



**Western Australian Certificate of Education
Examination, 2009
Question/answer booklet**

**APPLIED
INFORMATION
TECHNOLOGY**

**Written paper
Stage 2**

Please place your student identification label in this box

Student Number: In figures

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In words

Time allowed for this paper

Reading time before commencing work: ten minutes
Working time for paper: three hours

Materials required/recommended for this paper

To be provided by the supervisor

This Question/Answer Booklet
Multiple-Choice Answer Sheet
Production Booklet for Section Four

To be provided by the candidate

Standard items: pens, pencils, eraser, correction fluid, ruler, highlighters

Special items: nil

Important note to candidates

No other items may be taken into the examination room. It is **your** responsibility to ensure that you do not have any unauthorised notes or other items of a non-personal nature in the examination room. If you have any unauthorised material with you, hand it to the supervisor **before** reading any further.

Structure of this paper

Section	Number of questions available	Number of questions to be attempted	Suggested working time (minutes)	Marks available
Section One: Multiple-Choice	20	20	20	20
Section Two: Short Answer Questions	6	6	35	30
Section Three: Extended Answer Questions	2	2	50	50
Section Four: Production	1	1	75	100
Total marks				200

Instructions to candidates

1. The rules for the conduct of Western Australian external examinations are detailed in the *Year 12 Information Handbook 2009*. Sitting this examination implies that you agree to abide by these rules.
2. Section One: Answer all questions on the separate Multiple-Choice Answer Sheet. Use a blue or black pen or a B or 2B pencil.
3. Section Two and Section Three: Answer all questions in the spaces provided in this Question/Answer Booklet.
4. Section Four: Answer all parts to this question in the separate Production Booklet.
5. Additional answer pages are provided in the back of this Question/Answer Booklet and the Production Booklet. If you need to use them, indicate in the original answer space where the answer is continued, e.g. write 'continued on page 27'.

Section One: Multiple-Choice**20 Marks**

Attempt all questions in this section. Each question is worth **one** mark.

Record an answer for questions 1–20 on the separate Multiple-Choice Answer Sheet using a blue or black pen or a B or 2B pencil.

If you make an error, follow the instruction given to you on the Multiple-Choice Answer Sheet.

Suggested working time for this section is 20 minutes.

1. Design is the process of planning and shaping the structure and form of layouts for print or multimedia. Which of the following best describes how to achieve a clear design goal?
 - (a) Have a clear objective.
 - (b) Analyse existing graphic elements and design ideas.
 - (c) Ensure the audience is central to the design process.
 - (d) All of the above.

2. What do the letters HTTPS indicate in the following URL <https://online.company.com.au/> ?
 - (a) The web page uses a method of encryption called Public Secure Layer to encrypt data.
 - (b) HTTPS indicates that you are viewing a secure web page.
 - (c) HTTPS indicates that you are using a site verified by a trustworthy entity.
 - (d) HTTPS is a communication protocol used on Internet Explorer[®] only.

3. Which one of the following best describes the function of 'typography' in design?
 - (a) To appeal to an audience.
 - (b) To blend with other design elements.
 - (c) To organise and clarify the message.
 - (d) To elicit an audience response.

4. When using copyrighted material, you generally need permission unless
 - (a) you edit 10 per cent of the work.
 - (b) the creator has died.
 - (c) the work is in the public domain.
 - (d) you work for a non-profit or government organisation.

5. Which one of the following best describes the most effective visual method to plan an idea during the initial stages of a project?
 - (a) Use of storyboard, concept map and proposal.
 - (b) Use of effective design principles and elements.
 - (c) Use of a visual metaphor.
 - (d) Use of effective research for audience requirements.

