



# APPLIED INFORMATION TECHNOLOGY Stage 2 WACE Examination 2011 Marking Key

Marking keys are an explicit statement about what the examiner expects of candidates when they respond to a question. They are essential to fair assessment because their proper construction underpins reliability and validity.

When examiners design an examination, they develop provisional marking keys that can be reviewed at markers' meetings and modified as necessary in the light of candidate responses.

Section One: Multiple-choice

10% (20 Marks)

Question	Answer
1	В
2	Α
3	D
4	С
5	А
6	В
7	A
8	C
9	D
10	Α
11	ပ
12	0
13	Α
14	C
15	Α
16	В
17	С
18	В
19	D
20	А

**MARKING KEY** 

.Section Two: Short answer

15% (30 Marks)

Question 21 (4 marks)

State **two** advantages and **two** disadvantages that mobile technologies have for employees in the workplace.

Description	Marks
States two correct advantages.	0–2
States two correct disadvantages.	0–2
Total	4

Answers could include those related to how it effects the employees work and lifestyle, not specific technologies i.e. email/calendar:

### Advantages

- · ability to work from home
- work anywhere, anytime
- · can job share or work part-time
- · working more flexible hours
- possibility of working longer hours
- requirement to be available 24/7
- · reduce stress from commuting
- · integrate work and personal life
- · can lead to effective time management
- · can lead to a productive and balanced lifestyle
- ability to work anywhere
- · need to be able to adapt to change
- flexible hours
- · reduced total travel and consequent pollution
- wider employment/work opportunities
- employment opportunities are not restricted geographically
- access to work for people with specific difficulties.

### Disadvantages

- having to be available 24/7
- issues to do with privacy on mobile technology
- not as secure as wired technology
- need to be able to adapt to change
- project management of teams becomes difficult
- · can work longer hours
- can be stressful.

Question 22 (4 marks)

Document scanning is an efficient and cost-effective method of converting hard copy (paper) documents into a digital format. Describe **two** benefits of creating digital files from original paper documents.

Description		Marks
Describes two appropriate benefits.		4
Identifies two appropriate benefits.		3
Describes one appropriate benefit.	***************************************	2
Identifies one appropriate benefit.		1
Describes an inappropriate benefit(s).		0
	Total	4

# Answers could include:

- find documents faster
- · share information digitally
- · eliminate risk of lost or misfiled documents
- · significantly reduce the cost of storage
- · comply with industry and legal requirements
- archive business critical information
- 24/7 instant access to your document
- · can be uploaded to the internet as PDF
- can be shared among business project teams
- · saves natural resources.

Question 23 (3 marks)

State **three** strategies that you would recommend to prevent a local area network from being compromised by hackers.

Description	Marks
States three appropriate strategies.	0–3
Total	3

- use anti-virus software and keep it current
- activate a firewall
- · keep track of system events
- check your system log often to find out what your computer is doing
- watch out for any Warning types and TCP/IP messages
- make sure your operating system is up to date
- · install patches when they arrive
- hide wireless (SSID)
- · change passwords regularly
- WPA2 wireless network
- · do not open spam email
- · prevent workers from saving or retrieving data from portable devices
- · implement a secure network structure.

Question 24 (7 marks)

(a) Give **two** examples of the negative impact on those affected by the digital divide.

(2 marks)

Description	Marks
Gives two appropriate examples.	0–2
Total	2

### Answers could include:

- · unequal access to technology and the products and services that the technology delivers
- unable to participate in the digital economy through factors such as inequality in infrastructure, age, education, literacy and culture
- may include an example about remote and rural students and families.
- (b) Define the term outsourcing and state **three** advantages of outsourcing for a business. (5 marks)

Description	Marks
Provides a clear and correct definition.	2
Provides a generalised definition.	1
Provides incorrect no/definition.	0
	2
States three suitable advantages.	0–3
	3
Total	5

# Answers could include:

Definition: outsourcing often refers to the process of subcontracting to a third-party. Advantages

- outsourcing non-core activities gives more time to concentrate on core business processes
- can give access to professional, expert and high-quality services
- · increased efficiency and productivity in non-core business processes
- · helps streamline business operations
- · outsourcing can save on time, effort, manpower, operating costs and training costs
- more flexibility.

