

2016 HSC Information and Digital Technology

Web and software applications

Marking Guidelines

Section I

Multiple-choice Answer Key

Question	Answer
1	B
2	B
3	A
4	D
5	A
6	D
7	B
8	A
9	B
10	C
11	C
12	D
13	C
14	B
15	D
16	B
17	D
18	A
19	A
20	C

Section II

Question 21 (a)

Criteria	Marks
• Identifies precautions for moving a 30 kg printer	2
• Identifies a precaution for moving a 30 kg printer	1

Sample answer:

Precautions include having two people to complete this task. Appropriate manual handling techniques would be necessary when lifting.

Answers could include:

- Checking path is clear of potential hazards
- Using a trolley.

Question 21 (b)

Criteria	Marks
• Identifies TWO relevant ergonomic considerations	2
• Identifies a relevant ergonomic consideration	1

Sample answer:

Install a separate keyboard and mouse to reduce risk of OOS. Use a docking station to enable the laptop display to be raised up to appropriate eye level.

Answers could include:

- Lighting
- Adjustable furniture
- Clear/clean workspace around laptop.

Question 21 (c)

Criteria	Marks
• Describes options for disposal in a safe and environmentally responsible manner	4
• Shows some understanding of disposal in a safe and environmentally responsible manner	3
• Shows some understanding of disposal in a safe or environmentally responsible manner	2
• Shows a basic understanding of disposal	1

Sample answer:

To ensure the safety of business information all data on the computer equipment should be wiped prior to disposal. To be environmentally responsible, old computers including parts can be reused, recycled or donated to charity. All disposal should be using eWaste facilities. Old computer equipment should be moved in a way that complies with WHS requirements.

Question 22

Criteria	Marks
• Outlines actions that could be taken to prevent computer virus infections continuing	3
• Outlines an action OR identifies actions that could be taken to prevent computer virus infections continuing	2
• Identifies an action that could be taken to prevent computer virus infections continuing	1

Sample answer:

The organisation needs to ensure its anti-virus software is regularly updated to ensure protection against new viruses. Staff should be trained on the dangers associated with email attachments, accessing weblinks and files on removable storage devices to minimise risk of infection.

Answers could include:

- Setting up scheduled scans and updates
- Operating system updates are performed
- Consider changing to an operating system less likely to be affected.

Question 23

Criteria	Marks
• Provides relevant skills and explains why they are needed	4
• Outlines relevant skills OR Identifies relevant skills and explains at least one of them	3
• Outlines a relevant skill OR • Identifies relevant skills	2
• Identifies a relevant skill	1

Sample answer:

An employee would need good verbal and written communication skills as well as questioning and active listening skills in order to communicate effectively with other members of their team and with clients. They would also need organisational and time management skills to help meet goals and deadlines.

Answers could include:

- Non-verbal communication skills
- Accept and provide feedback
- Sensitive to cultural differences
- Prioritising skills
- Negotiation
- Willingness to help team members as required.

Question 24 (a)

Criteria	Marks
<ul style="list-style-type: none"> Identifies TWO relevant features 	2
<ul style="list-style-type: none"> Identifies a relevant feature OR <ul style="list-style-type: none"> Shows some understanding of accessibility 	1

Sample answer:

- Alt for image
- Text to speech.

Answers could include:

- Colour selection
- Subtitles on video
- Ability to stop scrolling items.

Question 24 (b)

Criteria	Marks
<ul style="list-style-type: none"> Identifies and corrects the error 	2
<ul style="list-style-type: none"> Shows some understanding of the error 	1

Sample answer:

The tag needs to be added after the <p> tag in line 177.

Question 24 (c)

Criteria	Marks
<ul style="list-style-type: none"> Provides an explanation of why it is important to test a newly built website on different types AND versions of browsers 	4
<ul style="list-style-type: none"> Shows some understanding of testing websites on different types and/or versions of browsers 	2–3
<ul style="list-style-type: none"> Shows a basic understanding of testing websites 	1

Sample answer:

In order to make a webpage accessible to as many potential users as possible, an awareness of how different browsers support different types of coding is necessary. For example, Internet Explorer will display pages regardless of errors in HTML coding, and Flash is not supported by Safari on Apple devices. Old applications may not be supported by newer versions of browser software.

Question 25 (a)

Criteria	Marks
• Identifies the validation tool used in Column B	1

Sample answer:

Drop-down list.

