**Western Australian Certificate of Education**

**Semester 1 Examination, 2021**

**Question/Answer Booklet**

**EXAM SOLUTIONS**

Please place you student identification label in this box (if required)

**APPLIED**

**INFORMATION**

**TECHNOLOGY**

## Year 11 ATAR: Unit 1

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Student Number: | In figures |  |  |  |  |  |  |  |  |  |  |  |
|  | In words |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

## Time allowed for this paper

Reading time before commencing work: ten minutes

Working time: two hours and thirty minutes

## Materials required/recommended for this paper

***To be provided by the supervisor***

This Question/Answer Booklet

Multiple Choice Answer Sheet

***To be provided by the candidate***

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

Special items: non-programmable calculators approved for use in this examination, Mathomat and/or Mathaid and/or any system flowchart template

**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 material. 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 answered | Suggested working time (minutes) | Marks available | Percentage of examination |
| Section One:  Multiple Choice | 15 | 15 | 20 | 15 | 15 |
| Section Two:  Short answer | 8 | 8 | 40 | 60 | 25 |
| Section Three:  Extended answer | 1 | 1 | 30 | 35 | 20 |
| Section Four:  Scenario | 1 | 1 | 60 | 64 | 40 |
|  |  |  |  | **Total** | 100 |

## Instructions to candidates

1. The rules for the conduct of the Western Australian external examinations are detailed in the *Year 12 Information Handbook 2021*. Sitting this examination implies that you agree to abide by these rules.
2. Answer the questions according to the following instructions. Section One: Answer all questions on the separate Multiple-choice answer sheet provided. For each question, shade the box to indicate your answer. Use only a blue or black pen to shade the boxes. Do not use erasable or gel pens. If you make a mistake, place a cross through that square, then shade your new answer. Do not erase or use correction fluid/tape. Marks will not be deducted for incorrect answers. No marks will be given if more than one answer is completed for any question.
3. Write your answers to the questions in Sections Two, Three and Four in this Question/Answer booklet.
4. You must be careful to confine your answers to the specific questions asked and to follow any instructions that are specific to a particular question.
5. Supplementary pages for planning/continuing your answers to questions are provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

## Section One: Multiple-choice 15% (15 marks)

This section has **fifteen (15)** questions. Answer **all** questions on the separate Multiple-choice Answer Sheet provided.

For each question shade the box to indicate your answer. Use only a blue or black pen to shade the boxes. If you make a mistake, place a cross through that square. Do not erase or use correction fluid. Shade your new answer.

Marks will not be deducted for incorrect answers.

No marks will be given if more than one answer is completed for any question.

Suggested working time: 20 minutes.

|  |  |
| --- | --- |
| **Question 1** | **d** |
| **Question 2** | **a** |
| **Question 3** | **c** |
| **Question 4** | **c** |
| **Question 5** | **c** |
| **Question 6** | **d** |
| **Question 7** | **c** |
| **Question 8** | **b** |
| **Question 9** | **a** |
| **Question 10** | **b** |
| **Question 11** | **b** |
| **Question 12** | **d** |
| **Question 13** | **d** |
| **Question 14** | **a** |
| **Question 15** | **d** |

## END OF SECTION ONE

## Section Two: Short answer 25% (60 marks)

This section contains **eight (8)** questions. You must answer **all** questions. Write your answers in the spaces provided.

Supplementary pages for the use of planning/continuing your answer to a question have been provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

Suggested working time: 40 minutes.

1. (9 marks)

The following is a list of components for a desktop computer.

|  |
| --- |
| 10th Gen Intel® Core™ i5-10400F (6-Core, 12M Cache, 2.9GHz to 4.3GHz)  Windows 10 Home (64bit) English  NVIDIA® GeForce RTX™ 3060 Ti 8GB GDDR6  8GB, 1x8GB, DDR4, 2666MHz  256GB M.2 PCIe NVMe Solid State Drive  Alienware 310K Mechanical Gaming Keyboard - AW310K  Alienware 310M Wireless Gaming Mouse - AW310M  Dell Alienware 25 Monitor - AW2521HF |

1. From the component list, give an example of (4 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Correctly identify and list the system component (1 mark) each | 1 |
| **Total** | **4** |
| Sample answer:  An input peripheral: Alienware 310K Mechanical Gaming Keyboard - AW310K or Alienware 310M Wireless Gaming Mouse - AW310M  An output peripheral: Dell Alienware 25 Monitor - AW2521HF  A storage component: 256GB M.2 PCIe NVMe Solid State Drive  A processing component: 10th Gen Intel® Core™ i5-10400F or NVIDIA® GeForce RTX™ 3060 Ti 8GB GDDR6 | |
| Accept other appropriate answers | |

