Western Australian Certificate of Education
ATAR course examination, 2016

Question/Answer booklet

APPLIED INFORMATION TECHNOLOGY

Time allowed for this paper
Reading time before commencing work: ten minutes
Working time: three hours

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 (blue/black preferred), pencils (including coloured), sharpener, correction fluid/tape, eraser, 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

<table>
<thead>
<tr>
<th>Section</th>
<th>Number of questions available</th>
<th>Number of questions to be answered</th>
<th>Suggested working time (minutes)</th>
<th>Marks available</th>
<th>Percentage of examination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section One Multiple-choice</td>
<td>15</td>
<td>15</td>
<td>20</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Section Two Short answer</td>
<td>8</td>
<td>8</td>
<td>40</td>
<td>44</td>
<td>25</td>
</tr>
<tr>
<td>Section Three Extended answer</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>39</td>
<td>20</td>
</tr>
<tr>
<td>Section Four Scenario</td>
<td>1</td>
<td>1</td>
<td>70</td>
<td>61</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Instructions to candidates

1. The rules for the conduct of the Western Australian Certificate of Education ATAR course examinations are detailed in the *Year 12 Information Handbook 2016*. Sitting this examination implies that you agree to abide by these rules.

2. 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. 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. 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. Write your answers to the questions in Sections Two, Three and Four in this Question/Answer booklet.

4. Additional working space pages at the end of this Question/Answer booklet are for planning or continuing an answer. If you use these pages, indicate at the original answer, the page number it is planned/continued on and write the question number being planned/continued on the additional working space page.
Section One: Multiple-choice  
15% (15 Marks)

This section has 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, 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.

Suggested working time: 20 minutes.

1. The backing up of data that has only changed since the last backup is called
   (a) an end of day backup.  
   (b) a complete backup.  
   (c) an incremental backup.  
   (d) a differential backup.

2. In a video editing application, a transition is
   (a) an effect added between two frames in the timeline.  
   (b) an effect added to an individual frame in the timeline.  
   (c) the title of the sound layer in the application.  
   (d) the inserting of a video layer in the application.

3. When evaluating the information on a website, the user needs to check for currency, accuracy and
   (a) checkability.  
   (b) accessibility.  
   (c) verifiability.  
   (d) usability.

4. In the following graphic, which publishing feature is demonstrated?
   
   **Applied Information Technology**  
   Scarborough Kings Park Western Australia  

   (a) frames  
   (b) print/display  
   (c) layers  
   (d) typography
5. The protection of a school network from unauthorised external access can be achieved by using
   (a) a firewall application.
   (b) a malware application.
   (c) an anti-virus application.
   (d) a content management system.

6. In a shared wireless network, as more users transfer data through the same wireless access point, the transfer speed
   (a) increases.
   (b) decreases.
   (c) stays the same.
   (d) fails.

7. Which of the following is a record of who has accessed a computer system and what operations that person has performed over time?
   (a) audit trail
   (b) key logging
   (c) password logging
   (d) encryption

8. A model that is constructed to test a product or process is called a
   (a) site map.
   (b) prototype.
   (c) flow chart.
   (d) user experience.

9. The contract that formally defines the services a service provider makes available to its customers is called a
   (a) service provision agreement.
   (b) customer and service provider agreement.
   (c) customer service agreement.
   (d) service level agreement.

10. An international community that specifically works to develop web standards is called
    (a) world wide web consortium.
    (b) world internet company.
    (c) web standards community.
    (d) web and internet community.
11. The process of identifying anomalies, patterns and correlations within large data sets to predict outcomes is referred to as data

(a) correlation.
(b) mining.
(c) analysis.
(d) management.

12. The process that protects the creation of something new or original, such as an idea, invention, brand or design, is referred to as

(a) ownership registration.
(b) design registration.
(c) intellectual property registration.
(d) ideas registration.

