Cambridge Assessment International Education

Interactive

Learner Guide

Cambridge IGCSE™ / Cambridge IGCSE (9–1)

Information and Communication Technology 0417 / 0983

For examination from 2023

Version 1

Cambridge Pathway

Contents

About this guide

This guide explains what you need to know about your Cambridge IGCSE Information and Communication Technology course and examinations. You should use this guide alongside the support of your teacher.

It will help you to:

- ✓ understand what skills you should develop by taking this Cambridge IGCSE course
- ✓ understand how you will be assessed
- ✓ understand what we are looking for in the answers you write
- ✓ plan your revision programme
- ✓ revise, by providing revision tips and an interactive revision checklist (Section 5).

Cambridge IGCSE Information and Communication Technology provides you with the ability to use a broad range of ICT skills and encourages knowledge and understanding of the development of ICT systems, networks and their safe use.

This course provides you with the ability to understand the rapid change of ICT in a technology-based world and the impact ICT has on the world.

In a modern ICT based world you need to have the ability to gather, process and manipulate data; this course helps you to fulfil this.

Section 1: Syllabus content - what you need to know about

This section gives you an outline of the syllabus content for this course. Ask your teacher for more detail about each topic. You can also find more detail in the Revision checklists of this guide.

1. Types and components of computer systems
2. Input and output devices
3. Storage devices and media
4. Networks and the effects of using them
5. The effects of using IT
6. ICT applications
7. The systems life cycle
8. Safety and security
9. Audience
10. Communication
11. File management
12. Images
13. Layout
14. Styles
15. Proofing
16. Graphs and charts
17. Document production
18. Databases
19. Presentations
20. Spreadsheets
21. Website authoring

Make sure you always check the latest syllabus, which is available at www.cambridgeinternational.org

Section 2: How you will be assessed

You will be assessed at the end of the course using **three** components:

- Paper 1 Theory
- Paper 2 Document Production, Databases and Presentations
- Paper 3 Spreadsheets and Website Authoring.

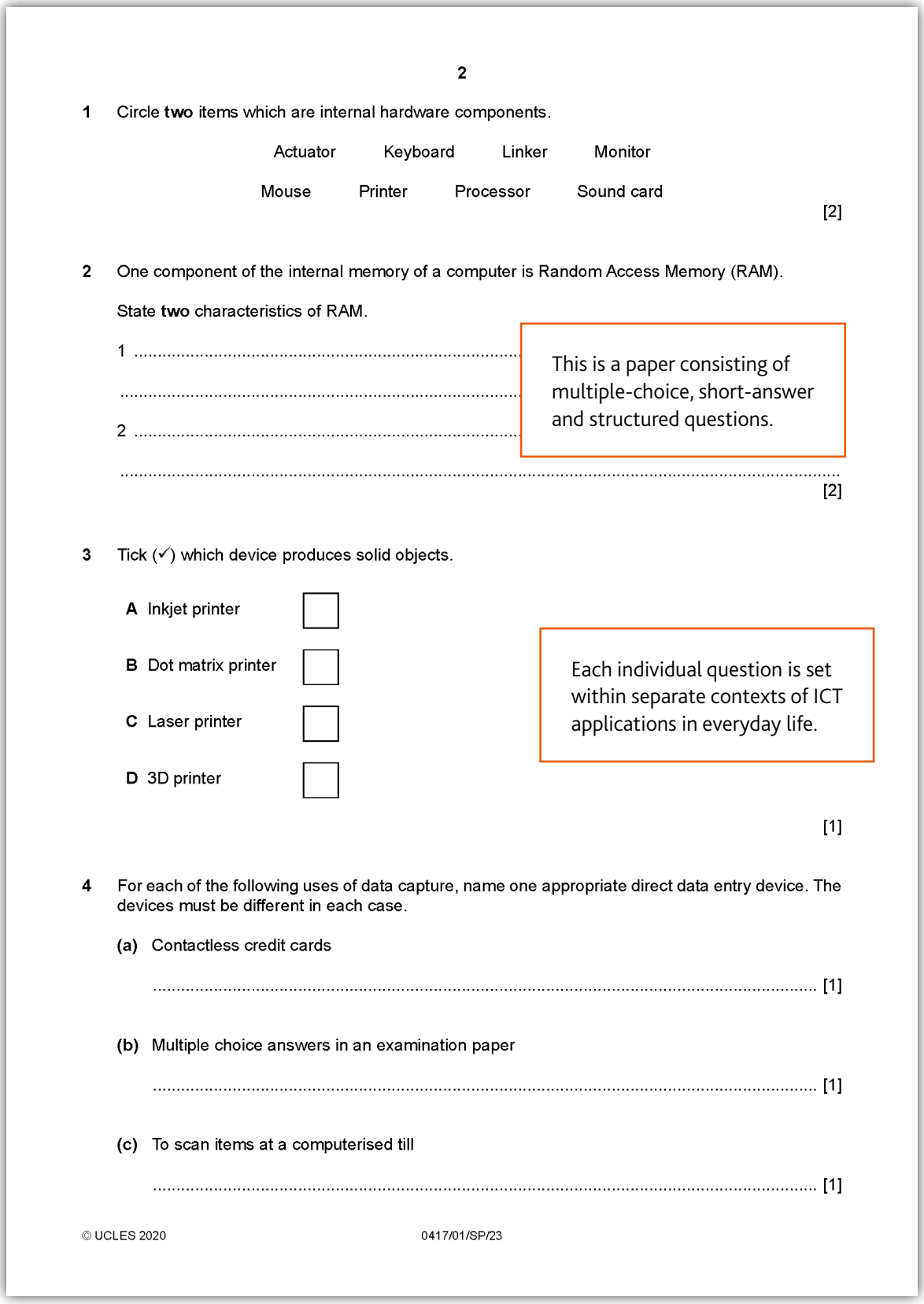
Components at a glance

This table summarises the key information about each examination paper. You can find details and advice on how to approach each component in the 'About each paper' sub-section.

Component	Time and marks	Content/Skills assessed	Details	Percentage of qualification
Paper 1 Theory	1hr 30mins 80 marks	Questions will be based on sections 1–21 of the subject content.	All questions are compulsory. Externally assessed.	40%
Paper 2 Document Production, Databases and Presentations	2hrs 15mins 70 marks	This test assesses the practical skills needed to use the applications covered in sections 17, 18 and 19 of the subject content.	You must demonstrate the practical skills relevant to sections 11–16. All tasks are compulsory. Externally assessed.	30%
Paper 3 Spreadsheets and Website Authoring	2hrs 15mins 70 marks	This test assesses the practical skills needed to use the applications covered in sections 20 and 21 of the subject content.	You must demonstrate the practical skills relevant to sections 11–16. All tasks are compulsory. Externally assessed.	30%

About each paper

Paper 1: Theory



2

1 Circle **two** items which are internal hardware components.

Actuator Keyboard Linker Monitor

Mouse Printer Processor Sound card

[2]

2 One component of the internal memory of a computer is Random Access Memory (RAM).

State **two** characteristics of RAM.

1 .....

.....

2 .....

.....

[2]

3 Tick (✓) which device produces solid objects.

A Inkjet printer ☐

B Dot matrix printer ☐

C Laser printer ☐

D 3D printer ☐

[1]

4 For each of the following uses of data capture, name one appropriate direct data entry device. The devices must be different in each case.

(a) Contactless credit cards

..... [1]

(b) Multiple choice answers in an examination paper

..... [1]

(c) To scan items at a computerised till

..... [1]

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This is a paper consisting of multiple-choice, short-answer and structured questions.

Each individual question is set within separate contexts of ICT applications in everyday life.

Paper 2: Document Production, Databases and Presentations

2

You have been supplied with the following source files:

SP02ABOUT.rtf
SP02BUILDERS.csv
SP02EVIDENCE.rtf
SP02SALES.csv
SP02SUPER.rtf
SP02YACHT.jpg
SP02YACHTS.csv

For each of the tasks in this paper, you will be provided with electronic source files; these files will be loaded onto your computer system before the start of the examination

You work for a company called Tawara Yacht Brokers who buy and sell luxury boats. You are going to perform some clerical tasks for this company.

