

UPDATED TO 2023-2025 SYLLABUS

CAIE IGCSE

ICT

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SUMMARIZED NOTES ON THE THEORY SYLLABUS

*Prepared for Santoshi for personal use only.*

# 1. Document Production

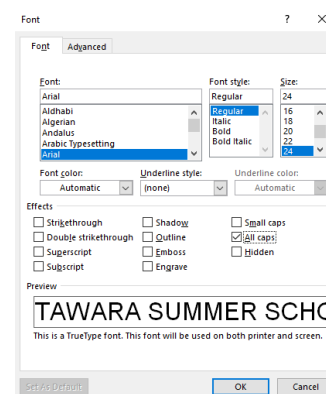
## 1.1. Word Processing (MS Word)

- Serif – with flicks, e.g. **Cambria**
- Sans-serif – without flicks, e.g. **Calibri**
- One part of the document is 1 column, and the rest is in two columns. a → section break.
- When you want to move text to the next column, a → column break.
- To force all further text onto the next page → page break
- A widow= single line that appears on the next page or column, separated from the rest of the paragraph
- An orphan = a single line that appears on the previous page or column, separated from the rest of the paragraph.
- To add page numbers in the header/footer -----> Place your cursor where you want to put the number → Go to insert tab → Quick parts → Select Numbering category → Select Page in field names → Click Ok
- Add the file size/name (including file path) → click on Quick Parts in the Insert tab → click on Field → select File Size or File name. For file path →, check the box to include file path. For file size →, choose whether Kilobytes or Megabytes.
- Include date → click on Date & Time in Insert tab → choose an appropriate format as specified. (If the date/month format is flipped →, change your region/ language settings on your computer to the United Kingdom.)
- Update fields if required (select auto-update while inserting fields.)

## 2. House Styles

### 2.1. House Styles

- Remember to follow all the instructions given to avoid losing easy marks
- Type in the name of the style exactly as it is in the paper
- Click on the drop-down arrow in the Styles section → select Create a new style
- Always base your styles on the Normal font
- Setting the line spacing → click on format → then paragraph → select required options
- From the same tab, you can change the spacing before and after the paragraph
- Setting all capital letters → click on format → font → tick the option All Caps

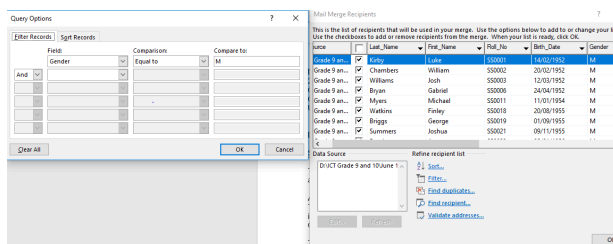


- To set certain bullets to a list style → click on format → click on Numbering → Bullets tab → choose the required option
- To indent text for a style → click on format → Paragraph and input required indents under the Indentation section. Choose hanging indents to indent the whole paragraph and the first line indents to indent only the first line of a paragraph.

## 3. Mail Merge

### 3.1. Mail Merge

- Create a master document, which is mainly given as a source file
- In the master document, click on the Mailings tab
- In the start mail merge section, click on select recipients → select use an existing list → choose the source file
- Select records to be used, filter if necessary

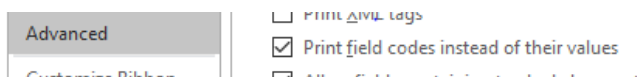


- Insert merge fields where indicated with chevrons, i.e.
- Place automated current date and/or time, as well as your name, centre number and candidate number where specified. Ensure the date is in the correct format specified.

```
{ DATE \@ "dd/MM/yyyy" \* MERGEFORMAT }
```

```
{ MERGEFIELD Title } { MERGEFIELD First_Name } { MERGEFIELD Last_Nam  
{ MERGEFIELD Street }  
{ MERGEFIELD Area }  
{ MERGEFIELD Post_Code }  
{ MERGEFIELD Country }
```

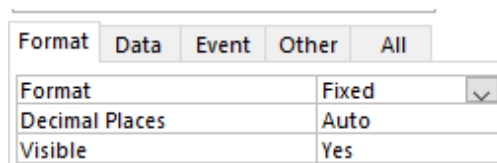
- Spell-check and proofread the document.
- Save the master document, and click finish and merge. Preview results and ensure that they look as required.
- While printing:
  - Check all merge fields are placed
  - Field codes are visible if necessary. (Go to Advanced settings so they are displayed when printing. Proof of date inserted may be asked, right-click and toggle field codes, or just use the shortcut Alt+F9.)