13. The concept of Freedom of Information (FOI) in Australia provides a person with the right to request access to

(a) most documents held by Australian government ministers and most agencies.
(b) all documents held by Australian government ministers and all agencies.
(c) most documents held by private agencies.
(d) all documents held by private agencies.

14. The Uniform Resource Locator (URL) that starts with https:// uses a protocol to encrypt communications that is called a

(a) secondary sockets layer.
(b) secure submission layer.
(c) secondary submission layer.
(d) secure sockets layer.

15. Which of the following software applications use a multi-layer track to create a digital product?

(a) word processor
(b) web page editor
(c) video editor
(d) database
Section Two: Short answer 25% (44 Marks)

This section has eight (8) questions. Answer all questions. Write your answers in the spaces provided.

Additional working space pages at the end of this Question/Answer booklet are for planning or continuing an answer. If you use these pages, indicate at the original answer, the page number it is planned/continued on and write the question number being planned/continued on the additional working space page.

Suggested working time: 40 minutes.

Question 16 (5 marks)

(a) State two reasons why it is important for a business to create a code of conduct for its employees. (2 marks)

One: ____________________________________________________________________________

_________________________________________________________________________________

Two: ____________________________________________________________________________

_________________________________________________________________________________

(b) List three elements that are typically included in a code of conduct. (3 marks)

One: ____________________________________________________________________________

_________________________________________________________________________________

Two: ____________________________________________________________________________

_________________________________________________________________________________

Three: ____________________________________________________________________________

_________________________________________________________________________________
Question 17  (4 marks)

Outline two benefits to a business of using a template in a particular application software.

One: ____________________________________________________________

_________________________________________________________________

_________________________________________________________________

Two: ____________________________________________________________

_________________________________________________________________

_________________________________________________________________

Question 18  (4 marks)

A business wants to convert its printed documentation to digital publications. Describe one advantage and one disadvantage to the business of implementing this conversion.

Advantage: ______________________________________________________

_________________________________________________________________

_________________________________________________________________

Disadvantage: _____________________________________________________

_________________________________________________________________

_________________________________________________________________
Question 19  (5 marks)

(a) Explain the concept of ‘online defamation’ in Australia.  (3 marks)

(b) Outline one appropriate action a person in Australia can take if they believe they have been the victim of online defamation.  (2 marks)
Question 20

(9 marks)

Explain how using each of the following will ensure security when processing data.

Digital signatures: ____________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________

Digital certificates: __________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________

Encryption: ________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
__________________________________________________________________________________________
Question 21  (4 marks)

(a) Outline why it is important to evaluate the specifications of a computer system for usability.  
(2 marks)

(b) A software application suggests at least 1GB of RAM but recommends 3GB of RAM. State two problems that could arise if the software was installed on a computer system with 1GB of RAM.  
(2 marks)

One: 

Two: 

Question 22  (7 marks)

(a) Describe two features specific to Web 3.0.  
(4 marks)

One: 

Two: 

See next page
(b) State **three** ways in which Web 3.0 has affected the use of web-enabled devices.  
   (3 marks)

One: __________________________

Two: __________________________

Three: __________________________

Question 23  
(6 marks)

Describe in detail **two** benefits to a web-development company of using a Content Management System (CMS).

One: __________________________

Two: __________________________
Home networks are becoming popular as technology allows users to network products throughout the home. A home owner has asked you to investigate what is required to install a wireless network in a new home they are building.

Specifically, they want to ensure the secure management of their home business, which has a client base of over 1000 customers, have access to connected devices throughout the house and share files and printers. They also want advice on where to locate networked gaming consoles and televisions in the house.