Task 1 – Evidence Document

Open the file **SP02EVIDENCE.rtf**

Make sure that your name, centre number and candidate number will appear on every page of this document.

Save this Evidence Document in your work area as **SP02EVIDENCE** number, for example, **SP02EVIDENCE9999**

You will need to place screenshots in this document of the evidence you a

Task 2 – Document

You are going to edit a report for Tawara Yacht Brokers. The company use all their documents. Paragraph styles must be created and applied as ins

1 Using a suitable software package, open the file **SP02SUPER.rtf**

The page setup is set to A4, landscape orientation with 2 centimetr changes to these settings.

Save the document in your work area with the filename **BROKER**

Make sure it is saved in the format of the software you are using.

Place in your Evidence Document a screenshot to show this file has been saved. Make sure there is evidence of the file type.

[1]

This paper is a practical test which comprises a number of tasks to be taken under examination conditions and focuses on your ability to carry out practical tasks by applying your knowledge and understanding to the following subject content sections:

- Section 17 Document production
- Section 18 Databases
- Section 19 Presentations.

You demonstrate the practical skills relevant to sections 11–16.

Assessment of the practical tests is software independent, therefore any hardware platform, operating system and applications packages can be used in the practical examinations, provided that these packages have the facilities to enable you to fully demonstrate all of the skills, performance criteria and assessment objectives in the sections mentioned above. Ask your teacher what you will be using.

Paper 2: Document Production, Databases and Presentations continued

2 Place in the footer of the file *BROKER*

- automated page numbers left aligned
- your name, centre number and candidate number right aligned.

Make sure that:

- all the alignments match the page margins
- no other text is included in the header and footer area
- the footer is displayed on all pages.

[1]

3 Create and store the following styles, basing each on the default paragraph style:

House style specification							
	Font Style	Font Size (points)	Alignment	Enhancement			
TY-Subhead	sans-serif	16	centre	all capitals, bold			
TY-Table	serif	11	centre	italic			

You work through the steps of each task in order, and you are prompted to produce evidence of your work by creating screenshots and placing these within an Evidence Document and making printouts.

Take a screenshot to show that you have defined the settings for the *TY-Subhead* style. Make sure there is evidence that you have based this on the default paragraph style. Place this in your Evidence Document.

[3]

4 Display these custom style names as a list in the style manager/organiser.

Take screenshot evidence to show that you have created, named and saved these styles. Place this in your Evidence Document.

[1]

5 The style name *TY-Title* has already been created, stored and applied to the title text.

Modify the *TY-Title* style so only the following formatting is applied:

	Font Style	Font Size (points)	Alignment	Enhancement	Line Spacing	Space before (points)	Space after (points)
TY-Title	sans-serif	32	centre	bold, underline	single	0	6

Place in your Evidence Document a screenshot of the style settings for the *TY-Title* style to show that you have changed these.

[2]

[Turn over

Paper 3: Spreadsheets and Website Authoring

You have been supplied with the following source files:

SpecDisks.jpg
SpecInvoice.csv
SpecSSD.csv
SpecStyle.css
SpecStyle1.css
SpecWebpage.htm

For each of the tasks in this paper, you will be provided with electronic source files; these files will be loaded onto your computer system before the start of the examination.

Task 1 – Evidence Document

Create a new word-processed document.

Make sure your name, centre number and candidate number will appear on every page of this document.

Save this Evidence Document in your work area with the file name **SpecEvidence** followed by your candidate number, for example, SpecEvidence9999

You will need this file later.

This paper is a practical test which comprises a number of tasks to be taken under examination conditions and focuses on your ability to carry out practical tasks by applying your knowledge and understanding to the following subject content sections:

- Section 20 Spreadsheets
- Section 21 Website authoring.

You demonstrate the practical skills relevant to sections 11–16.

Task 2 – Web Page

A trainee has started to create a web page and stylesheet for Tawara-Digi suitable for uploading to a web server.

1 Create a new folder called **Spec_html**

Locate the following files and store them in your *Spec_html* folder:

SpecDisks.jpg
SpecStyle.css
SpecStyle1.css
SpecWebpage.htm

Open the file **SpecDisks.jpg** in a suitable application. Reflect the im image as **disk1.jpg** in your *Spec_html* folder.

Rotate the image *disk1.jpg* 90 degrees clockwise. Save this image as **disk2.jpg** in your *Spec_html* folder.

Crop the image *disk2.jpg* so that all the solid-state drive is visible with an equal amount of red background on each side. This image must be square. Do **not** distort the image. The hard disk drive must not be visible. Save this image as **disk3.jpg** in your *Spec_html* folder.

Resize the image *disk3.jpg* to become 600 × 600 pixels. Save this image as **SpecSSD.jpg** in your *Spec_html* folder.

[4]

Assessment of the practical tests is software independent, therefore any hardware platform, operating system and applications packages can be used in the practical examinations, provided that these packages have the facilities to enable you to fully demonstrate all of the skills, performance criteria and assessment objectives in the sections mentioned above. Ask your teacher what you will be using.

Paper 3: Spreadsheets and Website Authoring continued

2 Display the contents of your *Spec_html* folder showing the folder name, image dimensions, all file names, file extensions and file sizes.
Take a screenshot of this folder and place this in your Evidence Document.

[1]

*The stylesheet is **not** finished and contains a number of errors. You are going to edit the stylesheet. Make sure that you use the most efficient methods.*
*All colour codes must be in hexadecimal. Heading styles h4, h5 and h6 do **not** need defining. Make sure that your stylesheet contains no HTML.*

3 Open the stylesheet **SpecStyle.css**

The specifications for this stylesheet are:

All table borders and gridlines are visible		
table	size	90 percent of the width of th
	borders	Not collapsed
		Width 2 pixels
		Solid
		Border colour 808000
table data	cell padding	Top 8 pixels
		Left and right 20 pixels
		Bottom 6 pixels
	borders	Width 2 pixels
		Solid
		Border colour 808000
All heading styles	colour	Blue 00, Red ff, Green ff
	font	**Times New Roman**, but if this font is not available then **Times**, or if these fonts are not available, the browser's default serif font
h1		48 points high
		Alignment right
h2		24 points high
h3		18 points high
A class called cyan	colour	00ffff

Correct and complete this stylesheet using the information above.

Place your name, centre number and candidate number as a comment at the end of the stylesheet.

Save this stylesheet in your *Spec_html* folder with the file name **SpecStyle** followed by your candidate number, for example, SpecStyle9999.css

Take a screenshot showing the content of your stylesheet and place this in your Evidence Document. Make sure that the contents are easy to read and that the file name is clearly visible.

[23]

[Turn over

You work through the steps of each task in order, and you are prompted to produce evidence of your work by creating screenshots and placing these within an Evidence Document and making printouts.

Paper 3: Spreadsheets and Website Authoring continued

4 Open the web page **SpecWebpage.htm** in a suitable editing package.

Replace the text *A Candidate, ZZ999, 9999* with your name, centre number and candidate number.

Attach the stylesheet **SpecStyle1.css** to this web page.

Attach the stylesheet you edited in Step 3 to your web page so that it has a higher priority than the stylesheet *SpecStyle1.css*

Save the web page.

[2]

5 Use the class created in your stylesheet to set the colour of the text **Tawara-Digital-Storage** to cyan. [2]

6 Place into the appropriate section of the correct web development layer:

- meta data to define the character set to **UTF-8**
- meta data to include your name as the author of the web page
- meta data to set the keywords to **Tawara**, **TDS**, **DVD**, and **SSD**

[10]

7 Replace the text *Place image here* in the web page with the image **SpecSSD.jpg** you edited at Step 1.

Add appropriate alternate text to this image.

Save the web page. Display the web page in your browser. Take screenshot evidence and place this in your Evidence Document.
Make sure that:

- all the page can be seen
- all the text can be easily read
- the address bar is fully visible.

Take a copy of the HTML source and place this in your Evidence Document.

