

**Applied Information Technology**

**UNIT 1**

# **2019**

**MARKING GUIDE**

 Please note that the following notes are guidelines only and are intended

 to provide a common reference for markers. They are in no way to be

 considered as an exhaustive guide or checklist for the marking of this exam.

**Section One: Multiple choice 15% (15 Marks)**

|  |  |
| --- | --- |
| **Question** | **Answer** |
| 1 | A |
| 2 | C |
| 3 | A |
| 4 | A |
| 5 | B |
| 6 | D |
| 7 | B |
| 8 | B |
| 9 | D |
| 10 | A |
| 11 | B |
| 12 | B |
| 13 | C |
| 14 | A |
| 15 | D |

**Section Two: Short Answer 25% (86 Marks)**

**Question 16**

The following are specifications for a Smart Watch:

* Operating System: Wear OS
* Processor: Quad-core 1.2 GHz Cortex-A7
* Storage 512Mb, 4Gb
* 1.6 inch display
* Network: None
* Comms: WLAN - Wi-Fi 802.11 b/g
 Bluetooth- 4.0, A2DP.
1. The value for storage is given as 512Mb, 4Gb. From your understanding of storage, explain the presence of these two figures in the list **and** their function within the device.

(6 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Explanation: 512 Mb is RAM (or primary storage)… | 1 |
| … 4Gb is Storage (or secondary storage) | 1 |
|  |  |
| Function: RAM is the volatile working memory of the device…  | 1 |
| …it allows the device to temporarily store information that is required for currently running tasks | 1 |
| Storage: The non-volatile storage where data is stored… | 1 |
| …This data is usually related to applications data and is not directly referenced by the CPU | 1 |
|  |  |
| *Also accept: RAM, Motherboard, Storage or any other hardware component* |  |
| **Total** | **6** |

* 1. Discuss the function of the operating system for the watch.

(4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Provides a user interface (e.g. Touch) | 1 |
| Runs applications (e.g. Stopwatch) | 1 |
| Controls hardware devices (e.g. Bluetooth) | 1 |
| Manages system resources (e.g. Memory) | 1 |
|  |  |
| *Accept: Assigns permissions.* |  |
| **Total** | **4** |

1. Given the watch has no network connectivity, give two ways in which the device could receive firmware updates.

 (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| One: From connection to WiFi | 1 |
|  |  |
| Two: Via Bluetooth from paired phone | 1 |
|  |  |
| **Total** | **2** |

**Question 17**

A digital publishing company is working on a magazine which has both online and print versions. The print version requires maximum image quality.

1. You have been given a series of images for use in the publications. These file names for each are listed in **bold** above each part of the question.

For each file, discuss:

* + Their suitability to online or print formats.
	+ A disadvantage of using these files in certain digital publications.

(9 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| 1. **Portrait.jpg**
 |  |
| Suitability: This file will be suitable for online publications… | 1 |
| …and for some print formats. As this print version requires maximum image quality and jpegs have lossy compression, they may not be suitable | 1 |
| Disadvantage: Are not supportive of a transparent background | 1 |
|  |  |
| **Panorama.tif** |  |
| Suitability: Although they can be used in online publications, they are large files so jpegs are preferred… | 1 |
| …their high quality, lossless format is suitable for print publications requiring maximum quality images | 1 |
| Disadvantage: Large file size for online publications | 1 |
|  |  |
| **Logo.gif** |  |
| Suitability: Can be used for line art in digital images requiring flat large colour schemes… | 1 |
| …not suited for high quality magazines due to low quality colour | 1 |
| Disadvantage: Only has 256 colours | 1 |
|  |  |
| **Total** | **9** |

1. To advertise the new publications, a promotional poster is to be created that will be displayed in both A3 size and on a 10m x 4m billboard near a railway line. Choose a file format that will suit this scenario and justify your answer.

 (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| A vector image… | 1 |
| …for example an .svg file… | 1 |
| …as these are not created using pixels, they can be resized without losing quality (they do not pixelate) | 1 |
|  |  |
| **Total** | **3** |

1. The online version of the publication will also have embedded audio files. The audio file type chosen for this application was an .mp3 format (moving pictures experts group).

Explain why this type of audio file is used in preference to .wav files (waveform audio file).