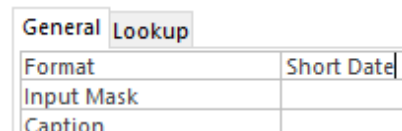
## 4. Data Manipulation

### 4.1. Data Manipulation (MS Access)

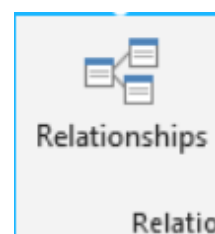
- While importing files, make sure you select text file and not excel file, as .csv files are plain text.
- When they ask for a set number of decimal places in a field, choose Fixed in Format.



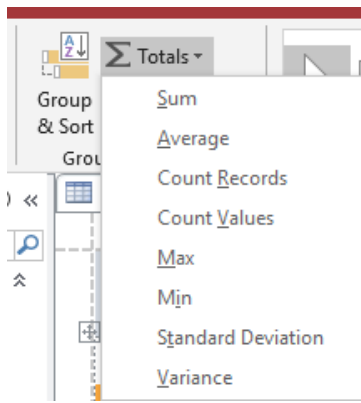
- Ensure that the dates displayed in the table are in the correct format under Table Design view.



- To form a relationship between two tables, go to the Relationships section of the Database Tools tab and choose the required tables.



- The calculations will **ONLY** work if placed in the report footer. If  $\Sigma$  Total is used, then it appears automatically in the report footer.



Count the number of fields in a report	=COUNT([Primary_field]) Always use the primary field as it is the unique field
Sum of fields in a report	=SUM([Field_name])
Average of fields in a report	=AVG([Field_name])
Minimum of fields in a report	=MIN([Field_name])
Maximum of fields in a report	=MAX([Field_name])

afterbefore

## 5. Presentations

### 5.1. Presentation Authoring (MS PowerPoint)

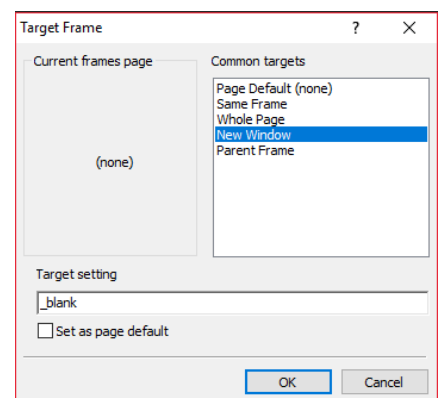
## 6. Data Analysis

### 6.1. Data Analysis (MS Excel)

## 7. Website Authoring

### 7.1. HTML

- Anchors: help navigate throughout a webpage
  - Highlight the destination of the anchor, and set a bookmark
  - You can use tags in your code around this text  
`<div id="top"> Destination text </div>`
  - Highlight the word or image that will be the hyperlink, click insert a hyperlink, and type the address of the website, the bookmark, or the email address provided in the respective places.
  - If the link needs to open in a new window, select New Window from the target frame. This will give you a target setting of "\_blank."



- If there are specified dimensions for a table, use the table properties to set these values.
- Check the code to ensure that the table is not set to 100% width, if there are other values given.
- To hide bullets from your webpage, add hidden after your tag selector.