Question 25 (b)

Criteria	Marks
• Explains the purpose of the formula	2
• Shows some understanding of the formula	1

Sample answer:

This formula tests whether or not the value of C5 is greater than 3. If it is true, then the result displayed is 'Total incl. discount'. If it is false, then the word 'Total' is displayed.

Question 26

Criteria	Marks
• Provides a complete, logical sequenced procedure in producing an Automated Table of Contents	4
• Provides the main steps in producing an Automated Table of Contents	3
• Provides some steps in producing an Automated Table of Contents	2
• Shows a basic understanding of a Table of Contents	1

Sample answer:

Procedure for Automatic Table of Contents:

1. Use styles to format headings and subheadings
2. Include page numbers on each page
3. Locate the Table of Contents tool/button
4. Select the format for displaying the table of contents
5. Generate the table of contents.

Section III

Question 27 (a)

Criteria	Marks
• Describes how a site map can be used in website construction	3
• Shows some understanding of a site map	2
• Identifies a feature of a site map	1

Sample answer:

A site map can be used as a planning tool for the construction of the website to set out how pages are organised and linked together in a hierarchical structure. Site maps can show content components for navigation and labelling.

Question 27 (b)

Criteria	Marks
• Recommends a suitable web authoring application and justifies its use in relation to the scenario	4
• Identifies features of a web authoring application	2–3
• Identifies a feature of a web authoring application	1

Sample answer:

Dreamweaver is a suitable application because it is well supported and integrates seamlessly with other applications such as databases and payment systems required for online purchasing.

Question 27 (c)

Criteria	Marks
• Explains a range of information that the web designer would need to consider for the creation and maintenance of the website	8
• Explains some information that the web designer would need to consider for the creation and maintenance of the website	7
• Outlines some information that the web designer would need to consider for the creation and maintenance of the website • Provides some explanation for at least one of the areas	5–6
• Outlines some information that the web designer would need to consider for the creation and maintenance of the website	3–4
• Identifies some information that the web designer would need to consider	2
• Identifies an area that the web designer would need to consider	1

Sample answer:

When creating a website, the web designer needs to consider the directory structure of the website. This will include using naming conventions and storing documents and files in appropriate folders so that the website functions according to client specifications. Naming conventions are also important for the future maintenance of the files. A logical directory structure will facilitate backups and file transfers.

As the client wishes to sell products online the website will need to integrate with financial systems and stock databases, therefore the web designer would need to consider the accuracy, security and privacy of the client's and their customers' information.

The web designer will also need to ensure that images or content displayed on the website will adhere to copyright laws. It is also important to ensure that the final website design and structure is consistent throughout, for example navigation, layout, colour schemes and fonts. This can be simplified by using cascading style sheets or other templates.

When maintaining the website, the web designer needs to consider how and when the website and its content are backed up to protect data and to minimise disruption to both their own and the client's business.

Answers could include:

- Copyright
- Consistent style and image
- Content restrictions
- Saving, naming and storing files
 - Filenames
 - Locations
 - Pathnames
 - Folders
 - Directory structures
 - Drives
 - Backup
- File transfer protocol
- Server options.

Section IV

Question 28

Criteria	Marks
<ul style="list-style-type: none"> Addresses all components of the question Provides a cohesive, well-reasoned, sequenced response that reflects a high level of organisation, judgement, synthesis and problem-solving skills Demonstrates an in-depth understanding of installation plans and installation options for installing a new version of an operating system, with reference to the scenario Consistently uses relevant industry terminology 	13–15
<ul style="list-style-type: none"> Addresses most components of the question Provides a reasoned, sequenced response that reflects a high level of organisation, and problem-solving skills Demonstrates a detailed understanding of installation plans and operating system installation options related to the scenario Uses relevant industry terminology 	10–12
<ul style="list-style-type: none"> Addresses the majority of the components of the question Provides a response displaying sound organisational and problem-solving skills Demonstrates a sound understanding of installation plans and operating system installation options related to the scenario Uses some relevant industry terminology 	7–9
<ul style="list-style-type: none"> Addresses some components of the question Provides a response displaying some organisational and problem-solving skills Demonstrates some understanding of operating system installation 	4–6
<ul style="list-style-type: none"> Addresses at least one component of the question Provides a response displaying basic organisation Demonstrates a basic understanding of operating systems and/or installations 	1–3

Sample answer:

Options for installing new operating systems are:

- Complete** new installation if the existing version is not suitable for upgrade. This is a higher cost option that will take longer to install and will see the organisation lose any customisations they might have. It does provide a clean install if there have been previous issues with existing operating system software.
- Custom/Partial** installation, where features required by the organisation are identified and installed specifically. This is also a higher cost option as the complete version has to be purchased, even though not all of it is required. It can be faster to install than a complete installation if not all default modules are required. It will also wipe any customisations but provide a clean install.

