Government of Western Australia
Curriculum Council

WACE
Western Australian Certificate of Education

Report on the 2009 WACE examination in

Applied Information Technology Stage 3

Stage 3 of the Applied Information Technology course was examined separately for the first time in 2009. The examining panel prepared a sample paper that was sent to schools early in the year. The final examination conformed closely with the sample paper in structure, range and difficulty.

This report was written by the chief examiner with the assistance of the chief marker and other members of the examining panel. The opinions and recommendations expressed are not necessarily representative of, or endorsed by, the Curriculum Council.

The marking key appended to the report was prepared by the examining panel and modified as appropriate at the pre-marking meeting. It is not intended as a set of model answers, and is not exhaustive as regards alternative answers. It represents a standard of response that the examiners deemed sufficient to earn full marks. Teachers who use this key should do so with its original purpose in mind.

Candidature

Year	Number who sat	Number of absentees
2009	598	26

Summary

The examination was generally well received and appeared to be of appropriate length, with the majority of candidates attempting all sections of the paper. It had a working time of three hours and consisted of 20 multiple-choice questions (10%), six short answer questions (15%), 2 extended answer questions (25%) and a production question (50%). Candidates were not given any choice in the paper.

The raw total mean was 52.03%, lower than the desirable mean of approximately 60%, and the means of each section ranged from 46% to 69%. The standard deviation was 12.76%, lower than the desirable 15%. The section-based internal reliability was good (0.68) and the spread of marks was very good, ranging from 6% to 86%.

Comments on specific elements

The multiple-choice and short answer sections produced higher mean scores than the extended answer and production sections. These statistics bear out markers' observations that candidates often failed to provide extended in-depth responses and/or misinterpreted questions, and as a consequence received few or no marks for those questions.

The balance of questions across the syllabus is indicated in the table below.

		Unit content and marks				Stage	
Exam section	**Mark allocation**	**Social implications and trends**	**Hardware and software**	**Digital data and information**	**Workplace practices and careers**	3A	3B
Multiple-choice	20 (10%)	2	4	11	3	9	99
Short answer	30 (15%)	4	11	10	5	20	10
Extended Answer	50 (25%)	19 16 15			0	24	26
Production	100 (50%)	10 10 75			15	60	40
Total	200 (100%)	35	41	111	23	113	87

Multiple-choice
This section was generally answered well, with the exception of Questions 5, 8 and 14 that all returned means of below 23%. These questions covered data protection on external devices, data moving over a network and data transfer rates. More technical/fact type questions appear to fair more poorly than the general knowledge type questions.

Short Answer
This section was generally done well, but Questions 1 and 6 were misinterpreted by some candidates.

Extended Answer
This section had the lowest mean, mainly due to poor results for Question 1(a) and Question 2(c). The scenario in Question 1 gave candidates information on the basis of which they had to recommend what type of network media should be used and why. Candidates' produced a range of responses, many of which suggested a lack of technical knowledge on the properties of network media. Question 2(c) produced a range of responses that did not address what was asked for, namely 'network security issues'.

Production
In this section, many candidates appeared to struggle with creating and justifying 'design criteria'. Moreover, candidates found it difficult to analyse their designs in terms of the intent of their template with close reference to design principles and elements. Many candidates failed to produce full answers to part e (ii), which asked them to evaluate the design criteria by way of justifying what they would add, remove and modify.

Issues for the course advisory committee to consider
The creation of a 'specification booklet', similar to that provided in the syllabus for the former TEE subject Information Systems, could assist teachers and examiners by delineating the scope and depth of the Applied Information Technology course. Such a booklet, regularly updated, would be a guide to which new information technologies are to be taught and examined and which are defunct.

Acknowledgements
The examining panel thanks all those involved in the development of the examination materials and in the marking of the examinations.

2009 examining panel
Chief examiner: Richard Cackett
Examiner: Drew Bathgate
Examiner: Lyndon While

Chief marker: Roger Blatchford

Applied Information Technology Stage 3

Marking key

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

Each question is worth **one** mark.

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1. A large corporation uses a data warehouse to assist with its strategic decision-making process. What is a data warehouse?