Question 25 (4 marks)

In today's competitive business world, it is very important that companies analyse clients' requirements. Provide **two** questions that you would ask a prospective client in an interview regarding their business requirements and needs.

Description	Marks
Two correct questions regarding the business's requirements analysis.	4
Two correct questions regarding the target audience.	3
One correct question regarding the business's requirements analysis.	2
One correct question regarding the target audience.	1
Unsuitable questions or restates question.	0
Tota	1 4

# —<u>i</u>

### Answers could include:

- business requirements
- · what is your objective for this project?
- · what is your purpose?
- what product or service does your company provide?
- do you have a deadline?
- who is the demographic that you are appealing to?
- · what are the core brand values that you need to communicate?
- who are your competitors?
- · in which countries do you operate?
- · in how many languages do you communicate?
- do you have a budget?

# Target audience

- age
- gender
- location
- spending power
- culture
- education level.

Question 26 (8 marks)

(a) The manager of a business intends to copy the operating system of his home computer to his business computer. Outline why this is illegal in terms of acquiring software.

(2 marks)

Description	Marks
Outlines a clear and knowledgeable reason.	2
Outlines a general reason.	1
Outlines an incorrect reason.	0
Total	2

- it is illegal to have a copy of software installed on another computer, without purchasing it
- copyright
- piracy,

(b) In the table below, draw a line to connect each task to an application a manager would use to undertake that task. (6 marks)

Description		Marks
Preparing employee work schedules-sp		1
Updating magazine catalogues-databas	se.	1
Preparing a talk to a group of people-pre	esentation.	1
Creating an advertisement-word proces		1
Searching supplier websites-internet bro		11
Sending messages using a mailing list-e	email.	1
	Total	6
	or	
Task	Application	
word processing	preparing employee work so	hedules
• spreadsheet	updating magazine catalogues	
database	preparing a talk to a group of people	
• email	creating an advertisement	
• presentation	searching supplier websites	
internet browser	sending messages using a r	nailing list

Section Three: Extended answer

25% (50 Marks)

# Question 27 (25 marks)

(a) Describe **two** impacts social networking has had on modern society.

(4 marks)

Description	
For each of two impacts	
Describes in detail the impact social networking has had on modern society.	2
Limited description of the impact social networking has had on modern society.	1
Describes an incorrect/no description of an impact.	0
Total	4

### Answers could include:

# Positive impacts

- · instant communication
- meet new people that you normally would not
- · find a career
- · overcome your timidity
- · business for free
- · stay in touch with family and friends
- · share photos/video
- form of entertainment.

# Negative impacts

- addictive
- whatever you choose to post online can never be entirely private
- sell your personal information to anyone who wants to buy it, including spammers and on line predators. Even if the terms of understanding claim that no personal information will be sold, the site can change its policy at any time
- · lack of privacy
- · promote your site or business for free
- lack of physical socialisation
- · cyber bullying.
- (b) State **three** examples of inclusive features a designer could incorporate when creating a website. (3 marks)

Description	Marks
States three inclusivity features.	0–3
Total	3

- · change the text size
- awareness of colour
- · screen reader software
- screen magnification software
- · speech recognition
- keyboard overlays
- · use of iconic symbols
- language bar
- utilising alternative file formats to reduce bandwidth.

In 2007, a superfast broadband network infrastructure was proposed that would provide speeds of 100 Megabits per second to 93 per cent of Australians and 12 Megabits per second to the remaining 7 per cent. The network would supply fibre optical cabling and wireless technology directly to homes and businesses.

(c) Explain **two** benefits the above network infrastructure would have for a business.

(4 marks)

Description	
For each of two benefits	
Explains in detail the benefits the network infrastructure would have for a business.	2
Limited explanation of the benefits the network infrastructure would have for a business.	1
Explains an incorrect/no explanation of a benefit.	0
Total	4

### Answers could include:

- · fast download speeds of data
- video conferencing
- level the playing field for businesses that are currently badly serviced, not just in regional areas, but in the so-called black spots in metropolitan areas that cannot receive high-speed connections.
- · immediate face to face communication
- · real time applications
- allow for larger files/graphics to be sent
- · increase productivity
- · global market due to faster data transfer speeds
- more consumer markets (e-commerce)
- employees can work from home.
- (d) Describe **two** ethical issues relating to the use of ICT in a business environment.