1. What is the main function of the first item, the 10th Gen Intel® Core™ i5-10400F   
   (6-Core, 12M Cache, 2.9GHz to 4.3GHz)? (2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Correctly states the main function of a CPU | 2 |
| Provides a superficial statement about the CPU | 1 |
| **Total** | **2** |
| Sample answer:  A CPU interprets the program's instructions and creates the output. The CPU executes stored instructions. The CPU will perform most basic arithmetic, logic, and I/O operations, as well as allocate commands for other chips and components running in a computer. | |
| Accept other appropriate answers | |

1. Identify the component which is used as secondary storage and explain its function in the computer system. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Correctly identifies the SSD and explains it’s function | 2 |
| Only identifies the SSD as the secondary storage device | 1 |
| **Total** | **2** |
| Sample answer:  256GB M.2 PCIe NVMe Solid State Drive, the purpose of secondary storage is to store data permanently on a computer, including pictures, music, video, text etc but also the operating system and software programs used to run the computer system. | |
| Accept other appropriate answers | |

1. Identify the main memory. (1 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Correctly identifies the RAM | 1 |
| **Total** | **1** |
| Sample answer:  8GB, 1x8GB, DDR4, 2666MHz | |

1. (8 marks)

An Operating System acts as a communication bridge (interface) between the user and computer hardware. The purpose of an operating system is to provide a platform on which a user can execute programs in a convenient and efficient manner.

* 1. List four (4) types of operating system (OS) software. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| State a correct type of operating system (1 mark each) | 1 |
| **Total** | **4** |
| The operating system’s (OS) are -  Windows  Mac OS  iOS  Android  Linux | |

* 1. State the four (4) functions of an operating system. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| State a correct function of an operating system (1 mark each) | 1 |
| **Total** | **4** |
| The functions of an operating system (OS) are -  User interface  Managing system resources  Managing security and access rights  Running applications | |

1. (6 marks)

The Oxford referencing library guide for internet and websites states that the appropriate referencing technique for digital publications should be written as the following:

A. Author, 'Title of Document', *Name of Website in Italics,* Place of Publication, Name of Publisher, year, http://url, (accessed day month year).

Using this library guide correctly create a reference list for the following digital publications.

1. The Solar Debate produced by Studio 10 in 2020, We chat with Sam Simons about solar - should solar be mandatory in new Australian houses? <https://youtu.be/w42-H20> cited 2nd February 2021. (3 mark)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Correctly lists Author and ‘Title of Document’ first | 1 |
| Correctly lists Name of Website (italics), Place of Publication and Name of Publisher next | 1 |
| Correctly lists Year, <http://url> and (accessed day month year) last | 1 |
| **Total** | **3** |
| Sample answer:  S.Simons, ‘The Solar Debate’, *YouTube,* Australia, Studio 10, 2020, https://youtu.be/w42-H20 (2nd February 2021.) | |
| Accept other appropriate answers | |

1. 22nd of February 2020, <https://www.uwa.edu.au/uwa2030/sustainable-environments> University of Western Australia is set to invest in a cutting-edge digital technology to create a fully integrated and innovative ‘digital campus’. Titled, Sustainable Environments. Accessed 2nd February 2021. (3 mark)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Correctly lists Author and ‘Title of Document’ first | 1 |
| Correctly lists Name of Website (italics), Place of Publication and Name of Publisher next | 1 |
| Correctly lists Year, <http://url> and (accessed day month year) last | 1 |
| **Total** | **3** |
| Sample answer:  University of Western Australia, ‘Sustainable Environments, *University of Western Australia website,* Australia, University of Western Australia, 2020, https://www.uwa.edu.au/uwa2030/sustainable-environments (2nd February 2021.) | |
| Accept other appropriate answers | |

1. (8 marks)

A social media policy is a document that outlines how an organisation and its employees should conduct themselves online.

* 1. Suggest **three (3)** statements that would give employees guidance to what constitutes responsible use of social media. (3 mark)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Correctly suggests appropriate statements (1 mark each) | 3 |
| **Total** | **3** |
| Sample answer:  Protect your personal privacy and that of others by not including personal information of either yourself or of others in your social media posts (for example, names, email addresses, private addresses, or phone numbers).  When representing an organisation on social media, follow the organisation’s social media guidelines for social media comments and posts.  Do not impersonate others or falsely represent the organisation through social media posts.  Do not post material that infringes the intellectual property rights of others.  Do not be abusive, harass or threaten others; do not make defamatory comments or posts.  Do not use insulting, provocative or hateful language; do not use obscene or offensive language.  Do not promote commercial interests in your posts; do not post overtly party political comments.  Do not make unproven or unsupported accusations against individuals or organisations.  Do not conduct any illegal activity or solicit the performance of any illegal activity while on social media. | |
| Accept other appropriate answers | |

