**Western Australian Certificate of Education**

**Semester 1 Examination, 2021**

**Question/Answer Booklet**

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: nil

**Important note to candidates**

No other items may be taken into the examination room. It is **your** responsibility to ensure that you do not have any unauthorised 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 | 63 | 25 |
| Section Three:Extended answer | 1 | 1 | 30 | 32 | 20 |
| Section Four:Scenario | 1 | 1 | 60 | 60 | 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.

1. Which computer hardware component performs the following functions:

Gives applications a place to store data and stores instructions the computer is actively using

1. RAM
2. processor
3. ROM
4. memory
5. The image on the right best represents which element of design?
6. 3D form
7. colour
8. texture
9. tone
10. Which operating system is best suited to manage network storage for multiple devices?
11. Mobile OS
12. desktop OS
13. server OS
14. none of the above
15. The image on the right best represents which typography characteristic?
16. alignment
17. format
18. size
19. spacing
20. When creating a digital publication, an employee copies an image using a scanner, this type of device is known as:
21. external storage device
22. an output peripheral device
23. an input peripheral device
24. an internal primary storage device
25. A common example of microblogging is the application
26. Facebook
27. LinkedIn
28. Instagram
29. Twitter
30. Which of the following statements about the Copyright Act of 1968 in Australia is untrue?
31. Copyright lasts for 70 years after the death of the creator
32. content on the internet is subject to Copyright
33. if there is no copyright symbol ©, then it is not covered by the Copyright Act
34. you don’t have to do anything to obtain copyright in Australia
35. Which of the following types of cyberbullying is where the bully pretends to be someone who they aren’t, this type of bullying normally takes place in chat rooms, text, instant message, or social media groups?
36. flaming
37. masquerading (Inpersonating)
38. exclusion
39. outing
40. This design plan also known as a page schematic or screen blueprint, is a visual guide that represents the skeletal framework of a website.
41. wireframe
42. form of content
43. storyboard
44. thumbnail
45. This bitmap file format does not compress and preserves the quality of the image. It is compatible with photo manipulation programs like Photoshop. If you’re looking for a small file or a web-friendly format, this file format isn’t recommended.
46. .svg
47. .tiff
48. .jpeg
49. .png
50. If your version of software requires you to pay a yearly subscription fee, it is most like which of the following software licenses.
51. shareware
52. proprietary
53. freeware
54. open source
55. Which of the following file formats is a vector file format?
56. .tif
57. .tiff
58. .swg
59. .svg
60. Which of the following is the name given when social networking users have heated online discussions which often includes abusive language?
61. harrassing
62. outing
63. exclusion
64. flaming
65. This refers to the level of prioritisation between personal and professional activities in an individual's life and the level to which activities related to their job are present in the home.
66. work-life balance
67. work readiness
68. career focus
69. overtime
70. An example of a basic information website which allows different users to log in and alter content is colectively called a …… ?
71. Social networking application
72. Chatroom
73. Discussion Board
74. Wiki

## END OF SECTION ONE

## Section Two: Short answer 25% (63 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) EnglishNVIDIA® GeForce RTX™ 3060 Ti 8GB GDDR68GB, 1x8GB, DDR4, 2666MHz256GB M.2 PCIe NVMe Solid State DriveAlienware 310K Mechanical Gaming Keyboard - AW310KAlienware 310M Wireless Gaming Mouse - AW310MDell Alienware 25 Monitor - AW2521HF |

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

an input peripheral:

an output peripheral:

a storage component:

a processing component:

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)

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

Secondary storage:

Function:

1. Identify the main memory. (1 marks)

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) examples of operating system (OS) software. (4 marks)

One:

Two:

Three:

Four:

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

One:

Two:

Three:

Four:

1. (6 marks)
	1. You have been asked by your manager to purchase a video editing software, so that the marketing department can edit some video to make Youtube advertising. What are three considerations that you will need to make prior to making this purchase.

(3 marks)

1.

2.

3.

* 1. The boss has found an old software box labelled Sony Vegas video editing software in the storeroom that was used in the early 2000s. He has brought it to you to load as an alternative to purchasing the new software. Explain three reasons why this software might not run on the current computers.

(3 marks)

1.

2.

3.

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)

One:

Two:

Three:

* 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)

Social media application:

Advantage:

Disadvantage:

1. (9 marks)

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

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

1. Suitability – is it suitable for online OR print version (or both)
2. Reason for suitability for online or print version.
3. File type - whether the file type is a raster or vector.

**BlackSwan.tiff**

Suitability:

Reason:

File type:

**FremantleDockers.jpeg**

Suitability:

Reason:

File type:

**PerthNewsLogo.svg**

Suitability:

Reason:

File type:

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)

=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(\_\_\_\_\_\_\_\_\_\_,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,\_\_\_\_\_\_\_\_\_\_,TRUE)

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

1. (10 marks)

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

You download both of the following software:

**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)

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)

One:

Two:

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

1. Explain the significance of considering the compositional rule Reading Gravity when placing content on a webpage. Draw a diagram to help explain.