(4 marks)

Description	Marks
For each of two ethical issues	_
Describes in detail an ethical issue relating to the use of ICT in a business environment.	2
Limited description of an ethical issue relating to the use of ICT in a business environment.	1
Describes an incorrect/no description of an ethical issue.	0
Total	4

- illegal copying of intellectual property
- · appropriate use of company hardware
- issues to do with privacy
- · inappropriate websites at work
- no ICT bullying
- · adherence to privacy rules and regulations
- employee monitoring
- personal use of ICT in company time.

(e) What is meant by electronic commerce?

(1 mark)

Description	Marks
Provides correct meaning.	1
Provides incorrect meaning.	0
Total	1

Answers could include:

- electronic commerce, commonly known as (electronic marketing) e-commerce or e-Commerce, consists of the buying and selling of products or services over electronic systems such as the Internet and other computer networks.
- (f) The trend toward mobile computing means that an employee can work anywhere and anytime. List and describe **two** software applications that could help employees to collaborate and work on shared tasks. (4 marks)

Description	Marks
Lists two software applications.	0–2
Describes the two identified software applications.	0–2
Total	4

### Answers could include:

- · Personal Information Management software
- Outlook
- Calendar
- email
- Wikis
- Blogs
- · collaborative software
- · Google Docs
- Web 2/3 technologies
- feeds
- · online collaborative project management software
- One note.
- (g) Explain why the United States Federal Court decided to shut down LimeWire. (2 marks)

Description	Marks
Explanation of why Limewire was shut down.	2
Limited explanation of why Limewire was shut down.	1
Incorrectly identifies of why Limewire was shut down.	0
Total	2

- copyright infringement
- piracy
- online copyright infringement, particularly in relation to peer-to-peer file sharing networks.

(h) Give **three** examples of the impact of illegal file sharing in society.

(3 marks)

Description	Marks
Gives three correct examples.	0-3
Total	3

### Answers could include:

- · loss of jobs in music industry
- · loss of money for music companies
- loss of money for musician
- · copyright infringement kill jobs
- · BitTorrent software is rife with virus'
- · breach of copyright laws
- · illegal P2P file sharing has an adverse effect on the economy
- fewer people are buying CDs
- downloading music from the Internet or P2P networks does not pay royalties to the performers, record companies, or producers
- there are many small, independently run record stores that have gone out of business
- there are business such as iTunes which are making huge revenue from legal downloads.

Question 28 (25 marks)

(a) What is the difference between secondary storage and cache?

(2 marks)

Description	Marks
Describes the difference between secondary storage and cache.	2
Provides a definition of cache or storage but does not describe the difference.	1
Incorrect comparison/no between secondary storage and cache.	0
Total	2

### Answers could include:

- secondary storage is typically hard disk drives, optical disc drives, and other devices slower than RAM but more permanent. Non-volatile when computer is turned off
- a cache is used to speed up certain computer operations by temporarily placing data, or a copy of it, in a location where it can be accessed more rapidly than normal RAM.

### (b) What is the function of a Central Processing Unit (CPU)?

(2 marks)

Description		Marks
Describes in detail the function of the CPU.		2
Generalised description of the CPU.		1
Incorrect /no description provided.		0
	Total	2

### Answers could include:

• the central processing unit (CPU) is the brain of the computer and it is controlled by the instructions of a computer program.

(c) Based on the information above, which multimedia computer system would you recommend for an online gamer? Give **one** reason for your choice. (2 marks)

Description		Marks
Correctly states 'desktop' and provides one valid reason.		2
Correctly states 'desktop'.		1
Incorrect or no answer given.		0
	Total	2

Answers could include:

Recommendation: desktop - reasons

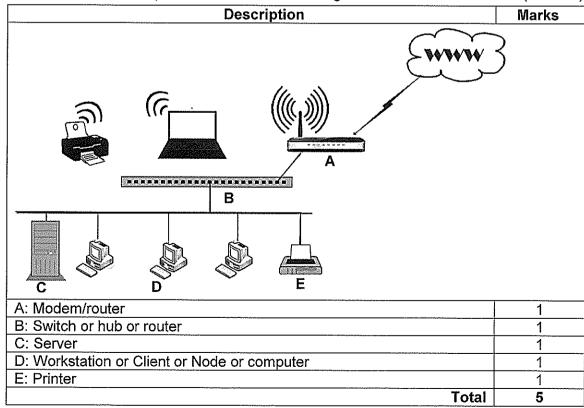
- more DDR3 RAM 8GB
- · more cache 2MB
- · powerful 1GB GeForce GTX 460 Graphics Card.
- (d) A user is unsure whether to purchase a laptop or a desktop. State **two** advantages of a laptop computer. (2 marks)