 (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| .mp3 files are compatible with almost all media players | 1 |
| They are small files with reasonable quality so they are suitable for most applications that do not require the quality of .wav files | 1 |
|  |  |
| **Total** | **2** |

**Question 18**

* 1. Compare and contrast the licensing models for an open source Linux operating system and the latest Windows® 10 release.

 (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Both Linux and Windows 10 are distributed under a licence agreement  | 1 |
| Linux is licensed to allow computer code to be shared, viewed and modified by other users and organizations  | 1 |
| Windows 10 is licensed under a model that does not allow for any modification of the source code | 1 |
| Linux is distributed free of charge and Windows 10 charges license fees | 1 |
|  |  |
| **Total** | **4** |

1. Discuss, using examples, **three** reasons why software companies would release updates for their particular products.

 (6 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| One: They may release an update that rectifies a security vulnerability | 1 |
| For example, a new ransomware infection may exploit a lack of software security | 1 |
|  |  |
| Two: Updates may be released that introduce new features | 1 |
| For example, Paint 3D was released for Windows 10 in an update | 1 |
|  |  |
| Three: To fix software bugs | 1 |
| For example, Crashes caused by incompatible device drivers | 1 |
|  |  |
| **Total** | **6** |

1. Give **two** major functional differences between the following computer systems:

 *MacBook Air and an iPhone X.*

 *Windows 10 and Windows Server 2016.*

 (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| *Mac Book Air and iPhone* |  |
| One: iPhone has a touch interface | 1 |
| Two: MacBook Air has more resources - hardware | 1 |
|  |  |
| *Windows 10 and Windows Server 2016* |  |
| One: Windows 10 is more “feature Rich” | 1 |
| Two: Server 2016 has more networking service roles available | 1 |
|  |  |
| *Accept any reasonable difference* |  |
| **Total** | **4** |

**Question 19**

In 2015, a prominent sports journalist was dismissed by his employer for inappropriate comments he made on his Twitter account. This misuse of social media is unfortunately becoming more common across the social media landscape.

1. The Journalist, in the eyes of his employer had not displayed good *Digital Citizenship*.

Explain what makes a good Digital Citizen. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| A good digital citizen can confidently and positively engage with digital technologies… | 1 |
| They have developed the necessary skills and knowledge to effectively use digital technologies…  | 1 |
| …to participate in society, communicate with others and create and consume digital content | 1 |
|  |  |
| **Total** | **3** |

1. Give **three** things an employer could do to help ensure their staff become good digital citizens. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| One: Have the concept of Digital Citizenship built into staff training  | 1 |
|  |  |
| Two: Allow staff the opportunity to assist in policy development that relates to digital citizenship | 1 |
|  |  |
| Three: Have genuine and open feedback among all employees/employers regarding issues and use of technology | 1 |
|  |  |
| *Accept any response that is a positive engagement of employees* |  |
| **Total** | **3** |

1. The journalist in question tweeted the messages using his Twitter account whilst at home. Given his media profile, it was easy to identify him as an employee of the media company involved and so he was disciplined.

With this case as an example, discuss how digital technologies have impacted on our work-life balance. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| The use of technology has become location independent… | 1 |
| …thus allowing work to be done at home… | 1 |
| …in this case the journalist was using social media at home but his work profile is not “switched off” when he is out of the office… | 1 |
| …the work life balance in this case was disrupted by the mobility of the twitter application | 1 |
|  |  |
| *There must be linkage back to the case given for full marks* |  |
| **Total** | **4** |

**Question 20**

1. Explain the function of lookup tables in spreadsheets

 (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| In a spreadsheet, the LOOKUP function finds a value in a single row or column…  | 1 |
| …and matches it with a value in the same position in a different row or column | 1 |
|  |  |
| *Answer must relate to spreadsheets and not be a generic lookup definition* |  |
| **Total** | **2** |

1. Create a scenario where a lookup table would be useful. Your scenario should have the following information:
* An overview of the scenario (One or two sentences)

*After answering the overview, there is a spreadsheet grid where you can answer the remaining four points*.

* How your data will be organised (Horizontal/Vertical)
* A summary of the data headings (At least four)
* One or two rows of “dummy data”
* An explanation of how the lookup function will be used (Complete this on your spreadsheet).