* 1. Suggest one (1) social media application that could be used by an organisation and outline one (1) potential advantage and one (1) potential disadvantage to its use for the organisation. (5 mark)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Chooses one social networking tool that could be used by an organisation | 1 |
| **Subtotal** | **1** |
| Outline one advantage of use to the organisation | 2 |
| Superficial statement about the social networking tool | 1 |
| **Subtotal** | **2** |
| Outline one disadvantage of use to the organisation | 2 |
| Superficial statement about the social networking tool | 1 |
| **Total** | **2** |
| **Total** | **5** |
| Sample answer:  Social networking tool - blogs, wikis, video conferencing and instant messaging  **Blogs** - A blog is a regularly updated website or web page, typically one run by an individual or organisation, that is written in an informal or conversational style. Posts are typically displayed in reverse chronological order.  Advantage – share knowledge and opinions, build professional network, easy to update and add new posts, people can leave comments.  Disadvantage – can be time consuming to maintain, pressure to keep up with regular posts, people may leave inappropriate comments.  **Wikis** - A wiki is a web application which allows users from around the world to collaborate. They can add, edit and delete content posted by other users.  Advantage - The wiki allows each member to write, collaborate and edit the report when they have time available. Tracks changes made by editors, it is easily posted and shared and edits store backup copies.  Disadvantage – May be difficult for a non-technical person to use, may be difficult to search through previous entries, any employee can make changes to entries.  **Video conferencing** - Videoconferencing (or video conference) means to conduct a conference between two or more participants at different sites by using computer networks to transmit audio and video data.  Advantage – reduce travel cost and time to meet in a different country/location. Seeing the person that you are communicating with can give important visual clues (body language). Skilled employees can be utilised around the globe without paying travel costs.  Disadvantage – high bandwidth required to transmit and receive high quality images. Internet connection needed to communicate.  **Instant messaging** - technology allows workers to chat with each other quickly and privately. Instant messages automatically appear on the recipient's current screen.  Advantages - It is more efficient than email because it allows messages to appear immediately, saving time.  Many workers use instant messaging as an alternative to phone, email, or personal visits. These forms of communication are usually more time consuming. Can be used as a customer help system which reduces customer hold time and ensures a quality customer experience.  Disadvantage – inability to gauge emotion as no body language to read in only text. Anonymity as the person you think you are messaging might be someone completely different. Possible miscommunication or potential for misuse. | |
| Accept other answers | |

1. (9 marks)

You work at Perth News which publish news articles online and in printed newspaper which are distributed throughout Western Australia.

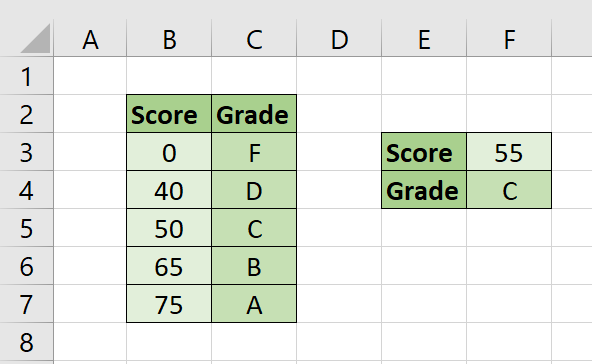
* 1. You have been given the following images to use in your publications. For each file state:

1. the suitability for online or print version.
2. reason for suitability for online or print version.
3. whether the file type is a raster or vector.

|  |  |
| --- | --- |
| **Description** | **Mark** |
| For each of the **three** files list the correct suitability | |
| Identifies if the file is suitable for online or print version | 1 |
| **Subtotal** | **3** |
| For each of the **three** files justify the reason for their choice | |
| Correctly justifies the reason for their choice | 1 |
| **Subtotal** | **3** |
| For each of the **three** files correctly label as raster or vector | |
| Correctly identifies each file as raster or vector | 1 |
| **Subtotal** | **3** |
| **Total** | **9** |
| Sample answer:  **BlackSwan.tiff**  Suitability: print  Reason: .tiff is a standard in the printing and publishing industry. TIFF files are significantly larger than their JPEG counterparts and can be either uncompressed or compressed using lossless compression. TIFF images cannot be natively rendered by modern web browsers, so they are only suitable for print not online publishing.  File type: raster  **FremantleDockers.jpeg**  Suitability: online  Reason: small file size, the format is compatible, and it is displayed correctly in any browsers, text and graphics programs, on all computers, tablets and mobile devices, it is suitable for full-colour realistic images with a lot of colour and contrast transitions, picture quality is high with small degree of compression. Because is uses lossy file compression it is better suited to online publishing rather than print.  File type: raster  **PerthNewsLogo.svg**  Suitability: online  Reason: scalable vector graphics is a file format that allows display of vector images on a website. This means SVG images can be scaled up and down as needed without losing any quality. Most designers who are supplied SVG files will open them in a vector app and re-save as either native files, eps or PDF to print.  File type: vector | |
| Accept other answers | |

1. (7 marks)

Use the following spreadsheet to answer this question.