[2]

[Total: 44]

It is recommended that for the website authoring section of the syllabus, you should have a working knowledge of HTML and CSS. You may use suitable web editing software, but you will be required to edit the mark-up generated by such a package, or you may create your own HTML and CSS.

Section 3: What skills will be assessed

The areas of knowledge, understanding and skills that you will be assessed on are called **assessment objectives** (AO).

The examiners take account of the following skills areas (assessment objectives) in the examination papers:

- AO1 Recall, select and communicate knowledge and understanding of ICT
- AO2 Apply knowledge, understanding and skills to produce ICT-based solutions
- AO3 Analyse, evaluate, make reasoned judgements and present conclusions

It is important that you know the different weightings (%) of the assessment objectives, as this affects how the examiner will assess your work. For example, assessment objective 1 is worth 80% of the total marks in Paper 1, but isn't assessed in Paper 2 and 3, whereas assessment objective 2 is only assessment objective assessed in Papers 2 and 3.

- Assessment objective 1 (AO1) is worth 80% of the total marks on Paper 1
- Assessment objective 2 (AO2) is worth 100% of the total marks on Papers 2 and 3
- Assessment objective 3 (AO3) is worth 20% of the total marks on Paper 1

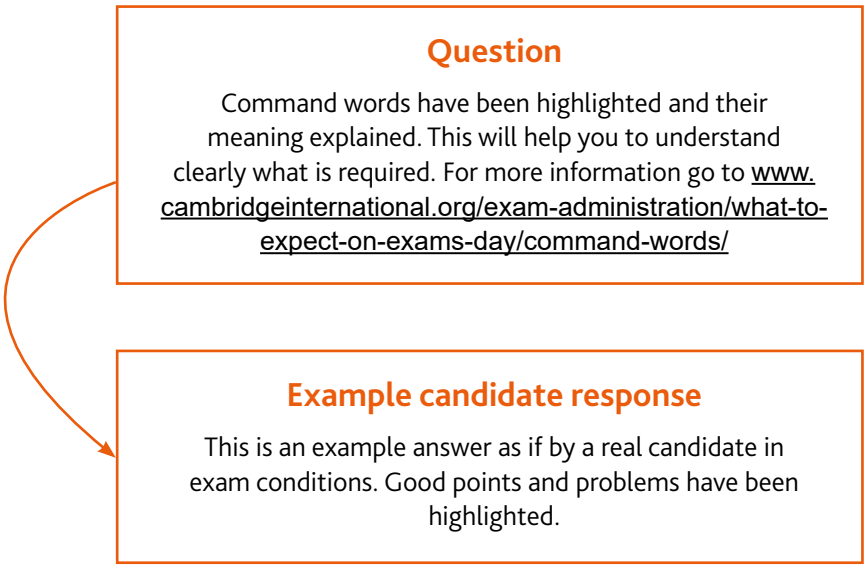
Assessment objectives (AO)	What does the AO mean?	What do you need to be able to do?
AO1 **Recall, select and communicate knowledge and understanding of ICT**	This means you will need to remember definitions and descriptions. In some instances, these will be generic. However, in many instances, they will be linked to a context.	You will need to know the definitions of the terms that are in the syllabus. You will need to be able to give descriptions of what something means, or what something is. You will need to explain how or why something happens or does not happen. You will need to be able to link these descriptions and explanations to given scenarios and contexts. You should relate every point you give back to the scenario.
AO2 **Apply knowledge, understanding and skills to produce ICT-based solutions**	This means you will need to use your knowledge and practical skills and apply them to complete the tasks.	You will need to consider what you know and use this in the context given in the various tasks. You will need to use your practical skills to complete and solve each task.
AO3 **Analyse, evaluate, make reasoned judgements and present conclusions**	This means you will need to decide why one decision is more appropriate than another and explain/discuss in detail why.	You will need to be able to discuss, analyse or evaluate different situations, by, where required, giving the advantages and disadvantages. For some questions you may need to be able to give a reasoned conclusion based on what you have said in your answer.

Section 4: Example candidate response

This section takes you through an example question and model answer from a Cambridge IGCSE Information and Communication Technology specimen paper. It will help you to see how to identify command words within questions and to understand what is required in your response. A command word is the part of the question that tells you what you need to do with your knowledge. For example, you might need to describe something, explain something, argue a point of view or list what you know.

All information and advice in this section is specific to the example question and response/ mode answer being demonstrated. It should give you an idea of how your responses might be viewed by an examiner but it is not a list of what to do in all questions. In your own examination, you will need to pay careful attention to what each question is asking you to do.

This section is separated as follows:



Question

10 A headteacher is planning to hold a video-conference with headteachers from other schools.

The headteachers already have basic internet connected desktop computer systems including a monitor, keyboard and mouse.

(a) Identify **three** pieces of additional hardware they need in order to participate in a video-conference.

1 .....

2 .....

3 .....

(b) A technician is setting up th

State **three** tasks the technician would need to do to set up the hardware for the video-conference.

You can assume that the hardware required has already been purchased.

1 .....

.....

2 .....

.....

3 .....

.....

[3]

Identify requires you to name/select/recognise, in this case additional equipment for a video-conference. A basic internet connected **desktop** computer has already been mentioned, so you would have to identify three other pieces of hardware that would be needed for a video-conference. Unlike a laptop computer, desktops need extra hardware attaching to them to enable video-conferencing.

State requires you to express in clear terms what the technician would need to do. If you think through the process a technician might go through setting up the hardware for the video-conference, you will realise that there are more than three possible answers to this question, so choose three and state them clearly. Your answer to (a) should help you answer this question.

Example candidate response

7

10 A headteacher is planning to hold a video-conference with headteachers from other schools.

The headteachers already have basic internet connected desktop computer systems including a monitor, keyboard and mouse.

(a) Identify **three** pieces of additional hardware they need in order to participate in a video-conference.

1 Webcam

2 Microphone

3 Speakers

The candidate is correct. Alternative answers such as 'Video camera' or 'Headphones' would have been acceptable.

3 marks out of 3

(b) A technician is setting up the hardware for the video-conference.

State **three** tasks the technician would need to do to set up the hardware for the video-conference.

You can assume that the hardware required has already been purchased.

1 Connect the webcam, microphone and speakers to the desktop

2 Test the webcam, microphone and speakers to make sure they are working properly

3 Check that the internet connection is stable

[3]

The candidate is correct. Alternative answers could have included ensuring that all the hardware was switched on, adjusting the webcam so that it shows the head teacher properly, and adjusting volume levels.

3 marks out of 3

Section 5: Revision

This advice will help you revise and prepare for the examinations. It is divided into general advice for all papers and more specific advice for Paper 1, Paper 2, Paper 3, Paper 4, Paper 5 and Paper 6.

Use the tick boxes ☐ to keep a record of what you have done, what you plan to do or what you understand.

General advice

Before the examination

- ☐ Find out when the examinations are and plan your revision so you have time to revise. Create a revision timetable and divide it into sections to cover each topic.
- ☐ Find out how long each paper is, how many questions you have to answer, how many marks there are for each question, and work out how long you have for each question.
- ☐ Know the meaning of the command words used in questions and how to apply them to the information given. Look at past examination papers and highlight the command words and check what they mean.
- ☐ Make revision notes. Try different styles of notes.
- ☐ Work for short periods then have a break. Revise small sections of the syllabus at a time.
- ☐ Test yourself by writing out key points, redrawing diagrams, creating key cards with the words on one side and definitions and/or examples on the back. etc.
- ☐ Make sure you define ICT terms accurately. E.g. verification is not just checking data is correct, but it is a way of preventing errors when data is copied from one medium to another (for example, from paper to disk).
- ☐ Definitions must not reuse the words to be defined. E.g. validation is not validating whether the data is correct, but it is a process where data is checked to see if it satisfies certain criteria when input into a computer, e.g. to see if the data falls within accepted boundaries.
- ☐ Make your own dictionary or draw up a glossary of key terms for each section of the syllabus.
- ☐ Practise creating web pages and CSS stylesheets. Make sure you understand fully the syntax of both CSS and html. Test them, do all the links work correctly? Does the web page work as you expect?
- ☐ Practise using all the different types of spreadsheet functions you need and make sure you are confident of the syntax of the more complicated ones, e.g. nested IF, COUNTIF, SUMIF
- ☐ Have a look at past questions so that you are clear of what to expect in an examination.
- ☐ Look at mark schemes to help you to understand how the marks are awarded for each question.

