The Internet and the world Wide Web [U1_L1]

Question	Answer(s)	Notes
1	• TICK KEYWORDS	
2	• Internet = A network of computers around the world. • WWW = The shared pages of content that we access from our computers or smartphones	
3	• The Internet is the connection of multiple networks around the world. The WWW describes the pages of information we see on our devices.	
4	Include any three of the following: • Sending and receiving emails. • Accessing news, online shopping and research. • Streaming music and video. • Online gaming.	
5	• A fake website that has been created to spread untrue news stories. • A marketing website made to support a real product with a fun fake version.	
6	Include any of the following: • Is the website one you have heard of? • Does it have a strange web address? • Can you find the same information on a site you are confident in? • Ask a family member – do they recognise the author or content?	
7		

Statement	Respectful	Not respectful
Spreading rumours about someone you know online.		✓
Being polite in all your messages.	✓	
Sharing images of someone without their permission.		✓
Refusing to use bad language online.	✓	

Question	Answer	Notes
8_Q1	Spoof	.
8_Q2	False	
8_Q3	Web browser	
8_Q4	Running	
8_Q5	True	

Presentation based projects [U1_L2]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>Include any of the following:
• The main tasks that need to be carried out.
• The target audience.
• The form of the task.</td><td></td></tr>
<tr><td>3</td><td>Include any of the following:
• Their age.
• Their interests.
• Geographical considerations
• Socio-economic factors</td><td></td></tr>
<tr><td>4</td><td colspan="2"><table>
<tr><th>Activity</th><th>Yes</th><th>No</th></tr>
<tr><td>Part of a job interview.</td><td>✓</td><td></td></tr>
<tr><td>A spreadsheet of business costs.</td><td></td><td>✓</td></tr>
<tr><td>Creating a magazine cover.</td><td></td><td>✓</td></tr>
<tr><td>A new phone product launch to a large crowd.</td><td>✓</td><td></td></tr>
<tr><td>Teaching a geography lesson.</td><td>✓</td><td></td></tr>
</table></td></tr>
<tr><td>5</td><td>• An animation is connected to any object on the slide and the transition is the movement between slides.</td><td></td></tr>
<tr><td>6</td><td>• Slides: each page of the presentation.
• Layout: how text, images and graphics are arranged on the slide.
• Design themes: grouped sets of pre-designed styles that change the background, text and colour choices to a particular theme.
• Master slides: used apply a set layout to a slide or group of slides.</td><td></td></tr>
<tr><td>7</td><td colspan="2"><table>
<tr><th>Activity</th><th>Do</th><th>Do not</th></tr>
<tr><td>Space out text, images and graphics.</td><td>✓</td><td></td></tr>
<tr><td>Link to videos and websites without checking them first.</td><td></td><td>✓</td></tr>
<tr><td>Choose one style and stick with it throughout.</td><td>✓</td><td></td></tr>
<tr><td>Use as many effects and animations as possible.</td><td></td><td>✓</td></tr>
</table></td></tr>
</table>

Question	Answer	Notes
8_Q1	Master slide	
8_Q2	True	
8_Q3	Socio-economic	
8_Q4	Transition	
8_Q5	True	

Creating a storyboard for a presentation [U1_L3]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>Include any three of the following:
• It is a visual plan.
• It is normally created using pen and paper.
• It shows a step by set sequence.
• One storyboard box for each slide.</td><td></td></tr>
<tr><td>3</td><td>Include any two of the following:
• To plan ahead.
• To spot problems.
• To save time.
• Ideas can be tried out.
• No need for a computer at this stage.</td><td></td></tr>
<tr><td>4</td><td><table><tr><th>Activity</th><th>True</th><th>False</th></tr><tr><td>Previsualisation describes the sound effects that will be used in a presentation.</td><td></td><td>✓</td></tr><tr><td>Video games designers do not use storyboards.</td><td></td><td>✓</td></tr><tr><td>Film directors use storyboards to plan filming.</td><td>✓</td><td></td></tr></table></td><td></td></tr>
<tr><td>5</td><td><table><tr><th>Activity</th><th>Yes</th><th>No</th></tr><tr><td>Slide headings or titles.</td><td>✓</td><td></td></tr><tr><td>The type of computer that will be used.</td><td></td><td>✓</td></tr><tr><td>Text to be included on the slides.</td><td>✓</td><td></td></tr><tr><td>A description of the potential audience.</td><td></td><td>✓</td></tr><tr><td>Potential timings.</td><td>✓</td><td></td></tr><tr><td>Sketches to represent images or a text box describing an image.</td><td>✓</td><td></td></tr></table></td><td></td></tr>
<tr><td>6</td><td>Include any three of the following:
• Next slide
• Previous slide
• Back to the start.
Link to a document or website.</td><td></td></tr>
<tr><td>7</td><td>•</td><td></td></tr>
</table>

Question	Answer	Notes
8_Q1	False	
8_Q2	1	
8_Q3	Spreadsheet	
8_Q4	True	
8_Q5	In order	

Internet Research [U1_L4]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A website designed to search for other websites using key words.</td><td></td></tr>
<tr><td>3</td><td colspan="2"><table>
<tr><th>Activity</th><th>Yes</th><th>No</th></tr>
<tr><td>Searching for specific file types</td><td>✓</td><td></td></tr>
<tr><td>Searching within a particular time period.</td><td>✓</td><td></td></tr>
<tr><td>Selected only events you were part of.</td><td></td><td>✓</td></tr>
<tr><td>Only show results in a particular colour.</td><td></td><td>✓</td></tr>
<tr><td>Exclude specified terms.</td><td>✓</td><td></td></tr>
</table></td></tr>
<tr><td>4</td><td>Include any three of the following:
• Bing
• Google
• Yahoo
• DuckDuckGo</td><td></td></tr>
<tr><td>5</td><td>• Because the author of the site had paid to have the site appear at the top of search results.</td><td></td></tr>
<tr><td>6</td><td>Include any of the following:
• Music
• Film
• Games
• Software
• Art
• animation</td><td></td></tr>
<tr><td>7</td><td>• A bookmark saves the name of the website to the computer so it can quickly be revisited at any time.</td><td></td></tr>
</table>

Question	Answer	Notes
8_Q1	True	
8_Q2	To show specific results	
8_Q3	Shopping	
8_Q4	Bookmark	
8_Q5	False	

Building a presentation [U1_L5]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• To position text, images and graphics on a slide.</td><td></td></tr>
<tr><td>3</td><td>• A common layout that can be applied to on more slides.</td><td></td></tr>
<tr><td>4</td><td>Include any three of the following:
• MS PowerPoint
• Open Office Impress
• Google Slides
• Apple Keynote</td><td></td></tr>
<tr><td>5</td><td>
<table>
<tr><th>Activity</th><th>True</th><th>False</th></tr>
<tr><td>The order of slides cannot be changed once created.</td><td></td><td>✓</td></tr>
<tr><td>A text box can be freely moved around the slide.</td><td>✓</td><td></td></tr>
<tr><td>It is not possible to copy and paste an image into a presentation.</td><td></td><td>✓</td></tr>
</table>
</td><td></td></tr>
<tr><td>6</td><td>• A consistent house style will have a similar theme throughout the presentation.</td><td></td></tr>
<tr><td>7</td><td>• House style = Colour, text and layout choices that are used consistently throughout a presentation.
• Target audience = A particular group of people you hope will enjoy your presentation.
• User friendly = Easy to navigate with clear information displayed on screen.</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	Insert slides	
8_Q2	False	
8_Q3	Sound effect	
8_Q4	True	
8_Q5	More animation	

Presentation Interactivity [U1_L6]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>Include any of the following:
• Sound
• Video
• Images
• Animation</td><td></td></tr>
<tr><td>3</td><td>• To place website content, a video for example, into a slide so that it plays directly from the website when the slide is shown.</td><td></td></tr>
<tr><td>4</td><td>Include any three of the following:
• Recording your own sound
• Downloading a sound from a website.
• Inserting one of the built-in sound effects.
• Adding a sound you already have.</td><td></td></tr>
<tr><td>5</td><td colspan="2"><table>
<tr><th>Activity</th><th>True</th><th>False</th></tr>
<tr><td>It is not possible to link to online videos in a presentation.</td><td></td><td>✓</td></tr>
<tr><td>Animation can be applied to every object on a slide.</td><td>✓</td><td></td></tr>
<tr><td>Only one transition can be applied within a presentation.</td><td></td><td>✓</td></tr>
</table></td></tr>
<tr><td>6</td><td>• Animation</td><td></td></tr>
<tr><td>7</td><td colspan="2"><table>
<tr><th>Activity</th><th>Should be used</th><th>Should not be used</th></tr>
<tr><td>Objects that fly around the screen.</td><td></td><td>✓</td></tr>
<tr><td>Transitions to add interesting visual flair.</td><td>✓</td><td></td></tr>
<tr><td>Sound effects that will distract from the presenter.</td><td></td><td>✓</td></tr>
<tr><td>Consistency in transitions across the presentation.</td><td>✓</td><td></td></tr>
<tr><td>Very long animations that will slow down the presenter.</td><td></td><td>✓</td></tr>
<tr><td>Simple fades instead of complicated effects.</td><td>✓</td><td></td></tr>
</table></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	False	
8_Q2	Microphone	
8_Q3	Transition	
8_Q4	True	
8_Q5	Use of logos	

The importance of passwords [U1_L7]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A sequence of letters, numbers and characters that allow access to a particular system to only the owner of the password.</td><td></td></tr>
<tr><td>3</td><td>Include any of the following:
• Online shopping
• Social networks
• Medical systems
• Online banking
• Online gaming
• Streaming platforms
• Wi-Fi networks</td><td></td></tr>
<tr><td>4</td><td>Include any of the following:
• Work email
• Access to work network
• Workplace Wi-Fi
• Secure keypads
• Work internet sites</td><td></td></tr>
<tr><td>5</td><td>Include any of the following:
• Use at least eight characters
• Mix upper and lowercase letters
• Include special characters
• Don’t use the password for more than one system</td><td></td></tr>
<tr><td>6</td><td colspan="2"><table>
<tr><th>Activity</th><th>Should be done</th><th>Should not be done</th></tr>
<tr><td>Try to make passwords as random as possible.</td><td>✓</td><td></td></tr>
<tr><td>Include personal information such as names, birthdays or pets.</td><td></td><td>✓</td></tr>
<tr><td>Change your password regularly</td><td>✓</td><td></td></tr>
<tr><td>Use the same password for as many websites as possible.</td><td></td><td>✓</td></tr>
</table></td></tr>
<tr><td>7</td><td>Include any of the following:
• Face identification.
• Thumb print or hand scanning.
• Eye or iris scanning.</td><td></td></tr>
</table>

Question	Answer	Notes
8_Q1	Mypa55w0rd	
8_Q2	True	
8_Q3	Birthdays	
8_Q4	Parent/Guardian	
8_Q5	True	

Evaluating a presentation [U1_L8]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• To look back at a project when it is complete. Then hopefully the next project can learn from any mistakes.	
3	Include any of the following: • What went well • What didn't work so well • What can be improved	
4	Include any of the following: • Smartphones • Tablets • Games consoles • Computer and console games • Music streaming devices	
5	• It can be used as a starting point to compare the finished project to.	
6	Include any of the following: • Does it meet the brief? • Will it appeal to the target audience? • Is the language suitable? • Are any images and graphics suitable? • Are there any spelling or grammar mistakes? • What does the audience think? • What improvements could be made? • How could improvements be made?	
7	• Asking those around you, in your class or home, what they think of your presentation.	

