

## Year 12 AS ICT Checklist

NAME \_\_\_\_\_ GROUP \_\_\_\_\_

### MODULE 2 – “Information: Management and Manipulation”

<b>CRITERIA for 11.1</b> <b>Data Capture</b>	✓
Describe methods of data capture and identify appropriate contexts for their use.	
Understand the concept of data encoding.	

<b>CRITERIA for 11.2</b> <b>Verification and Validation</b>	✓
Understand the distinction between accuracy of information and validity of data.	
Explain possible sources and types of error in data capture, transcription, transmission and processing.	
Describe methods of preventing and reducing such errors.	
Describe appropriate validation techniques for various stages within an ICT system, from data capture to report generation.	

<b>CRITERIA for 11.3</b> <b>Organisation of Data for Effective Retrieval</b>	✓
Describe the nature and purpose of a relational database and how it works.	
Understand that data needs to be organised in a database to allow for effective updating and retrieval.	
Understand how data can be retrieved to produce meaningful information.	
Recall the relevant advantages of relational databases over flat file information storage and retrieval systems.	
Select and justify appropriate file and relational database structures for particular applications.	

<b>CRITERIA for 11.4</b>		✓
Software; Nature, Capabilities and Limitations	Describe the need for interfacing with peripherals storage devices, input and output devices and display devices; describe the need for printer and other peripheral drivers.	
Nature and Types of Software	Describe the distinction between systems software and applications software; describe the purposes of operating systems.	
	Describe the nature of package software, generic and specific, and of bespoke software. Describe the general characteristics of generic packages and the integration of objects and facilities for processing data protocols and standards.	
	Describe the functionality offered by software which provides access to the Internet.	
Capabilities of Software	Describe the desirable features of packages that would be appropriate to particular users and activities such as: links to other packages; search facilities; macro capabilities; application generators; editing capabilities; ability to change or extend data and record structures; short access times; data portability and upgrade paths.	
Upgradability	Explain the technical and human implications of package change/upgrade.	
Reliability	Explain the difficulties of thoroughly testing complex software.	

<b>CRITERIA for 11.5</b>		✓
<b>Manipulation and / or Processing</b>		
	Describe the different modes of operation; batch, interactive, transaction, real-time and identify appropriate contexts for their use.	
	Describe the characteristics of processing data in the form of text, pictures, numbers and sound.	

<b>CRITERIA for 11.6</b>		✓
<b>Dissemination / Distribution</b>		
	Describe the need for suitable output formats and orderings to communicate the results of data interrogation and undertake report generation.	

<b>CRITERIA for 11.7</b>		✓
<b>Hardware; Nature, Capabilities and Limitations</b>		
	Describe the broad characteristics, capabilities and limitations of current	

input devices, storage devices, communications devices, processing devices and output devices and identify appropriate contexts for their use.	
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<b>CRITERIA for 11.8</b>		✓
<b>Security of Data</b>		
Security of Data	Understand the importance of and the mechanisms for maintaining data security. Describe the distinction between security and privacy.	
	Understand simple processes that protect the integrity of data against malicious or accidental alteration; standard clerical procedures, passwords, levels of permitted access, write protect mechanisms, backup procedures, restoration and recovery procedures.	
Backup Systems	Understand the need for regular and systematic backup and procedures for recovery.	

<b>CRITERIA for 11.9</b>		✓
<b>Network Environments</b>		
Describe the characteristics and relative advantages of network and stand-alone environments.		
Describe the difference between a Local Area Network (LAN) and a Wide Area Network (WAN).		
Describe the required elements of network environments including hardware, software, communications and topology.		

<b>CRITERIA for 11.10</b>		✓
<b>The Human / Computer Interface</b>		
Understand the need to facilitate an effective dialogue between humans and machines.		
Explain the need to design systems which are appropriate to users at all levels and in different environments; the impact of clarity of structure and layout.		
Describe how the user-interface can be designed for effective communication with the user.		
Describe the advantages of common user interfaces between different generic application packages.		
Describe the advantages and limitations of a natural language interface.		