Year 10 Component 1 Assessment (Topics cover in Year 9) 15th Jan

1.1 Systems Architecture	Before	After
The purpose of the CPU		
Von Neumann architecture:		
o MAR (Memory Address Register)		
o MDR (Memory Data Register)		
o Program Counter		
o Accumulator		
Common CPU components and their function:		
o ALU (Arithmetic Logic Unit)		
o CU (Control Unit)		
o Cache		
The function of the CPU as fetch and execute instructions stored in memory		
How common characteristics of CPUs affect their performance:		
o clock speed		
o cache size		
o number of cores		
Embedded systems:		
o purpose of embedded systems		
o examples of embedded systems.		

1.2 Memory	Before	After
The difference between RAM and ROM		
The purpose of ROM in a computer system		
The purpose of RAM in a computer system		
The need for virtual memory		
Flash memory		

1.3 Storage	Before	After
The need for secondary storage		
Know the difference between, bit, byte, KB, MB, GB, TB etc.		
Common types of storage:		
Optical		
Magnetic		
Solid state		
Suitable storage devices and storage media for a given application and the advantages and disadvantages of these using characteristics:		
Capacity		
Speed		
Portability		
Durability		
Reliability		
Cost		

1.4 Wired and Wireless Networks	Before	After
Types of networks:		
LAN (Local Area Network)		
WAN (Wide Area Network)		
Factors that affect the performance of networks		
The different roles of computers in a client-server and a peer-to-peer network		
The hardware needed to connect stand-alone computers into a Local Area Network:		
Wireless access points		
Routers/switches		
NIC (Network Interface Controller/Card)		
Transmission media		
The internet as a worldwide collection of computer networks:		
DNS (Domain Name Server)		
Hosting		
The cloud		
The concept of virtual networks.		

1.7 Systems Software	Before	After
The purpose and functionality of systems software		
Operating systems:		
User interface		
Memory management/ multitasking		
Peripheral management and drivers		
User management		
File management		
Utility system software:		
Encryption software		
Defragmentation		
Data compression		
The role and methods of backup:		
Full		
Incremental.		