 (10 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Overview: Students give a situation where there is data that forms an array in a spreadsheet – e.g. The weather figures for various locations in WA  | 1 |
|  |  |
| Organisation of data – scenario matches layout of data (H or V) | 1 |
|  |  |
| Data headings are prominent – must be 4 as a minimum | 2 |
|  |  |
| Dummy data is present | 2 |
|  |  |
| Explanation of lookup function is correct | 4 |
|  |  |
| **Total** | **10** |



1. The spreadsheet software most commonly used is Microsoft Excel®. This software is licensed as *Proprietary* software. Explain what is meant by this term.

(2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Proprietary Software is software owned by an organisation… | 1 |
| …that is subscribed to by others under a licensing agreement without access to the source code (in most cases) | 1 |
|  |  |
| *Note: Can have reference to payment of fees* |  |
| **Total** | **2** |

1. What is the significance of the **®** symbol that follows the Excel in question (c) above?

(2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| This symbol is showing a Registered Trademark… | 1 |
| …for protection of the name Excel by Microsoft | 1 |
|  |  |
| **Total** | **2** |

**Question 21**

Cyber bullying is at epidemic proportions with around one in five (~20%) of 14-15 year olds being victims of this type of bullying

1. You have been asked to outline **four** strategies that can be employed by parents to help minimise the incidents of cyber bullying of their children.

Outline these strategies below.

(8 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| One: Limit where your child posts personal information… | 1 |
| …by making sure information about them stored online is minimal and secured | 1 |
|  |  |
| Two: Document what is happening regarding bullying… | 1 |
| …by taking screenshots of harmful posts etc. | 1 |
|  |  |
| Three: Report the incidents of bullying… | 1 |
| …to the relevant parties. Schools or social media platforms | 1 |
|  |  |
|  |  |
| Four: Supportive intervention by peers, mentors or trusted adults… | 1 |
| …rather than a quick reaction, be thoughtful in how you respond to the situation. Avoid escalating the situation | 1 |
|  |  |
| *Accept any parent centred measure – assist in password protection, look for positive outcomes etc.* |  |
| **Total** | **8** |

1. Discuss two possible reasons why teenagers and young adults are the most likely to be bullied online in comparison to other age groups?

(4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| One: This age category are heavy social media users… | 1 |
| …and are of the age where they are forming and stating opinions  | 1 |
|  |  |
| Two: Teenagers and young adults are risk takers… | 1 |
| …and will undertake risky online practices that can leave them vulnerable to bullying | 1 |
|  |  |
| **Total** | **4** |

**Question 22**

When designing a digital product or solution, a project management team should undertake a *situation analysis* as part of the design process.

* 1. Give a detailed explanation of what is meant by the term *situation analysis.*

(5 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Meaning: A situation Analysis is usually carried prior to the planning stage of a project… | 1 |
| …and the results of the analysis form much of the project plan… | 1 |
| …The analysis looks at whether there are enough resources available to complete the project (financial and skills)… | 1 |
| …as well as looking at whether there are any risks to the success of the project | 1 |
| …Also, it looks at outside factors that may affect the success of the project (Has another company already developed this?) | 1 |
|  |  |
| *Accept any analysis that looks at the planning of Projects – e.g. SWOT Analysis* |  |
| **Total** | **5** |

1. Give three examples of what things would be covered by a situational analysis.

 (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Example One: Are there enough skills available to complete the project | 1 |
| Example Two: Has the project been accurately budgeted for | 1 |
| Example Three: Will the project have any parts that may not succeed due to technical constraints? | 1 |
| **Total** | **3** |

**Section Three: Extended Answer 20% (30 Marks)**

**Question 23**

1. Explain **two** actions the students could have taken to allow MP3 music to be downloaded from their site without infringing Copyright.

 (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| One: They could have sought permission from the artists… | 1 |
| …to have their creations made publicly available | 1 |
|  |  |
| Two: They could have sourced royalty free music… | 1 |
| …and attributed the music to the creators | 1 |
|  |  |
| *Accept: Pay royalties to artists* |  |
| **Total** | **4** |

1. Suggest how Spotify® and other music streaming sites may have learned from situations like the one above so that they are seen as legitimate providers of music?

