

ICT – FROM CHAPTER 11-21 - Answers to Theory Questions

- **11.1 Explain why generic file formats are needed:**
 - They can be opened by any software to access the data on them.
- **11.2 Explain the need to reduce file sizes for storage or transmission:**
 - Smaller files upload and download faster than larger ones and thus are better for transferring data on the internet and between computers and other devices like printers.
- **13 Explain why headers and footers are needed:**
 - Headers and footers ensure each page has all the required information like the page numbers, company logo and name etc. It makes the document more reliable, professional, and consistent, as the information appears on every page. This saves time and reduces errors as they are only typed once.
- **14 Explain what is meant by corporate branding/house style:**
 - It refers to a specific style of fonts and formats used in the making of ICT solutions by organisations.
- **14 Explain why consistent styles are required:**
 - Consistent styles enable users to associate a particular organisation with a style. They look professional.
- **15.1 Explain why the automated suggestions given by spell check software do not always give the correct response:**
 - Some words, e.g. proper nouns, are not found in the dictionary. This makes spell checkers less efficient. Spell checkers do not identify names and places
- **15.1 Explain why validation checks must be appropriate to the data that is being checked:**
 - An inappropriate check can lead to error messages and altered data, as it may accept or reject wrong data.
- **15.2 Describe the importance of accuracy and the potential consequences of data entry errors:**
 - Accurate data ensures the results obtained by the processing of data is relevant, which is essential to the usability of the model

- **15.2 Define the term verification:**
 - A way of preventing errors when data is copied from one medium to another
- **15.2 Describe visual verification:**
 - Visual comparison of data entered with a data source
 - Checking for errors by comparing entered data on the screen with the data in the original document (not the same as proof reading)
- **15.2 Describe double data entry:**
- 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
- **20.1 Define the terms cells, rows, columns, sheets, tabs, pages, charts**
 - Cell: A space for data to be entered into a table, a box formed by the intersection of columns and rows.
 - Rows: Horizontal boxes that divide the table
 - Columns: Vertical boxes that divide the table
 - Sheets: A table of data

- Pages: Divide a piece of data into sections
- Tabs: A module of a database program that holds the tables on the computer
- Charts: A graphical representation of (usually tabulated) data
- **20.1 Explain the importance of accurate data entry in spreadsheets**
 - Ensures the results obtained by the processing of data is relevant, which is essential.
- **20.1 Define the terms formula, function, absolute reference, relative reference, ranges, named cell, named range, and nested formulae/functions.**
 - **Formula:** does the user define mathematical operators to perform a function
 - **Function:** predefined logical and mathematical operations use can be used in a spreadsheet
 - **Absolute reference:** is made when the cell referenced stays constant, but the cell referred to in changes.
 - **Relative reference** is made when the cell reference is supposed to change when the cell it refers to changes. It aids more efficient designing of models.
 - **Ranges:** A group of cells in a table
 - **Named cell:** A cell in a table that is given a name (like 'profit margin') and can be referred to using that name in functions
 - **Nested formulae/functions:** A formula/function used inside a formula/function as an argument
- **20.1 Explain the difference between a formula and a function**
 - The user types in formulas. They include simple mathematical operators like +, -, *, or /, or can be as complex as the user wants. A function is a predesigned code that calculates specific values, e.g. MAX, VLOOKUP. While functions can be used inside formulas, formulas cannot be used inside functions.
- **20.1 Explain the function of absolute and relative referencing.**
 - Absolute referencing is used when the cell referred needs to stay the same, even when the formula/ function is copied.

- When a formula/ function is copied and relative referencing is used, the cell refers changes with the cell in which the function is.
- **20.2 Define the terms testing, test data, expected outcome, actual outcome, normal data, abnormal data, extreme data, what if**
 - Testing: Checking that the designed model shows or previews the the expected outcome when data is entered
 - Test data: The input data used for testing a model
 - Expected outcome: the output a model is supposed to give with the test data
 - Actual outcome: the output the model gives when tested in real time
 - Normal data: data within the given range ego: 50, Range: 0-100
 - Abnormal data: data outside the given range ego: 120, range: 0-100
 - Extreme data: data that is the limit of the range ego: 0 or 100, range: 0-100
 - What if: changing values in cells to see how the outcome of formulas change
- **20.2 Explain the need to test a model before it is used**
 - Reduces the number of possible errors when using real data
- **21.1 Identify and describe the three web development layers**
 - **Content layer:** Holds the content of the webpage structure.
 - **Behaviour layer:** scripting language of a web page or an individual element
 - **Presentation layer:** responsible for the formatting of a webpage(s) or elements (using a stylesheet).
- **21.1 Understand the function of:**
 - **Content layer:** enter the content of a web page structure
 - **Behaviour layer:** enter scripting language to a web page or an individual element
 - **Presentation layer:** format whole web page(s) or individual elements

- **21.2 Explain why tables are used to structure elements within a web page**
- 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.