   (a) A building used to house backup tapes from the corporation.
   (b) A data store of historical trading transactions.
   (c) A data store of many companies' trading transactions.
   (d) A data store of the day's trading transactions.

2. A proposed network design that requires transmission media with very high transfer rates and the longest possible transmission distance between repeaters/switches. Which of the following transmission media meets the proposed network requirements?

   (a) Category 5 UTP
   (b) Shielded coaxial cable
   (c) Category 6e UTP
   (d) Optic fibre

3. Identify from the following which network topology has a central hub/switch that connects all hosts and if it fails, the network will become inoperative.

   (a) Star
   (b) Bus
   (c) Token ring
   (d) Mesh

4. A new business wants to advertise as widely as possible. The business has decided to send an e-mail to every e-mail address it can obtain from the Internet. What Commonwealth legislation should they be concerned with if it decides to proceed?

   (a) Copyright Act
   (b) Telecommuications Act
   (c) Spam Act
   (d) Fair usage

5. You have connected a USB external 1 terabyte hard drive and copied onto it all data from your desktop computer. How could you protect the data stored on the external hard drive from external threats?

(a) Replace the external hard drive every year.
(b) Regularly run backup software to keep the data up to date.
(c) Regularly change the mapped drive letter on your desktop computer to the external hard drive.
(d) Regularly scan the external drive for any malware and store it in a safe place.

6. Why are design principles followed when developing products?

(a) So that everyone uses the same standards.
(b) So that the file sizes are kept to a minimum.
(c) So as to create interesting and eye-catching products.
(d) So that files are kept to a minimum of three formats.

7. Encryption on data files is primarily done to

(a) secure the data.
(b) reduce the file size.
(c) speed up transmission.
(d) speed up data retrieval.

8. When a computer file is moved over a network, the transfer time is independent of the

(a) size of the file.
(b) technology used in the network hardware.
(c) level of security in the network.
(d) file type.

9. The image below demonstrates a principle of design.

This is the principle of

(a) symmetry.
(b) rhythm.
(c) balance.
(d) emphasis.

10. When a computer connects to the Internet, it requires an address, known as an IP address. If a computer has a dynamic IP address, it can change whenever

(a) the computer opens a new browser.
(b) the computer reconnects to the network.
(c) the computer downloads a web page.
(d) web pages stored on the computer are modified.

11. A password is required to contain 5–10 characters. The characters must include at least one upper-case letter, lower-case letter, one number and one punctuation mark. Which of the following strings does not meet these requirements?

(a) ABC1?
(b) Wales9-3NZ.
(c) Me&u2
(d) wr@nitE

12. The speeds of Internet connections at home are often much lower than the Internet Service Providers' advertised figures. This may be a result of

(a) varying quality of phone lines.
(b) varying distance from the telephone exchange
(c) varying levels of contention in the network.
(d) all of the above.

13. The major organisation responsible for accrediting computer industry qualifications in Australia is

(a) Engineers Australia.
(b) Australian Computer Society.
(c) Association for Computing Machinery.
(d) Australian Institute of Software Engineers.

14. You need to send a 2 megabyte file across a 500 kilobit per second network. If you compress the file by 50% before transmission, what is the minimum achievable transfer time?

(a) 2 seconds
(b) 4 seconds
(c) 16 seconds
(d) 32 seconds

15. Haptic technology enables

(a) users to interface with the technology via touch.
(b) users to obtain tactile feedback from an interface.
(c) users to interface with the technology via voice recognition.
(d) users to touch and use verbal commands to interact with technology.

16. An interactive whiteboard operates as a

(a) specialised peripheral device that uses sensing technology to track user interaction on a whiteboard screen surface.
(b) specialised peripheral device that allows the user to draw on the computer screen using their finger or astylus.
(c) stylus-based interface that combines with a projector to create an interactive learning environment.
(d) GUI-based interface that projects onto a whiteboard so that users can interact with applications.

17. Occupational safety and health issues are prompting ICT developers to

(a) include disclaimers on their products to avoid legal action in the event of user injury.
(b) warn distributors against selling their products to customers who are under 18 years of age.
(c) create products that advise users on the importance of safe and healthy work practices.
(d) include warnings, advice and disclaimers on their products about safety and health risks.

