

EDULiTO

Storage

Topic Tests



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Topic Test - Storage

1. (a) Define the term “secondary storage”. [2]

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(b) Give two examples of secondary storage devices. [2]

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(c) Why does a computer need a secondary storage device? [2]

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2. (a) The table below has been produced to show the data capacity of a range of storage devices? For each device include an appropriate data capacity. The first one has been done for you. [4]

Device	Data Capacity
Hard Disk Drive	1.0 TB
DVD Drive	
Solid State Drive	
USB Memory Stick	
BluRay Drive	

(b) Aisha has been to a party and has taken 145 photos. Each photo is approximately 2560 KB. She has also taken 15 movie clips. Each movie clip is 650 MB.

She has decided to store these photos and movies on a USB Memory stick. What capacity does she require to store all of the photos? Show your workings. [3]

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3. Explain the advantages and disadvantages of using each storage device type. [6]

Storage Method	Example	Advantages	Disadvantages
Optical Drive	CD, DVD and BluRay drive.		
Magnetic	HDD Drive used in PCs and servers External HDD		

Solid State Drive	USB Memory Stick Flash Drives used in smart phones and tablets		
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4. Read the information below. For each person choose the most suitable storage device and explain why.

(a) Joe D’Angelo is a musician and has just recorded some new songs with his band. His Internet access is down and he wants to send out the five tracks that he has recorded to 34 different record labels.

He wants to spend as little money as possible.



What is the most suitable storage device? [1]

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Why? [2]

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(b) Aleyna travels all over the UK providing IT security support for large and medium sized companies. She is about to buy a new laptop to take to these meetings. She wants a laptop that is lightweight and portable.



What is the most suitable storage device? [1]

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Why? [2]

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(c) Priya is a real film buff and wants to buy a new PC that she can use to store her collection of films.



She wants a drive in her PC with a large storage capacity so that she can quickly access and watch any film.

What is the most suitable storage device? [1]

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Why? [2]

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Topic Test - Storage - Mark Scheme			
Question Number	Answer	Additional Guidance	Mark
1 a	Secondary storage is non-volatile storage [1] that is not under the direct control of a computer's central processing unit (CPU) [1].		2
1 b	Internal Hard Disk Drive [1] External Hard Disk Drive [1] Optical Drive [1] Solid State Drive (Flash Drive) [1] Max 2 marks		2
1 c	The computer needs somewhere to store the operating system, software and data files when the computer is powered off [1] as primary storage is volatile and therefore is incapable of performing this task.[1]		2
2 a	DVD Drive –4.7 GB Solid State Drive – 4GB –to 256 GB USB Memory Stick – 2 to 64 GB BluRay Drive – 50 GB	Max 2 marks Take into account changes to storage capacity	4
2 b	1560 KB x 45 = 371200 KB = 371.2 MB 650 MB x 15 = 9750 MB 9750 MB + 371.2 MB = 10121.2 MB = 10.12 GB [1 mark] She requires a 16 [1 mark] GB [1 mark]USB Memory Stick	No workings but correct answer max 1 mark	3
3	<u>Optical Drive</u> Advantages <ul style="list-style-type: none"> Data stored on optical media is light and easily transported. Fairly durable and reliable form of data storage. Disadvantages <ul style="list-style-type: none"> Storage capacity fairly small in comparison with other storage devices (between 700 MB and 50 GB) Fairly slow data transfer speeds 72 megabits per second. Media can be damaged if mishandled. <u>Magnetic</u> Advantages <ul style="list-style-type: none"> Large storage capacity – 2 TB Data transfer speeds faster than an optical drive approx. 140 megabits per second. Low cost Disadvantages <ul style="list-style-type: none"> They have moving parts and if they are dropped they can easily be damaged. They are larger than Solid State Drives and therefore cannot be used in small devices e.g. a smart phone. 	1 correct answer from each section – max 6 marks.	6

GCSE Computer Science (9-1) – Storage -Topic Test

	<p><u>Solid State Drive</u></p> <p>Advantages</p> <ul style="list-style-type: none"> • They have no moving parts • Very small making them ideal for portable devices. • Silent <p>Disadvantages</p> <ul style="list-style-type: none"> • More expensive in comparison with magnetic and optical drives. • Generally smaller storage capacity than magnetic drives. 		
4 a	<p>Most Suitable storage device Optical storage [1 mark]</p> <p>Why –</p> <ul style="list-style-type: none"> • Because Joe can copy the music onto CDs, which are low cost, and send them through the post • He doesn't need a huge storage capacity • CDs are robust and not easily damaged <p>[2 marks]</p>		3
4 b	<p>Most Suitable storage device SSD [1 mark]</p> <p>Why</p> <ul style="list-style-type: none"> • There are no moving parts in a flash drive therefore it is portable • It has a fast boot up time. <p>[2 marks]</p>		3
4 c	<p>Most Suitable storage device Magnetic Drive [1 mark]</p> <p>Why</p> <ul style="list-style-type: none"> • Large capacity eg 2TB • Easily accessed. • Doesn't need to be portable. <p>[2 marks]</p>		3
			/28