In the examination

- ☐ Read the instructions carefully and answer the right number of questions from the right sections.
- ☐ Do not answer more questions than are needed, as this will not gain you more marks in the examination.
- ☐ Plan your time according to the marks for each question. For example, a question worth three marks requires less time and a shorter answer than one worth 10 marks. If a question has several parts, then the parts with more marks will need more time and more developed answers.
- ☐ Do not leave out questions or parts of questions. Remember, no answer means no mark.
- ☐ Read each question very carefully.
  - Identify the command words – you could underline or highlight them.
  - Identify the other key words and perhaps underline them too.
  - Try to put the question into your own words to understand what it is really asking.
- ☐ Read all parts of a question before starting your answer. Think carefully about what is needed for each part. You will not need to repeat material.

- [ ] Look very carefully at the resource material you are given.
  - Read the title, key, axes of graphs, etc. to find out exactly what it is showing you.
  - Look for dates, scale, and location.
  - Try using coloured pencils or pens to pick out anything that the question asks you about.
- [ ] Answer the question. This is very important!
- [ ] Use your knowledge and understanding.
- [ ] Do not just write all you know, only write what is needed to answer the question.
- [ ] Plan your answers. Clear, concise, well-ordered, well-argued, well-supported answers get more marks than long, rambling, muddled, repetitious answers. Quality is better than quantity.
- [ ] Use ICT terms in your answers as much as possible.
- [ ] When printing out work in the two practical examinations, make sure all your candidate details are on each page to be printed before you send it to the printer. Printed out work with hand-written candidate details on will not be marked.
- [ ] Make sure your writing is clear and easy to read. It is no good writing a brilliant answer if the examiner cannot read it!

Paper 1 advice

- [ ] Check the command word that is used in the question, for example 'describe' requires more than a simple statement.
- [ ] Check whether tick box questions require one or more than one tick per row. If it is one then make sure you do not put two. If more than one tick is required, check each row and possibility carefully, as at least one row may require two or more ticks.
- [ ] If a question gives a context and the wording of the command word refers back to this context, then make sure you use it in your answer. Do not just give a generic answer, use the context in each point you make.
- [ ] If a question asks you for the advantages and disadvantages, make sure you give both and more that one of each.
- [ ] If a question asks you to 'compare and contrast' make sure you give both, e.g. some aspects that are the same and some aspects that are different between the items.
- [ ] Remember, no marks are awarded if you use brand names in your answers, e.g. do not use Microsoft Excel, but instead say spreadsheet software.
- [ ] To achieve high marks in any discussion or longer style questions, you must give more than a statement in your answer. You can achieve this by expanding on any points made. Using bullet points or listing points in columns do allow for discussion and will not gain you many marks.
- [ ] If you need to expand any answer beyond the allocated number of answer lines and use any of the white space in the question paper or additional sheets, you should clearly indicate in the original answer where the additional information or replacement answer can be found.

Paper 2 advice

- [ ] Make sure you have the correct electronic source files on your computer before you start and that they are all there.
- [ ] When you have completed the presentation task, make sure that you have nothing overlapping on any of your slides, e.g. a logo does not overlap the slide title.
- [ ] When you are ready to print out the database report, check to see how many pages there are to print. Normally there would not be any more than three pages to print out. If you have more than this, go back and check your search criteria for errors. Also, check your report carefully to make sure all the data, including the title and column headings are fully visible, with nothing truncated.
- [ ] When printing out work, make sure all your candidate details are on each page to be printed before you send it to the printer. Printed out work with hand-written candidate details on will not be marked.
- [ ] When you have completed the word document task, make sure you have no widows or orphans and that the document is still intact, e.g. nothing is missing from the original content that should still be there.
- [ ] Make sure you print out all your work that you want to be marked. Do not leave all the printing until the end of the examination. Print out your work as you complete each task as indicated in the question paper.

- [ ] Text you need to enter as part of a question is displayed in bold on the question paper. To achieve the data entry marks this text must be keyed exactly as shown, including punctuation and capitalisation. Check this carefully before you print your work. Good proofing skills are important for this examination.
- [ ] You will need to produce screenshots to evidence your work for some tasks. Make sure these screenshots are large enough for the examiner to read easily without the need for them to use magnification. Also, make sure your screenshots do not have important information cropped off, which could lose you marks.
- [ ] You should cross through any draft work you do not want to be marked. If you submit multiple copies without any draft versions being crossed through, only the first occurrence of each page will be marked.
- [ ] It is essential that you print out your Evidence Document, even if you have not completed all the tasks, towards the end of the examination time, as this document will contain supporting evidence which could improve your examination marks.

Paper 3 advice

- [ ] Make sure you have the correct electronic source files on your computer before you start and that they are all there.
- [ ] Make sure you print out all your work that you want to be marked. Do not leave all the printing until the end of the examination. Print out your work as you complete each task as indicated in the question paper.
- [ ] When printing out work, make sure all your candidate details are on each page to be printed before you send it to the printer. Printed out work with hand-written candidate details on will not be marked.
- [ ] Text you need to enter as part of a question is displayed in bold on the question paper. To achieve the data entry marks this text must be keyed exactly as shown, including punctuation and capitalisation. Check this carefully before you print your work. Good proofing skills are important for this examination.
- [ ] You will need to produce screenshots to evidence your work for some tasks. Make sure these screenshots are larger enough for the examiner to read easily without the need for them to use magnification. Also, make sure your screenshots do not have important information cropped off, which could lose you marks.
- [ ] You should cross through any draft work you do not want to be marked. If you submit multiple copies without any draft versions being crossed through, only the first occurrence of each page will be marked.
- [ ] It is essential that you print out your Evidence Document, even if you have not completed all the tasks, towards the end of the examination time, as this document will contain supporting evidence which could improve your examination marks.
- [ ] Make sure you take great care when formatting your spreadsheet. In particular regarding any setting of row heights and column widths, so that they match both the question and the data or labels contained in the cells.
- [ ] When printing out any formulae from your spreadsheet, make sure they are fully visible and are large enough for the examiner to read with the naked eye. Remember, if the examiner cannot fully read your work, you will lose marks.

Revision checklists

In the next part of this guide we have provided some revision checklists. These include information from the syllabus that you should revise. They don't contain all the detailed knowledge you need to know, just an overview. For more detail see the syllabus and talk to your teacher.

The table headings are explained below:

Topic	You should know and understand	R	A	G	Comments
These are the core topics from the syllabus	Content in the syllabus you need to cover	You can use the tick boxes to show when you have revised an item and how confident you feel about it. R = RED means you are really unsure and lack confidence; you might want to focus your revision here and possibly talk to your teacher for help A = AMBER means you are reasonably confident but need some extra practice G = GREEN means you are very confident. As your revision progresses, you can concentrate on the RED and AMBER items in order to turn them into GREEN items. You might find it helpful to highlight each topic in red, orange or green to help you prioritise.			You can: • add further information of your own, such as names of case studies needed • add learning aids, such as rhymes, poems or word play • pinpoint areas of difficulty you need to check further with your teacher or textbooks • include reference to a useful resource

Note: the tables below cannot contain absolutely everything you need to know, but it does use examples wherever it can.