18. In computer-aided manufacturing, peripheral devices suitable for use in the production stage of the manufacturing process could be described as

(a) hardware external to the computer that assists users to manufacture products.
(b) software that assists engineers and machinists to manufacture products.
(c) any input devices that assist engineers and machinists to manufacture products.
(d) software that controls hardware so that users can manufacture products.

19. Cross-website advertising refers to an emerging trend on the World Wide Web where

(a) web site developers place the same advertisements on many different web pages on the same web site
(b) two or more companies advertise each other's products and services on their web site.

(c) web page designers place advertisements opposite from each other on the same web page to achieve balanced design.
(d) web site developers create advertisements that can be viewed across different web browser software.

20. You wish to install a web cam so that you can have a two-way video connection and chat online with your friend. Which of the following type of Internet connection would provide both you and your friend the best quality of video?

(a) Dialup
(b) ISDN
(c) ADSL 2+
(d) Satellite

End of Section One

Section Two: Short Answer **30 Marks**

Question 1 **(4 marks)**

List and describe briefly two areas of concern with these online services.

1 mark for each correct concern and 1 mark for its clear description, to a maximum of 4 marks

Possible responses:

- The reliance on the network to work.
- Security: who controls security
- Backups: who is responsible for backups
- Ownership of software/data: who owns the software/data, as it is not on your hardware
- Access to software/data: who has access to the software/data
- Cost: what are the costs associated with these offers? Initial and ongoing costs?
- Continuity of business: what happens to software/data, if the company goes broke?
- Longevity of the offer
- Disaster recovery plans
- Privacy issues

Question 2 **(5 marks)**

(a) The IT manager wants to do some benchmarking to determine what computer hardware is best suited to the company's expansion. What is meant by the term 'benchmark' in the context of computing? (1 mark)

1 mark for a correct definition, to a maximum of 1 mark

Possible definitions:

- A set of standards by which applications (software) or hardware can be judged/compared to.
- Creation of a minimum standard by which software or hardware is to be judged.
- A set of standards seen as a minimum of performance or specification for a company to judge various hardware or software options.

(b) Technicians have loaded an application from an old computer to a new SOE computer, but the application will not run. Provide one reason why the application will not run.

(1 mark)

1 mark for a correct reason , to a maximum of 1 mark

Possible reasons:

- Software and hardware compatibility problems/issues.
- Licensing issues.
- Operating system incompatibility.

(c) List two reasons why a company would want to standardise its hardware and software.

(2 marks)

1 mark for each correct reason, to a maximum of 2 marks

Possible responses:

- Ease of support of a standard hardware
- Ease of support of standard software
- Replacement/management of end of life machines can be organised more easily
- Known faults
- Reduced costs of bulk purchasing
- Training costs lower

(d) Describe one procedure to help maintain the efficient running of new SOE computers. (1 mark)