 (3 marks)

1. (6 marks)

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

Storyboard:

Thumbnails:

Wireframes:

**END OF SECTION TWO**

## Section Three: Extended answer 20% (32 Marks)

This section has **one (1)** question. 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: 50 minutes.

**Copyright the Technological Revolution**



*Photo by Wallace Chuck from Pexels*

In the areas of media and communications,

digital technologies have changed the ways in which information and knowledge are produced and distributed. Some have labelled the transformation a ‘technological revolution’.

Copyright law, which protects the creators and owners of original ‘physical’ works by giving them certain rights over their work for a limited time, was devised during the early print era when the connection between a printed work and its creator (or owner) was usually clear and when the copying of printed works was difficult and cumbersome. Today, neither of these conditions are still true.

Digital technology has largely replaced the physical processes involved in the production and distribution of printed works with a decentralised network of intangible and fast-moving 1’s and 0’s. This has blurred the connections between digital works and the many millions of networked digital creators who now use digital devices to collaborate and create them. The new works are often also short-lived, and their ownership is unclear.

Digital technology has given rise to new trends in the production (e.g. remix culture), and consumption via peer-to-peer (file sharing) technology of culture. Social media distribution has changed and re-shaped the perception of copyright. Research shows that many users don’t believe there is anything wrong with peer-to-peer file sharing technology to access, consume and/or share different cultural content (e.g. movies, music, books, etc.) while violating the rights of copyright holders.

In Australia, there have been several recent challenging decisions, where courts have had to wrestle with issues such as cloud computing, time shifting, web-based retransmission of broadcasts and liability of Internet Service Providers (ISPs) for copyright infringement.

The challenges the digital world presents to copyright are extensive. The Australian Law Reform Commission is conducting an inquiry into copyright and the digital economy. Depending on the Government’s response to this inquiry, the new Parliament may be faced with the complex task of considering legal reform to modernise copyright law to ensure it is more suited to a new digital age.

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)

Purpose:

Example one:

Example two:

Example three:

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

 (2 marks)

* 1. What is meant by the moral rights of creators when discussing Copyright?
	Give **two (2)** examples relating to digital publications. (4 marks)

One:

Two:

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

One:

Two:

Three:

Four:

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)

Exemption:

Example:

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.

 (6 marks)

One:

Two:

Three:

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 and list three practices a good digital citizen would observe.
 (4 marks)

**END OF SECTION THREE**

**Section Four: Scenario 40% (60 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 (60 Marks)**

Solar Smart provide residential and commercial solar solutions across Western Australia. Their mission is to provide you with knowledge that helps you to realise 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.

Each solar inverter can be connected to the home WiFi so that current data is available.

The business wants to create an app which allows the users check how many kW they have consumed during the day (usually around 20kW a day) and compare it to how many kW their solar panels have provided. If they have a battery then the third piece of information might be how much kW they have stored in their battery.

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

* A new logo for Solar Smart
* 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:

* Allow customers to see their power production and consumption numbers.
* Allow customers to compare past days, weeks and month’s kW use.
* Allow customers to access frequently asked questions and give feedback.
* Allow customers to order and purchase a battery or more panels if needed.
* Allow their customers to share their experiences through social media
* Log into the app
1. What is the purpose of creating this app for Solar Smart? **(2 marks)**

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)**

One:

Relevant design feature:

Two:

Relevant design feature:

Three:

Relevant design feature:

1. Colour and typography play major roles in the success of any digital product. With reference to creating this new logo and app, discuss some of the ways you will use each design feature in this project. **(6 marks)**

Colour

Typography

1. Design a logo for Solar Smart WA’s website in the space provided on the following page.

 You may use the space below to plan some ideas for the logo

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

* + 1. The use of colour in your logo (2 marks)
		2. Explain one design principle and one design element (2 marks)
		3. Significance of the typography you used (2 marks)
		4. Meets the requirements of the client brief (5 marks)

|  |
| --- |
| Planning: anything written on this page will **not** be marked. |

|  |
| --- |
|  |

1. When producing the logo, you will need to consider the file format you use. Explain the two file formats that will be used to create (working) and publish (final) the logo. Ensure you explain why you chose each **(4 marks)**

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. Two layout and composition rules you used (2 marks)
2. at least two (2) elements and two (2) principles of design used and the relationship between them (4 marks)
3. use of appropriate typography (2 marks)
4. meet the product design needs and considerations (6 marks)

|  |
| --- |
| Planning: anything written on this page will **not** be marked. |

|  |
| --- |
|  |

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

1. Explain the concept of a style guide, give an advantage of using this document.

 **(3 marks)**

1. State **two (2)** features that you would expect to see in a style guide.

 **(2 marks)**

One:

Two:

1. This app will use a number of images (pictures and buttons). List two image file formats you will use in the app. (2 marks)
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. On some of the pages of the app, you will need to display photos of panels on roofs and batteries mounted on walls. List four ways these images could be sourced without breaching The Copyright Act. (4 marks)

|  |  |
| --- | --- |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |  |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |  |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |  |
| 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
 |  |

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

Advantages

One:

Two:

Three:

Disadvantages

One:

Two:

Three:

**END OF EXAMINATION**

**END OF EXAMINATION**

Spare lined paper for long answers or corrections