Description		Marks
States two advantages of a laptop computer.		0–2
	Total	2

### Answers could include:

- mobility
- size
- · built-in wireless
- · you can take a laptop anywhere with you
- · can run on batteries
- · laptops also take up less space
- · can look neater than a desktop
- · laptops have an inbuilt mouse/touch pad
- laptops can be very small (Netbook) or large in screen size.
- (e) Label the network components identified in the diagram below.

(5 marks)



(f) Explain the meaning of the term 'wireless technology' and state **two** of its limitations. (4 marks)

13

Description	Marks
Explains in detail the term wireless technology.	2
Explains the term wireless technology.	1
Provides incorrect/no explanation of wireless technology.	0
	2
States two limitations of wireless technology.	0–2
	2
Total	4

Answers could include:

Wireless technology means communicating without wires. Instead of the use of wires some form of energy is used to communicate over short and long distances.

Limitations of wireless technology

- · slower transfer rate
- distance limitations
- interference can be experienced from other low range radio frequency emitting devices
- some security issues can arise when using wireless technology.
- (g) Give an example of an operating system that may be used on a laptop and state **three** basic tasks that an operating system performs. (4 marks)

Description	Marks
Gives a correct example of an operating system.	1
Gives an incorrect no/example of an operating system.	0
	1
States three correct tasks.	0–3
	3
Total	4

Answers could include:

Example of operating system

Windows/Linux/Mac OSX.

Task performed by operating system

- · recognizing input, e.g. from the keyboard
- · sending output, e.g. to the display screen
- security
- · disk and printer file system management
- networking
- resource management
- · manages user interface
- start up and initialise computer.

(h) The laptop and desktop computers in the network diagram on page 16 use different operating systems. Provide **two** advantages of using different operating systems in a workplace environment. (2 marks)

Description	Marks
Provides two correct advantages.	0–2
Total	2

### Answers could include:

### Advantages

- · users who are familiar with own operating system are happier
- · no need to re-train on a new operating system
- no-need to upgrade hardware to suit a specific operating system
- · can run incumbent software
- · can choose the best operating system for each separate task/use
- minimising security risk viruses typically only 'attack' one type of operating system
- · some applications only run on certain operating systems
- · advantages of 32-bit over 64-bit operating systems
- · one type of operating system might be more secure than another
- · one type of operating system might have a more user-friendly graphical interface.
- (i) What is the difference between wired and wireless transmission in a local area network? (2 marks)

Description	Marks
Provides clear and correct distinction between the two.	2
Provides reasonable distinction between the two.	1
Provides incorrect no/distinction.	0
Total	2

- a wireless local area network uses a high-frequency signal to communicate with other devices on the network, sometimes known as a personal area network
- a wired network uses a physical transmission cable to carry data, such as CAT5/6, optic fibre cabling.

Section Four: Production

50% (80 Marks)

Question 29

(80 marks)

(a) (i) Why is it important that the designers of logos use easily recognisable symbols and shapes? (2 marks)

Description	Marks
Correctly explains why designers use symbols in logo design.	2
Shows limited understanding of the use of symbols in logo design.	1
Incorrect or no attempt at answer.	0
Total	2

# Answers could include:

- · easily recognisable
- · all cultures can identify with universal symbols and shapes
- · universal symbols are generally not gender specific
- · simple shapes are more suitable to logo design than complex imagery
- strong branding.
- (ii) Why are vector-based images the best image formats to use when designing logos? (2 marks)

Description	Marks
Correctly explains use of vector based images in logo design.	2
Shows limited understanding of the use vector based images.	1
Incorrect or no attempt at answer.	0
Total	2

# Answers could include:

 shapes and symbols often are vector graphics, so the logo can be resized without loss of conformity. For the following logos, identify the colour(s) that you would use to represent a company and give it a corporate identity. Explain your reasons for choosing the colour(s).