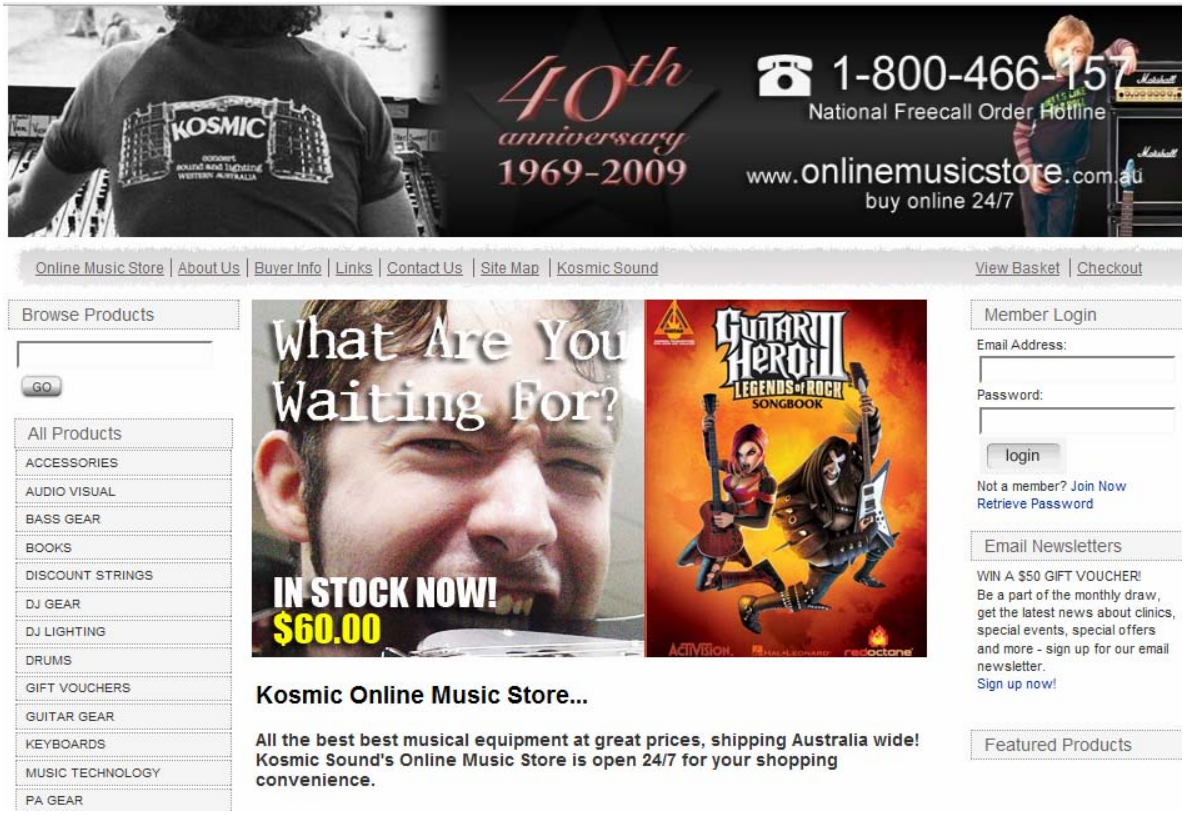
1 mark for a correct description of a procedure, to a maximum of 1 mark

Possible responses:

- Install Anti malware/virus/spam/spyware
- Keep software updated
- Use Hard drive cleanup tools regularly
- Implement user profiles to mange user access to the computer
- Maintain the OS with regular use of System utilities
- Monitor use of machines.

Question 3 **(6 marks)**

The image below shows part of the Online Music Store's homepage.



In the stimulus material above, identify and justify three design features that promote usability.

1 mark for each correct identification of design feature that promotes usability, to a maximum of 3 marks.

1 mark for each correct justification of how each design feature promotes usability, to a maximum of 3 marks.

E.g.

1. Link to Site Map which provides quick access to any page on the web site
2. Search Facility to provide querying
3. Menus that provide structural and specific content sections
4. Contact channels, via phone and web
5. Newsletters to keep customers up to date
6. Featured product link for specific info.

Question 4 **(5 marks)**

Describe five strategies a business with extensive dependence on information communication technologies (ICT) could use to maintain employees' ICT skill levels.

1 mark for a correct strategy to a maximum of 5 marks

****NB: the strategy must be relevant to the maintenance of employees' ICT skills***

Possible responses:

- Regular staff training sessions
- Managers obtain IT related qualifications
- Staff to become members of IT user groups
- Provide IT related magazines and journals for staff to read
- Provide incentives for staff to improve their IT related qualifications e.g. Financial
- Enable access to help desk
- Inter ans Intra net support
- Provide access to online forum
- Provide access to online Bulletin Boards.

Question 5 **(4 marks)**

Describe briefly four approaches a large organisation can adopt to provide secure access to shared computer files on a local area network connection to the world wide web.

1 mark for each correct approach, to a maximum of 4 marks

Possible responses:

- Encryption: encode the contents of the file so that only users with the right key can read it
- Password protection: allow access to the file only after the user enters a valid password
- IP restriction: allow access to the file only from computers with certain IP addresses
- URL privacy: restrict knowledge of the URL of the file, never link to the file from other web pages, and disallow listing of the relevant file directories

Question 6 **(6 marks)**

When selecting software for a small or home office, a consumer is often presented with the choice of purchasing either proprietary licensed software (company developed) or open source software (community developed).

