



## GENERAL COMMENTS

The 2010 IT Applications exam was based on the key knowledge and key skills listed in Units 3 and 4 of IT Applications in the *VCE Information Technology Study Design* for 2007–2010. It was pleasing to see that many students were able to draw on practical exercises completed during their studies in order to demonstrate their understanding of the key knowledge and key skills associated with the study design.

Students' ability to provide specific and technically accurate examples in a range of scenarios indicated that the study content had been covered in breadth and depth. Most students understood the key knowledge associated with formulas comprising conditional, nested and lookup statements of spreadsheets.

Teachers are reminded that a reaccredited study design operates from 2011. Teachers must take care if they intend to refer to past examination papers and Assessment Reports when preparing their teaching and learning programs as with the introduction of a new study design, the past examination papers and Assessment Reports are not necessarily a guide to the current VCE examination. For further information about IT Applications please visit the VCAA website <[www.vcaa.vic.edu.au](http://www.vcaa.vic.edu.au)>.

## 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	0	1	92	7	
2	56	14	8	23	A full backup is least complicated because it requires less equipment and fewer decisions and procedures.
3	22	43	9	26	All students were awarded one mark for this question.
4	11	12	20	57	
5	8	80	6	7	
6	1	6	8	85	
7	3	13	82	1	
8	14	74	4	8	
9	68	20	5	6	
10	28	60	1	10	
11	5	1	85	9	
12	12	70	11	7	
13	81	1	5	13	
14	8	42	11	39	A plan to increase market share by 20% is an objective as it can be measured. Planning six years ahead is long term and made at the strategic level.
15	84	2	3	11	
16	21	71	2	6	
17	4	73	7	15	
18	8	8	23	60	Effective monitoring of the development of a solution relies on an accurate estimate of development time.
19	1	4	3	93	
20	8	7	56	29	All three cells – B3, C3 and D3 – must be greater than or equal to 50 for a pass.

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## Section B – Short answer questions

### Question 1

Marks	0	1	Average
%	37	63	0.7

Most students recognised that Absences.doc was a file in the 2009 Reports folder.

### Question 2

Marks	0	1	2	3	Average
%	11	25	33	32	1.9

Field name	Data Type	Description
Member ID	Text	First three letters of last name and a four-digit integer
Last name	Text	Last name of member
First name	Text	First name of member
Home phone	Text or string	(03) 9416 8512
Date of birth	Date	Date of birth of member
Membership cost	Currency, decimal or numeric	Membership cost Adult \$500, Junior \$150
Is membership paid?	Boolean, logical or yes/no	Financial status of member Paid or Not Paid

### Question 3a.

Marks	0	1	Average
%	75	25	0.3

Responses needed to mention the controlling or monitoring function of a network operating system and what it controls or monitors, such as files, passwords or peripherals.

### Question 3b.

Marks	0	1	2	Average
%	27	39	33	1.1

Accepted responses referred to a booklet 'helping staff to solve easy problems without having to go online' or 'contact the help desk'. Other students correctly indicated that a booklet 'is available when a network or telephone connection is unavailable'.

### Question 3c.

Marks	0	1	2	Average
%	49	31	20	0.7

Many accepted responses described users activating help by hovering over or clicking an item to obtain assistance with a specific problem. Full marks required the inclusion of a suitable example.

### Question 3d.

Marks	0	1	2	3	Average
%	24	38	28	10	1.2

Strategies that included a plan to set up two situations derived from the scenario and that measured and compared the results received full marks. For example, divide the users into two groups and for six months let one group use both the booklet and the online content sensitive help. Let the other group use only the online content sensitive help. Measure the time it takes for each group to solve similar problems and compare the results.

### Question 4a.

Marks	0	1	2	Average
%	24	19	58	1.4

A drop list or a combo box listing the three nights was accepted as an electronic validation technique.

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Many students explained that this reduced errors because it listed only the available options or that the options were spelt correctly.

### Question 4b.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
%	47	32	21	<b>0.8</b>

A number of tests for checking the online booking form were accepted, including:

- check the calculation with test data; for example, four tickets at \$10 – expected outcome: \$40
- check that the data has been entered in the No. of Tickets field
- check that the maximum number of tickets on one order for one night does not exceed eight
- check that the total number of tickets sold for any one night does not exceed 300.

It was disappointing that many students did not score a mark on this question. Validation and testing are key topics in both units of this study; it is important that students understand the theory associated with each and are able to apply their knowledge of these topics to given situations.