Font type	h2 {font-family: "Times New Roman"}
Text size	h2 {font-size: 16pt}
Aligning text	h2 {text-align: center}
'Bold' text	h2 {text-weight: bold}
'Underline' text	h2 {text-decoration: underline}
Second choice of font	h2 {font-family: "Times New Roman, Verdana"}
Adding generic fonts (either serif or sans-serif)	h2 {font-family: "Times New Roman, serif"}h2 {font-family: "Calibri, sans-serif"}
Changing colour	h2 {color: #000000}
Using classes to set styles. It can be used by many selectors	right {text-align: right}
Comment in <b>HTML</b> - text that is not read by the computer, only for users	
Comment in <b>CSS</b> - text that is not read by the computer, only for users	/* Enter comment here */

- Colour codes have three parts:

(RED, GREEN, BLUE)

Amount of Light (colour)	Hex code
Fully on	FF
¾ on	C0
½ on	80
¼ on	40
Off	00

- **Examples:**

- Pure red is (FF0000)
- Pure green is (00FF00)
- Pure blue is (0000FF)
- Pure yellow is (FFFF00)
- Pure black is (000000)
- Pure white is (FFFFFF)

HTML tag	
Opening/closing head tag	
Page title	
Attaching a CSS file	<link rel="stylesheet" type="text/css" href="mystyle.css">
Defining anchor tag	
Setting default target window	
Opening of the body/content	
Table tag   border width as 1   alignment centre	

## 7.2. CSS

### What is CSS?

- Cascading style sheet
- Used to style webpages
- Two types
  - Embedded/inline
  - External

### Embedded

- Used to apply style properties within HTML sheet
- Format:
  - ...style = "attribute: specification">
  - Inline CSS for e.g. <table border="1" style="width:200px">
- To add several attributes, add a semicolon to separate them and then use the same format
  - For e.g. < table style= "width:29%; margin-left: auto\*\*;\*\*">
- For inline CSS, adding -style= "...." - is mandatory.

### External

- External CSS sheets are separate sheets that style the webpage.
- To use, they are required to be attached to the main HTML file using the tag:
  - `<link rel="stylesheet" type="text/css" href="sourcefile.css">`
  - The tag is placed in the head tag of the html file. Several html sheets can be attached.
  - Preference is given to the sheet placed last in the head tag
- Format for external CSS
  - `h1 { property: value ;}`
  - for e.g. `h1 { color:#000000;}`
    - ↑ Element source is taken from HTML script linked

## CSS Tags

### Colours

- Colours can be in hexadecimal
  - hashtag before the hexadecimal is mandatory
  - e.g. #000000
  - F full capacity
  - 0 is the least capacity
- Some colours can be written in words. Such as black or white.

### Fonts

- Fonts are given priority from first to last in order
- To add multiple fonts, add commas.
  - Eg. `h1 { font-family: Arial, Calibri, sans-serif;}`

### Tables

- Tables have many attributes to help style them
  - Cell padding: creates space between text and cell border
  - Cell spacing: creates space between individual cells
  - Borders
  - Background colour: background tags in the tables only apply to the tables.
- Individual td or th headings can also be specified in CSS

Table tags	format
cell padding	<code>Table { padding :40px;}</code>
cell spacing	<code>Table { spacing : 30px;}</code>
borders	<code>Table { border-width:3px;}</code> <code>Table { border-color: #000098;}</code> <code>Table { border-style: solid;}</code> <code>Table { background-color: #009499;}</code>
Td/th tags	<code>td { font-size: 3;}</code> <code>td { font-family: Calibri;}</code> <code>td { color: #000000;}</code>
Dimensions	<code>table { width:50px;}</code> <code>table { height:60px;}</code>

- `body { background-repeat: no-repeat;}`
- `body {background-position: top/left/right/bottom;}`
- `h1 {text-align: left/right/top/bottom;}`

## 8. Editing Images

### 8.1. Editing Images

- To save a picture with 8 bits - of colour depth, save it as a gif
  - Open it in Paint and save it as
- To compress the size of a picture, open it in the picture manager
  - Edit picture
  - Compress pictures
  - Choose the most suitable option
- To change the colour options of a picture, use picture manager
  - Edit picture
  - Colour