Describe and justify three selection criteria that would assist in the purchase of proprietary licensed or open-source software.

Three criteria are listed below: Distinguishing features, Advantages and Potential impacts

1 mark for each correct distinguishing feature, to a maximum of 2 marks

Possible responses:

- Unrestricted ability to re-distribute
- Access to source

1 mark for each correct advantage, to a maximum of 2 marks

Possible responses:

- Lower costs through free access to products and source
- Higher reliability through increased peer review and responsiveness to feedback

1 mark for an impact and 1 mark justifying it, to a maximum of 2 marks

Possible responses

- Potential absence of support
- Potential difficulty of installing software

End of Section Two

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 35 minutes.

Question 1 (25 marks)

(a) SM Designs has decided to network its computers. Using information shown in the floor plan, complete the following table, indicating what type of network media you would recommend and why. (8 marks)

Equipment	**Recommended network media (Abbreviations are accepted)**	**Reason for recommendation**
Office 2 x PCs 1 x Printer	Cat 5 or Cat 6e (1 mark)	High speed and high speed 1GB (1 mark)
Drawing Room PC Plotter	Cat 5 or Cat 6e (1 mark)	High speed and high speed 1GB (1 mark)

Work shop 1 2 x PCs 2 x Printers	Fibre optic (1 mark)	From ceiling or floor pits Not affected by EMF from equipment Can place outlets near machines (1 mark)
Work shop 2 2 x PCs 2 x Printers	Fibre optic (1 mark)	From ceiling or floor pits Not affected by EMF from equipment Can place outlets near machines (1 mark)

(b) A server has been proposed for the network. List four of its functions. (4 marks)

1 mark for each correct function , to a maximum of 4 marks

Possible responses:

- File sharing
- Print services
- Internet gateway
- User authentication
- Network storage

(c) List four precautions that need to be taken to protect the hardware once the installation of the server has been completed. (4 marks)

1 mark for each correct precaution, to a maximum of 4 marks

Possible responses:

- UPS
- Air-condition ing/environmental control
- Physical security to secure servers
- Fire control
- Vibration dampeners (to stop vibrations from machinery)

(d) The data stored on the server will also need to be protected. Describe five processes and/or procedures that should be implemented to ensure data integrity. (4 marks)

1 mark for correct description of processes or procedures, to a maximum of 4 marks

Possible responses:

- Backup with verification
- Ant-viral software
- Firewall
- Intrusion detection systems
- Defragmentation of drives
- RAID technologies to ensure integrity

SM Designs' factory is in a large industrial area where there are a number of businesses using wireless networks.

(e) Describe four ways in which SM Designs could establish a secure wireless network in its factory that would prevent access by users who are not employed by the company.

(4 marks)

1 mark for each correct secure wireless set-up described, to a maximum of 4 marks

Possible responses:

- WPA2 with Radius not PSK
  Or
- VPN with encrypted challenge and response and enforced strict in tunnel integrity check such as Cisco PEAP
  Or
- do a wireless survey and reduce signal such that it works only in the confines of the workshop

Others may believe WEP, WPA2-PSK or VPN. To be discussed through the chief marker.

Marker responses:

[filled in as appropriate]

Question 2 **(25 marks)**

The University of Antarctica (UAnt) tries to provide a flexible workplace for its teaching staff, allowing them to perform many of their tasks remotely. However UAnt must constantly monitor its rules and policies to ensure that its facilities are being used responsibly and ethically.

(a) UAnt has a policy that staff not be permitted to access confidential student records when off-campus. Discuss the potential problems this policy is intended to prevent. (5 marks)

1 mark for each correct potential problem raised and discussion (1 mark per valid point discussed) to a maximum of 5 marks

Possible discussion points:

- Access by unknown parties i.e. access via compromised accounts or simply by staff child or partner accessing it.
- Sending of the information in clear text to a non-University asset where it is stored i.e. a home computer.