Ashton is a teacher and has decided to automate her test score and grade marksbook. She wants to use a spreadsheet system. With this system, she simply enters a score in cell F3, and the student’s grade is automatically returned from the grade column.

1. Write the formula that is being used in cell F4 to retrieve the student grade?

(5 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| VLOOKUP | 1 |
| F3 | 1 |
| B3:C7 | 1 |
| 2 | 1 |
| **Total** | **4** |
| Sample Answer:  =VLOOKUP(F3,B3:C7,2,TRUE)1 mark for each part of the equation | |

1. The last argument in the formula is “TRUE”, explain how this is used to return the correct grade in the marksbook. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Correctly explains how the “TRUE” argument is used to return the correct grade | 2 |
| Only states the “TRUE” argument will return an approximate match | 1 |
| **Total** | **2** |
| Sample Answer:  The Boolean TRUE (fourth argument) tells the VLOOKUP function to return an approximate match. If the VLOOKUP function cannot find the value 55 in the first column, it will return the largest value smaller than 55. In this example, this will be the value 50. | |

1. (7 marks)

You are searching for some image editing software on the internet to install on your laptop.

You download the following:

|  |  |
| --- | --- |
| **Photo Edit Pro**  This application is free of charge and can be used without any restrictions. The developer has a “please make a donation” link on the homepage and has asked you to like and review the application. | **Easy Edit Photo Suite**  This application is free as a trial version, there are limits to the number of files you can edit and save, however, if you purchase the full version, this feature is unlocked. |

1. Compare the two different software licensing models used for these applications.

(4 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Supplies some relevant facts to show how freeware is similar or different to shareware | 3-4 |
| Makes superficial comment(s) about freeware and shareware | 1-2 |
| **Total** | **4** |
| Answer may include  Freeware is software, most often proprietary, that is distributed at no monetary cost to the end user. There is no agreed-upon set of rights, license, or EULA. Similarly, shareware is free, however, only for a trial period or with limited functionality. Once users pay for shareware the full functionality of the software is release. Freeware is copyrighted software that is available at no cost for unlimited usage which makes the license distinctly different to shareware. | |
| Accept other reasonable responses | |

You choose Easy Edit Photo Suite as it appears to have better customer reviews and more customer support. When you pay for the full version, Easy Edit Photo Suite sends you a notification that there are software updates to their application.

1. Outline **two (2)** reasons for why software companies might release software updates for their applications. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Discusses two reasons why software companies release software updates | 2 |
| Makes superficial statement regarding software updates | 1 |
| **Total** | **2** |
| Sample answer:  The updates usually improve the security of the software, as companies find security vulnerabilities in their software, they work to secure their software against these vulnerabilities and release updates. Software updates can often increase the ease of use. i.e. improved user interface. User experience and user interaction can improve with most new software releases. New software release may have improved features and improved functionality. | |
| Accept other appropriate answers | |

1. State **one (1)** consequence of not installing software updates. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Correctly states a consequence of not installing software updates | 1 |
| **Total** | **1** |
| Sample answer:  Not installing software updates, runs the risk of using obsolete software that cannot benefit from the latest and improvements or changes. Not installing updates can leave your system vulnerable to security issues. Employees using updated software could run into compatibility issues when exchanging files with others that are using older software, who have not installed the software updates. The performance of software can improve with updates, not installing updates users miss out on this improved performance. | |
| Accept other appropriate answers | |

1. (6 marks)

Discuss the purpose of the following components of a design plan.

