

2015 HSC Information and Digital Technology

Web and software applications

Marking Guidelines

Section I

Multiple-choice Answer Key

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

Section II

Question 21 (a)

Criteria	Marks
• States what is meant by ‘recommended requirements’	1

Sample answer:

The hardware requirements needed so that the OS can perform at its optimum.

Question 21 (b)

Criteria	Marks
• Outlines the differences between <i>hibernate</i> and <i>suspend</i>	3
• Identifies features of <i>hibernate</i> and/or <i>suspend</i>	2
• Identifies a feature of <i>hibernate</i> or <i>suspend</i>	1

Sample answer:

In a hibernate state, the computer saves data to the hard drive and stops drawing power. In a suspend state, the computer saves data to RAM and still maintains a low power connection. This means the computer will restart more quickly from a suspend position.

Question 21 (c)

Criteria	Marks
• Identifies the difference between <i>batch</i> and <i>real-time</i> systems	2
• Identifies a feature of <i>batch</i> or <i>real-time</i> systems	1

Sample answer:

A real-time system handles events at the time as they occur. A batch system groups the tasks and then processes them at the same time at a later time.

Question 22 (a)

Criteria	Marks
• Identifies TWO relevant aspects of antivirus software	2
• Identifies ONE feature of antivirus software	1

Sample answer:

Antivirus software compares files against its database to ascertain if the file is corrupted. It also provides alerts to show actions taken.

Question 22 (b)

Criteria	Marks
• Outlines TWO relevant tasks	3
• Identifies TWO relevant tasks OR • Outlines ONE relevant task	2
• Identifies ONE relevant task OR • Shows a basic understanding of a routine maintenance schedule	1

Sample answer:

A routine maintenance schedule should include regular scanning to check for viruses and/or malicious software, and perform quarantine and removal if necessary. It should also regularly update security and performance scanning and checking for operating system, application software and firmware.

Answers could include:

- Cleaning and repairing of equipment
- Regular optimisation of HDD

Question 23

Criteria	Marks
• Clearly explains the benefits of effective teamwork	4
• Outlines benefits of effective teamwork OR • Identifies benefits of effective teamwork and explains at least one	3
• Identifies benefits of effective teamwork OR • Outlines a benefit of effective teamwork	2
• Identifies a benefit of effective teamwork	1

Sample answer:

ICT projects are usually complex requiring various areas of expertise. Each team member may contribute their specific skills, such as programming, authoring or graphic design. The project may be completed more quickly if team members work on different components and then bring their contribution to the team to complete the project. This may also allow team members to work from home or work flexible hours.

Answers could include:

- Idea generation
- Area of expertise
- Sharing workload
- Improved efficiency
- Mutual support

Question 24 (a)

Criteria	Marks
• Lists the appropriate steps	2
• Identifies a step	1

Sample answer:

1. Locate place in Word document where image is to be inserted
2. Browse for image
3. Save the image to the computer, eg 'Save Image As'
4. Insert the image eg use the 'Insert/Picture' function and crop.

Answers could include:

- Snipping tool
- Copy + paste + crop

Question 24 (b)

Criteria	Marks
• Outlines ONE aspect of how a code of ethics relates to using commercial software	2
• Shows a basic understanding of ethics in relation to using commercial software	1

Sample answer:

Purchasing a software licence entitles user to use it only not to resell or copy and sell.

Answers could include:

Copyright
Piracy

Question 24 (c)

Criteria	Marks
• Outlines a range of industry standard procedures for testing the website	4
• Outlines suitable procedures for testing the website	3
• Identifies suitable procedures for testing the website	2
• Identifies a feature of website testing	1

Sample answer:

The website code should be run through a mark-up validation service to test for errors in the code. The website should then be tested across multiple browsers and versions of the browsers, including different operating systems. A mobile version of the website should be tested as well.

Question 25

Criteria	Marks
• Outlines the functions of the code between the HEAD tags	3
• Outlines one function of the code between the HEAD tags	2
• Shows a basic understanding of the code between the HEAD tags or of the HEAD tags	1

Sample answer:

<title> Title page is what will be displayed at the top of the browser.

‘Yr12 formal’

<link rel> Is implementing the external cascade style sheet called ‘Yr12stylesheet.css’.