1 Types and components of computer systems

Topic	You should know and understand	R	A	G	Comments
1.1 Hardware and software	Hardware consists of the physical components of a computer system	☐	☐	☐	
	Internal components including Central Processing Unit (CPU), processor, motherboard	☐	☐	☐	
	Internal memory including random access memory (RAM), read-only memory (ROM)	☐	☐	☐	
	Hardware components including graphics card, sound card, Network Interface Card (NIC), camera, internal/external storage devices, input and output devices	☐	☐	☐	
	Software are programs for controlling the operation of a computer or processing of electronic data	☐	☐	☐	
	Applications software provides the services that the user requires to solve a task	☐	☐	☐	
	Examples of applications software including word processing, spreadsheet, database management systems, control, measurement, applets and apps, video editing, graphics editing, audio editing, computer aided design (CAD)	☐	☐	☐	
	System software provides the services that the computer requires to operate	☐	☐	☐	
	Examples of system software including compilers, linkers, device drivers, operating systems and utilities	☐	☐	☐	
	Characteristics of analogue and digital data	☐	☐	☐	
	Differences between analogue and digital data	☐	☐	☐	
	The need to convert: • analogue to digital data so it can be processed by a computer • digital data to analogue data so it can be used to control devices	☐	☐	☐	
1.2 The main components of computer systems	The role of the CPU in processing instructions entered into the computer in order to produce an output	☐	☐	☐	
	Characteristics of ROM and RAM	☐	☐	☐	
	Differences between ROM and RAM	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
	Characteristics of input and output devices	☐	☐	☐	
	Differences between input and output devices	☐	☐	☐	
	Characteristics of backing storage	☐	☐	☐	
	Differences between backing storage and internal memory	☐	☐	☐	
1.3 Operating systems	Characteristics of operating systems including: Command Line Interface (CLI), Graphical User Interface (GUI), dialogue based and gesture based interface	☐	☐	☐	
	Differences between types of operating systems	☐	☐	☐	
	Advantages and disadvantages of the different types of operating systems	☐	☐	☐	
1.4 Types of computer	Characteristics of a desktop computer	☐	☐	☐	
	Uses of a desktop computer including office and business management, education, gaming and entertainment	☐	☐	☐	
	Characteristics of mobile computers including laptop computers, smartphones, tablet and phablet computers	☐	☐	☐	
	Uses of mobile computers including office and business management, education, gaming, entertainment and remotely controlled devices	☐	☐	☐	
	Advantages and disadvantages of the different types of computer including portability and expandability	☐	☐	☐	
1.5 Emerging technologies	Impact on everyday life including Artificial Intelligence (AI), extended reality (virtual and augmented)	☐	☐	☐	

2 Input and output devices

Topic	You should know and understand	R	A	G	Comments
2.1 Input devices and their uses	Characteristics, uses, advantages and disadvantages of input devices including: keyboard, numeric keypad, pointing devices, remote control, joystick/driving wheel, touch screen (as an input device), scanners, camera, microphone, sensors, light pen	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
2.2 Direct data entry and associated devices	Characteristics, uses, advantages and disadvantages of direct data entry devices including: magnetic stripe reader, chip and PIN reader, Radio Frequency Identification (RFID) reader, Optical Mark Recognition/Reader (OMR), Optical Character Recognition/Reader (OCR), bar code reader, QR scanner				
2.3 Output devices and their uses	Characteristics, uses, advantages and disadvantages of output devices including: monitors, touch screen (as an output device), multimedia projector, laser printer, inkjet printer, dot matrix printer, plotter, 3D printers, speaker, actuator				

3 Storage devices and media

Topic	You should know and understand	R	A	G	Comments
3 Storage devices and media	Characteristics, uses, media, advantages and disadvantages of storage devices including magnetic, optical and solid-state				
	Magnetic drives including fixed and portable magnetic hard drives, magnetic tape drives				
	Optical drives including CD, DVD, Blu-ray				
	Fixed and portable solid-state drive (SSD) including SSD, pen drive, flash drive				
	Characteristics, uses, advantages and disadvantages of storage media including magnetic, optical and solid-state				
	Magnetic drives including magnetic hard disks, magnetic tape				
	Optical discs including CD, DVD, Blu-ray				
	Solid-state media including memory cards (SD, xD, CFast)				

4 Networks and the effects of using them

Topic	You should know and understand	R	A	G	Comments
4.1 Networks	The operation and purpose of a router including: • connecting networks and devices to the internet • storing computer addresses in a router • routing data packets				

Topic	You should know and understand	R	A	G	Comments
	Common network devices Including: network interface cards (NIC), hubs, bridges, switches				
	The uses of wi-fi and Bluetooth				
	Connecting a device to a network using: • wi-fi • Bluetooth				
	Similarities and differences between Bluetooth and wi-fi				
	The characteristics, uses and issues relating to cloud computing				
	How data is stored, managed and shared using cloud computing				
	Advantages and disadvantages of using cloud storage compared to other methods				
	Characteristics, uses and purpose of an extranet, intranet and the internet				
	The differences and similarities between an extranet, intranet and the internet				
	Local Area Network (LAN), Wireless Local Area Network (WLAN), Wide Area Network (WAN) and the differences between these networks				
4.2 Network issues and communication	Privacy and confidentiality of data transfer				
	Avoiding password interception by using up to date anti-spyware and regularly changing passwords				
	The differences between strong and weak passwords				
	Other authentication methods including: zero login, biometric methods, magnetic stripes, smart cards, physical tokens, electronic tokens				
	The use of anti-malware and anti-virus software				
	The operation of removing/quarantining viruses using up to date software				
	Scanning the storage media used to transfer data				

Topic	You should know and understand	R	A	G	Comments
	Scanning the data/software when downloading				
	Characteristics, uses, advantages and disadvantages of video-conferencing, audio-conferencing, web-conferencing				
	The hardware, software and network connection required to set up each type of electronic conference				

5 The effects of using IT

Topic	You should know and understand	R	A	G	Comments
5.1 Microprocessor-controlled devices	The positive and negative effects of microprocessors/smart devices in monitoring and controlling devices in the home including the impact on lifestyle, leisure time, physical fitness, security of data, the degree of social interaction				
	The positive and negative effects of microprocessors/smart devices in monitoring and controlling transport including security of data, autonomous vehicles, transport safety				
5.2 Potential health problems related to the prolonged use of IT equipment	Health issues including: repetitive strain injury (RSI), back problems, eye problems, headaches				
	The causes of these health issues and strategies for preventing them				

6 ICT applications

Topic	You should know and understand	R	A	G	Comments
6.1 Communication	Communication media characteristics and uses including newsletters, posters, websites, multimedia presentations, audio, video, media streaming and ePublications				
6.2 Modelling applications	The use of mobile devices for communication including: SMS messaging, phone calls, Voice over Internet Protocol (VoIP), video calls, accessing the internet				
	Computer modelling including: personal finance, bridge and building design, flood water management, traffic management, weather forecasting				
	Advantages and disadvantages of using computer modelling rather than humans				