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Discusses the purpose of a storyboard in details | 2 |
| Makes superficial comment(s) about storyboards | 1 |
| **Subtotal** | **2** |
| Discusses the purpose of a thumbnail in details | 2 |
| Makes superficial comment(s) about thumbnail | 1 |
| **Subtotal** | **2** |
| Discusses the purpose of a wireframes in details | 2 |
| Makes superficial comment(s) about wireframes | 1 |
| **Subtotal** | **2** |
| **Total** | **6** |
| Answer may include  A storyboard is a graphic organiser that consists of illustrations or images displayed in sequence for the purpose of pre-visualising a motion picture, animation, motion graphic or interactive media sequence.  A thumbnail is a preliminary visual of a possible idea for a design but in a smaller representation, their purpose is to help quickly explore possible alternative designs.  A wireframe is a schematic, a blueprint, useful tool to help programmers and designers communicate a design’s structure, it includes placeholders for design or content. | |
| Accept other reasonable responses | |

**END OF SECTION TWO**

1. (35 marks)
   1. Describe the purpose of the Copyright Act 1968 and give **three (3)** examples of works covered under the Act. (5 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Describe the purpose of the Copyright Act 1968 | 2 |
| Makes a superficial comment on the Copyright Act 1968 | 1 |
| **Subtotal** | **2** |
| Lists 3 examples of works covered under the Act (1 mark each) | 1 |
| **Subtotal** | **3** |
| **Total** | **5** |
| Answer may include  The purpose of Copyright Law is to promote the progress of the sciences and arts, in other words knowledge. Copyright Law is an attempt to balance public interest with the rights of the individual author/creator. This legal protection is designed as a reward to creators to encourage further intellectual creativity and innovation, as well as enabling access by the community to the products of intellectual property. | |
| Examples may include –  The Copyright Act protects original literary, dramatic, musical, and artistic works. For copyright to  exist in a work it must be made by a resident or citizen of Australia, or made or first published in  Australia.  Literary works include letters, e-mails, articles, novels, poetry, song lyrics, timetables, databases, and computer programs.  Artistic works include paintings, photographs, sculptures, engravings, sketches, blueprints, drawings,  plans, maps and buildings or models of buildings. | |
| Accept other reasonable responses | |

* 1. Describe the process for registering your digital publication for Copyright in Australia.

(2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Describes the process from registration of Copyright | 2 |
| Makes a superficial comment on Copyright registration process | 1 |
| **Total** | **2** |
| Answer may include  Copyright protection is granted automatically from the time an original work is created. There is no registration process for Copyright in Australia, it is free and automatic. | |
| Accept other reasonable responses | |

* 1. What is meant by the moral rights of creators when discussing Copyright?

Give **two (2)** examples relating to digital publications. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Describes moral rights in relation to Copyright | 2 |
| Makes a superficial comment on moral rights | 1 |
| **Subtotal** | **2** |
| Lists 2 examples of moral rights relating to digital publications (1 mark each) | 1 |
| **Subtotal** | **2** |
| **Total** | **4** |
| Answer may include  Moral rights are personal rights that connect authors to their work and exist only in relation to Copyright material. They are legal obligations to attribute creators and treat their work with respect. | |
| Examples may include –  Must give credit (attribute) the creator of the digital works if you use and publish their work in a digital publication.  Must not say a person is a creator of a Copyright material if they are not in a digital publication.  Must not change the creators work, having a negative impact on the creator’s reputation, on Copyright material in a digital publication. | |
| Accept other reasonable responses | |

1. Describe **four (4)** examples where a person or organisation may legally use copyright material under the exemption of fair dealing. (8 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| For each of the **four** examples |  |
| Describes example of fair dealings | 2 |
| Lists or gives superficial example of fair dealings | 1 |
| **Subtotal** | **2** |
| **Total** | **8** |
| Answer may include  A fair dealing with a literary, dramatic, musical, or artistic work, or with an adaptation of a literary, dramatic, or musical work, for the purpose of research or study does not constitute an infringement of the copyright in the work.  A fair dealing with a copyright work, will not amount to an infringement of copyright if done for the  following purposes:  • research or study  • criticism or review  • reporting of news  • giving of professional advice by a lawyer or a patent or trademarks attorney, or  • parody and satire. | |
| Accept other reasonable responses | |

1. The article mentioned time shifting. In broadcasting, time shifting is the recording of programming to be viewed or listened to after the live broadcast. State the exemption listed in the Copyright Act which covers time shifting and give another example of how this law could apply to contemporary digital publications. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| States the exemption | 1 |
| **Subtotal** | **1** |
| Shares examples of how this law applies to contemporary digital publications | 2 |
| Lists or gives superficial example of how this law applies to contemporary digital publications | 1 |
| **Subtotal** | **2** |
| **Total** | **3** |
| Answer may include  Exemption – private use | |
| Examples may include –  Private use allows certain material that a person owns to be copied into a different format for private or domestic use.   * a book can be scanned into an electronic form. * music from a legitimately purchased CD to be copied to an MP3 player, Xbox, computer, or other device. * television or radio broadcasts to be recorded to be watched or listened to later. * copying a photograph from hardcopy form into an electronic form (e.g. by scanning into a computer), or from electronic form into hardcopy. | |
| Accept other reasonable responses | |