- **Upgrade** which replaces some parts of the existing operating system with a new version. This option is the fastest and cheapest option that can maintain customisations, data and applications. It is not recommended if there are issues with the existing operating system and is only available if upgrading from specific versions.

Installation Plan could address:

1. Determine client requirements (contract, deadlines, budget etc)
2. Software specifications to test compatibility
3. Review client documentation
4. Interview relevant personnel
5. Verify client has up-to-date backup system
6. Perform pilot installation on one workstation and review results
7. Customise according to client requirements
8. Optimise operating system according to client requirements
9. Test operating system and application software
10. Client testing/feedback on results
11. Create image
12. Schedule access to the building out of regular office hours
13. Deploy the image
14. Test and backup new image
15. Client handover and acceptance
16. Client follow up on general performance.

Answers could include:

Installation Plan could refer to following methods of installation:

- Use of virtual machine to test compatibility
- Automated network install
- Individual machine installs
- Internet installation
- Infrastructure as a service (cloud based/thin clients).

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Mapping Grid

Section I

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
1	1	(mandatory) Working in the industry — employment – page 24							X	
2	1	(mandatory) Operating system software — installing an operating system – page 29			X		X			X
3	1	(mandatory) Diagnostic testing — destructive and malicious software protection – page 33			X					X
4	1	(mandatory) Working in the industry — nature of the industry – page 24				X	X	X	X	
5	1	(mandatory) Safety — WHS compliance – page 36	X		X				X	
6	1	(mandatory) Diagnostic testing — preventative maintenance – page 34					X			X
7	1	(mandatory) Safety — WHS consultation and participation – page 38	X	X				X		
8	1	(mandatory) Diagnostic testing — troubleshooting – page 32	X	X	X					X
9	1	(mandatory) Safety — risk management – page 37			X	X		X		
10	1	(mandatory) Operating system software — configuring an operating system – page 30			X					X
11	1	(stream) Web and software — additional features and functions – page 44	X						X	
12	1	(stream) Web and software — commercial software packages – page 42								X
13	1	(stream) Web and software — problem solving – page 44	X		X					
14	1	(stream) Web and software — additional features and functions – page 44							X	X
15	1	(stream) Web and software — features and functions – page 43			X				X	
16	1	(stream) Web and software — additional features and functions – page 43	X				X		X	

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
17	1	(stream) Web and software — additional features and functions – page 44	X		X				X	X
18	1	(stream) Web and software — commercial software packages – page 43						X	X	
19	1	(stream) Web and software — features and functions – page 43			X					X
20	1	(stream) Web and software — additional features and functions – page 44			X					X

Section II

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
21 (a)	2	(mandatory) Safety — safe work practices and procedures – page 38	X	X	X					
21 (b)	2	(mandatory) Safety — safe work practices and procedures – page 38							X	X
21 (c)	4	(mandatory) Safety — safe work practices and procedures – page 38				X	X	X		
22	3	(mandatory) Diagnostic testing — client business context – page 32	X		X	X				
23	4	(mandatory) Work in the industry — working with others – page 26	X	X				X		
24 (a)	2	(stream) Web and software — website testing – page 44							X	
24 (b)	2	(stream) Web and software — website testing – page 44			X					
24 (c)	4	(stream) Web and software — website testing – page 44			X					X
25 (a)	1	(stream) Web and software — additional features and functions – page 43							X	X
25 (b)	2	(stream) Web and software — additional features and functions – page 44			X					
26	4	(stream) Web and software — additional features and functions – page 43	X				X			

Section III

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
27 (a)	3	(stream) Web and software — document and website production requirements – page 42								X
27 (b)	4	(stream) Web and software — document and website production requirements – page 42	X				X		X	
27 (c)	8	(stream) Web and software — document and website production requirements – page 42	X	X	X					

Section IV

Question	Marks	HSC content – focus area	Employability skills (Please put an X where appropriate)							
			Communication	Teamwork	Problem-solving	Initiative and enterprise	Planning and organising	Self-management	Learning	Technology
28	15	(mandatory) Operating system – installing an operating system – page 29 (mandatory) Operating system – configuring an operating system – page 30 (mandatory) Optimising an operating system – page 30 (mandatory) Diagnostic testing – preventative maintenance – page 33 (mandatory) Working in the industry – work practices – page 25	X		X	X	X	X		X