Question 26

Criteria	Marks
• Explains how conditional formatting may be applied to improve spreadsheet presentation, using examples	4
• Outlines features of conditional formatting	3
• Identifies formatting features of a spreadsheet OR	2
• Identifies a formatting feature of a spreadsheet and provides an example	
• Identifies a formatting feature of a spreadsheet	1

Sample answer:

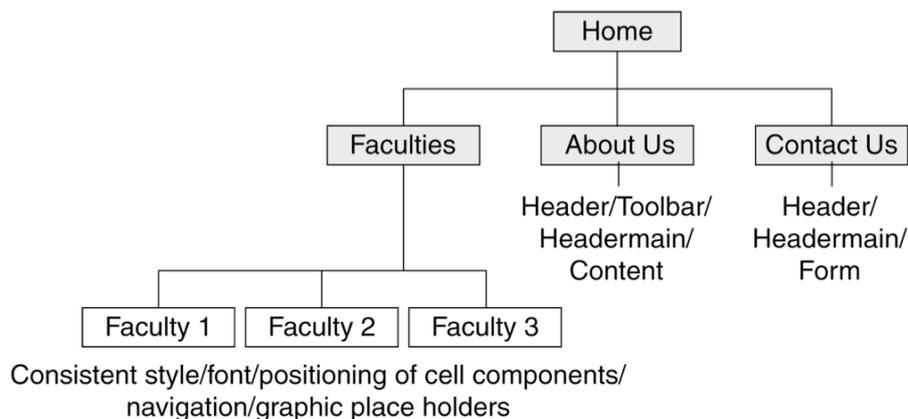
To highlight certain cells of the data based on the set criteria/formulas/functions such as set conditions like ‘greater than’, ‘less than’ or ‘equals’. This is represented in set formatting features for example: allocating a colour to a person’s name in correspondence to their date of birth eg all people born in September are highlighted red.

Section III

Question 27 (a)

Criteria	Marks
• Provides a detailed site map with all relevant features clearly labelled and justifies the benefits of using CSS in the website	7
• Provides a detailed site map with most of the relevant features clearly labeled and justifies some benefits of using CSS	6
• Provides a limited site map with some labelled features and outlines some benefits of using CSS	5
• Provides a limited site map and/or identifies some benefits of using CSS	3–4
• Identifies some features of the site map and/or CSS	2
• Identifies a feature of a site map or CSS	1

Sample answer:



One benefit of using a Cascading Style Sheet (CSS) is it allows for cross browser compatibility if you are using valid HTML because it will adapt to different screen sizes.

CSS improves web page download times because all the layout code will be called just once and styled on users' computers.

CSS allows for easier website management because if you want to make adjustments to your website you only have to adjust it in one style sheet.

There are at least 6 pages required and using CSS will reduce the amount of code written for each page as all the style and layout code is included in the CSS sheet.

Question 27 (b)

Criteria	Marks
• Provides an online form that fulfils all the requirements and clearly justifies the choices of form elements	8
• Provides an online form that fulfils most of the requirement with justification of the choices of form elements	7
• Provides an online form with the main features clearly labelled and provides some justification of the choices of form elements	5–6
• Provides an online form with some relevant features and/or provides some justification of the design	3–4
• Identifies some features of the online form	2
• Identifies a feature of an online form	1

Sample answer:

Help button conveniently located

Form close button conveniently located

Radio buttons: Boolean selection – only 1 selected

For reply including verification script for an email address

Drop down menu for categories/search and ease of use
Drop down menu takes up less space

Scrolling text box: large data entry label for extended comment takes up less space but will allow a large input of text

Command button – conveniently located at end

(Sans serif font used on form for ease of reading)

Objects on the form are carefully aligned with meaningful labels to allow ease of reading.

Answers could include:

- Checkbox
- Other drop downs

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 risk management with reference to the scenario used in the question • Consistently uses relevant industry terminology 	13–15
<ul style="list-style-type: none"> • Addresses most components of the question • Provides a reasoned sequenced response showing significant organisational and problem-solving skills • Demonstrates a detailed understanding of risk management with reference to the scenario used in the question • 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 risk management with some reference to the scenario used in the question • 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 risk management 	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 WHS 	1–3

Sample answer:

There are a variety of internal methods that can be used in order to gather WHS information in the workplace.

Risk management involves:

1. The identification of hazard

Hazards can be defined as any procedure or process that presents potential harm to an individual.

Types of hazards include: electricity, tools and equipment, handling goods and materials, work environment and any other human factor based hazards such as fatigue.

The organisation could use audits and/or inspections with checklists in order to identify potential hazards within the workplace.

2. Formal risk assessments

These could be conducted as audits, inspections, surveys or through meetings. Ordinarily risks are assessed using a risk assessment matrix. Hazards that are identified as risks within the workplace are rated using the matrix. An example of a matrix that could be used is seen below:

		HAZARD		
		RISK	HIGH	MEDIUM
Likelihood	Likely	RED <input checked="" type="checkbox"/>	ORANGE	YELLOW
	Unlikely	RED	YELLOW	GREEN

As an example, the hazard of exposed electrical cabling risk of injury is **HIGH** and Likelihood of injury is likely to occur. Therefore RED.

3. Controlling risks

The workplace would use the risk assessment to determine controls in order to either eliminate the risks, minimise the risks or whether to implement other controls such as administrative controls.