(b) UAnt monitors its employees' use of email by filtering both incoming and outgoing messages and attachments. Discuss how this monitoring can affect the free exchange of ideas between researchers at UAnt and other universities. (5 marks)

1 mark for each correctly discussed effect on the free exchange of ideas to a maximum of 5 marks

Possible responses:

- Staff possibly would not feel as free and open to exchange ideas due to the monitoring.
- Staff could be scared of potential theft of intellectual property
- Staff could be scared of possible theft of patents
- Staff could be scared of loss of research grants because other researches publish before them

(c) Discuss five network security issues that might restrict the university staff's ability to prepare teaching materials and mark students' work online at home. (10 marks)

1 mark for each correct security issue with 1 mark for each discussion/explanation of the issue, to a maximum of 10 marks

Possible responses:

- Interception – sniffing of data in network stream, i.e. students trying to get the exam
- Virus problems i.e. if machine not a Uni asset who is providing monitoring and updating virus software, files uploaded may contain viruses that infect uni wide systems and student machines
- Encryption – is it used or enforced? How enforced? Who monitors it?
- Theft of machines resulting in compromise of private/confidential details
- User ignorance – users may not be aware so give them some training on the risks and how to ameliorate them
- Backup – who does it and when?

(d) As the teaching staff work primarily online, identify five ways in which the university can protect its staff from cyber-bullying. (5 marks)

1 mark for each correct way identified that would help protect staff, to a maximum of 5 marks

Possible responses:

- Legal ramifications/legislation
- Staff awareness program
- Policy which establishes consequences for those who are found guilty of cyber-bullying, i.e. expulsion of students/staff who breach this policy
- Filter emails (to catch 'bad' words in emails)
- Student and staff codes of conduct
- IT Use and Access policy

End of Section Three

Section Four: Production **100 Marks**

This section has one question consisting of five parts (A, B, C, D and E).

Part A: Pre-design **(20 marks)**

(i) In preparation for designing a Dial-Tone Story Gallery, you are required to explore present and emerging ICT trends in website design that may be relevant to your Dial-Tone Story Gallery design. (10 marks)

Present and Emerging Trends:

1–2 marks	3–4 marks	5–6 marks	7–8 marks	9–10 marks
Mention of possible trends but with no basis or rationale to support them.	1 or 2 trends mentioned with weak supporting evidence and relevance.	2 or 3 trends mentioned with supporting evidence and relevance.	3 or More trends identified with good supporting evidence and specific application for Dial-Tone.	Identification of trends with supporting evidence and reference to possible future implications for the evolution of Dial-Tone's website.

(ii) Carry out a design analysis of the stimulus material A and B, considering target audience, design elements and principles.

(10 marks)

Target audience:

1 mark	2 marks
Describes some target audience characteristics e.g. gender, age, language levels, knowledge and skill levels, culture, spending power and social status. But little reference to the stimulus material.	Comprehensively describes the target audience characteristics and makes critical links to the stimulus material.

Design principles:

1 mark	2 marks	3 marks	4 marks
Identifies 1 or 2 design principles with basic explanation, buts lacks connection with the stimulus material.	Identifies 1 or 2 design principles with an attempt made to critically evaluate them	Identifies 2 or more design principles with an attempt made to critically evaluate them **or** Identifies only 2 design principles and has provided a good critical evaluation.	Identifies at least 2 design principles Each principle is critically evaluated and maintains a clear connection with the stimulus material.

Design elements:

1 mark	2 marks	3 marks	4 marks
Identifies 1 or 2 design elements with basic explanation buts lacks connection with the stimulus material.	Identifies 1 or 2 design elements with an attempt made to critically evaluate them	Identifies 2 or more design elements with an attempt made to critically evaluate them **or** Identifies only 2 design elements and has provided a good critical evaluation.	Identifies at least 2 design elements. Each element is critically evaluated and maintains a clear connection with the stimulus material.