 (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| By negotiating to pay royalties to recording companies/artists… | 1 |
| …They receive permission to play the content  | 1 |
|  |  |
| **Total** | **2** |

1. *“If you have a private CD music collection, you are not allowed to copy it to an MP3 format and listen to the music on your phone”*

Use your understanding of Private Use provisions in the Copyright Act to comment on the validity of the statement above.

 (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| If you have legitimately obtained the CD music (Purchased it)… | 1 |
| …then you are permitted to “format shift” the music to mp3 for your own personal use (on your phone) | 1 |
|  |  |
| **Total** | **2** |

1. Describe **four** examples of where a person or organisation may legally use copyright material under the exemption of *Fair Dealing*.

(8 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Example One: A person who does not have permission of from the copyright owner…  | 1 |
| …copies an entire chapter from a textbook to study for an important exam. | 1 |
|  |  |
| Example Two: A carer copies a textbook into large A3 printed pages… | 1 |
| …to allow a visually impaired person to read the information | 1 |
|  |  |
| Example Three: A nightly news bulletin reports on violence at a concert and plays a well-known song… | 1 |
| …that was playing when the violence began  | 1 |
|  |  |
| Example Four: A movie review show presents clips of several movies… | 1 |
| … in reviewing a new movie of the same genre as the other movies | 1 |
|  |  |
| *Accept: Parody/Satire, Professional advice. The examples must be in detail for both marks* |  |
| **Total** | **8** |

1. The three defendants in this case did not give any consideration to the *Moral Rights* of the MP3 creators. Explain what is meant by Moral Rights of creators.

 (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Moral rights relate to the crediting of content creators for their work… | 1 |
| …and treating their work with respect… | 1 |
| …by changing the work to give it a negative impact | 1 |
|  |  |
| **Total** | **3** |

1. Referencing of digital content is an important aspect of using others’ content. For your assignments, when you use websites for your information, what **five** key pieces of information should be listed in your reference?

 (5 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| One: Author (person/organisation) | 1 |
| Two: Year page created/last updated | 1 |
| Three: Title of the page/document | 1 |
| Four: Date viewed | 1 |
| Five: URL | 1 |
|  |  |
| **Total** | **5** |

1. There are many “myths” when examining Copyright. Complete the table below for each of the statements – that is, whether the statement is **True** or **False**.

 (6 marks)

|  |  |  |
| --- | --- | --- |
| **Description** | **T/F** | **Marks** |
| If there’s no copyright notice, it’s not covered by copyright. | F | 1 |
| If it’s unpublished, copyright applies. | T | 1 |
| If it’s on the internet, anyone can use it. | F | 1 |
| I need permission if I copy less than 10%. | T | 1 |
| I need permission if I make changes to it. | T | 1 |
| If I pay someone to create something for me, I own the copyright. | F | 1 |
|  |  |  |
| **Total** |  | **6** |

**Section Four: Scenario 40% (58 Marks)**

**Question 24**

1. This Virtual Tour App was inspired by students who engaged in *Virtual Worlds*. Explain what is meant by the term *Virtual World* and what role *Avatars* play in these worlds.

 (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| A Virtual World is an online community environment… | 1 |
| …that is created and shared by members… | 1 |
| …So they can interact in this simulated world | 1 |
|  |  |
| **Total** | **3** |

1. From reading the information supplied, list **four** design criteria you are required to incorporate into your product.

 (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Criteria One: Full page poster | 1 |
| Criteria Two: Highlight App Technology and benefits to the school community | 1 |
| Criteria Three: Interactive with links to Social Media | 1 |
| Criteria Four: App download locations | 1 |
|  |  |
| **Total** | **4** |

1. The design brief outlined in the question refers to the *school community*. Discuss **two** characteristics of the *school community* that would make them members of the target audience for this App.

 (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Characteristic One: The TA will be community minded with … | 1 |
| …an interest in the happenings at the school in general | 1 |
|  |  |
| Characteristic Two: The TA will be tech savvy… | 1 |
| …with experience in social media and using Apps | 1 |
|  |  |
| **Total** | **4** |

1. The App will be available on App Stores and therefore will have a reach far broader than your school community. Identify another target audience group that may benefit from this App. Justify your choice.