Question	Answer	Notes
8_Q1	Network speed	
8_Q2	Brief	
8_Q3	Checklist	
8_Q4	Friends or classmates	
8_Q5	False	

Adapting a presentation for a new audience [U1_L9&10]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	Include any of the following: • There is a new target audience. • Language or images no longer suitable • Content outdated • New information / technology needs to be included • User feedback has suggested changes	
3	One reason why a presentation may need to be adapted is that the audience has grown up and looking again at the content can make it relevant again.	

4	• Changing to a younger audience
	  ○ Increase the text size
	  ○ Check the age suitability of external links
	  ○ Add additional graphics and explanations.
	• Changing to an older audience.
	  ○ Make language more complex.
	  ○ Add more detailed diagrams and charts.
	  ○ Reduce the use of animation.	

5	Include any of the following: • TV Programme or film marketing • An unsuccessful product	
6	• So it can be compared to the new version. • So a different person can work on it in the future.	
7	Include any of the following: • Text • Images • Layout • Design	

Question	Answer	Notes
8_Q1	False	
8_Q2	Making improvements for a purpose	
8_Q3	System life cycle	
8_Q4	Annotation	
8_Q5	False	

End of Unit Typical 4 Mark Questions

Question	Key points to look for in answer	Notes
1	• Because it is a site neither has heard of. • It is making statements that seem suspicious. • There are lots and lots of adverts. • Research the name of the site. • Ask others about the site. • Research the site on reputable sites.	

2	• Biometric data uses measurements taken from the human body.
	• Examples can include:
	  ○ Fingerprints
	  ○ Face scans
	  ○ Eyes / Iris scans
	  ○ Voice recognition.	

[U2_L1] Copyright

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Creative Commons = Allows users to add their own copyright licence to their work that defines how it can be used • Royalty-free = Once a licence has been bought to use something, no further payments are required • Copyright-free = Something out of copyright and not legally owned by anyone	
3	• Any two of many possible correct answers including: • Pixabay • Flickr: Creative Commons • MobyGratis.com	
4	• Varies depending on country and type of content. Often life plus 25, 50 or 70 years	
5	• Any three of many possible answers, e.g. many of the authors whose work can be found in Project Gutenberg are now in the public domain for most countries.	
6	• Designed to be free to use, edit and distribute.	
7	Include any three of the following: • Office-based packages • Graphics and picture editing software • Video editors • 3D modelling software	

Question	Answer	Notes / Marks
8_Q1	False	
8_Q2	Public domain	
8_Q3	False	
8_Q4	Not-for-profit	
8_Q5	Commercial films	

[U2_L2] Legal and illegal use of content

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• Doing something legal means it is OK, doing something illegal is breaking the law and should not be done.</td><td></td></tr>
<tr><td>3</td><td>
<table>
<tr><th>Activity</th><th>Legal</th><th>Illegal</th></tr>
<tr><td>Watching films for free via a link to a suspicious website.</td><td></td><td>✓</td></tr>
<tr><td>Downloading a new game from the store built-into your console.</td><td>✓</td><td></td></tr>
<tr><td>Taking your own photos and posting them online.</td><td>✓</td><td></td></tr>
<tr><td>Searching for images online and selling them on your own site.</td><td></td><td>✓</td></tr>
</table>
</td><td></td></tr>
<tr><td>4</td><td>
<table>
<tr><th>Activity</th><th>Yes</th><th>No</th></tr>
<tr><td>Using someone else’s essay as your own.</td><td>✓</td><td></td></tr>
<tr><td>Asking a parent or guardian to read through your work and offer advice.</td><td></td><td>✓</td></tr>
<tr><td>Posting an article in a school newspaper in your name that you found on another news website.</td><td>✓</td><td></td></tr>
<tr><td>Paying someone to write an essay for you and handing it in.</td><td>✓</td><td></td></tr>
</table>
</td><td>5</td></tr>
<tr><td>5</td><td>Include three any of the following:
• TV programmes and Film
• Software packages
• Computer games
• Music
• eBooks</td><td></td></tr>
<tr><td>6</td><td>• P2P networks allow devices such as computers to share resources, with each device acting as both a client and a server to the others in the network</td><td></td></tr>
<tr><td>7</td><td>
<table>
<tr><th>Role</th><th>Yes</th><th>No</th></tr>
<tr><td>Pass on searches for illegal content to law enforcement.</td><td>✓</td><td></td></tr>
<tr><td>Suggest friends based on similar online search histories.</td><td></td><td>✓</td></tr>
<tr><td>Protect users by blocking or hiding certain sites.</td><td>✓</td><td></td></tr>
<tr><td>Send out warnings to users accessing illegal material.</td><td>✓</td><td></td></tr>
</table>
</td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><th>Question</th><th>Answer</th><th>Notes / Marks</th></tr>
<tr><td>8_Q1</td><td>True</td><td rowspan="4"></td></tr>
<tr><td>8_Q2</td><td>Virtual Private Network</td></tr>
<tr><td>8_Q3</td><td>Newspapers</td></tr>
<tr><td>8_Q4</td><td>False</td></tr>
</table>

8_Q5	True	

Working safely in the cloud [U2_L3]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Cloud-based computing store everything online. This means your programs and documents are available anywhere you can connect to the Internet.	
3		

Statement	Advantage	Disadvantage
People can work together across the world.	✓	
You can only access services when you have an Internet connection.		✓
Online networks can be hacked.		✓
Lots of programs can be run within an Internet browser.	✓	

4	Include any four of the following: • Word processing • Spreadsheet modelling • Presentation design • Video conferences • Online form design • Online document storage • Email and calendars	
5	Include any two of the following: • Meeting via video call around the world. • Allowing employees to work from home. • Remote working. • Working on files together remotely. • Online access to documents. • Interviewing remotely.	
6	Include any three of the following: • Be respectful to other users • Think about the information you post • Avoid sharing private information. • Be careful what you download.	
7	Include any three of the following: • Computer or laptop • Web cam • Microphone • Speakers or headphones • Internet router • Monitor • Mouse and keyboard	

Question	Answer	Notes / Marks
8_Q1	True	
8_Q2	Collaborate	
8_Q3	Internet connection speed	
8_Q4	Image scanner	

8_Q5	False	

[U2_L4] Researching a newsletter

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• A newsletter is a published document, containing information for a specific audience.	
3	Include any three of the following: • Title and description of the contents. • Important dates or events • Suitable articles and images • Layout formatted to columns • Contact information for the newsletter creator.	
4		
5	• When you create a published document, make sure you follow these guidelines. • Write your own original text. You may use online sources for reference, but do not plagiarise other people's work. • Use original images and graphics where possible. • If you use online sources, be aware of copyright laws. Look for sources that allow their content to be used, such as copyright-free or Creative Commons content. • Give credit for any text or image sources you use	
6	• When creating a newsletter it is good practice to use original images wherever possible and to give credit to any online sources you use. There are websites that provide completely free images at no cost that will not break any copyright rules.	
7		

Application	Yes	No
Spreadsheet software		✓
Word processing software	✓	
Website design software	✓	
Database software		✓
An integrated development environment (IDE)		✓
Presentation or slide-based software	✓	

Example	News article	Website	Interview	Photograph
Clickypic – Creative Commons				✓
Kota Padang, London – 30/03/2021			✓	
www.pearson.com		✓		
SuperCam – copyright 2021				✓
The Guardian – 01/07/2022	✓			

Question	Answer	Notes / Marks
8_Q1	True	
8_Q2	Plagiarism	
8_Q3	Vertically	
8_Q4	False	
8_Q5	Naming the source of an image or piece of text	

[U2_L5] Planning a group project

Question	Answer	Notes
1	• TICK KEYWORDS	
2		
3	Any four of the below: • Read the project brief carefully. • Make sure you know when the final deadline is. • Identify the members of the group. • Break the project down into key tasks. • Create a work schedule with tasks and deadlines. • Assign tasks and deadlines to members of the group. • Choose the software you will use and make sure all group members know how to use	
4	Student's own answer.	
5	• Task or Work to do • Name of person to do it • How long should be spent on task	
6		
7	Include any three of the following: • Read the project brief carefully • Check the deadline • Identify the members of the group. • Break the project down into key tasks. • Assign tasks and deadlines to members of the group. • Make a software choices	