See next page

6. E-commerce
- (a) facilitates money transfers over the Internet.
 - (b) enables the purchase of products or services over the Internet.
 - (c) is a telephone banking payment system.
 - (d) is the buying and selling of electronic goods.
7. What is the advantage of remotely administrating a LAN?
- (a) Faster transmission speeds.
 - (b) Added security.
 - (c) Flexibility.
 - (d) Users of the network have more direct control.
8. Which one of the following is **not** an operating system?
- (a) Linux[®]
 - (b) MS Windows XP[®]
 - (c) MacOS
 - (d) CMOS
9. Which one of the following best describes how to achieve unity within a design?
- (a) Consistent use of typography.
 - (b) The use of dominant colours, tints or complements.
 - (c) Individual design elements that relate to all parts of the design.
 - (d) Text, images, and design elements and principles are complementary.
10. Unauthorised use of programming code is considered to be
- (a) a breach of intellectual property.
 - (b) software piracy.
 - (c) fair dealing.
 - (d) plagiarism.
11. Which one of the following is **not** regulated by the Australian Privacy Act of 1988?
- (a) Collection, storage, use and disclosure of personal information.
 - (b) Privacy expectations in the workplace.
 - (c) Injury claims and policy management.
 - (d) Governs the handling of credit reports.

12. The following poster best demonstrates the design element of

- (a) alignment.
- (b) unity.
- (c) rhythm.
- (d) position.



13. A person wants to store information about their height as it changes over time. Which application would best suit this purpose?

- (a) A text file.
- (b) A blog website.
- (c) A spreadsheet.
- (d) A database.

14. Which one of the following guarantees the protection of a computer from hackers?

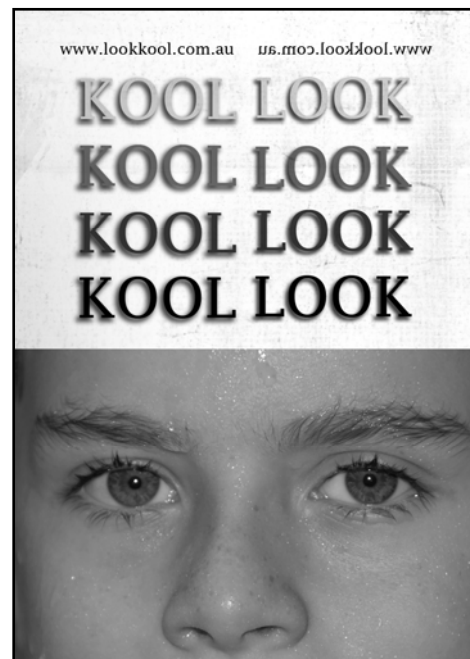
- (a) Ensure that the computer is running virus detection software.
- (b) Ensure that the latest versions of application software and operating system updates and security patches have been installed on the computer.
- (c) Never connect the computer to the Internet.
- (d) None of the above.

15. Which one of the following statements about the effect balance has on a design is true?

- (a) Asymmetrical balance tends to be more formal and dynamic.
- (b) Asymmetrical balance involves proportional balance through the use of visual weight.
- (c) Symmetrical balance suggests an unstable use of the visual weight on one side of the vertical axis with visual weight on the other.
- (d) Symmetrical balance suggests formality and order by distributing the visual mass equally.

16. What is the best advice to give to someone regarding computer passwords?
- (a) Passwords should be difficult to remember.
 - (b) Passwords should only be disclosed to computer support technicians.
 - (c) Passwords should be based on personal information about the user.
 - (d) Different passwords should be used for different accounts.
17. Which part of a computer is responsible for executing the computer program's instructions?
- (a) Central processing unit.
 - (b) Random access memory.
 - (c) Motherboard.
 - (d) Data bus.

18. The image at the right best demonstrates a principle of design. This is the principle of
- (a) balance.
 - (b) dominance.
 - (c) unity.
 - (d) proportion.



19. Which one of the following devices would best suit directing Internet traffic across different networks?
- (a) A hub.
 - (b) A USB port.
 - (c) A router.
 - (d) A modem.

20. The spreadsheet below presents sibling information (number of brothers and sisters) for four girls. Which one of the following formulas should be used to calculate the average number of sisters for these four girls?

- (a) AVERAGE(C)
- (b) AVERAGE(C3:C6)
- (c) AVERAGE(B3:D6)
- (d) AVERAGE(C7)

	A	B	C	D
1		Number of Siblings		
2	Name	Brothers	Sisters	Total
3	Anne	2	0	2
4	Beatrice	0	1	1
5	Candice	1	2	3
6	Dorothy	3	1	4
7	Average:	1.5	?	2.5

End of Section One

See next page

Section Two: Short Answer

30 Marks

There are six questions in this section. Attempt all questions.