1. Technology has changed how we communicate, using the article, give **three (3)** examples of how the concept of a modern community differs from a pre-internet era.

|  |  |
| --- | --- |
| **Description** | **Mark** |
| For each of the **three** examples |  |
| Describes how modern community differs from a pre-internet era | 2 |
| Lists or gives superficial example of how modern community differs from a pre-internet era | 1 |
| **Subtotal** | **2** |
| **Total** | **6** |
| Answer may include  Pre-internet era used printed books, novels, plays etc modern community use digital publications such eBooks, ePubs, Blogs and Wikis etc  Pre-internet era used physical libraries and bookstores to distribute publications, modern communities use online bookstores such as Amazon, Booktopia, Audible etc  Pre-internet era lend friends and family copies of books, movies, and music modern communities use peer-to-peer and social networks to share books, movies, and music.  Pre-internet era creative works were broadcast via live performance, television and/or radio, modern communities broadcast and remix (re-work) creative works through social media channels. | |
| Accept other reasonable responses | |

1. Many users don’t believe there is anything wrong with peer-to-peer file sharing to share different cultural content (e.g. movies, music, books, etc.) while violating the rights of copyright holders. This highlights issues with being a good digital citizen. Explain what a good digital citizen is using examples. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Explains what a good digital citizen is | 2 |
| Lists or gives superficial explanation | 1 |
| **Subtotal** | **2** |
| Uses examples to explain what a good digital citizen is (1 mark each) | 1 |
| **Subtotal** | **2** |
| **Total** | **4** |
| Answer may include  A good digital citizen refers to a person who has the knowledge and skills to effectively use digital technologies to communicate with others, participate in society and create and consume digital content. | |
| Examples may include –   * Good digital citizens can demonstrate ethical and considerate behavior and netiquette when using technology across different audiences. * Good digital citizens understand the nature and impact of technology use. * Good digital citizens can manage their online behavior as part of contributing to positive and supportive online communities. * Good digital citizens understand how their online interactions might affect others. * Good digital citizens can manage their digital footprints and use technology in a manner that contributes to a positive reputation both for themselves and the organization they belong to. * Good digital citizens are careful and critical of the information that they encounter when online. * Good digital citizens show respect for their own and other’s privacy and personal information, treating these as valuable and personal assets worth protecting. | |
| Accept other reasonable responses | |

1. Digital technology has largely replaced the physical processes involved in the production and distribution of printed works.

Using **one (1)** example, explain why the organisation of digital data is important in the workplace. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Explains why the organisation of digital data is important in the workplace | 2 |
| Lists or gives superficial explanation | 1 |
| **Subtotal** | **2** |
| Uses example | 1 |
| **Subtotal** | **1** |
| **Total** | **3** |
| Answer may include  Data organisation, in broad terms refers to the method of classifying and organising data to make it more useful. Workplaces should decide how people working on the project should name and structure files and folders. Including documentation about the data, or 'metadata'. This will allow people to find, edit and add context to the data in the short, medium, and long-term. | |
| Examples may include   * Ensuring continued quality of the data in order to make good business decisions * Good data organisation reduces the likelihood of data loss * Good organisation of digital data minimizes security risks * Organisation of digital data reduces the cost and time of retrieving unorganised data * Organisation of digital data increases productivity | |
| Accept other reasonable responses | |

END OF SECTION THREE

**Section Four: Scenario 40% (64 Marks)**

There is **one (1)** question in this section. You must answer **all** parts of the question.

Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue an answer.

* Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
* Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of the part of the question that you are continuing to answer at the top of the page.

Suggested working time: 70 minutes.

**Question 25 (64 Marks)**

Solar Smart WA provide residential and commercial solar solutions across Western Australia. Their mission is to provide you with knowledge that helps you to realize the benefits of renewable energy and its positive impact on the future of our planet.

Solar Smart WA provides superior solar panels for home and business purposes. They install quality inverters whose primary function is to convert the DC power from the panels into AC power for your home and to select the most productive operating voltage for the panels. Solar Smart WA also sell and install batteries which allow homes and businesses to store excess solar energy instead of sending it to the mains power grid.

The business has plans to start a targeted advertising campaign and needs you to develop an online presence to engage their future customers.

Solar Smart WA has contracted you to design two digital solutions:

* The home page for the company’s website to provide information about their mission, home and business sales and installation of solar panels, inverters, and battery solutions.
* The home page (first page) of a mobile application (app) which provides the user the ability to find information about Solar Smart WA’s pricing and services.