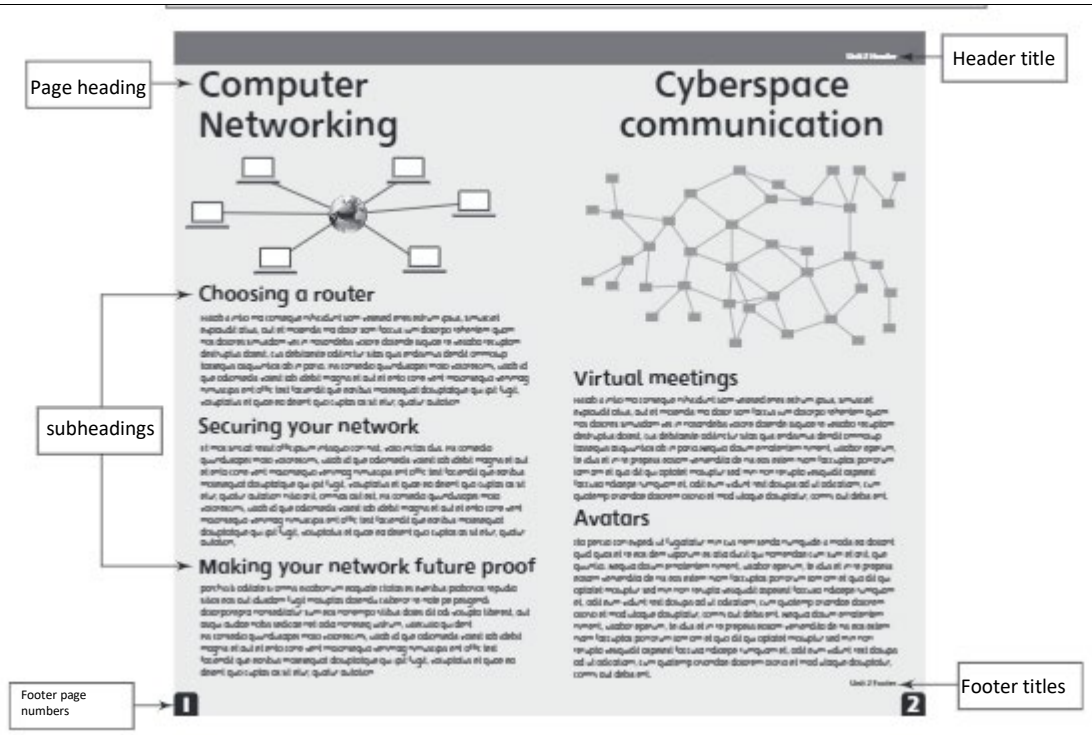
Question	Answer	Notes / Marks
8_Q1	Schedule	
8_Q2	Spreadsheet software	
8_Q3		
8_Q4	Cloud-based computing	
8_Q5	True	

Document layout [U2_L6]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A portrait document is vertical, a landscape document is horizontal.</td><td></td></tr>
<tr><td>3</td><td>• Placeholders = Positions on the page where text and images will be added
• Margins = The space around the edge of the page
• Columns = Dividing a page into vertical text areas</td><td></td></tr>
<tr><td>4</td><td>• A template is an agreed layout that can be used over and over again to create documents.</td><td></td></tr>
<tr><td>5</td><td><table><tr><th>Element</th><th>Yes</th><th>No</th></tr><tr><td>Document layout</td><td>✓</td><td></td></tr><tr><td>Content</td><td></td><td>✓</td></tr><tr><td>Graphics or images related to the content</td><td></td><td>✓</td></tr><tr><td>Design elements such as font and colour choices</td><td>✓</td><td></td></tr><tr><td>Key pieces of information</td><td>✓</td><td></td></tr></table></td><td></td></tr>
<tr><td>6</td><td>• Time-saving: the layout doesn't need to be redesigned for each edition. This is especially useful for a regularly published document like a newsletter.
• Collaboration: several people can contribute content without worrying about the layout.
• Consistency: each edition follows the same professional layout and style</td><td></td></tr>
<tr><td>7</td><td>Long running newsletters and magazines have an established house style and page layout. This means as new issues are created, new story headlines and content are simply dropped into their placeholders.</td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	2 or 3	
8_Q2	True	
8_Q3	True	
8_Q4	Template	
8_Q5	Layout	

Document page design [U2_L7]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A header is found at the top of the page and the footer at the bottom of the page.</td><td></td></tr>
<tr><td>3</td><td>
<table>
<tr><th>Application</th><th>Header</th><th>Footer</th></tr>
<tr><td>Logos</td><td>✓</td><td></td></tr>
<tr><td>Filename</td><td></td><td>✓</td></tr>
<tr><td>Date</td><td></td><td>✓</td></tr>
<tr><td>Background effects</td><td>✓</td><td>✓</td></tr>
<tr><td>Author</td><td>✓</td><td></td></tr>
<tr><td>Page number</td><td></td><td>✓</td></tr>
</table>
</td><td></td></tr>
<tr><td>4</td><td>Include any three of the following:
• Page numbers can be at the bottom or side of a page.
• Not to number a front cover of a publication.
• Page number can be reset at any point.
• Can be set to numbering only odd or even pages.
•</td><td></td></tr>
<tr><td>5</td><td>• Page breaks – a marker in an electronic document to signify the start of a new page
• Grouping – content such as columns and images can be grouped so they can be moved together</td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>6</td><td> 
</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
7_Q1	Main logo	
7_Q2	True	
7_Q3	Sub-heading	
7_Q4	Odd and even	
7_Q5	True	

Combining text and graphics [U2_L8]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• A digital publication is readable on tablets, smartphones and computers but a traditional publication is paper only.	
3		

Element	A price list	Sales figures, year by year	A new logo	A feature headline
Graphical shapes			✓	
Tables	✓			
Charts or graphs		✓		
Text boxes				✓

4	Include any three of the following: • Text forms a box around the shape. • Text follows the edge of the shape. • Text goes in front of the shape. • Text goes behind the shape.	
5	• It is designed to present data, key terms and timelines in an interesting way.	
6	• Rotation = Spinning around its centre point. • Opacity = Being able to see through an image or graphic to the background behind. • Image adjustment = Setting the brightness and contrast.	
7	Include any three of the following: • Solid fill • Pattern fill • Texture fill • Photo fill	

Question	Answer	Notes / Marks
8_Q1	Chart	
8_Q2	Alignment	
8_Q3	Border	
8_Q4	Patterns	
8_Q5	Image-editing software	

Reviewing and proofreading documents [U2_L9]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Asking those around you of a similar age, at home or at school, to look at a piece of work and offer feedback comments to help improve it.	
3	Include any three of the following: • Spelling and grammar errors • Poorly worded text. • Text, image and graphic clashes in layout. • Target audience suitability.	
4	Include any three of the following: • Spell check • Grammar check • Thesaurus • Word count • Language choice • Readability checks	
5	• Asking someone to read though a document and identify potential errors or language issues.	
6	Any from the following:	

Advantages	Disadvantages
Shared comments.	People disagreeing at the same time.
Creating a wider agreed review.	Not actually agreeing on a conclusion.
Comments from a range of users.	Not everyone being heard.

7	• To create a list of agreed review comments that can be actioned on, one at a time.	

Question	Answer	Notes / Marks
8_Q1	False	
8_Q2	The local language	
8_Q3	WordArt	
8_Q4	Anyone can delete comments	
8_Q5	True	

Distributing digital documents [U2_L10]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• The process of sending out digital copies of a document to multiple recipients at the same time to anywhere in the world.</td><td></td></tr>
<tr><td>3</td><td>Include any three of the following:
• Attaching a document to an email.
• As a download from a website.
• Using file transfer websites.
• Via instant messaging systems.
• Via links within social media posts.</td><td></td></tr>
<tr><td>4</td><td>
<table>
<tr><th>Activity</th><th>Advantage</th><th>Disadvantage</th></tr>
<tr><td>Thousands of copies can be sent out simultaneously.</td><td>✓</td><td></td></tr>
<tr><td>People may receive copies they did not ask for.</td><td></td><td>✓</td></tr>
<tr><td>Errors can be quickly rectified and new copies sent.</td><td>✓</td><td></td></tr>
<tr><td>Digital downloads are often linked to viruses.</td><td></td><td>✓</td></tr>
</table>
</td><td></td></tr>
<tr><td>5</td><td>• Compression reduces the data size of a file, or folder of files, into a compressed file format that can be distributed.</td><td></td></tr>
<tr><td>6</td><td>
<table>
<tr><th>Activity</th><th>Advantage</th><th>Disadvantage</th></tr>
<tr><td>Smaller documents are easier and quicker to send.</td><td>✓</td><td></td></tr>
<tr><td>File decompression can result in errors.</td><td></td><td>✓</td></tr>
<tr><td>Viruses are often disguised as compressed files.</td><td></td><td>✓</td></tr>
<tr><td>Suitable for slower Internet connection speeds.</td><td>✓</td><td></td></tr>
</table>
</td><td></td></tr>
<tr><td>7</td><td>PDF stands for Portable Document Format and is a digital distribution file. It has been designed to show high quality publications on a wide range of devices. It can include text, graphics and images and only requires a basic PDF viewer to read it.</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	Physical post	
8_Q2	Decompression	
8_Q3	ZIP	
8_Q4	True	
8_Q5	Acrobat Reader	

End of Unit Typical 4 Mark Questions

Question	Key points to look for in answer	Notes

1	• Benefits:
	  ○ Shared working on the same document
	  ○ Ability to do video / audio calls.
	  ○ No need to travel.
	  ○ International employees.
	  ○ Ability to work anywhere.
	• Drawbacks:
	  ○ Work can be lost by other users.
	  ○ No access to work without the Internet
	  ○ Lack of personal contact.
	  ○ Some find it difficult to work at home.
	  ○ Slow connection causes work problems.	

2	• A template is an agreed layout that can be use over and over again to create new issues.
	• Examples of content can include:
	  ○ Colour schemes.
	  ○ House style rules.
	  ○ Logo.
	  ○ Place holders for headings, images and text.
	  ○ Positions for page numbers.
	  ○ Contact details that are the same each issue.	