Topic	You should know and understand	R	A	G	Comments
6.3 Computer controlled systems	Including: robotics in manufacture, production line control, autonomous vehicles	☐	☐	☐	
	Advantages and disadvantages of using computer controlled systems rather than humans	☐	☐	☐	
6.4 School management systems	Systems are used to manage learner registration and attendance	☐	☐	☐	
	Systems are used to record learner performance including computer aided learning	☐	☐	☐	
6.5 Booking systems	Characteristics, uses, advantages and disadvantages of online booking systems including travel industry, concerts, cinemas, sporting events	☐	☐	☐	
6.6 Banking applications	Characteristics, uses, advantages and disadvantages of Automatic Teller Machines (ATM) including: withdrawing cash, depositing cash or cheques, checking account balance, mini statements, bill paying, money transfers	☐	☐	☐	
	Characteristics, uses, advantages and disadvantages of Electronic Funds Transfer (EFT), credit/debit card transactions, cheques, internet banking	☐	☐	☐	
6.7 Computers in medicine	Information systems in medicine - Characteristics and uses of patient records, pharmacy records	☐	☐	☐	
	3D printers - Including printing of prosthetics, tissue engineering, artificial blood vessels, customised medicines	☐	☐	☐	
6.8 Expert systems	Characteristics, uses and purpose of expert systems including mineral prospecting, car engine fault diagnosis, medical diagnosis, chess games, financial planning, route scheduling for delivery vehicles, plant and animal identification	☐	☐	☐	
	Components of an expert system: user interface, inference engine, knowledge base, rules base, explanation system	☐	☐	☐	
	How an expert system is used to produce possible solutions for different scenarios	☐	☐	☐	
6.9 Computers in the retail industry	Characteristics and uses of computers in the retail industry including point of sale (POS) terminals and electronic funds transfer at point of sale (EFTPOS) terminals	☐	☐	☐	
	Point of sale (POS) terminals including updating stock files automatically and ordering new stock automatically	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
	Electronic funds transfer at point of sale (EFTPOS) terminals including checking of the validity of cards, the use of chip and PIN, the use of contactless cards, the use of Near Field Communication (NFC) payment, the communication between the supermarket computer and the bank computer	☐	☐	☐	
	Internet shopping - Characteristics, advantages and disadvantages of internet shopping	☐	☐	☐	
6.10 Recognition systems	Characteristics, uses, advantages and disadvantages of: • Optical Mark Recognition (OMR) including school registers, multiple-choice examination papers, barcode, QR code • Optical Character Recognition (OCR) including automated number plate recognition (ANPR) systems • Radio Frequency Identification Device (RFID) including tracking stock, passports, automobiles, contactless payment • Near Field Communication (NFC) including payment using a smartphone • Biometric recognition including face, iris, retina, finger, thumb, hand, voice	☐	☐	☐	
6.11 Satellite systems	Characteristics, uses, advantages and disadvantages of satellite systems including Global Positioning Systems (GPS), satellite navigation, Geographic Information Systems (GIS), media communication systems (satellite television, satellite phone)	☐	☐	☐	

7 The systems life cycle

Topic	You should know and understand	R	A	G	Comments
7.1 Analysis	Analysis of the current system - Characteristics, uses, advantages and disadvantages of the research methods of observation, interviews, questionnaires and examination of existing documents	☐	☐	☐	
	Record and analyse information about the current system - The need to identify the inputs, outputs and processing of the current system, problems with the current system, the user and information requirements for the new system	☐	☐	☐	
	System specification - Identify and justify suitable hardware and software for the new system	☐	☐	☐	
7.2 Design	Design file/data structures, input formats, output formats and validation routines	☐	☐	☐	
	File/data structures including field length, field name, data type, coding of data for example M for male, F for female	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
	Validation routines including range check, character check, length check, type check, format check, presence check, check digit	☐	☐	☐	
	Input formats including data capture forms	☐	☐	☐	
	Output formats including screen layouts and report layouts	☐	☐	☐	
7.3 Development and testing	The need to test the system before implementation	☐	☐	☐	
	Test designs, test strategies, test plan (test data, expected outcomes, actual outcomes, remedial action) following testing	☐	☐	☐	
	Test designs including the testing of data structures, file structures, input formats, output formats and validation routines	☐	☐	☐	
	Test strategies including to test each module, each function and the whole system	☐	☐	☐	
	The definition, characteristics and use of test data using normal, abnormal and extreme data	☐	☐	☐	
	The use of live data	☐	☐	☐	
7.4 Implementation	System implementation - Characteristics, uses, advantages and disadvantages of the four methods of implementation, direct changeover, parallel running, pilot running, phased implementation	☐	☐	☐	
7.5 Documentation	Characteristics, uses and purpose of technical and user documentation	☐	☐	☐	
	Components of technical documentation including: purpose of the system/ program, limitations of the system, program listing, program language, program flowcharts/algorithms, system flowcharts, hardware and software requirements, file structures, list of variables, input format, output format, sample runs/test runs, validation routines	☐	☐	☐	
	Components of user documentation including: purpose of the system, limitations of the system, hardware and software requirements, how to load/ run/install software, how to save a file, how to print data, how to add records, how to delete/edit records, input format, output format, sample runs, error messages, error handling, troubleshooting guide/helpline, frequently asked questions, glossary of terms	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
7.6 Evaluation	Evaluate a solution including the efficiency of the solution, the ease of use of the solution, and the appropriateness of the solution	☐	☐	☐	
	Compare the solution with the original task requirements, identify any limitations and necessary improvements to the system, evaluate the users' responses to the results of testing the system	☐	☐	☐	

8 Safety and security

Topic	You should know and understand	R	A	G	Comments
8.1 Physical safety	Safety issues including: electrocution from spilling drinks near electrical equipment and touching live cables, fire from sockets being overloaded or equipment overheating, tripping over trailing cables, heavy equipment falling and injuring people	☐	☐	☐	
	The causes of these safety issues and strategies for preventing them	☐	☐	☐	
8.2 eSafety	The principles of a typical data protection act and why data protection legislation is required	☐	☐	☐	
	Characteristics of personal and sensitive data including personal name, address, date of birth, a photograph in school uniform, medical history	☐	☐	☐	
	The need for personal data to be kept confidential and protected to avoid inappropriate disclosure	☐	☐	☐	
	The need for eSafety when using the internet, email, social media, online gaming	☐	☐	☐	
	Minimise the potential danger of using: • The internet including only using trusted websites recommended by teachers, using a search engine that only allows access to age appropriate websites • Email including an awareness of the potential dangers of opening or replying to an email from an unknown person. An awareness of the risks associated with sending personal identifiable data or images via email • Social media including knowing how to block and report unwanted users, an awareness of the potential dangers of meeting an online contact face to face, avoiding the distribution of inappropriate images, avoiding the use of inappropriate language, respecting confidentiality of personal data of other people	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
	• Online gaming including not using real names, not giving out personal or financial data				
8.3 Security of data	Characteristics and effect of threats to data including hacking, phishing, pharming, smishing, vishing, viruses, malware, card fraud				
	Hacking including the measures that must be taken in order to protect data				
	Phishing, pharming, smishing, vishing including the methods that can be used to help prevent them				
	Viruses and malware including how to take preventative action to avoid the danger of infecting a computer from a downloaded file				
	Card fraud including shoulder surfing, card cloning, key logging				
	Characteristics and methods of protecting data including biometrics, digital certificate, secure socket layer (SSL), encryption, firewall, two-factor authentication, user id and password				
	Biometrics including the use of biometric data				
	Digital certificate including its purpose and contents				
	Secure socket layer (SSL) including encrypted links between the server and the client computer				
	Encryption including its purpose for the protection of data on hard discs, email, cloud, HTTPS websites				
	Firewall including its purpose				
	Two-factor authentication including its purpose and function				
	User id and password including how they are used to increase the security of data				

9 Audience

Topic	You should know and understand	R	A	G	Comments
9.1 Audience appreciation	Show a clear sense of audience and purpose				

Topic	You should know and understand	R	A	G	Comments
	Planning ICT solutions that are responsive to and respectful of the needs of an audience				
	Analyse the needs of an audience when creating ICT solutions				
9.2 Copyright	The need for copyright legislation and the principles of copyright relating to computer software (e.g. software piracy)				
	The methods that software producers employ to prevent software copyright legislation being broken				

10 Communication

Topic	You should know and understand	R	A	G	Comments
10.1 Communication with other ICT users using email	Characteristics, uses and constraints of email communication including acceptable language, guidelines set by an employer, the need for security, netiquette, email groups, carbon copy (cc), blind carbon copy (bcc), forward, attachments				
	Characteristics and effects of spam email including the methods which can be used to help prevent spam				
10.2 Effective use of the internet	Characteristics, uses, advantages and disadvantages of using the internet including the differences				
	between the internet, an intranet, an extranet and the World Wide Web (WWW), blog, forum, wiki, social networking				
	Functionality including Internet Service Provider (ISP), structure of a web address, Uniform Resource Locator (URL), hyperlink, web browser				
	Use of search engine including speed of searching, amount of information, the speed of finding relevant information, ease of finding reliable information				
	Evaluating the information found on the internet including how up to date, reliable, biased and valid this information is				
	Internet protocols including HyperText Transfer Protocol (HTTP), HyperText Transfer Protocol secure variant (HTTPS), File Transfer Protocol (FTP), Secure Socket Layer (SSL)				
	Risks of using the internet including inappropriate and criminal material, restricting data through parental, educational and ISP control				