Write your answers in the spaces provided.

Suggested working time for this section is 35 minutes.

Question 1

(5 marks)

MBit is an IT company that manufactures and sells high-speed modems. In its latest advertising campaign, MBit states that its newest modem features an 'inbuilt firewall for identity theft protection' and that MBit will also 'provide free online user support for the correct configuration of its modems'.

- (a) Define the term 'firewall'. (1 mark)

- (b) List two common techniques employed by hackers to steal personal information. (2 marks)

1. _____

2. _____

- (c) List two ways in which MBit can provide online user support for its product. (2 marks)

1. _____

2. _____

Question 2**(5 marks)**

Specifications for computers sometimes contain technical jargon that is confusing. List the most likely hardware device in a computer system to which the following specifications refer.

(a) Quad-core (1 mark)

(b) 500GB (1 mark)

(c) LCD (1 mark)

(d) 32x (1 mark)

(e) 100Mbps/s (1 mark)

Question 3**(5 marks)**

Personal Digital Assistant (PDA) and smart phone use is becoming more common among business professionals for scheduling of appointments and staying in contact when they are away from their offices.

(a) List two types of software applications found on modern PDAs used by business professionals to stay in contact when away from their offices.

(2 marks)

1. _____

2. _____

- (b) Explain with an example why a PDA or smart phone could be considered to be an example of a 'converged' device. (2 marks)

- (c) New PDA operating systems offer the ability to print documents directly from the PDA to a personal printer without the use of a cable. Identify one way in which this can be achieved. (1 mark)

Question 4 (5 marks)

- (a) Scan Disk is a utility program that detects and corrects problems on hard disks. Describe what is meant by a 'utility program' and give two additional examples. (3 marks)

- (b) To address security issues, public key cryptography is widely used. Describe what is meant by the term 'public key encryption'. (1 mark)

(c) Define the term 'phishing'. (1 mark)

Question 5 (5 marks)

(a) Complete the table below by giving two examples in which traditional communicating methods have been replaced by digital methods. (2 marks)

	Traditional method (e.g. letter)	Digital method (e.g. email)
Example 1		
Example 2		

(b) Describe one benefit of using digital media instead of print media in relation to the environment. (1 mark)

(c) Image hosting sites are popular means of storing data such as digital photographs and video footage. List two advantages of storing and uploading digital files on image hosting sites. (2 marks)

Question 6

(5 marks)

- (a) A code of conduct details the basic conduct and ethics expected of all employees in relation to the acceptable use of ICT in a company. List two ethical considerations relating to the use of ICT that a company should include in its code of conduct.

(2 marks)

1. _____

2. _____

- (b) Describe three impacts that mobile working would have on the work expectations and lifestyles of mobile workers.

(3 marks)

1. _____

2. _____

3. _____

End of Section Two

See next page

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Section Three: Extended Answer

50 Marks

There are two questions in this section. Attempt **both** questions.

Write your answers in the spaces provided.

Suggested working time for this section is 50 minutes.

Question 1

(20 marks)

Video blogging (users uploading their video diary entries to video websites) is growing in popularity.

Vidblog.com is a company that plans to sell tailor-made hardware solutions to video bloggers as well as creating an online website for these users to upload their completed videos. The company also plans to release a new range of laptop computers targeted specifically at video bloggers.

- (a) Describe three hardware features that video bloggers are likely to request if they are purchasing these new laptops. (3 marks)

1. _____

2. _____

3. _____

(b) List three types of multimedia software applications suitable for video bloggers that Vidblog.com could supply on its laptops. (3 marks)

1. _____

2. _____

3. _____

(c) Vidblog.com decides to include an application that produces short video entries from a number of key frame images. However, in its demo form the application adds a visible watermark to videos unless the user pays a licensing fee to the company.