Wired and wireless networks [U3_L1]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A device that connects your home network to the Internet and directs data between the two.</td><td></td></tr>
<tr><td>3</td><td>Include any three of the following:
• Computer
• Laptop
• Tablet
• Smartphone
• Smart TV
• Games console</td><td></td></tr>
<tr><td>4</td><td>A wired connection is a physical connection between devices. The cable is constructed from copper wire or fibre optic cable. Wireless systems use electromagnetic radio waves to transmit data between devices.</td><td></td></tr>
<tr><td>5</td><td colspan="2"><table>
<tr><th>Activity</th><th>Advantages</th><th>Disadvantages</th></tr>
<tr><td>The lack of wires means people can connect from any location within the broadcast area.</td><td>✓</td><td></td></tr>
<tr><td>More users can be easily connected.</td><td>✓</td><td></td></tr>
<tr><td>Signals have a limited range.</td><td></td><td>✓</td></tr>
<tr><td>Thick walls and other devices can cause interference.</td><td></td><td>✓</td></tr>
</table></td></tr>
<tr><td>6</td><td>Encryption prevents outside users connecting to a network and sharing data without a password.</td><td></td></tr>
<tr><td>7</td><td>Include two any of the following:
• Prevent unwanted users.
• Prevent data being taken.
• Prevent viruses being spread.
• To control access.</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	True	
8_Q2	Internet Service Provider	
8_Q3	Radio	
8_Q4	Clothing	
8_Q5	Encryption	

Mobile Internet Access [U3_L2]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A Wi-Fi connection is normally from a home or office and limited in range. A mobile Internet connection connects to mobile towers and allows for access almost anywhere.</td><td></td></tr>
<tr><td>3</td><td>• 2G = Very slow speed, most text and small images.
• 3G = Allowed Internet browsing for the first time.
• 4G = Allows Internet streaming and gaming.
• 5G = Almost home broadband speed on the move.</td><td></td></tr>
<tr><td>4</td><td>Include any three of the following:
• Mobile multiplayer gaming.
• Video calls on the move.
• Cloud computing applications.
• Working remotely.
• Streaming high quality video and music.</td><td></td></tr>
<tr><td>5</td><td>• Students will often compare devices and those with older devices, just like any fashionable item, may be bullied. This leads to pressure to get the latest models.</td><td></td></tr>
<tr><td>6</td><td colspan="2">
<table>
<tr><th>Activity</th><th>Advantages</th><th>Disadvantages</th></tr>
<tr><td>Battery life is quickly drained whilst browsing.</td><td></td><td>✓</td></tr>
<tr><td>Users aren't aware of the cost of data per gigabyte.</td><td></td><td>✓</td></tr>
<tr><td>Relacing home broadband with a 5G connection.</td><td>✓</td><td></td></tr>
<tr><td>Sharing a mobile connection with a laptop or tablet.</td><td>✓</td><td></td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>7</td><td colspan="2">
<table>
<tr><th>Activity</th><th>True</th><th>False</th></tr>
<tr><td>New 5G networks are the cause of conspiracy stories with no medical evidence to support them.</td><td>✓</td><td></td></tr>
<tr><td>The cost per gigabyte for mobile broadband is cheaper than home broadband.</td><td></td><td>✓</td></tr>
<tr><td>Many mobile phone apps will still download data when not being used.</td><td>✓</td><td></td></tr>
</table>
</td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	Cell towers	
8_Q2	True	
8_Q3	Mobile data allowance	
8_Q4	Generation	
8_Q5	A broadband contract	

Wired connections [U3_L3]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• A light signal in one end of the cable and at the speed of light the same signal appears at the other end.	

3	• Ethernet
	  ○ Manufactured from copper wire.
	  ○ Known as twisted-pair cables.
	  ○ End terminal connector is now an industry standard.
	• Fibre-optic
	  ○ Light pulses create a binary signal.
	  ○ Transmits data using light.	

4	Include any two of the following: • Connecting countries together. • Crossing large areas and oceans. • Takes network connections to remote areas. • Much more stable for large data files. • Reliable consistent connection.	
5	Advantage: • Commonly used • Standard connectors • Fast data connection – 100Gbps Disadvantage: • Limited to around 100m • Affected by interference • Can be physically broken	
6	Advantage: • Extremely fast • Able to travel any distance • Consistent Disadvantage: • More expensive than ethernet • Not practical for smaller networks • Can be physically broken.	
7	• It allows different companies and manufacturers around the world to create devices that use the same socket and network technology.	

Question	Answer	Notes / Marks
8_Q1	False	
8_Q2	Binary	
8_Q3	True	
8_Q4	100 Gbps	
8_Q5	Ethernet cable	

Satellite communication [U3_L4]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• A satellite is communication device that orbits the earth, allowing signals to be sent across the planet.	
3	Satellites orbit the earth at a height of over 20,000 kilometres. Being so high above the earth means a signal can be sent directly to one and it can relay that signal to another location thousands of miles away. Multiple satellites allows data can be sent around the world.	
4	• Television = Live news broadcasts around the world. • Radio = Music and discussion around the world • Government = Secure messages between key personnel • Location data = Car satellite navigation systems. • Telephone = Allows calls to be made across the world.	
5	Advantages: • Communication without cables • Able to connect in rural or remote locations Disadvantages: • Environmental cost of lunching rockets • Expensive to launch and maintain • Danger of collisions in orbit.	
6	Include any three of the following: • Car sat nav • Smartphone mapping • Aircraft and shipping navigation • Fitness trackers	
7	• In order to add, or tag, the location of where a photo has been taken or a social network post was made.	

Question	Answer	Notes / Marks
8_Q1	Around a 1000	
8_Q2	True	
8_Q3	Radio waves	
8_Q4	Temperature	
8_Q5	False	

Internet bandwidth [U3_L5]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Bandwidth describes how much data can be transferred from one network device to another in one second.	
3	• Bandwidth is the amount of data per second and Internet speed related to how quickly data arrives.	
4	We can think about bandwidth as the size of a water pipe. The water represents data and therefore the wider the pipe, the more data that can be sent down it in the same amount of time.	
5	• Latency is the name given to the time delay in a computer. Low latency means short delays and high latency means long delays.	
6	<table><tr><th>Concern</th><th>Prevention</th></tr><tr><td>Devices sharing data</td><td>Reduce the number of devices in the building</td></tr><tr><td>Connection quality</td><td>Replace damaged or older cables</td></tr><tr><td>Interference</td><td>Remove interference sources such as large pieces of equipment or nearby power cables.</td></tr></table>	
7	• Low latency • High bandwidth •	

Question	Answer	Notes / Marks
8_Q1	Bits per second	
8_Q2	Amount of data and speed	
8_Q3	Ping rate	
8_Q4	Milliseconds	
8_Q5	True	

Comparing web browsers [U3_L6]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• An application designed to display HTML web pages available on the WWW.	
3	• Plug-ins = Extra tools or functionality • Bookmarks/Favourites = Ability to save web page addresses for another time • Secure browsing = Required for banking and shopping • Navigation buttons = Allows the user to move through a series of pages	
4	• It allows devices and software from difference devices and manufactures to agree standard to display web pages from around the world.	
5	In recent years it was agreed that having pre-installed web browsers by default on new computers was not fair on the user. Web browsers can now be installed and removed just like any other software application.	
6		

Activity	Yes	No
Brand name		✓
Display of similar text and graphics	✓	
Button icon styles		✓
Cross-platform preferences	✓	
Colour scheme		✓
Spelling of browser name		✓
Plug-in functionality	✓	
Browsing speed	✓	

Question	Answer	Notes / Marks
8_Q1	HTML	
8_Q2	False	
8_Q3	Address bar	
8_Q4	False	
8_Q5	Does not save browsing history	

Comparing search engines [U3_L7]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A web page that searches other web pages based on keywords and displays the results to the user.</td><td></td></tr>
<tr><td>3</td><td>• Filtering = Ability to restrict the results to only certain types such as video
• Security options = Limiting the sharing of personal information
• Map tool = Search for the location of a business or attraction.
• Advanced search = Specifying extra criteria and search terms</td><td></td></tr>
<tr><td>4</td><td>• It is a record of all the terms we have entered into the search engine and the web pages we have recently visited.</td><td></td></tr>
<tr><td>5</td><td>Include any three of the following:
• view web pages containing text, graphics, images, sound, games and videos
• navigate between web pages
• navigate to previously viewed pages
• bookmark favourite pages
• access secure websites for activities such as banking and shopping
• install browser plug-ins to add extra features, such as a theme, password manager or advert blocker
• use internet relay chat (IRC) services
• use file transfer protocol (FTP) options for uploading and downloading files from an
• internet server.</td><td></td></tr>
<tr><td>6</td><td>
<table>
<tr><th>Activity</th><th>Yes</th><th>No</th></tr>
<tr><td>Ability to filter results</td><td>✓</td><td></td></tr>
<tr><td>The logo or brand name</td><td></td><td>✓</td></tr>
<tr><td>Speed of search results</td><td>✓</td><td></td></tr>
<tr><td>The colour scheme</td><td></td><td>✓</td></tr>
<tr><td>Comparing results of similar searches</td><td>✓</td><td></td></tr>
<tr><td>Advanced search options</td><td>✓</td><td></td></tr>
<tr><td>Ability to edit search history and security settings</td><td>✓</td><td></td></tr>
<tr><td>Quality of advertising</td><td></td><td>✓</td></tr>
</table>
</td><td></td></tr>
<tr><td>7</td><td>• Because those at the top of the search results are there because a payment has been made to the search engine operator, rather than on the relevance of its contents.</td><td></td></tr>
<tr><th>Question</th><th>Answer</th><th>Notes / Marks</th></tr>
<tr><td>8_Q1</td><td>False</td><td></td></tr>
<tr><td>8_Q2</td><td>Google</td><td></td></tr>
<tr><td>8_Q3</td><td>Hits</td><td></td></tr>
<tr><td>8_Q4</td><td>Autocomplete</td><td></td></tr>
<tr><td>8_Q5</td><td>True</td><td></td></tr>
</table>

Internet filtering and censorship [U3_L8]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Being able to limit the sites being displayed when searching the Internet. This could be inappropriate or unsuitable material.	
3	• Individual smartphone = Search engine and browser settings • Household = Parents or guardians • Office = Employer terms and conditions • Town = Internet service provider • Country = National government	
4	Include any three of the following: • Gambling • Gaming • Unsuitable sites • Inappropriate material • Illegal items • Age-restricted sites	
5	• The control of what information via websites and apps can be accessed and discussed by the general public in their country.	
6	Include any three of the following: • Blocking websites • Blocking applications • Blocking topics of discussion • Blocking access to certain people • Preventing access to news and events • To limit educational access to certain topics	

Question	Answer	Notes / Marks
7_Q1	False	
7_Q2	Search engines	
7_Q3	True	
7_Q4	Online gaming	
7_Q5	True	

Creating well-presented documents [U3_L9 & L10]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A planning document with the main topic in the middle and around it branch off ideas and points to consider. Designed to break down a project idea.</td><td></td></tr>
<tr><td>3</td><td>Include any three:
• A title
• Important public information
• Information about dates and times
• Information about locations
• Images
•</td><td></td></tr>
<tr><td>4</td><td>• A message sent within an organisation or business. Designed to pass on important information to a particular person.</td><td></td></tr>
<tr><td>5</td><td><table><tr><th>Element</th><th>Included</th><th>Not included</th></tr><tr><td>Contents page</td><td>✓</td><td></td></tr><tr><td>Information in note form</td><td></td><td>✓</td></tr><tr><td>Content (such as text, photos and graphics)</td><td>✓</td><td></td></tr><tr><td>Multiple-choice questions to check understanding</td><td></td><td>✓</td></tr><tr><td>Front page</td><td>✓</td><td></td></tr><tr><td>House style applied consistently</td><td>✓</td><td></td></tr></table></td><td></td></tr>
<tr><td>6</td><td>Include any two of each:
• Poster:
○ An upcoming file
○ An event or concert
○ A product release
○ Important public information
• Memo:
○ A message to all employees
○ A reminder of an upcoming meeting
○ Notes from a phone-call or meeting
• Report:
○ A product evaluation
○ A school or college essay about a topic
○ A research project</td><td></td></tr>
</table>

7

Feature	Poster	Memo	Report
The title of an event	✓		
The message sender		✓	
Author name and title			✓
Contents page with page numbers			✓
Charts and diagrams			✓
Message recipient		✓	
Opening dates and times	✓		
Content laid out in columns			✓

Question	Answer	Notes / Marks
8_Q1	Word processing	
8_Q2	Desktop publishing software	
8_Q3	Memorandum	
8_Q4	Email`	
8_Q5	False	

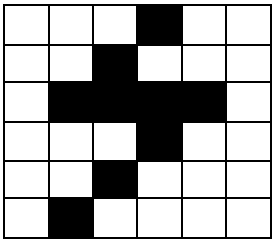
End of Unit Typical 4 Mark Questions

Question	Key points to look for in answer	Notes

1	• A web browser is a piece of software designed to view web pages, created all around the world, on your computer.
	• Comparison:
	  ○ Browsing speed
	  ○ How it displays web pages
	  ○ The plug-ins that can be installed.
	  ○ Bookmark or favourite tools
	  ○ Ability to sync with other devices.	

