire port; artwork may require a data tablet. - Choosing a particular accessory may require compatible choices in other areas. eg. To use 'extended monitors' you would need a graphics card with two output ports.

Question 14

How to do backups; good filenaming and foldernaming; saving regularly; saving with version numbers; rejecting unexpected email attachments; not believing phishing attempts; how to care for computers and storage media to avoid damaging them; how to undelete files; how to protect a file server; how to scan for viruses etc.