(iii)



# Logo one

(2 marks)

Description	Marks
Correctly identifies colours with clear explanation.	2
Identifies colours but shows limited understanding.	1
Incorrectly or has no attempt at identifying colours.	0
Total	2

### Answers could include:

Blue-silver-white-possibly green

- · white is pure, healing and spiritual
- blue represents calming, comforting un-confrontational colour. Blue represents truth, honesty and open communication. The mean of blue is linked with reliability, responsibility and trustworthiness
- · green is a wonderful calming, fertile and nurturing colour
- silver can be reliable, trustworthy, intuitive and compassionate.

Note: Identification may include colouring in.

(iv)



Logo two

(2 marks)

Description	Marks
Correctly identifies colours with clear explanation.	2
Identifies colours but shows limited understanding.	1
Incorrectly or has no attempt at identifying colours.	0
Total	2

### Answers could include:

Bright bold primary colours to represent the paint splotches

- red-green-yellow-blue, etc.
- black/red for the gun for emphasis, energy, danger, passion.

Note: Identification may include colouring in.

- (v) Using some of the following, design an easily recognisable and effective logo for MCN. (8 marks)
  - space
  - texture
  - colour
  - line
  - alignment/position
  - shape/form
  - typography

Draft sketches will not be marked.

Description	Marks
Logo design has been designed in clear, creative and original way, considering company branding, and target market. Use of recognisable iconic symbols and shapes. The effective use of line, shape, colour, texture, form, type or space.	7–8
Logo design has been designed in a simple way, considering company branding, and target market.  Makes some attempt to use recognisable iconic symbols and shapes.  The effective use of line, shape, colour, texture, form, type or space has been attempted.	5–6
Logo has been designed without any real consideration to company branding and target market.  Little use of symbols, or shapes.  Design elements have not been used in a meaningful way.	3–4
Logo has no bearing to company branding. No use of easily recognisable symbols, or shapes. Use of design elements are not evident.	0–2
Total	8

(vi) Explain why the design of your logo would be easily recognisable and effective. (4 marks)

Description	Marks
Explains and comprehensively links use of design elements to target market, and corporate branding that is recognisable and effective.	4
Explains some reasons as to how their logo design targets the market and brands the company so that it is easily recognisable and effective, through the use of design elements.	3
Minimal attempt made at explaining how their use of design elements have targeted the market and branded the company effectively.	1–2
Total	4

(b) (i) Describe the target audience for this poster.

(5 marks)

Description	Marks
Describes with a coherent and focused view the target audience for the poster.	5
Describes competently the target audience for the poster.	4
Describes in general the target audience for the poster.	3
Describes with some clarity the target audience for the poster.	2
Description is superficial of the target audience for the poster.	1
No description or limited view of the target audience.	0
Total	5

### Answers could include:

- age: older age group less interested in 'bells and whistles' of what the phone can do but more interested in environmental concerns; socially aware with a social conscience. Landscape and nature imagery would appeal to an older age group
- gender: male or female
- socio-economic status: appeals to a demographic where cost is not a major consideration; there is more focus on the environmentally friendly initiatives of the phone
- the target audience could be located anywhere
- culture: any culture as the advertisement does use symbolic colours and icons advertising the eco-friendly nature of the phone, such as greens, landscape imagery, and icons such as leaves
- education level: those who are able to read well as the content and language used is quite sophisticated, i.e. bio-degradable
- young adults because of colour, language, e.g. 'waterproof' implying outdoor activities and environmentally friendly adjectives, e.g. 'bio plastic' appealing to younger generation as a current issue.
- (ii) Identify and discuss **three** design principles you believe market and advertise this eco-friendly mobile phone successfully. (9 marks)

Description	Marks
For each of <b>three</b> design principles	
Discusses the design principle that markets and advertises the eco-friendly mobile phone successfully.	3
Describes the design principle that markets and advertises the eco-friendly mobile phone successfully.	2
Makes a generalised comment about the design principle that markets and advertises the eco-friendly mobile phone successfully.	1
No description or limited discussion of the design principles.	0
Total	9

- effective use of colour, landscape and nature imagery to promote the message that the phone is environmentally friendly
- poster is symmetrically balanced with the phone being the main dominant image/feature
- visual weight of images is balanced with text at the bottom
- · easy to read Arial font
- enlarged and bolded type focuses in on important aspects of the ecofriendly phone