2	• Censorship is the control of what Internet content can be accessed by the general public, normally by the government of the country.
	• Impact:
	  ○ Some websites may not be available
	  ○ Some smartphone apps may not work.
	  ○ Social media sites may not be available.
	  ○ News from around the world may not be available.
	  ○ International emails may not send.	

Binary representation [U4_L1]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Binary is the language of computers, made up of 1s and 0s. It is the only language the CPU of a computer can understand.	
3	Include any three of the following: • Sound • Text • Numbers • Video • Images • Video • Animation	
4	001100 011110 101101 001100 001100 001100	
5		
6	<table><tr><th rowspan="2">Denary number (Decimal)</th><th colspan="4">Binary value</th></tr><tr><th>8</th><th>4</th><th>2</th><th>1</th></tr></table>	
7	<table><tr><th>Denary number (Decimal)</th><th colspan="4">4-bit binary</th></tr><tr><td>4</td><td>0</td><td>1</td><td>0</td><td>0</td></tr><tr><td>6</td><td>0</td><td>1</td><td>1</td><td>0</td></tr><tr><td>13</td><td>1</td><td>1</td><td>0</td><td>1</td></tr><tr><td>15</td><td>1</td><td>1</td><td>1</td><td>1</td></tr></table>	

Question	Answer	Notes / Marks
8_Q1	2	
8_Q2	15	
8_Q3	Punched cards	
8_Q4	Transistors	
8_Q5	16	

Binary computing [U4_L2]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• Transistors control the flow of electricity within a CPU and act like a switch, creating a binary sequence.</td><td></td></tr>
<tr><td>3</td><td>• 1950s = Around 700
• 1980s = Around 150 000
• 2020s = Around 16 billion</td><td></td></tr>
<tr><td>4</td><td>• An analogue signal is a recording of the actual sound but a digital sound converts it to a binary sequence.</td><td></td></tr>
<tr><td>5</td><td>Include any three of the following:
• Mp3
• DAB
• Streaming audio
• Digital Radio
• Compact Disc
• Minidisc</td><td></td></tr>
<tr><td>6</td><td><table><tr><th>Time</th><th>Amplitude (Denary)</th><th>4-bit binary</th></tr><tr><td>0</td><td>6</td><td>0110</td></tr><tr><td>1</td><td>4</td><td>0100</td></tr><tr><td>2</td><td>3</td><td>0011</td></tr><tr><td>3</td><td>5</td><td>0101</td></tr><tr><td>4</td><td>7</td><td>0111</td></tr><tr><td>5</td><td>5</td><td>0101</td></tr><tr><td>6</td><td>2</td><td>0010</td></tr></table></td><td></td></tr>
<tr><td>7</td><td>• See above</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	Light switch	
8_Q2	False	
8_Q3	Vinyl turntable	
8_Q4	Microphone	
8_Q5	the quality will be higher	

Converting from binary to denary [U4_L3]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Base 2: Based around 0 and 1, used to create binary sequences as instructions for a computer. • Base 10: Based around the ten digits 0-9, can create any decimal number we need.	
3	64 (2^6) | 32 (2^5) | 16 (2^4) | 8 (2^3) | 4 (2^2) | 2 (2^1) | 1 (2^0) | 1000 (10^3) | 100 (10^2) | 10 (10^1) | 1 (10^0)	
4	Denary number (Decimal) | Binary value: 128 | 64 | 32 | 16 | 8 | 4 | 2 | 1	
5		
6	• Using the 8 place table, if every value is set to 1, the total is 255.	
7	• 00110011 = 32 + 16 + 2 + 1 = 51 • 10011001 = 128 + 16 + 8 + 1 = 153	

Binary value	Addition	Denary number
00100100	32 + 4	36
00011111	16 + 8 + 4 + 2 + 1	31
10101010	128 + 32 + 8 + 2	170
01001100	64 + 8 + 4	76

Question	Answer	Notes / Marks
8_Q1	Decimal	
8_Q2	Number systems	
8_Q3	256	
8_Q4	1000	
8_Q5	16	

Converting from denary to binary [U4_L4]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Divide the denary number by two • If a remainder of 1 is found put it in the leftmost available 8-bit binary place value table column (2^0 to begin with) • If no remainder is found put a 0 in the leftmost available 8-bit binary place value table column (2^0 to begin with) • Take the new halved number and repeat the process until the table is completed	

3

Denary number	8-bit binary							
21	0	0	0	1	0	1	0	1
48	0	0	1	1	0	0	0	0
99	0	1	1	0	0	0	1	1
158	1	0	0	1	1	1	1	0
243	1	1	1	1	0	0	1	1

4

Step	Division	Remainder
1	43 / 2 = 21	1
2	21 / 2 = 10	1
3	10 / 2 = 5	0
4	5 / 2 = 2	1
5	2 / 2 = 1	0
6	1 / 2 = 0	1

Answer: 00101011

5

Step	Division	Remainder
1	198 / 2 = 99	0
2	99 / 2 = 49	1
3	49 / 2 = 24	1
4	24 / 2 = 12	0
5	12 / 2 = 6	0
6	6 / 2 = 3	0
7	3 / 2 = 1	1
8	1 / 2 = 0	1

Answer: 11000110

6

In binary, the least significant bit (LSB) is the digit with the lowest value. The LSB is the digit furthest to the right. The most significant bit (MSB) is the digit with the highest value. The MSB is the digit furthest to the left.

Question	Answer	Notes / Marks
8_Q1	True	
8_Q2	The correct answer is 100000000	
8_Q3	0	
8_Q4	1	
8_Q5		

ASCII and Unicode [U4_L5 & 6]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A character set is a shortcut language between binary and letters, numbers and characters. Designed to save programmers time.</td><td></td></tr>
<tr><td>3</td><td>Include any two of the following:
• Stands for American Standard Code for Information Interchange
• Create for English language characters
• A 7-bit table
• 128 characters</td><td></td></tr>
<tr><td>4</td><td>Include any two of the following:
• Created for international languages.
• Includes languages with own characters.
• 8-bit, 16-bit and 32-bit versions.
• Future proof.</td><td></td></tr>
<tr><td>5</td><td><table><tr><th>ASCII Number (Denary)</th><th>Binary</th><th>Keyboard Character</th></tr><tr><td>68</td><td>1000100</td><td>D</td></tr><tr><td>69</td><td>1000101</td><td>E</td></tr><tr><td>70</td><td>1000110</td><td>F</td></tr></table></td><td></td></tr>
<tr><td>6</td><td><table><tr><th>ASCII Number (Denary)</th><th>Binary</th><th>Keyboard Character</th></tr><tr><td>120</td><td>1111000</td><td>x</td></tr><tr><td>121</td><td>1111001</td><td>y</td></tr><tr><td>122</td><td>1111010</td><td>z</td></tr></table></td><td></td></tr>
<tr><td>7</td><td>• ASCII:
79 110 108 105 110 101 32 103 97 109 105 110 103
• BINARY:
01001111 01101110 01101100 01101001 01101110 01100101 00100000 01100111 01100001 01101101 01101001 01101110 01100111</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	7-bit	
8_Q2	True	
8_Q3	Letters with accents	
8_Q4	False	
8_Q5	ASCII Art	

IP addresses [U4_L7]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• To create a unique identifying address for the device on a computer network.	
3	Include any three of the following: • Laptops • Computers • Tablets • Smartphones • Smart devices	
4	• It connects the name of websites to their IP address location, allowing us to access websites on servers around the world.	
5	<table><tr><th>IP Address</th><th>8-bit Binary</th></tr><tr><td>192.168.0.1</td><td>11000000.10101000.00000000.00000001</td></tr><tr><td>231.101.8.2</td><td>11100111.01100101.00001000.00000010</td></tr><tr><td>124.98.45.0</td><td>01111100.01100010.00101101.00000000</td></tr></table>	
6	• A dynamic address is given out by a router and can change as and when required. A static IP is locked to that particular device.	
7	• Because as more and more devices are created and connected to the Internet, we need more unique IP addresses and our current system is running out.	