11 File management

Topic	You should know and understand	R	A	G	Comments
11.1 Manage files effectively	Locate stored files	☐	☐	☐	
	Open and import files of different types	☐	☐	☐	
	Save files in a planned hierarchical directory/folder structure	☐	☐	☐	
	Save files using appropriate file names	☐	☐	☐	
	Save and print files in a variety of formats including a document, screenshots, database reports, data tables, graphs/charts, a web page in browser view, a web page in HTML view	☐	☐	☐	
	Save and export in the file format of an application package including .docx, .doc, .xlsx, .xls, .sdb, .sdc, .accdb .odb, .rtf, .pptx, .ppt	☐	☐	☐	
	Save and export in a generic file format including .csv, .txt, .rtf, .pdf, .css, .htm, .jpg, .png	☐	☐	☐	
	Characteristics and uses of file formats including css, csv, gif, htm, jpg, pdf, png, rtf, txt, zip, rar	☐	☐	☐	
	The need for generic file formats	☐	☐	☐	
11.2 Reduce file sizes for storage or transmission	Reduce file sizes for storage or transmission where necessary using file compression including .zip, .rar	☐	☐	☐	
	The need to reduce file sizes for storage or transmission	☐	☐	☐	

12 Images

Topic	You should know and understand	R	A	G	Comments
12 Images	Place an image with precision	☐	☐	☐	
	Resize an image as specified to maintain or adjust the aspect ratio of an image	☐	☐	☐	
	Crop an image	☐	☐	☐	
	Rotate an image	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
	Reflect (flip) an image horizontally or vertically				
	Adjust the brightness of an image				
	Adjust the contrast of an image				
	Group and layer images including grouping and ungrouping, moving to the front or back				
	Recognise that reducing the file size can be achieved by reducing the image resolution or colour depth				

13 Layout

Topic	You should know and understand	R	A	G	Comments
13.1 Create or edit a document	Enter and modify text and numbers with total accuracy				
	Use editing techniques to manipulate text and numbers including highlight, delete, move, cut, copy, paste, drag and drop				
	Place objects into the document from a variety of sources including text, image, screenshot, shapes, table, graph or chart, spreadsheet extract, database extract				
	Wrap text around a table, chart or image including above, below, square and tight				
13.2 Tables	Create a table with a specified number of rows and columns				
	Place text or objects in a table				
	Edit a table and its contents including insert row(s) and column(s), delete row(s) and column(s), merge cells				
	Format a table including to set horizontal cell alignment (left, right, centre, fully justified), set vertical cell alignment (top, middle, bottom), show gridlines, hide gridlines, wrap text within a cell, shading/colouring cells, adjust row height, adjust column width				
13.3 Headers and footers	Know the purpose of headers and footers				
	Create or edit headers and footers				

Topic	You should know and understand	R	A	G	Comments
	Align the contents of the header and footer consistently within a document including to left margin, right margin and centred within margins				
	Place text and automated objects in headers and footers including file information, page numbering, total number of pages, date, time				

14 Styles

Topic	You should know and understand	R	A	G	Comments
14 Styles	Create, modify, update and apply styles to ensure consistency of presentation				
	Font including font face, type (serif, sans-serif), point size, colour				
	Text alignment including left, right, centre, fully justified				
	Text enhancement including bold, underline, italic				
	Spacing including paragraph (before and after) and line				
	Bullets including shape, alignment, line spacing and indent				
	Purpose and uses of a corporate house style				

15 Proofing

Topic	You should know and understand	R	A	G	Comments
15.1 Software tools	Use automated software tools (spell check, grammar check) and make appropriate changes to ensure all work produced contains as few errors as possible				
	Use validation routines to minimise data entry errors				
	Know that automated suggestions given by spell check software do not always give the correct response				
	Importance, characteristics and uses of appropriate validation including range check, character check, length check, type check, format check, presence check				

Topic	You should know and understand	R	A	G	Comments
15.2 Proofing techniques	Identify and correct data entry errors including transposed numbers, incorrect spelling, inconsistent character spacing, inconsistent case				
	Identify and correct inconsistent line spacing, remove blank pages/slides, remove widows/orphans, inconsistent or incorrect application of styles, ensure that tables and lists are not split over columns or pages/slides				
	Importance, characteristics and uses of verification including visual checking and double data entry to reduce data entry errors				
	The need for validation as well as verification				

16 Graphs and charts

Topic	You should know and understand	R	A	G	Comments
16 Graphs and charts	Select data to produce a graph or chart including using contiguous data, non-contiguous data and specified data ranges				
	Select the graph or chart type				
	Label the graph or chart including chart title, legend, sector labels, sector values, percentages, category axis title, value axis title, category axis labels, value axis labels, data value labels				
	Add a second data series				
	Add a second axis				
	Format numerical values to a specified number of decimal places				
	Format numerical values to display currency symbols				
	Adjust the maximum and minimum values of an axis scale and set incremental values				
	Enhance the appearance of a graph or chart including extracting a pie chart sector, changing the colour scheme or fill patterns				

17 Document production

Topic	You should know and understand	R	A	G	Comments
17 Document production	Edit page layout including page size, page orientation, page margins, number of columns, column width, spacing between columns, set and remove breaks (page, section and column breaks)	☐	☐	☐	
	Set line spacing including: single, 1.5 times, double, multiple, spacing before and after paragraphs	☐	☐	☐	
	Set tabulation including: left, right, centred and decimal tabs, indented paragraphs and hanging paragraphs	☐	☐	☐	
	Text enhancement including bold, underline, italic, superscript and subscript, changes in case	☐	☐	☐	
	Create or edit lists including bulleted, numbered	☐	☐	☐	
	Find and replace text including matching case, whole words	☐	☐	☐	
	Add and delete bookmarks/hyperlinks	☐	☐	☐	
	The purpose of setting page, section and column breaks	☐	☐	☐	
	The purpose of setting gutter margins	☐	☐	☐	

18 Databases

Topic	You should know and understand	R	A	G	Comments
18.1 Create a database structure	Import data from existing files (including .csv, .txt) using specified field names to create tables	☐	☐	☐	
	Set appropriate data types to fields including text, numeric (integer, decimal, currency), date/time, Boolean/logical	☐	☐	☐	
	Set sub-types of numeric data including percentage, number of decimal places	☐	☐	☐	
	Set display format of Boolean/logical field (yes/no, true/false, checkbox)	☐	☐	☐	
	Set display format of date/time data	☐	☐	☐	
	Create and edit primary and foreign keys	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
	Create relationships between tables	☐	☐	☐	
	Create a data entry form including specified fields, appropriate font styles and sizes, appropriate spacing between fields, character spacing of individual fields, use of white space, radio buttons, check boxes, drop down menus	☐	☐	☐	
	Characteristics, uses, advantages and disadvantages of a flat file and a relational database	☐	☐	☐	
	Characteristics of primary key and foreign keys	☐	☐	☐	
	Characteristics of good form design	☐	☐	☐	
18.2 Manipulate data	Use arithmetic operations or numeric functions to perform calculations including calculated fields, calculated controls	☐	☐	☐	
	Use formulae and functions to perform calculations at run time including addition, subtraction, multiplication, division, sum, average, maximum, minimum, count	☐	☐	☐	
	Use a single criterion, or multiple criteria to sort data into ascending or descending order	☐	☐	☐	
	Use a single criterion, or multiple criteria to select subsets of data using a query	☐	☐	☐	
	Perform searches using a variety of operators including AND, OR, NOT, LIKE, >, <, =, >=, <=, <>	☐	☐	☐	
	Perform searches using wildcards	☐	☐	☐	
18.3 Present data	Produce reports to display data including displaying all the required data and labels in full	☐	☐	☐	
	Use appropriate headers and footers within a database report including report header, report footer, page header, page footer	☐	☐	☐	
	Set report titles	☐	☐	☐	
	Produce different output layouts including controlling the display of data, labels, tabular or columnar format	☐	☐	☐	
	Align data and labels appropriately including right aligning numeric data and decimal alignment	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
	Control the display format of numeric data including number of decimal places, currency symbol, percentage				