Both digital solutions should:

* raise Solar Smart WA’s brand awareness
* promote their mission
* allow customers to login to track their power production and consumption
* allow their customers to share their experiences through social media
* allow customers to access frequently asked questions and give feedback

1. Identify **three (3)** characteristics of the Solar Smart WA’s target audience. For each characteristic, outline an example of how you might cater for the target audience in your design of the digital product(s). (6 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| For each of the **three** characteristics: | |
| Identifies an accurate characteristic of the target audience | 1 |
| Outlines how the characteristic may cater for the target audience | 1 |
| **Total** | **6** |
| Answer may include:  Gender: male or female – gender neutral non-masculine and non-feminine colours, shapes, images, and fonts.  Age range: 20 – 80 – design will be clear and simple to use, obvious navigation with accessibility features  Energy consumption conscious: images, videos, slogans, and articles will reflect energy conscious users  Comfortable with technology: common usability functions will be used, breadcrumbs, icons, search bars etc  Home and business owners: through images, videos, slogans, and articles discuss benefits of Solar Smart WA’s products and services for home and business users  Tech Savvy: signup for use of home and business energy consumption app | |
| Accept other reasonable responses | |

1. Describe **three (3)** ways in which the design considerations will influence the design features for the Solar Smart WA’s website. (6 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| For each of the **three** features: | |
| Describes ways in which the design considerations will influence the design features | 2 |
| Identifies aspects of ways in which the design considerations will influence the design features | 1 |
| **Total** | **6** |
| Answer may include:  In order to raise brand awareness, the website will need to incorporate a company logo in a predominant location. The website will use a style sheet to enhance the brand awareness. Their mission is to provide you with knowledge that helps you to realize the benefits of renewable energy and its positive impact on the future of our planet. Therefore, the images, style, colour, and structure of the website should reflect benefits of renewable energy and its positive impact on the future of our planet. The website will need a visible customer login to track their power production and consumption. The website will have recognisable icons to popular social media services so that customers can share their experiences. The website will have a frequently asked questions and give feedback. | |
| Accept other reasonable responses | |

1. Design the homepage of Solar Smart WA’s website in the space provided on the following page.

You may use the space below to plan your response.

Develop and apply detailed annotations for the digital design relevant to a design brief demonstrating the following considerations:

* + 1. apply principles of layout and composition (5 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Layout conforms to website standard | 1 |
| Annotation on reading gravity | 1 |
| Annotation on rule of thirds | 1 |
| Annotation on form of content | 1 |
| Annotation on grid and alignment | 1 |
| **Total** | **5** |

* + 1. at least two (2) elements and two (2) principles of design used and the relationship between them (6 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| For each of the **two** characteristics: | |
| Correctly identifies an element in their design | 1 |
| **Subtotal** | **2** |
| For each of the **two** characteristics: | |
| Correctly identifies a principle in their design | 1 |
| **Subtotal** | **2** |
| Relationship between the elements and principles are correctly annotated | 1 |
| For each of the **two** relationships: | |
| **Subtotal** | **2** |
| **Total** | **6** |
| Answer may include:  Relationship between the element and principle.  Balance creates a feeling of equal weight on both sides of the design using lines, shape, space and colour. Emphasis is the quality that draws your attention to a certain part of the design first. This can be done with contrasting colour, varying shape sizes, different shapes, images and 3D form. Unity is when a design looks right – a coherent whole. This can be created with repeating lines and shapes, harmonious colour with a common hue, similar textures or tones. | |
| Accept other relationships between elements and principles | |

* + 1. use of appropriate typography (2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Detailed annotations of the topography used | 2 |
| Some annotations of the topography used | 1 |
| **Total** | **2** |
| Answer may include typeface, size, alignment of text, format or spacing | |
| Accept other reasonable responses | |

* + 1. meet the product design needs and considerations (5 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Placement of logo and images to raise Solar Smart WA’s brand awareness | 1 |
| Images and/or video to promote their mission | 1 |
| Visible customer login and customer specific area | 1 |
| Recognisable icons of social media services so that customers can share their experiences | 1 |
| Frequently asked questions link to give feedback | 1 |
| **Total** | **5** |

1. When planning a project, you need to ensure you meet the product purpose and design criteria. List the product purpose and design criteria you will include for Solar Smart WA’s app. (5 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| List Solar Smart WA’s app product purpose and design criteria. | 1-5 |
| **Total** | **5** |
| Answer may include:  The product purpose and design criteria are the explicit goals that a project must achieve in order to be successful.  • raise Solar Smart WA’s brand awareness  • promote their mission  • allow customers to login to track their power production and consumption  • allow their customers to share their experiences through social media  • allow customers to access frequently asked questions and give feedback | |
| Accept other reasonable responses | |

1. Design the landing page (first page) of the app for Solar Smart WA in the space provided on the following page.

You may use the space below to plan your response.