Part B: Design **(15 marks)**

(i) In preparation for designing your selected Dial-Tone gallery, use your findings in Part A to develop and justify a set of design criteria that you will apply to both the iconic graphic and template design. (10 marks)

Development of design criteria

1 mark	2 marks	3 marks	4 marks	5 marks
Created a list of design criteria	Identifies design criteria which relate to target audience, design principles and elements.	Identifies specific design criteria which engage with target audience. More detailed identification of design principles and elements are provided and some consideration of functionality is evident.	Identifies specific design criteria which engage clearly with target audience. Detailed identification of design principles and elements are provided with consideration of functionality and usability.	Identifies specific design criteria which engage clearly with target audience. Detailed identification of design principles and elements are provided with consideration of functionality, usability and future-proofing etc.

Justification of design criteria

1 mark	2 marks	3 marks	4 marks	5 marks
Limited to no justification of why design criteria has been developed.	Some justification as to how the criteria will be applied and how it is relevant to the selected era.	Clear justification as to how most of the criteria will be applied and how it is relevant to the selected era and functionality.	Clear justification as to how the majority of the criteria will be applied and how it is relevant to the selected era, functionality and usability.	Thorough justification as to how the criteria will be applied and how it is relevant to the selected era, functionality, usability and future-proofing etc.

(ii) Using the design criteria that you developed in Part B (i), design **one** iconic graphic that can be used on Dial-Tone's home page. (5 marks)

Design an iconic graphic appropriate to its intended use:

1 mark	2 marks	3 marks	4 marks	5 marks
Minimal attempt made at sketching a design.	Some design elements and/or principles are evident. Limited to no connection chosen era.	Some representation/ connection with selected era. Design elements and principles are clearly identifiable.	A good representation/ connection with selected era. Design elements and principles are clearly identifiable and are appropriate.	Clear connection with selected era. Design elements and principles are readily identifiable, appropriate and demonstrate the motivation for their use.

(iii) Design **one** web page template that can be used to display information related to your chosen era. Ensure that you use your design criteria from Part B. (10 marks)

Presentation of template appropriate to its intended use:

1 mark	2 marks	3 marks	4 marks	5 marks
Minimal attempt made at designing a template.	Attempts to design a template that uses some design elements and principles with limited to no application of the design criteria.	Designs a template that simplistically covers the functional requirements of Dial-Tone with some application of the design criteria. Some connection with iconic graphic.	The template design meets the requirements of Dial-Tone, i.e. functionality, usability and is appropriate to the chosen era. Connection with iconic graphic.	The template has been designed in creative and original ways, meets the requirements of Dial-Tone, i.e. functionality, usability, appropriate to chosen era, connects with iconic graphic and is future-proofed.

Use an appropriate design methodology:

1 mark	2 marks	3 marks	4 marks	5 marks
Minimal evidence of planning and/or initial design ideas.	Some evidence of considering an appropriate design methodology such as initial ideas explored through sketches and/or annotations	Evidence of an appropriate design methodology, but isn't presented in orderly systematic way.	An appropriate design methodology is evident, such as use of story boards or some method of managing progression of ideas. Annotations, checklists etc. are present.	A systematic design methodology is evident, with detailed reflection, revision, and critiquing etc.

Part C: Analysis **(15 marks)**

Discuss the intent of your template design in Part B (iii) with close reference to design principles and elements used. (15 marks)

Discussion of intent of template design (connection with Dial Tone, Part A and/or Part B)

1 mark	2 marks	3 marks	4 marks	5 marks
States basic elements of the intent of template design but with limited reference to Dial Tone, chosen era or stimulus material, to explain its appropriateness.	States basic elements of the intent of template design with some reference to Dial Tone, chosen era or stimulus material, in an attempt to explain its appropriateness.	Discusses key elements of the intent of template design with reference to Dial Tone, chosen era and/or stimulus material, to explain its appropriateness.	Discusses the intent of template design with reference to Dial Tone, chosen era and/or stimulus material, to explain convincingly its appropriateness.	Discusses and justifies convincingly the intent of the template design through referencing Dial Tone, chosen era and/or stimulus material thoroughly.