Using the risk matrix tool or checklists used to audit the potential hazards, the workplace could determine what controls could be implemented to change practices and procedures to eliminate risks, minimise by either substitution or modification or isolating the risk. The workplace could use the methods implemented to create other controls such as changes in policy management procedures that may also contribute to eliminating or minimising the risk.

As an example, the exposed electrical cabling could be replaced to eliminate risk.

4. Monitoring and Reviewing.

The workplace should consistently review previously assessed hazards and refer to controls and checklists used in audits in order to improve and minimise risks. A process of review should also be conducted of the procedures for auditing and inspecting. These practices need to fall in line with changes in order to maintain validity.

As an example, implement a system of yearly electrical components tagging.

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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	3.2.4 – Operating Systems – licensing (p28)					X			X
2	1	3.1.4 – Employment – the difference between an award, agreement and contract (p24)				X				
3	1	3.3.4 – Diagnostic testing – strategies for troubleshooting (p32)	X							
4	1	3.1.4 – Employment – purpose and value of a code of conduct (p24)				X	X			
5	1	3.3.4 – Preventative maintenance – backup (p33)			X		X		X	X
6	1	3.4.3 – Work health and safety (WHS) – the cost of workplace injury (p36)	X			X				
7	1	3.4.3 – Risk management – risk control (p37)	X	X	X		X	X		X
8	1	3.3.4 – Destructive and malicious software – phishing (p33)			X					X
9	1	3.4.3 – Safe work practices and procedures – tagging (p38)			X	X				X
10	1	3.2.4 – Configuring an operating system – file attributes, creation, extensions and permissions (p29)					X			
11	1	3.5.4 – Document and website production requirements – file names, locations and pathnames (p42)	X	X					X	X
12	1	3.5.4 – Commercial software packages – spreadsheet (p42)								X
13	1	3.5.4 – Features and functions common across word processing, spreadsheet and web authoring software – working knowledge of features and functions within applications to prepare and present documents and simple websites (p43)		X			X X		X	X
14	1	3.5.4 – Additional features and functions specific to word processing, spreadsheet and web authoring software – formatted list (p43)							X	X
15	1	3.5.4 – Problem-solving – alert message (p44)								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
16	1	3.5.4 – Document and website production requirements – file transfer protocol (FTP) client for uploads to server (p42)	X		X				X	
17	1	3.5.4 – Website testing – procedures for testing elements of simple websites across a variety of browsers and across versions of a browser (p44)		X		X		X		
18	1	3.5.4 – Problem solving – sources of support commonly used to solve software-related problems (p44)	X		X		X		X	
19	1	3.5.4 – Additional features and functions specific to word processing, spreadsheet and web authoring software – pivot tables (p44)					X			
20	1	3.5.4 – Features and functions common across word processing, spreadsheet and web authoring software – macros (p43)	X		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)	1	3.2.4 –Selecting an operating system – how a range of requirements can impact on the choice of an operating system (p29)			X	X			X	X
21 (b)	3	3.2.4 – Installing an operating system – configuration of power management (p29)			X			X	X	X
21 (c)	2	3.2.4 – Operating Systems – features and capabilities of different types of operating systems (p28)								X
22 (a)	2	3.4.4 – Diagnostic testing – troubleshooting (p33)		X	X			X		
22 (b)	3	3.3.4 – Diagnostic testing – preventative maintenance (p33)			X					X
23	4	3.1.4 Working with others – importance of teamwork in an ICT work environment (p26)	X	X			X			
24 (a)	2	3.5.4 – Features and functions common across word processing, spreadsheet and web authoring software – images and graphics (p43)			X	X		X	X	
24 (b)	2	3.5.4 – Commercial software packages – codes of ethics (p42)					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
24 (c)	4	3.5.4 – Website testing – procedures for testing elements of simple websites across a variety of browsers and across versions of a browser (p44)			X		X	X	X	
25	3	3.5.4 – Additional features and functions common across word processing, spreadsheet and web authoring software – HyperText Markup Language (p44)	X						X	X
26	4	3.5.4 – Features and functions common across word processing, spreadsheet and web authoring software – conditional formatting (p44)	X				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)	7	3.5.4 – Features and functions common across word processing, spreadsheet and web authoring software – site maps, cascading style sheets (CSS) (p44)	X		X		X		X	
27 (b)	8	3.5.4 – Features and functions common across word processing, spreadsheet and web authoring software – working knowledge of features and functions within applications to prepare and present documents and simple websites (p43)	X	X	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	3.4.3 – Risk management – its application in the workplace (p37) 3.4.3 – WHS information and data – internal and external sources of WHS information and data, methods and procedures for gathering WHS information and data (p39)	X	X	X	X	X	X	X	