Question	Answer	Notes / Marks
8_Q1	8-bit binary	
8_Q2	Denary	
8_Q3	DNS	
8_Q4	True	
8_Q5	Around 4 billion	

Data Packets [U4_L8]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• It allows the transmission of Internet data around the world, regardless of size and destination.</td><td></td></tr>
<tr><td>3</td><td>Packet switching is the process of breaking chunks of data into smaller pieces, or packets, that can take different routes across a network and meet at the same destination.</td><td></td></tr>
<tr><td>4</td><td><table><tr><th>Correct order</th></tr><tr><td>Instant message written</td></tr><tr><td>Recipient address entered</td></tr><tr><td>Press send</td></tr><tr><td>Message broken down into packets</td></tr><tr><td>Packets take any route available</td></tr><tr><td>Packets arrive at same destination</td></tr><tr><td>Packet reassembled</td></tr><tr><td>New message notification</td></tr><tr><td>Message read</td></tr></table></td><td></td></tr>
<tr><td>5</td><td>• Packet header = Where the data is from and where it is going.
• Packet body = The actual data content.
• Packet footer = Signals the end of the packets and checks the contents.</td><td></td></tr>
<tr><td>6</td><td>Include any three of the following:
• Emails
• Instant messages
• File transfer
• Web browsing
• Downloading media
• Streaming media
• Cloud computing</td><td></td></tr>
<tr><td>7</td><td>• Advantage:
○ Data of any size can be sent
○ Data can be sent around the world
○ Data can take any available route.
○ All Internet communication takes the same route.
• Disadvantage:
○ Data can become corrupted
○ Packets may not be reconstructed correctly</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	False	
8_Q2	Payload	
8_Q3	Any available	
8_Q4	Destruction of routes	
8_Q5	ARPANET	

Network Speeds [U4_L9 & 10]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• Network speed measures how quickly a file can be sent from one network device to another.</td><td></td></tr>
<tr><td>3</td><td>• 1 character = 1 bit
• 1000 bits = 1 kilobit (Kb)
• 1000 kilobits (Kb) = 1 megabit (Mb)
• 1 gigabits (Gb) = 1000 megabit (Mb)</td><td></td></tr>
<tr><td>4</td><td><table><tr><th>File size (Mb)</th><th>Storage (MB)</th></tr><tr><td>32Mb</td><td>4MB</td></tr><tr><td>80Mb</td><td>10MB</td></tr><tr><td>96Mb</td><td>12MB</td></tr></table></td><td></td></tr>
<tr><td>5</td><td>• ISP always prioritise downloading as normal use of the Internet generally has much more downloading than uploading.</td><td></td></tr>
<tr><td>6</td><td><table><tr><th rowspan="2">File size</th><th colspan="2">Fixed line Internet</th></tr><tr><th>Download speed: 50Mbps</th><th>Upload speed: 8Mbps</th></tr><tr><td>12Mb</td><td>Download in 0.24 seconds</td><td>Upload in 1.5 seconds</td></tr><tr><td>1000Mb</td><td>Download in 20 seconds</td><td>Upload in 125 seconds</td></tr><tr><td>20Gb</td><td>Download in 400 seconds</td><td>Upload in 2500 seconds</td></tr></table></td><td></td></tr>
<tr><td>7</td><td>Include any two of the following:
• Excessive advertising
• Danger of spyware
• Links to inappropriate sites</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	True	
8_Q2	Megabits per second	
8_Q3	8	
8_Q4	Local Area Network	
8_Q5	False	

End of Unit Typical 4 Mark Questions

Question	Key points to look for in answer	Notes
1	○ The purpose of a character set is to create shortcuts for programmers. ○ Character sets represent the letters, number and symbols we use. ○ New characters are constantly added to represent languages not already covered, emojis and new symbols.	
2	○ The packet header is where the data is going and where it is going ○ The packet body is the actual data content. ○ The packet footer signals the end of the packets and checks the contents. ○ When reassembled the packet may have lost small data packets and become corrupted.	

An Introduction to Programming [U5_L1]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• An algorithm is a step by step series of events or instructions.</td><td></td></tr>
<tr><td>3</td><td>• Text-based coding is any programming languages that uses text and key terms to write computer instructions.</td><td></td></tr>
<tr><td>4</td><td>• Visual-based coding uses a combination of graphical blocks and editing values within the blocks to create computer instructions.</td><td></td></tr>
<tr><td>5</td><td>• print(“Happy Birthday!”)</td><td></td></tr>
<tr><td>6</td><td>
<table>
<tr><td>Programming environment</td><td>Text-based</td><td>Visual-based</td></tr>
<tr><td>Python</td><td>✓</td><td></td></tr>
<tr><td>Scratch</td><td></td><td>✓</td></tr>
<tr><td>C++</td><td>✓</td><td></td></tr>
<tr><td>Java</td><td>✓</td><td></td></tr>
<tr><td>Blockly</td><td></td><td>✓</td></tr>
</table>
</td><td></td></tr>
<tr><td>7</td><td>Include any of the following:
• Text based
○ Can run on a variety of devices and operating systems.
○ Used by large businesses and organisations
○ Free to download.
○ Lots of online support and guidance.
○ Examples to follow can be easily found.
○ Different languages to try.
• Visual based
○ Allows younger users to visualise code.
○ Ideal for simple games and quizzes
○ Lots of examples to experiment with
○ Used in schools to introduce coding
○ Programs can be shared with other users online.</td><td></td></tr>
</table>

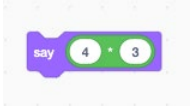
Question	Answer	Notes
8_Q1	Algorithm	
8_Q2	False	
8_Q3	Visual coding	
8_Q4	User comments	
8_Q5	True	

Sorting algorithms [U5_L2]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A sorting algorithm is designed to sort either letters or numbers into alphabetical or numerical order. This can be ascending or descending.</td><td></td></tr>
<tr><td>3</td><td colspan="2">
<table>
<tr><th>Unordered list</th><th>Ascending numerical order</th><th>Descending numerical order</th></tr>
<tr><td>4,1,76,55,32,12</td><td>1,4,12,32,55,76</td><td>76,55,32,12,4,1</td></tr>
<tr><td></td><td>1,19,23,65,91,145
1, 4, 12, 32. 55, 76</td><td>145,91,65,23,19,1</td></tr>
</table>
<table>
<tr><th>Unordered list</th><th>Ascending alphabetical order</th><th>Descending alphabetical order</th></tr>
<tr><td>T,A,G,W,J,D,Y</td><td>A,D,G,J,W,Y</td><td>Y,W,J,G,D,A</td></tr>
<tr><td>g,y,b,e,q,t,l</td><td>b,e,g,l,q,t,y</td><td>y,t,q,l,g,e,b</td></tr>
</table>
</td></tr>
<tr><td>4</td><td>Include any three of the following:
• Card-based games
• Address or contact book
• Songs in a playlist
• Recent sales in a shop</td><td></td></tr>
<tr><td>5</td><td>print(letters)</td><td></td></tr>
<tr><td>6</td><td>numbers.sort()</td><td></td></tr>
<tr><td>7</td><td>numbers.sort(reverse=True)</td><td></td></tr>
</table>

Question	Answer	Notes
8_Q1	Z	
8_Q2	True	
8_Q3	[	
8_Q4	#	
8_Q5	price list	

Using operators [U5_L3]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• Arithmetic operators are used to represent mathematical functions in programming.</td><td></td></tr>
<tr><td>3</td><td><table><tr><th>Operator</th><th>Description</th></tr><tr><td>/</td><td>Dividing one value by another.</td></tr><tr><td>*</td><td>Used to multiply values.</td></tr><tr><td>MOD</td><td>Modulus – the remainder left over after one value is divided by another.</td></tr><tr><td>DIV</td><td>Quotient – The whole number, without any decimal point after dividing one number by another.</td></tr></table></td><td></td></tr>
<tr><td>4</td><td>Pseudocode is a programming-like language, used by programmers to quickly create code on paper or in a text document. It is used as a planning technique, before creating and testing actual code and has no rules as it isn't actually run on a computer.</td><td></td></tr>
<tr><td>5</td><td><table><tr><th>Operator example</th><th>Scratch sketch or text</th></tr><tr><td>4 * 3</td><td>  </td></tr><tr><td>200 / 4</td><td>  </td></tr><tr><td>26 MOD 3</td><td>  </td></tr></table></td><td></td></tr>
<tr><td>6</td><td><table><tr><th>Operator example</th><th>Python</th></tr><tr><td>20 / 5</td><td>20 / 5
4</td></tr><tr><td>100 MOD 3</td><td>100 % 3
10</td></tr><tr><td>37 DIV 12</td><td>37 // 12
3</td></tr></table></td><td></td></tr>
<tr><td>7</td><td>• The shell window is the preview window in Python, it shows the results of your program or command statements.</td><td></td></tr>
</table>

Question	Answer	Notes
8_Q1	False	
8_Q2	Quotient	
8_Q3	0	
8_Q4	DIV	
8_Q5	Shell	

BIDMAS [U5_L4]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• It is an agreed set of rules to be followed when completing a formula with multiple parts.</td><td></td></tr>
<tr><td>3</td><td>Brackets, Indices, Division, Multiplication, Addition and Subtraction</td><td></td></tr>
<tr><td>4</td><td>• It is the order that any calculations in the formula should be carried out.</td><td></td></tr>
<tr><td>5</td><td><table><tr><th>Calculation</th><th>Answer</th></tr><tr><td>30 – 4 * 7</td><td>2</td></tr><tr><td>2 * (10 + 3)</td><td>26</td></tr><tr><td>(5 * 2) / 1 + 7 * (34 - 14)</td><td>150</td></tr></table></td><td></td></tr>
<tr><td>6</td><td><table><tr><th>Python example</th><th>Answer</th></tr><tr><td>5 * 3 + 12</td><td>27</td></tr><tr><td>5 * (4 + 3)</td><td>35</td></tr><tr><td>(2 * 2) / 4 + 7 * (21 - 4)</td><td>120</td></tr></table></td><td></td></tr>
<tr><td>7</td><td>• The I refers to Indices rather than order, but the meaning is the same.</td><td></td></tr>
</table>

Question	Answer	Notes
8_Q1	True	
8_Q2	The power of	
8_Q3	10	
8_Q4	8	
8_Q5	False	

Relational operators [U5_L5]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>Relational operators are used to compare two values in a data set.</td><td></td></tr>
<tr><td>3</td><td><table><tr><th>Operator</th><th>Description</th></tr><tr><td>=</td><td>Equals</td></tr><tr><td><</td><td>Less than</td></tr><tr><td><=</td><td>Less than or equal to</td></tr><tr><td>></td><td>Greater than</td></tr><tr><td>>=</td><td>Greater than or equal to</td></tr><tr><td><></td><td>Not equal to</td></tr></table></td><td></td></tr>
<tr><td>4</td><td>• Results:
○ Dolphin Max
○ 04</td><td></td></tr>
<tr><td>5</td><td>if age >= 21:</td><td></td></tr>
<tr><td>6</td><td>• The if function compares the result to a set value gives a response if it meets the rule. The else function is carried out if it does not meet the if rule.</td><td></td></tr>
<tr><td>7</td><td>Include any three of the following:
• Holiday booking
• Comparison websites
• Shopping websites
• Homes for sale or let</td><td></td></tr>
</table>

Question	Answer	Notes
8_Q1	*	
8_Q2	Structured query language	
8_Q3	SORT OF	
8_Q4	Word Processing	
8_Q5	True	

Using variables [U5_L6]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	A variable is part of any program that needs to be given a specific value.	
3	• Name = A unique title, not matching any program function. • Value = The assigned value of the variable. • Type = The category of data so it can be correctly processed.	
4	Include any of the following: • A variable could be linked to calculation and a new value created. • It could be something that changes naturally, such as a temperate or time.	
5	5 variables: • y • gameScore • Apple • Donut • Bananas	
6	4 variables: • player • roundOne • roundTwo • gameTotal	