### Question 4c.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
%	45	28	26	<b>0.7</b>

Many students recognised that setting the No. of Tickets field to a text data type could cause a problem when the data entered was multiplied. For example:

- the ticket number needs to be an integer such as 5, not five. It will not calculate a Total Cost \$ because it cannot multiply text data
- it will give an error because 5 is treated as text.

### Question 5a.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
%	21	79	<b>0.8</b>

The tasks on the critical path are **A C E F**.

### Question 5b.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Average</b>
%	12	22	20	33	15	<b>2.2</b>

The most commonly accepted answer was:

Task	Duration (Days)	Predecessor	WEEK 1							WEEK 2						
			M	T	W	Th	F	Sat	Sun	M	T	W	Th	F	Sat	Sun
A	3		█	█	█											
B	2				█	█										
C	2	A			█	█										
D	3	C					█	█	█							
E	2	C					█	█								
F	4	E								█	█	█	█			

A range of other answers including less-immediate predecessors and different starting points for non-critical tasks were also accepted.

To score full marks, students had to correctly indicate all tasks, the duration and predecessors.

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## Question 6a.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>Average</b>
<b>%</b>	40	60	<b>0.6</b>

For the datasheet shown, the query Food supplier = 'TOP' OR Feeds per week = 7 would return the records 1, 2, 4, 5, or Trout, Murray cod, Salmon, Barramundi.

## Question 6b.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>Average</b>
<b>%</b>	26	28	39	7	<b>1.3</b>

Most students could explain how to add a cost field to the database and multiply the data in that field by a food per week field to calculate a weekly food cost. Only a small number of students completed the answer with a description of how to present the output from that calculation. For example, 'add a field such as FoodCost per Kg then calculate FoodCost per Week for each pond and finally generate a weekly report'.

## Question 7a.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
<b>%</b>	27	15	59	<b>1.3</b>

Most responses identified the Team Portal link as a feature that the young chefs could use to take them to a login screen for the Virtual Private Network (VPN). Those who described the steps of clicking the link and completing the login procedure received full marks.

## Question 7b.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
<b>%</b>	47	19	34	<b>0.9</b>

Accepted design elements included proportion (visual hierarchy), orientation (direction/aspect), clarity and consistency, colour and contrast, usability and accessibility, appropriateness and relevance.

Accepted responses included a range of these design elements. Most students could identify a design element but only a minority could explain how it improved the effectiveness of the website.

## Question 7c.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
<b>%</b>	13	35	52	<b>1.4</b>

Most students designed a screen with the site title 'Remote Education Program', the page title 'Young Chefs' and a login/password feature for users who clicked on the Team Portal link. Many students forgot to include the main site title 'Remote Education Program'. Other reasonable designs were also awarded marks.

## Question 7d.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
<b>%</b>	44	30	26	<b>0.8</b>

Students identified a number of disadvantages for team members using the VPN to communicate. These included:

- the program is remote and team members rely on the Internet to communicate
- there could often be connection difficulties
- connection may be slow, difficult to achieve when needed, or there may not be enough bandwidth for video or images when required.

## Question 7e.

<b>Marks</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>Average</b>
<b>%</b>	25	32	44	<b>1.2</b>

Rules the team should follow when developing their report if no moderator was appointed, included (two of):

- agreed formatting
- no insulting comments about other team members or their reports
- protect the privacy of individual students who are mentioned in reports.

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## Question 7f.

Marks	0	1	2	Average
%	18	32	50	1.3

Answers that either agreed or disagreed with the statement and included an example were accepted. Students who agreed, for example, stated 'Yes, because some of the rules have legal implications and the moderator needs to check that student privacy is protected', and those who disagreed stated 'No, because the chefs are professionals and it's a lot of extra work for the moderator'.

## Question 8

Most students were able to read the complex scenario in Question 8 and provide a coherent extended response. When asked to recommend backup media for a company using an online database, many students considered all three areas of concern systematically and justified three recommendations with specific examples.

## Question 8a.

Marks	0	1	2	Average
%	24	41	35	1.1

Students who stated that BandicootPhones should use a relational database and justified their decision with reasons specific to the company were awarded full marks. For example, a relational database of linked tables because the staff, apps and customers' data can be grouped into tables and processed more quickly.

## Question 8b.

Marks	0	1	2	3	4	5	6	Average
%	11	4	10	12	20	17	27	3.8

### Media

Removable hard drives, for example, because they are:

- cheap and can hold a lot of data from the online sales
- easy to connect and store
- still available if the Internet is down.

### Schedule

Daily incremental backup and weekly full backup, for example, because:

- if sales are increasing over 24 hours they need to update backup data daily
- a daily full backup would be too time-consuming.