 (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Prospective students and their parents… | 1 |
| …that are interested in what the school has to offer prior to applying to enrol | 1 |
|  |  |
| *Must have some justification for 2 marks*  |  |
| **Total** | **2** |

1. For the design phase, discuss what components you will use in your design plan to show the layout of the poster.

 (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Wireframes and Sketches | 1 |
| …to show how the content will be placed on the poster | 1 |
|  |
| *Accept thumbnails if discussed correctly* |  |
| **Total** | **2** |

1. You are now required to produce a hand drawn sketch that will show the general layout of the poster. You do not need fine details like actual text or graphics, but rather their positioning on the poster.

On page 32 there is planning space available if required – this will not be marked.

Draw your final sketch on page 33.

*Note: Extra space has been provided on page 40 should it be required.*

For the sketch, you need to include annotations that show the following:

* + 1. How the components of your design plan discussed in part (e) of this question have been used.

(2 marks)

* + 1. Evidence you have followed the design criteria outlined in your answer to part (b) of this question.

 (4 marks)

* + 1. **Two (2)** elements of design you have considered and the principles of design to which they relate.

 (4 marks)

* + 1. An explanation of how you will incorporate **two (2)** target audience characteristics from part (c) into your poster.

(2 marks)

* + 1. Evidence that you have considered compositional rules in your layout.

(2 marks)

* + 1. Indicate the role that Typography will play in the design of the poster.

(2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| (i) Wireframes shown via annotation | 2 |
|  |
| (ii) Each design criteria is evident (4) | 4 |
|  |  |
| (iii) Two elements of design referenced… | 2 |
|  …and the principle of design for each is linked and explained | 2 |
|  |  |
| (iv) Catering for two TA characteristics shown in design | 2 |
|  |  |
| (v) Compositional rule(s) identified and justified | 2 |
|  |  |
| (vi) Typography use identified and justified | 2 |
|  |  |
| **Total** | **16** |

1. *Social networking* and *social media* are both large parts of school communities. Describe, using school communities as an example, the difference between *social* *networking* and *social media*.

 (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Social networking encompasses the connections individuals make with each other… | 1 |
| …via a variety of means such as meetings, gatherings and electronically… | 1 |
| Social media is a subset of social networking… | 1 |
| …that is the group communication people engage in with others via electronic means | 1 |
|  |  |
| **Total** | **4** |

1. Choose **four** types of social media and for each type give a feature for each that makes it unique. Use an example to illustrate this feature.

 (12 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Type One: Electronic Social Networks  | 1 |
| Feature: Digitally connect many users | 1 |
| Example - Facebook | 1 |
|  |  |
| Type Two: Media Sharing | 1 |
| Feature: Allows users to create media content and share it with others | 1 |
| Example - YouTube | 1 |
|  |  |
| Type Three: Community Blogging | 1 |
| Feature: Allows a user to post their thoughts and feelings and enable them to connect with their readers | 1 |
| Example: Tumblr | 1 |
|  |  |
| Type Four: Economy sharing |  |
| Feature: Brings people together who are interested in trading goods or services | 1 |
| Example: AirBnB | 1 |
|  | 1 |
| *Accept splitting media into images/video – Instagram/Vimeo. Also, discussion boards can be accepted* |  |
| **Total** | **12** |

* + 1. After you have completed the poster, you start an evaluation process prior to the publication. Why is it important to evaluate a digital products prior to their release?

 (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Evaluation of digital product to gather information…  | 1 |
| …as to the effectiveness and potential success of the product | 1 |
|  |  |
| **Total** | **2** |

1. Outline **three** methods of evaluating a digital product. For each evaluation method, give **two** criteria that can be used to gather information on the success or otherwise of the product.

 (9 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Method One: Self Evaluation | 1 |
| Criteria One: Does the product match the design brief? | 1 |
| Criteria Two: How can it be improved? | 1 |
|  |  |
| Method Two: Peer evaluation | 1 |
| Criteria One: Does the product get the necessary information across? | 1 |
| Criteria Two: Is the layout appealing? | 1 |
|  |  |
| Method Three: Target Audience evaluation | 1 |
| Criteria One: Does the product appeal to you? | 1 |
| Criteria Two: What items would you like to see added or removed? | 1 |
|  |  |
| **Total** | **9** |

End of exam