## 9. Answers to Theory Questions

### 9.1. Answers to Theory Questions

- Enter data twice and compare them either after data has been entered or during the entry process.
- 15.2 Explain the need for validation as well as verification:
  - Validation only ensures that the data entered is in the accepted format. Verification is needed to ensure that the data entered is correct. Data entered may be in the right format but of the wrong value. Or it may be copied correctly but does not match the criteria.
- 17.1 Explain why it is necessary to use page, section and column breaks, to adjust pagination and to avoid widows and orphans?
  - Page breaks and column breaks help remove widows and orphans by forcing text onto the next page/ column so it is all together.
  - It does not disrupt the reader by breaking the flow.
- 17.3 Explain why mail-merged documents are created
  - Mail merged documents save time typing out individual letters, as the computer can personalize them. Typing errors are also reduced since the master document is only typed once. They can also be emailed using the address in the source file.
- 18.1 Define the terms flat-file database and relational database.
  - Flat-files databases are tables that have data sorted in rows and columns.
  - Relational databases are several tables linked together, preventing unnecessary repetition of data.
- 18.1 Explain that other field types, such as placeholders for media, including images, sound bites and video clips are used in commercial databases
  - They are not studied in depth in this syllabus. They are used in web applications where a back-end database holds the media to be displayed in another application, such as a webpage.
- 18.1 Discuss the advantages and disadvantages of using relational tables rather than a flat-file database

Relational Database	Flat file Database
Better security	Poor at complex queries
Cater for future requirements	Poor at limiting access
Data is only stored once	Harder to update, so it is inherently inefficient
Requires more planning	Potential duplication
	Easy to design
	Non-unique records
	It is harder to change the data format.

18.1 Define and understand the terms primary and foreign keys and their role in a relational database.

- Primary key: The key field of a table which is unique and identifies each record
- Foreign key: The field linked to the primary field of the table linked to a relationship



- Tables make the basic structure of a webpage and organise page layout.
- 21.2 Define and understand the terms relative file path and absolute file path
  - Relative file path: A path referring to a file in the same directory relative to the page the reference is made in.
  - Absolute file path: The full path of a file which is not relative to anything.
- 21.2 Explain why absolute file paths must not be used for hyperlinks to locally saved web pages/ objects
  - Absolute paths always include the domain name of the website
  - These should not be used to refer to locally saved web pages as the computer the webpage is stored on (the server) is not the same as where the webpage was developed, and an absolute file path would point to the wrong address.
- 21.3 Explain what is meant by the term cascading stylesheets
  - CSS (cascading stylesheet) is a text-based language which is attached to web pages to set their format. CSS files have a ".css" extension
- 21.3 Explain the hierarchy of multiple attached stylesheets and in-line styles within a web page
  - Internal CSS have more preference over Inline CSS. Inline CSS overrides externally attached stylesheets.
  - If several external stylesheets are attached to one web page, the stylesheet attached last (at the bottom of that part of the code) is given preference (over the other ones). Priority increases as you go down a list.
- 21.3 Explain why relative file paths must be used for the attached stylesheets
  - They should be attached using relative file paths, as they are stored along with the webpage since they are stored in the same folder.
- 21.4 Explain how to upload and publish the content of a website using FTP
  - Used to upload website files to the web hosting space. To upload these files successfully, the user needs:
    - FTP client software
    - All files in one folder
    - Host Name/URL/IP address for FTP
    - Host port to be used for upload
    - Username and password
  - 21.4 Create a test plan to test a website including web page elements are visible, navigation within/from a web page
    - Open the webpage in different browsers to check that all elements appear as they should.
    - Click all hyperlinks to ensure that they direct users to the correct pages, using functional testing. Check that both internal and external links are functional. Check that fonts and background colours are appropriate to the purpose of the website and its users (audience)
    - Perform user testing on a group from the target audience, gain feedback from their usage, and use it to improve the website before publishing it
  - 21.4 Justify the choice of test plan
    - The test plan used to test a webpage must be justified based on the tested elements. e.g. If hyperlinks are being tested, it checks if all the hyperlinks are redirecting the user to the correct webpage/ section of the webpage.

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## ICT

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