Question	Answer	Notes
8_Q1	False	
8_Q2	Space	
8_Q3	No limit	
8_Q4	Declaring	
8_Q5	=	

Sequence, selection and iteration [U5_L7]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• Sequence = A series of step-by-step instructions.
• Selection = Asking a question and taking action based on the specific result.
• Iteration = Repeats an instruction until a specific result is reached.</td><td></td></tr>
<tr><td>3</td><td>
<table>
<tr><th>Algorithm</th><th>Sequence</th><th>Iteration</th><th>Selection</th></tr>
<tr><td>A online true or false quiz.</td><td></td><td></td><td>✓</td></tr>
<tr><td>A firework display planning tool</td><td>✓</td><td></td><td></td></tr>
<tr><td>The countdown display for a vehicle race.</td><td></td><td>✓</td><td></td></tr>
<tr><td>A password manager than only allows a certain number of attempts before it locks.</td><td></td><td>✓</td><td></td></tr>
<tr><td>The start page of an age-restrictive website.</td><td></td><td></td><td>✓</td></tr>
<tr><td>Displaying line by line song lyrics on a smartphone application.</td><td>✓</td><td></td><td></td></tr>
</table>
</td><td></td></tr>
<tr><td>4</td><td>• Any answer, in a similar style to the textbook is acceptable.
• Must include a series of step by step instructions.</td><td></td></tr>
<tr><td>5</td><td>• Any answer, in a similar style to the textbook is acceptable.
• Must repeat an instruction until a specific result is reached</td><td></td></tr>
<tr><td>6</td><td>• Any answer, in a similar style to the textbook is acceptable.
• Should ask a question and taking action based on the specific result.</td><td></td></tr>
<tr><td>7</td><td>• The idea can resemble those in the textbook.</td><td></td></tr>
</table>

Question	Answer	Notes
8_Q1	Specification	
8_Q2	while	
8_Q3	Variable	
8_Q4	Iteration	
8_Q5	Sequence	

Modelling and simulations [U5_L8]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A computer model is a mathematical representation of a real-life situation that uses past and present data to try to predict what might happen in the future.</td><td></td></tr>
<tr><td>3</td><td>• A simulation is also a computer model but based on user interactivity. Allowing a user to change variables means they can affect the outcome.</td><td></td></tr>
<tr><td>4</td><td colspan="2"><table>
<tr><th>Example</th><th>Model</th><th>Simulation</th></tr>
<tr><td>Weather prediction</td><td>✓</td><td></td></tr>
<tr><td>The position of planets and objects in space.</td><td>✓</td><td></td></tr>
<tr><td>Flight control.</td><td></td><td>✓</td></tr>
<tr><td>Surgical operations.</td><td></td><td>✓</td></tr>
<tr><td>Predicting power generation and requirements.</td><td>✓</td><td></td></tr>
<tr><td>Flying spaceships on a home console</td><td></td><td>✓</td></tr>
</table></td></tr>
<tr><td>5</td><td>Include any three of the following:
• Speed
• Direction
• Altitude
• Gears
• Steering
• Engine control</td><td></td></tr>
<tr><td>6</td><td>Include any of the following:
• Advantages
○ Dangerous predictions can be avoided
○ Money saved
○ Warning systems created.
○ People can practice before using the real thing.
• Disadvantages
○ Models can predict the wrong outcome.
○ A false sense of security.
○ Expensive to build.
○ Only as good as data put into system.</td><td></td></tr>
<tr><td>7</td><td>Include any of the following:
• Immersive experience
• Users can look anywhere
• Sight and sound included
• VR helmet blocks out real world.
• Other senses can be included.</td><td></td></tr>
</table>

Question	Answer	Notes
8_Q1	Abstraction	
8_Q2	True	
8_Q3	Population	
8_Q4	Eating a meal	
8_Q5	True	

Error checking [U5_L9]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• A syntax error is a mistake within a program that causes it to stop running.	
3	Include any two of the following: • A specific function may have been spelt incorrectly • An incorrect character have used. • The way a function should be formatted or sequenced could be incorrect. • An invalid character may have been inserted into a line.	
4	Include any two of the following: • Look for spelling mistakes • Check sentence case • Check your characters and symbols • Indentation, is it required or missing? • Proofread a printed copy by hand	

5	Four errors and correct version
	• sort spelt incorrectly
	• Hyphen (-) instead of comma
	• print spelt incorrectly
	• Incorrect double bracket
	`#Simple numerical sort`
	`numbers = [12,58,8,14,432,61]`
	`numbers.sort()`
	`print(numbers)`	

6	Three errors and correct version
	• while spelt incorrectly
	• countDone instead of countDone on sixth line
	• Last quote mark is replaced with \
	`#Iteration countdown example`
	`countDown = 10`
	`print("Mission lanuch in...")`
	`while countDown > 0:`
	`  print(countDown)`
	`  countDown = countDown - 1`
	`print("LAUNCH!")`	

7	Include any errors that match the suggestions in the textbook.	

Question	Answer	Notes
8_Q1	True	
8_Q2	IDE	
8_Q3	Logical error	
8_Q4	False	
8_Q5	Buggy	

Sub programs [U5_L10]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A subprogram is a block of code that can be reused either within the same program or in several different programs..</td><td></td></tr>
<tr><td>3</td><td>Include three of the following:
• a calculation that needs to run many times
• a password checker that is needed at different points of the same application
• inserting the current date and time into a program
• formatting data into a specific format or print layout.</td><td></td></tr>
<tr><td>4</td><td colspan="2"><table>
<tr><th>Function</th><th>Description</th></tr>
<tr><td>print()</td><td>Outputs information on screen.</td></tr>
<tr><td>input()</td><td>Allows the user to input data.</td></tr>
<tr><td>int()</td><td>Converts a value to an integer.</td></tr>
<tr><td>len()</td><td>Returns the length, in characters, of an object.</td></tr>
<tr><td>str()</td><td>Converts a value to an string.</td></tr>
<tr><td>random.randint()</td><td>Returns a random number in a given range.</td></tr>
<tr><td>time()</td><td>Allows seconds to be processed or included in a program.</td></tr>
</table></td></tr>
<tr><td>5</td><td>• Resource: U5WB_program10.py</td><td><pre>#The len function
word = "transmission"
print(len(word))</pre></td></tr>
<tr><td>6</td><td>• Resource: U5WB_program11.py</td><td><pre>#The random function
import random
print(random.randint(2000,2025))</pre></td></tr>
</table>

Question	Answer	Notes
7_Q1	Sub-block	
7_Q2	int()	
7_Q3	True	
7_Q4	52	
7_Q5	False	

End of Unit Typical 4 Mark Questions

Question	Key points to look for in answer	Notes
1	• Relational operators are used to compare two values in a data set. • Any three of the following: ○ = Equals ○ < Less than ○ <= Less than or equal to ○ > Greater than ○ >= Greater than or equal to ○ != Not equal to	
2	• A computer model is a mathematical representation of a real-life situation that uses past and present data to try and predict what might happen in the future. A simulation is also a computer model, but it allows much more user interactivity. Allowing a user to change variables means they can affect the outcome. • Any two of the following, or similar: ○ Models: ▪ Weather prediction ▪ The position of planets and objects in space. ▪ Predicting power generation and requirements. ○ Simulations: ▪ Flight control. ▪ Surgical operations. ▪ Flying spaceships on a home console	

Integrated Development Environments [U6_L1]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• An IDE (integrated development environment) is a computer program designed to help programmers design, develop and test their programs.</td><td></td></tr>
<tr><td>3</td><td>• Code editor = A window to enter code
• Error checking = Highlights syntax errors
• Virtual testing = A testing window for previewing code without needing another computer.</td><td></td></tr>
<tr><td>4</td><td>Include any two of the following:
• Multiple programmers can share access to a program.
• Missed errors can be spotted and resolved.
• Virtual testing prevents device damage.
• IDE can manage multiple programs.</td><td></td></tr>
<tr><td>5</td><td colspan="2"><table>
<tr><th>Tool</th><th>Description</th></tr>
<tr><td>Highlight or colours codes</td><td>Highlight functions as you type.</td></tr>
<tr><td>Auto-completion</td><td>Automatically completes functions, adding tips as you type</td></tr>
<tr><td>Auto-indentation</td><td>Moves the cursor to the correct position as you type.</td></tr>
<tr><td>Bracket matching</td><td>Will alert if a bracket is missing from your code.</td></tr>
<tr><td>Syntax checks</td><td>Will spot syntax errors and typing mistakes.</td></tr>
</table></td></tr>
<tr><td>6</td><td>• It is often better for young programmers to look for their own mistakes as they type and not rely on spotting errors they would benefit from knowing.</td><td></td></tr>
<tr><td>7</td><td>Include any three of the following:
• Microsoft Visual Studio Code
• Python IDLE
• PyCharm
• Spyder
• Thonny</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	Code editor	
8_Q2	False	
8_Q3	Autoindent	
8_Q4	Virtual testing	
8_Q5	True	

Trace tables [U6_L2]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• A trace table is a method of checking an algorithm line by line and predicting the result.</td><td></td></tr>
<tr><td>3</td><td><table><tr><th>y</th><th>z</th></tr><tr><td>5</td><td>50</td></tr><tr><td>10</td><td>60</td></tr><tr><td>15</td><td>70</td></tr></table></td><td></td></tr>
<tr><td>4</td><td><table><tr><th>speed</th><th>speed > 65</th><th>OUTPUT</th></tr><tr><td>100</td><td>TRUE</td><td></td></tr><tr><td>90</td><td>TRUE</td><td></td></tr><tr><td>80</td><td>TRUE</td><td></td></tr><tr><td>70</td><td>TRUE</td><td></td></tr><tr><td>60</td><td>FALSE</td><td>60</td></tr></table></td><td></td></tr>
<tr><td>5</td><td>• Own example should be similar to that in the textbook.</td><td></td></tr>
<tr><td>6</td><td>• This allows the programmer to see the values of variables at any point during the running of a program.</td><td></td></tr>
<tr><td>7</td><td>• As programs get longer, with more variables, the more difficult it is to list line by line as mistakes will be easily made.</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	True	
8_Q2	A line at a time	
8_Q3	Variable tracing	
8_Q4	Errors	
8_Q5	False	

