

EDULiTO

Memory

Topic Tests



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Topic Test 1.2 Memory

1. This table compares ROM and RAM. Complete the table. [9]

	RAM	ROM
What does it stand for?	a.	b.
Definition	RAM is the main place for storing instructions and data whilst a program is being executed. It is sometimes called main memory. Program data is copied into RAM before the CPU can run the program.	c.
Use	d.	e.
Volatility	f.	g.
Types	DRAM (Dynamic RAM)-main Memory SRAM (Static RAM)-Cache Memory	PROM (programmable read-only memory) EEPROM (electrically erasable programmable read-only memory)

2. (a) Explain the purpose of the ROM CHIP inside a desktop computer. [2]

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(b) Name two other devices that contain ROM chips. [2]

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3. Explain the role played by RAM inside a desktop computer. [2]

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(b) Name two other devices that contain RAM. [2]

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4. (a) Explain what is meant by Virtual Memory and why it is used. [3]

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(b) Describe ONE disadvantage of using Virtual Memory. [2]

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5. (a) What is Flash Memory? [2]

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(b) Name three devices that use Flash Memory. [2]

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(c) Why do you think these devices use Flash Memory rather than a Hard Disk Drive? [2]

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(d) Why are Hard Disk Drives, rather than Solid State Drives (Flash Memory), still commonly used as the main storage device by desktop PCs and Servers? [2]

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Topic Test 1.2 Memory - Mark Scheme			
Question Number	Answer	Additional Guidance	Mark
1	a. Random Access Memory. [1 mark] b. Read Only Memory. [1 mark] c. This is a form of data storage. [1 mark] d. RAM allows the computer to read data quickly [1 mark] to run applications. [1 mark] e. It is mainly used to store firmware [1 mark] and contains the programming required to boot up a device.[1 mark] f. RAM is volatile [1 mark] and when the device is powered off the data held in RAM is lost. [1 mark] g. ROM is non-volatile [1 mark] and when the device is powered off the data held in ROM is not lost.[1 mark]	d max 1 mark e max 1 mark	9
2 a	Allows you to setup your computer system [1 mark] Test the hardware to make sure there are no errors before the operating system is loaded [1 mark] Locate the operating system and pass control to it [1 mark]	Max 2 marks	2
2b	Tablet [1mark] Smart Phone [1 mark] Games Console [1 mark]	Max 2 marks Marks awarded for any appropriate device	2
3 a	When a program is running, calculations are performed using information stored in RAM [1 mark] It is used to store information input by a user. [1 mark] While a user edits a document its text and formatting information is stored temporarily in RAM [1 mark]	Max 2 marks	2
3b	Tablet [1 mark] Smart Phone [1 mark] Games Console [1 mark]	Max 2 marks Marks awarded for any appropriate device	2
4 a	Sometimes the RAM memory is low on space [1 mark] and so the computer creates a section of volatile memory on the storage drive (e.g. Hard Disk Drive)[1 mark] It does this when the computer is running many processes and the RAM is low on space [1 mark]		3
4 b	Virtual memory is much slower than RAM [1 mark] because data needs to be transferred backwards and forwards rather than just executing the instruction [1 mark]		2
5 a	Flash memory is a type of non-volatile memory -when it is powered off it retains the information [1 mark] Data is stored in units called blocks [1 mark]		2
5 b	Smart Phone.[1 mark] Tablet [1 mark] Laptops [1 mark]	Max 2 marks Marks awarded for any appropriate device	2
5 c	Takes up less space [1 mark]	Max 2 marks	2

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	Solid State – therefore more mobile [1 mark] Fast transfer of data [1 mark]		
5 d	Cheaper cost [1 mark] Generally have a larger storage capacity [1 mark]		2 /30