Reference to design principles

1 Mark	2 marks	3 marks	4 marks	5 marks
Minimal attempt at linking the identified design principles with the intent of the design template.	Refers to some design principles with limited discussion of the relationship between principles chosen and the intent of the template design.	Refers to key design principles and discusses the relationship between principles chosen and the intent of the template design.	Refers to design principles and discusses the relationship between the effective choice of these principles and how they meet the intent of the template design.	Closely refers to design principles and thoroughly discusses the relationship between the effective choice of these principles and how they meet the intent of the template design.

Reference to design elements used

1 Mark	2 marks	3 marks	4 marks	5 marks
Minimal attempt at linking the identified design elements with the intent of the design template.	Refers to some design elements with limited discussion of the relationship between principles chosen and the intent of the template design.	Refers to key design elements and discusses the relationship between principles chosen and the intent of the template design.	Refers to key design elements and discusses the relationship between the effective choice of these principles and how they meet the intent of the template design.	Closely refers to design elements and thoroughly discusses the relationship between the effective choice of these principles and how they meet the intent of the template design.

Part D: Re-design **(15 marks)**

Consider the specific requirements of computer users who are **visually impaired**.
Modify your template design from Part B (iii) using appropriate annotations to reflect these specific users' needs.

Modifications to template design

2 mark	4 marks	6 marks	8 marks	10 marks
Minimal attempt to modify the design	Provides some modifications to support users who are visually impaired	Attempts to explore alternatives for each modification to achieve the same goal	Presents a limited range of good alternative solutions from different perspectives	Presents a range of good alternative solutions from different perspectives

Annotations to support modifications to template design

1 mark	2 marks	3 marks	4 marks	5 marks
Annotations are minimal with limited to no rationale to support modification	Suggests minimal modifications to template design but these are partly supported by annotations	Suggests some modifications, with most supported by annotations	Suggests some modifications which are all supported by correct annotations	A range of detailed modifications are suggested and supported well by annotations

Part E: Review **(25 marks)**

(i) From your re-design in Part D, llist five assumptions you have made about the end user's hardware and software configurations and what implications these will have on the end user's usability of the website. (10 marks)

Assumptions on hardware/software configurations

Hardware/software assumptions **(1 mark for correct listing of hardware/software assumption to a maximum of 5 marks**	**End user implications** **(1 mark for each correct implication to a maximum of 5 marks)**
1. Monitor / Screen	Setup of the resolution will determine size of fonts, tables etc. i.e. layout will be affected.
2. Sound / Speakers	Multi-media components of the website will be affected by audio settings, e.g. mono, stereo, balance etc. so quality may be affected
3. Browser Software	Compatibility of web site HTML, Java, VB code etc. with the browser. Some items may not run.
4. MODEM	Internet connection speed will affect how quickly web sites will download
5. Cache settings Firewall setting Anti Virus and Spam settings	Reload speeds
Others:	

(ii) In preparation for <u>developing another section</u> in the Dial-Tone Story Gallery, you are required to <u>review</u> your established <u>design criteria</u>. What aspects would you <u>add</u>, <u>remove</u> and <u>modify</u>? Justify your responses. (15 marks)

Additional aspects to design criteria

1 mark	2 marks	3 marks	4 marks	5 marks
Makes minimal suggestions as to what criteria could be added.	Makes some suggestions as to what could be added.	Makes some suggestions with justification as to what could be added.	Suggestions are made and explored to provide possible additions.	A range of suggestions are made and explored to provide possible additions with reference to another era for justification.

Removal of design aspects

1 mark	2 marks	3 marks	4 marks	5 marks
Makes minimal suggestions as to what criteria could be deleted.	Makes some suggestions as to what could be deleted.	Makes some suggestions with justification as to what could be deleted.	Suggestions are made and explored to provide possible deletions with reference.	A range of suggestions are made and explored to provide possible deletions with reference to another era for justification.

Modifications to design criteria

1 mark	2 marks	3 marks	4 marks	5 marks
Makes minimal suggestions as to what criteria could be modified.	Makes some suggestions as to what could be modified.	Makes some suggestions with justification as to what could be modified.	Suggestions are made and explored to provide possible modified.	A range of suggestions are made and explored to provide possible modifications with reference to another era for justification.

End of Production section