Data types and converting data [U6_L3]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• Any data that needs to be processed within a computer needs to be correctly identified. This allows any processing to take place, following the rules attached to that data type.</td><td></td></tr>
<tr><td>3</td><td>
<table>
<tr><th>Data type</th><th>Description</th></tr>
<tr><td>Integer</td><td>Whole number, no decimal points.</td></tr>
<tr><td>Floating point</td><td>Decimal number, including whole numbers.</td></tr>
<tr><td>Character</td><td>A single character, letter or symbol</td></tr>
<tr><td>String</td><td>Any combination of letters and numbers</td></tr>
<tr><td>Boolean</td><td>Two values only.</td></tr>
<tr><td>Date</td><td>Day, month and year data.</td></tr>
</table>
</td><td></td></tr>
<tr><td>4</td><td>
<table>
<tr><th>Example</th><th>Integer</th><th>Floating point</th><th>Character</th><th>String</th><th>Boolean</th><th>Date</th></tr>
<tr><td>The telephone number 458473</td><td>✓</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>The username B@dwolf81</td><td></td><td></td><td></td><td>✓</td><td></td><td></td></tr>
<tr><td>04/05/1983</td><td></td><td></td><td></td><td></td><td></td><td>✓</td></tr>
<tr><td>A true and false quiz</td><td></td><td></td><td></td><td></td><td>✓</td><td></td></tr>
<tr><td>The price €99.99</td><td></td><td>✓</td><td></td><td></td><td></td><td></td></tr>
<tr><td>Your first initial</td><td></td><td></td><td>✓</td><td></td><td></td><td></td></tr>
</table>
</td><td></td></tr>
<tr><td>5</td><td>

```
#Decimal to integer
data = 38.27
data = int(data)
print(data)
```

</td><td>U6WB_program01.py</td></tr>
<tr><td>6</td><td>

```
#Decimal to string
data = 1941.33
newData = str(data)
print(newData)
```

</td><td>U6WB_program02.py</td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	str	
8_Q2	int	
8_Q3	False	
8_Q4	Floating point	
8_Q5	Casting	

String methods [U6_L4]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	String methods are tools available in most programming languages that you can apply to a data string. We use string methods to meet the requirements of a program. Include any two of the following • upper() • lower() • count() • title() • replace()	
3	word = “enhancement” print(len(word)) •	

4	`#Convert to uppercase`
	`phrase = "microphone off"`
	`upperPhrase = phrase.upper()`
	`print(upperPhrase)`
		U6WB_program03.py

5	`#Count method`
	`city = ("Casablanca")`
	`aCount = city.count("a")`
	`print(aCount)`
		U6WB_program05.py

6	`#Count method`
	`sentence = "we few, we happy few, we band of brothers"`
	`wordCount = sentence.count("we")`
	`print(wordCount)`
		U6WB_program06.py

Question	Answer	Notes / Marks
7_Q1	upper()	
7_Q2	280	
7_Q3	False	
7_Q4	count()	
7_Q5	poster()	

Escape characters and string slicing [U6_L5]

<table>
<tr><th>Question</th><th>Answer</th><th>Notes</th></tr>
<tr><td>1</td><td>• TICK KEYWORDS</td><td></td></tr>
<tr><td>2</td><td>• Escape characters are used when a character or symbol within a string would normally cause a problem or simply not appear when the program is run.</td><td></td></tr>
<tr><td>3</td><td>• print(”That’s impossible!/” said the shocked young farmer.”)
• print(“Column 1\tColumn 2\tColumn 3”)
• print(“House name\nAddress line 1\nAddress line 2”)</td><td></td></tr>
<tr><td>4</td><td>• String slicing is the process of looking at a string as individual characters and assigning each an index position. This index position can then be used to only display a range of characters from the string.</td><td></td></tr>
<tr><td>5</td><td>• Positive indexing starts at 0 at the first character and continues to the end of the string.
• Negative indexing starts at -1 at the end and continues to the beginning of the string.</td><td></td></tr>
<tr><td>6</td><td colspan="2"><table>
<tr><th>String</th><th>c</th><th>o</th><th>m</th><th>p</th><th>r</th><th>e</th><th>s</th><th>s</th><th>i</th><th>o</th><th>n</th></tr>
<tr><td>+ index</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr>
<tr><td>- index</td><td>-11</td><td>-10</td><td>-9</td><td>-8</td><td>-7</td><td>-6</td><td>-5</td><td>-4</td><td>-3</td><td>-2</td><td>-1</td></tr>
</table></td></tr>
<tr><td>7</td><td>• Slice 1: compress
• Slice 2: ssi</td><td></td></tr>
</table>

Question	Answer	Notes / Marks
8_Q1	True	
8_Q2	2	
8_Q3	TAB	
8_Q4	-4	
8_Q5	CARRIAGE RETURN	

String concatenation [U6_L6&L7]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Concatenate strings in programming is to add two or more strings together to create a single string.	
3	• Correct sequence w = “Monday” d = “1st" m = “October” calendar = w + “ ” + d + ” ” + m print(calendar)	

4	`#Concatenation 1`
	`areaCode = input("Enter area code")`
	`phoneNumber = input("Enter telephone number")`
	`fullNumber = (str(areaCode) + phoneNumber)`
	`print(fullNumber)`
		U6WB_program10.py

5	`#Simple concatenation`
	`firstName = "Kate"`
	`lastName = "Mulcathy"`
	`print(firstName + " " + lastName)`
		U6WB_program09.py

6	`#Concatenation 2`
	`name = input("What is your name?")`
	`flavour = input("What flavour do you want?")`
	`response = ("thank you " + name + ", here is your " + flavour + " ice cream")`
	`print(response)`
		U6WB_program11.py

Question	Answer	Notes / Marks
8_Q1	“ “	
8_Q2	True	
8_Q3	str(123)	
8_Q4	+	
8_Q5	False	

Efficient programming [U6_L8]

Question	Answer	Notes
1	• TICK KEYWORDS	

2	• Efficient programming will avoid including excessive or additional code that isn't relative to the task to create a straightforward set of instructions.	
3	Include any three of the following: • Try and use the least amount of code. • Can repeated instructions be condensed? • Can loops be used? • Consider alternative versions that create the same result.	
4	• Potential Route 1 ○ Turn right ○ Forward ○ Turn right ○ Forward ○ Forward ○ Turn left ○ Forward ○ Forward ○ Forward ○ Turn left ○ Forward ○ Forward ○ Turn right ○ Forward ○ Forward ○ Forward	• Potential Route 2 ○ Turn right ○ Turn right ○ Forward ○ Forward ○ Turn left ○ Forward ○ Forward ○ Forward ○ Forward ○ Turn right ○ Forward ○ Forward ○ Forward ○ Turn left ○ Forward ○ Forward ○ Turn left ○ Forward ○ Forward ○ Forward ○ Forward ○ Forward ○ Turn right ○ Forward
5	• Potential efficient Route 1 ○ Turn right and forward x 2 ○ Forward ○ Turn left ○ Forward x 3 ○ Turn left ○ Forward x 2 ○ Turn right ○ Forward x 3	• Potential efficient Route 1 ○ Turn right x 2 ○ Forward x 2 ○ Turn left ○ Forward x 4 ○ Turn right ○ Forward x 3 ○ (Turn left and Forward 2) x 2 ○ Forward x 3 ○ Turn right ○ Forward
6	• Own choice in similar style to question 5, using similar efficiency tips.	

Question	Answer	Notes / Marks
7_Q1	Relevant	
7_Q2	Loop	
7_Q3	False	
7_Q4	4	
7_Q5	False	

Everyday problems [U6_L9]

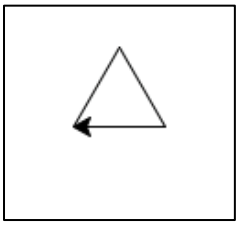
Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Everyday actions are ideal because they are familiar to use, often contain repetitive actions and easier to analyse than theoretical problems.	
3	• Acceptable order: ○ Take out bread ○ Take out peanut butter jar ○ Take out butter knife ○ Take out bread knife ○ Take out plate ○ Cut two slices of bread ○ Open peanut putter jar ○ Spread peanut butter on bread with butter knife ○ Put top layer of bread on sandwich ○ Slice sandwich in half ○ Put sandwich on plate ○ Enjoy sandwich ○ Wash plate ○ Wash bread and butter knives ○ Put away bread ○ Put away peanut butter	
4	Suggestions might include: • Combining implements for the same job. • Collecting items at the same time. • Wash items at the same time.	
5	• Own choice in similar style to question 3.	
6	• Own choice in similar style to question 4.	

Question	Answer	Notes / Marks
7_Q1	Sorting a spreadsheet	
7_Q2	True	
7_Q3	Creating a flow chart	
7_Q4	Compare and contrast	
7_Q5	False	

Creating simple graphics using coding [U6_L10]

Question	Answer	Notes
1	• TICK KEYWORDS	
2	• Graphics can be created by sending mathematical instructions to move a virtual pen around the screen using points, angles and distances.	
3	Include any three of the following: • Circles: requires a diameter or radius. • Rectangles: requires the length of each edge and an angle. • Triangles and stars: requires angles and distances. • Custom lines and shapes: requires each length and angle at each turn. • Multiple shapes: requires the starting position and instructions for each shape.	
4	The turtle module allows you to create drawings and shapes in Python by sending commands to turtle	

5	from turtle import *
	lt(45)
	for i in range(4):
	  fd(100)
	  rt(90)	

6		U6WB_program12.py
7	• Design should follow the examples shown here and in the textbook.	

Question	Answer	Notes / Marks
8_Q1	Logo	
8_Q2	False	
8_Q3	True	
8_Q4	3	
8_Q5	108 degrees	

End of Unit Typical 4 Mark Questions

Question	Key points to look for in answer	Notes

1	• Any data that needs to be processed within the system needs to be correctly identified and assigned a data type. Each type has its own rules that apply to calculations and how it can be used.
	• Examples of types:
	  ○ Integer - Whole number, ages for example.
	  ○ Floating point - Decimal number, ideal for currency.
	  ○ Character - A single character, letter or symbol, useful for initials.
	  ○ String - Any combination of letters and numbers, ideal for messages.
	  ○ Boolean - Two values only, ideal for yes / no questions.
	  ○ Date - Day, month and year data., ideal for personal information.	

2	• The purpose of concatenating strings in programming is to add two or more strings together to create a single string. This can then be processed as one. • This would be ideal for speech systems that use a bank of pre-stored words and phrases. These could then be joined together as required and played out through the speaker.	