(a) Identify the communication standard that is best suited to this network and provide three characteristics of this communication standard. (4 marks)

Communication standard: 

One: 

Two: 

Three: 

Suggested working time: 50 minutes.
(b) While conducting your research on networks, you are learning about the various types of communication protocols. Discuss the characteristics of the TCP/IP communication protocol. (6 marks)
Question 24 (continued)

(c) Describe three strategies that you will advise the home owner to use to ensure the security of their business information within the wireless network. (9 marks)

One: 

Two: 

Three: 

(d) Explain why the home owner should implement a Disaster Recovery Plan (DRP) for their home business. (4 marks)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

(e) You are aware that the DRP will require a data backup strategy. Identify three backup techniques that you will be suggesting the home owner implement and explain why each technique is appropriate. (6 marks)

One: ______________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Two: ______________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Three: ____________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Question 24 (continued)

(f) The home owner has heard the expression 'data in the cloud' and is wondering if their client information should be transferred to an online data storage method. To assist their understanding, outline one advantage and one disadvantage of utilising data in the cloud. (4 marks)

Advantage: ____________________________________________________________

______________________________________________________________________

______________________________________________________________________

______________________________________________________________________

Disadvantage: _________________________________________________________

______________________________________________________________________

______________________________________________________________________

______________________________________________________________________
The wireless network has now been installed in the home but the home owner has noticed that there are issues with the reliability of the internet connection when two or more devices are streaming a video. Identify two reasons why these issues could be occurring and outline a different solution for each that could be implemented in the design of the Local Area Network (LAN).

One: 

Two: 

End of Section Three
You are employed by a marketing company that has just won a contract to produce a digital solution for a new client, Seasons Building and Development.

Seasons Building and Development is building luxury coastal apartments at a location one hour north of Perth and your brief is to advertise these apartments in such a way as to attract prospective buyers. Stylish one-bedroom and two-bedroom apartments are being built as well as two stunning penthouses. Each apartment will have high-quality finishes, sweeping ocean views, an expansive balcony, private access to the beach and two undercover parking bays. The complex will also feature a pool and a gymnasium and be just a short drive from supermarkets, cafés, restaurants and specialty stores.

Seasons Building and Development has stipulated that the marketing materials must provide information about the location of the apartments, floor plans, the quality finishes, features such as the pool and gymnasium and the lifestyle that these apartments offer. The client has also indicated that they want the marketing materials to appeal to a wide range of potential buyers, and to include information about their company and their contact details.

The apartments will be called ‘Seasons by Seaside’ and will be marketed in two ways:
- an application (app) that can be downloaded onto a smart phone or tablet device
- a website.

(a) Identify one project management approach you will use and explain why this approach is appropriate. (4 marks)
(b) Identify two project planning tools that you will use when designing the app and the website for this project. Explain how using each of these tools will assist you with the development of the digital solution. (8 marks)
Question 25 (continued)

(c) Outline **three** ways in which you will incorporate an appropriate user experience (UX) into the design of your app and website. (6 marks)
(d) Explain how you intend to incorporate the following concepts into the design of your app and website:

- usability
- inclusivity
- accessibility.  

(9 marks)
(e) Design the landing page (first page) of the app in the space provided on page 23 to promote the Seasons by Seaside apartments. You may use the space below to plan your response.

Your design must include annotations and show the:

i. layout and structure of your intended design (5 marks)

ii. elements and principles of design used and the relationship between them (3 marks)

iii. organisation of content suitable for the given digital medium (3 marks)

iv. navigation controls suitable for the given digital medium. (3 marks)

Planning: anything written on this page will not be marked.
Question 25 (continued)

(f) Design the home page of the website on page 25 to promote the Seasons by Seaside apartments. You may use the space below to plan your response.

Your design must include annotations and show the:

i. layout and structure of your intended design  (5 marks)
ii. elements and principles of design used and the relationship between them  (3 marks)
iii. organisation of content suitable for the given digital medium  (3 marks)
iv. navigation controls suitable for the given digital medium.  (3 marks)

Planning: anything written on this page will not be marked.
Question 25 (continued)

(g) Describe how you will use three tools to evaluate the effectiveness of your digital solution in accordance with the design brief for this project. (6 marks)
Question number: ________________
Additional working space

Question number: _______________
Additional working space

Question number: ______________