19 Presentations

Topic	You should know and understand	R	A	G	Comments
19 Presentations	Create a new presentation using a text file				
	Use a master slide Insert and edit objects consistently including images, text, shapes, logos, slide headers and footers, placeholder position, automated slide numbering				
	Format master slide objects including headings, subheadings, bullets, background colour				
	Apply slide layout				
	Insert a new slide				
	Move or delete a slide				
	Insert and edit objects on a slide including text (headings, subheadings, bulleted lists), images (still images, video clips, animated images), charts, tables, audio clips (sound), symbols, lines, arrows, call out boxes and shapes				
	Add presenter notes				
	Insert and edit a hyperlink including linking text or objects to a slide within the presentation, an external file or an email address				
	Insert an action button including modifying settings to navigate to a specified slide or file				
	Add alternative text/screentip to an object				
	Apply consistent transitions between slides				
	Apply consistent animation effects on text, images and other objects				
	Hide slides within a presentation				

Topic	You should know and understand	R	A	G	Comments
	Display the presentation for a variety of purposes including looped on-screen carousel, presenter controlled				
	Print the presentation in a variety of layouts including full page slides, presenter notes, handouts				

20 Spreadsheets

Topic	You should know and understand	R	A	G	Comments
20.1 Create a data model	Insert cell(s), row(s) and column(s), delete cell(s), row(s) and column(s), merge cells				
	Create formulae using cell references				
	Replicate formulae using absolute and relative cell references where appropriate				
	Use arithmetic operators in formulae including add, subtract, multiply, divide, indices				
	Use named cells and named ranges				
	Use functions including sum, average, maximum, minimum, integer, rounding, counting, LOOKUP, VLOOKUP, HLOOKUP, XLOOKUP, IF				
	Use external data sources within functions				
	Use nested functions				
	The difference between a formula and a function				
	The order in which mathematical operations are performed including the use brackets to make sure that formulae work				
	Characteristics and use of absolute and relative cell referencing				
20.2 Manipulate data	Using a single criterion, or multiple criteria sort data into ascending or descending order				
	Using a single criterion, or multiple criteria, select subsets of data				
	Perform searches using a variety of operators including AND, OR, NOT, >, <, =, >=, <=, <>				

Topic	You should know and understand	R	A	G	Comments
	Perform searches using wildcards				
20.3 Present data	Display either formulae or values				
	Adjust row height, column width and cell sizes so that all data, labels, and formulae is fully visible				
	Wrap text within cells so that all data is fully visible				
	Hide and display rows and columns				
	Enhance a spreadsheet including text colour, cell colour, bold, underline, italic, shading				
	Format numeric data appropriately including to display the number of decimal places, different currency symbols, percentages				
	Use conditional formatting to change the display format depending on the contents of a cell				
	Set the orientation to portrait or landscape				
	Control the page layout to print including specified number of pages, print area, display or hide gridlines, display or hide row and column headings				

21 Website authoring

Topic	You should know and understand	R	A	G	Comments
21.1 Web development layers	Content layer is used to enter the content and create the structure of a web page				
	Presentation layer is used to display and format elements within a web page				
	Behaviour layer is for a scripting language to control elements within a web page				
21.2 Create a web page	Create the content layer of a web page				
	Place appropriate elements in the head section of a web page including: • insert a page title to display in the browser • attach external stylesheets (with the correct hierarchy, using a relative file path)				

Topic	You should know and understand	R	A	G	Comments
	• metatags to use the appropriate attributes including to define the charset, name attributes (description, keywords, author, viewport), content attributes • default target windows	☐	☐	☐	
	Place appropriate content in the body section of a web page	☐	☐	☐	
	Insert a table including table header, table rows, table data	☐	☐	☐	
	Use appropriate table attributes to meet the needs of the audience including to adjust cells to span more than one row or column, to set table and cell sizes in terms of pixels or % values, to apply styles to tables	☐	☐	☐	
	Insert appropriate objects into a web page including text, images, sound clips, video (display controls, remove controls, autoplay), to adjust image or video size, aspect ratio and apply alternate text	☐	☐	☐	
	Use the tag including to apply styles and classes	☐	☐	☐	
	Apply tags to text within a web page to display predefined styles including h1, h2, h3, p, li	☐	☐	☐	
	Apply classes to elements within a web page	☐	☐	☐	
	Apply styles to elements within a web page including to a list (ordered list, unordered list)	☐	☐	☐	
	Create a bookmark within a web page using an id attribute	☐	☐	☐	
	Create hyperlinks from text and images to: • bookmarks on the same page • other locally stored web pages • a website using the URL • send mail to a specified email address • to open in a specified location (the same window, a new window, with a window named as specified)	☐	☐	☐	
	Purpose of the head and body sections of a web page	☐	☐	☐	
	The reason tables are used to structure elements within a web page	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
	Function of metatags including to define: the charset, keywords for search engines, the author of the web page, a description of the web page, the viewport (to make your web page display on all devices)	☐	☐	☐	
	Function of a hyperlink	☐	☐	☐	
	Concept of a bookmark including methods of creating a bookmark within a web page	☐	☐	☐	
	Function of an anchor	☐	☐	☐	
	Relative file path and absolute file path including the reason absolute file paths must not be used for hyperlinks to locally saved web pages/objects	☐	☐	☐	
21.3 Use stylesheets	Create the presentation layer of a web page	☐	☐	☐	
	Create generic external styles and inline style attributes including: • background properties including colour, images • font properties • table, table row, table header and table data properties including size, background colour, horizontal and vertical alignment, spacing, padding, borders: including collapsed, colour, thickness, visible/invisible	☐	☐	☐	
	Create classes including: • background properties including colour, images • font properties • table, table row and table data properties including size, background colour, horizontal and vertical alignment, spacing, padding, borders: including collapsed, colour, thickness, visible/invisible	☐	☐	☐	
	Create external styles to be tagged in a web page including h1, h2, h3, p, li	☐	☐	☐	
	Specify the font properties including font family, size, colour, alignment, bold, italic	☐	☐	☐	
	Attach comments to an external stylesheet	☐	☐	☐	
	Save styles in cascading stylesheet format	☐	☐	☐	

Topic	You should know and understand	R	A	G	Comments
	Characteristics of cascading stylesheets including the difference between attached stylesheets and inline style attributes, the hierarchy of multiple attached stylesheets and inline styles within a web page	☐	☐	☐	
	Characteristics of a style and a class including the difference between them	☐	☐	☐	
	Reason relative file paths must be used for attached stylesheets	☐	☐	☐	

Section 6: Useful websites

The resources listed below will help you to revise and study for your Cambridge IGCSE Information and Communication Technology course.

These resources have not been through the Cambridge quality assurance process but have been found suitable for use with various parts of the syllabus. This list includes website links providing direct access to internet resources. Cambridge is not responsible for the accuracy or content of information contained in these resources. The inclusion of a link to an external website should not be understood to be an endorsement of that website or the site's owners (or their products/services).

www.teach-ict.com/gcse_new/gcse_ict_home.html
Even though this website is aimed at the (now finished) English ICT GCSE, it is useful for a number of the pure theory sections of the syllabus as well as some of the theoretical topics in the spreadsheet and database sections.

https://www.youtube.com/results?search_query=IGCSE+ICT
You Tube contains many very good videos covering many aspects of the syllabus. The videos cover both the theory and practical sections of the syllabus. There are videos that cover actual practical tasks from past question papers.

Endorsed resources to support Cambridge IGCSE Information and Communication Technology are available on our public website here

Endorsed resources have been written to be closely aligned to the syllabus they support, and have been through a detailed quality assurance process. All textbooks endorsed by Cambridge International for this syllabus are the ideal resource to be used alongside this Learner Guide.

In addition to reading the syllabus, you should refer to the past and specimen papers.

Cambridge Assessment International Education
The Triangle Building, Shaftesbury Road, Cambridge, CB2 8EA, United Kingdom
t: +44 1223 553554
e: info@cambridgeinternational.org www.cambridgeinternational.org