Develop and apply detailed annotations for the digital design relevant to a design brief demonstrating the following considerations:

1. apply principles of layout and composition (5 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Layout conforms to app standard | 1 |
| Annotation on reading gravity | 1 |
| Annotation on rule of thirds | 1 |
| Annotation on form of content | 1 |
| Annotation on grid and alignment | 1 |
| **Total** | **5** |

1. at least two (2) elements and two (2) principles of design used and the relationship between them (6 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| For each of the **two** characteristics: | |
| Correctly identifies an element in their design | 1 |
| **Subtotal** | **2** |
| For each of the **two** characteristics: | |
| Correctly identifies a principle in their design | 1 |
| **Subtotal** | **2** |
| Relationship between the elements and principles are correctly annotated | 1 |
| For each of the **two** relationships: | |
| **Subtotal** | **2** |
| **Total** | **6** |
| Answers may include:  Relationship between the element and principle;  Balance creates a feeling of equal weight on both sides of the design using lines, shape, space and colour. Emphasis is the quality that draws your attention to a certain part of the design first. This can be done with contrasting colour, varying shape sizes, different shapes, images and 3D form. Unity is when a design looks right – a coherent whole. This can be created with repeating lines and shapes, harmonious colour with a common hue, similar textures or tones. | |
| Accept other relationships between elements and principles | |

1. use of appropriate typography (2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Detailed annotations of the topography used | 2 |
| Some annotations of the topography used | 1 |
| **Total** | **2** |
| Answer may include typeface, size, alignment of text, format or spacing | |
| Accept other reasonable responses | |

1. meet the product design needs and considerations (5 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| Placement of logo and images to raise Solar Smart WA’s brand awareness | 1 |
| Images and/or video to promote their mission | 1 |
| Visible customer login and customer specific area | 1 |
| Recognisable icons of social media services so that customers can share their experiences | 1 |
| Frequently asked questions link to give feedback | 1 |
| **Total** | **5** |

1. The project manager has provided you with style guide for the website and app.

**(5 marks)**

1. Explain the concept of a style guide, give an advantage of using a style guide for the website and app. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| For each of the **two** concepts: | |
| Explain the concept of a style guide | 2 |
| Provides a superficial statement about style guides | 1 |
| **Subtotal** | **2** |
| Correctly provides one advantage for using a style guide | 1 |
| **Subtotal** | **1** |
| **Total** | **3** |
| Answers may include:  The purpose of a style guide is to help ensure consistency across the design of all marketing materials. The style guide will help to create unity and brand recognition through colour, font, typeface etc. The advantage of using a style guide is consistency and brand recognition as all people working on the marketing strategy can refer and use the style guide, saving time and keeping the brand clear to customers. | |
| Accept other reasonable responses | |

1. State **two** features that you would expect to see in an effective style guide.

(2 marks)

|  |  |
| --- | --- |
| **Description** | **Mark** |
| For each of the **two** features: | |
| States a feature of a style guide | 1 |
| **Subtotal** | **2** |
| **Total** | **2** |
| Answers may include:  Logo and logo use guide i.e. guide to logo placement on website and app.  Core colour palette, colours to use throughout the branding process, creates consistency between website and the app.  Typography guide, this includes specific fonts, how they are used throughout branding and where to access them.  Imagery guidelines, guidelines for what types of imagery to use and where to use them. | |
| Accept other reasonable responses | |

1. Discuss **three (3)** advantages and **three (3)** disadvantages for allowing users to give feedback through the Solar Smart WA website or app. **(6 marks)**

|  |  |
| --- | --- |
| **Description** | **Mark** |
| For each of the **three** advantages: | |
| Discusses advantages of allowing user feedback | 1 |
| **Subtotal** | **3** |
| For each of the **three** disadvantages: | |
| Discusses disadvantages of allowing user feedback | 1 |
| **Subtotal** | **3** |
| **Total** | **6** |
| Answers may include:  **Advantages –**  Ability to gather user needs and requirements and better serve your customers  Customers start conversations with the business, better customer experience and service  Shows customers that the business cares for them, builds loyalty  Helps the business improve and make changes to their processes as they identify customer needs  **Disadvantages –**  Can be time consuming reading and identifying issues in lengthy customer feedback  Most vocal customers are usually disproportionately represented, unhappy customers may post a lot where as happy customers might not necessarily give feedback  Customers may share negative experiences and turn others against your business | |
| Accept other relationships between elements and principles | |

**END OF EXAMINATION**