### Location

- in a close secure/fireproof location where they can be easily used as part of the regular backup
- in an offsite location where they can be retrieved quickly but not damaged if a fire occurs in the building

A range of other reasonable responses were accepted. In general, responses to this question were pleasingly comprehensive and coherent. Most answers discussed backup media, a backup schedule and a location for the storage of backup files. Many students referred to the rapid increase in sales or online sales when justifying recommendations for BandicootPhones.

## Question 9

Students were asked to consider ethical dilemmas faced by an employee operating a database in a retail organisation, the boss directing the actions of that employee and the IT staff working as a group within the organisation.

## Question 9a.

Marks	0	1	2	Average
%	35	33	32	1

Responses that described a technique which could be used to identify customers who would be directed to the website with higher prices received full marks. Examples included:

- filter/sort the customer salary field into those who earn over \$50 000 and show them the higher prices
- use an IF statement to direct higher earners to a second web page or where normal prices are replaced by higher prices.

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## Question 9b.

Marks	0	1	Average
%	53	47	0.5

Responses that asked the Cheryl a question about deception or dishonesty were awarded a mark. For example, 'Do you think it's right to make people secretly pay more just because they work hard to make more money?'.

## Question 9c.

Marks	0	1	2	Average
%	51	36	14	0.6

Responses that asked the boss a question about the fairness of ordering or bullying an employee to create a hidden link to a second set of 'rip-off' web pages were awarded full marks. For example, 'Do you think it's right to make a junior employee do something that is morally wrong when you are in the position to fire her?'.

It was of concern that many students either did not attempt to answer this question or provided an incorrect answer. This indicated that students had limited understanding about ethics and strategies for handling ethics and IT, and more focus should be placed on these areas.

## Question 9d.

Marks	0	1	2	Average
%	48	36	16	0.7

Suggested strategies that IT staff could follow when they are not sure if their work is ethical, included:

- ask for guidelines about customers' rights to privacy to be posted on the office noticeboard
- have regular specialist training sessions for IT staff about privacy
- post a written procedure on the company Intranet for staff to follow if they think they are being asked to invade privacy.

Responses that included an action and a means of communicating with the IT group were awarded full marks.

## Question 10a.

Marks	0	1	2	Average
%	41	37	22	0.8

Responses which received full marks outlined two main steps of a procedure to test that the hard drive completed a weekly full backup effectively. For example, record data changes for one week on a second hard drive and then compare the data to see if it was the same/complete/accurate. A range of other reasonable two-step procedures were also awarded marks.

## Question 10b.

Marks	0	1	2	Average
%	44	42	15	0.7

Responses which outlined reasonable steps to test the hardware shutdown procedure without risking the transaction data were awarded full marks. Examples included:

- Jack could plan for a time when business was slow then shut down, restart and compare the transaction files
- tell all users about a test in time for them to back up data, then shut down, start up and check all files are undamaged.

## Question 10c.

Marks	0	1	2	Average
%	47	28	24	0.8

The most successful students responded in the form of a question; for example, 'Have there been fewer than 25 illegal logins in the 12 months since the new procedure was introduced?'. Students who clearly justified why you would compare the number of illegal logins in a particular period of time were awarded full marks. For example:

- after 12 months, staff would have changed passwords four times
- there would be time to see if the three-month period was long enough in order to reduce the number illegal logins
- there must be fewer than 25 illegal logins in three months for the new procedure to be effective.

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## Question 10d.

Marks	0	1	2	Average
%	32	40	28	1

Full marks were awarded to responses that provided good financial reasons for regularly updating firewall software, including:

- hackers are always finding new ways to get around security
- firewalls help to protect our customer data
- saves us money from lost sales or lawsuits
- we sell online so we need to advise customers that we use an up-to-date firewall.

## Question 11a.

Marks	0	1	Average
%	54	46	0.5

=G6-B6 was the most common accepted formula. Other correct formulas were also accepted.

## Question 11b.

Marks	0	1	2	Average
%	43	9	48	1.1

Frank should not protect C6 to G11 because these are the cells where Frank needs to enter data.

## Question 11c.

Marks	0	1	2	Average
%	43	11	46	1

Many students correctly identified a convention used in the spreadsheet and explained how it enhanced communication to other users. Examples included:

- centered headings are clearer and easier to read quickly because there is white space around the text
- right-justified numeric data, as numbers that are greatly different from the rest can be seen quickly.

## Question 11d.

Marks	0	1	2	3	Average
%	13	21	28	37	1.9

Three features needed to enhance the effectiveness of the graph were:

- title
- label for the *x*-axis
- label for the *y*-axis.