(i) Describe the characteristics of freeware, shareware and proprietary software licensing models. (3 marks)

Freeware: _____

Shareware: _____

Proprietary software: _____

(ii) Identify which of the above licensing models best describes Vidblog.com's new application: (1 mark)

- (d) List three factors to be considered in deciding which file format should be used when saving a video. (3 marks)

1. _____

2. _____

3. _____

- (e) Vidblog.com is planning for thousands of users to upload their videos to its website. It wants to provide the facility for these users to retrieve and view their previous video blog entries, including earlier versions or revisions of specific entries. Describe two ways in which Vidblog.com could best achieve this. (2 marks)

1. _____

2. _____

- (f) Vidblog.com is worried about being prosecuted for copyright infringement, should users include copyrighted material in their uploaded videos on the Vidblog.com website. How can Vidblog.com protect itself against legal action? (2 marks)

- (g) Vidblog.com is considering producing a mobile phone application for creating short video clips for uploading to users' video blogs. Describe three factors Vidblog.com should consider when designing this application. (3 marks)

1. _____

2. _____

3. _____

Question 2

(30 marks)

An E-ticket is a new form of travel document now being used worldwide. E-tickets can be accessed virtually by anyone and in any part of the world. Travellers can get e-tickets in a number of ways. They can contact a travel agency or an airline directly. They can also use an online travel or booking site, where they can purchase tickets with almost any airline around the world.

As the world is becoming increasingly interconnected and the exchange of money and currency is no longer a barrier, airlines are moving toward a 'self-serve model' that enables passengers to research, book, buy, check-in and board with limited airline assistance. Some hotels are also installing self-serve airline e-ticket kiosks in their lobbies, so that travellers can make plans and receive updates on their flights. These factors suggest that the paper ticket will be replaced by its electronic cousin – the e-ticket.

The effectiveness of a global information product, such as e-ticketing, relates to its accessibility, means of communication, relevance to all and usability. There has been some reluctance by airlines in smaller and non-English speaking countries to replace traditional booking systems with e-ticketing, as they feel that they need to bridge the digital divide to enable all users to reap the benefits of the global trend of e-ticketing.

- (a) Define the term 'globalisation'. (1 mark)

- (b) Describe four advantages that e-ticketing provides to a global travel market. (4 marks)

1. _____

2. _____

3. _____

4. _____

- (c) Define the term 'digital divide' and discuss four types of difficulties that would prevent some airlines from adopting or participating in e-ticketing. (5 marks)

Digital divide: _____

1. _____

2. _____

3. _____

4. _____

(d) Describe two design features that you would incorporate in an interactive interface for an e-ticketing kiosk for each of the following groups:

- the disabled;
- the sight impaired; and
- an older age group.

(6 marks)

	Design feature 1	Design feature 2
Disabled	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Sight impaired	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Older age group	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

- (e) When designing your e-ticketing interface you researched designs and content on the Internet. The Australian Copyright Act 1968 allows people to use copyright material without the copyright owner's permission in certain situations. This includes 'fair dealing'.

Use two examples to describe the practice of 'fair dealing'. (5 marks)

- (f) With the extensive deployment of e-ticketing kiosks there is a need for 24 hours per day, 7 days per week (24/7) services, maintenance and helpdesk provisions.

- (i) Describe two advantages for airlines of outsourcing ICT services for e-ticketing kiosks. (2 marks)

Advantage 1:

Advantage 2:

- (ii) Describe two disadvantages for airlines of outsourcing ICT services for e-ticketing kiosks. (2 marks)

Disadvantage 1:

Disadvantage 2:

- (g) A Year 12 student is looking for a multimedia related career.

- (i) What training pathway could this student undertake? (1 mark)

- (ii) List one career option within this training pathway. (1 mark)

- (iii) Write a job description for the career you have selected. (3 marks)

End of Section Three

Complete Section Four in the separate Production Booklet.

ACKNOWLEDGEMENTS

Section One

Question 12: Image courtesy of Award Photography

Question 18: Image courtesy of Award Photography

Section Three

Question 2: adapted from *Air Seychelles launches e-ticketing on domestic route*,
retrieved March 6, 2009 from
<http://www.airseychelles.net/news/ETicketing.html>
and
How airline e-tickets work, retrieved March 6, 2009 from
<http://communication.howstuffworks.com/how-airline-e-tickets-work3.htm>

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