# Question 29(b)(ii) continued ...

- contrast of black phone with landscape imagery makes the phone stand out
- logo design is elegant, and promotes the environmental nature of the mobile phone
- positioning of logo at top left draws attention to the branding of the company.
- (iii) Identify **three** design features used on the poster that you would change to market this mobile phone to a different target audience. Explain why. (6 marks)

Description	Marks
For each of three design features	
Identifies and explains in detail how the design feature could be changed to market the mobile phone to a different target audience.	2
Identifies the design feature and provides a limited explanation of how the feature could be changed to market the mobile phone.	1
Limited explanation or no evidence provided.	0
Total	6

# Answers could include:

# Design features

- colour
- image
- graphic art
- font style
- · content of advertisement

For example to target a youthful audience

- · brighter and bolder colours to appeal to a youthful audience
- more trendy images and graphics
- · more emphasis on the technology such as the camera, size of screen, etc.
- youthful style of font
- less textual information, more graphics
- less emphasis on the eco nature of the phone.

(iv) Identify five design faults that you would change and explain why. (10 marks)

Description	Marks
For each of <b>five</b> design faults	
Identifies the design fault and explains in detail why it would be changed.	2
Identifies the design fault providing limited explanation.	1
Lists, no explanation given.	0
Total	10

- · no unifying theme
- · design does not reflect the purpose of the website
- · lack of simplicity and creativity
- structural layout is unbalanced
- · inconsistent use of navigational links and buttons
- · overuse of effects such as drop shadows, bevelling, glows
- · use of boxes behind text makes content difficult to read
- · excessive use of primary colours, form and textures
- · combination of several different font styles, colours and sizes
- · content is too difficult to read
- · the webpage does not use white space effectively
- · too many different elements on the page all competing with each other
- · no search facility
- no inclusivity features
- inappropriate images.

(v) Use the following pages to redesign the web page in order to make it more suitable and aesthetically appealing to the target audience. (20 marks)

Description	Marks
(Target audience is businesses that require the services of a skille company)	d design
Demonstrates a comprehensive use of design principles and elements showing aesthetically pleasing, professional ideas.  Designed in creative and original ways.	9–10
Clear use of design principles and elements. Uses design principles and elements effectively to identify MMDesign.	7–8
Functional and reasonably creative use of design elements. Shows reasonably clear use of design elements and principles.	5–6
Simplistic use of design elements and principles. Shows some use of design principles.	3–4
Uses design elements and principles basically with limited consistency of style.	1–2
Limited coverage of the design.	0
	10
Creates a strong company identity. Considers the purpose, meaning and audience. Clearly appeals to the target audience of MMDesign.	9–10
Appropriately targets the audience requirements. Re-markets MMDesign effectively and appeals to the target audience.	7–8
Reasonable appeal to the target audience. Re-markets MMDesign effectively and informs the audience.	5–6
Some appeal to the target audience. Re-markets MMDesign and conveys some information.	3–4
Little engagement of the target audience. Simplistically covers the functional requirements of MMDesign.	1–2
Limited coverage of the design.	0
	10
Answers sould include:	20

- unifying theme
- · design that reflects the purpose of the website
- · simple and creative
- structural layout is balanced
- · consistent use of navigational links
- use of unifying/harmonious colour scheme
- · content is appropriate
- uses white space effectively
- · search facility/Web 2
- · inclusive features.

(vi) Summarise the design changes you have made to the original web page and comment on their effectiveness in targeting the audience. (10 marks)

Description	Marks
Detailed summary of the design changes made to the web page with a focused explanation of how they have used design elements and/or principles; relevant and insightful description of how they have effectively targeted the audience.	9–10
Summary of the design changes made to the web page with an explanation of how they have used design elements and/or principles; relevant description of how they have effectively targeted the audience.	7–8
Summary of the design changes made to the web page with a limited explanation of how they have used design elements and/or principles; description of how they have effectively targeted the audience.	5–6
Limited summary of the design changes made to the web page and provides a limited description of how they have used design elements and/or principles; states a fact about targeting the audience.	3–4
Identifies or lists a few design elements and/or principles.	1–2
No evidence provided.	0
Total	10