MODULE B MEMORY AND STORAGE · B2

Virtual memory

Original practice questions · ~25 minutes · 20 marks · Cambridge 0478 syllabus 3.3.4

Name _____ Date _____

Instructions. Answer all questions in the spaces provided. The marks for each part are shown in brackets [ ]. The total for this worksheet is **20 marks**.

1

Total: 4 marks

A video production company uses a computer with 16 GiB of RAM to edit films. Editors often run several large programs at the same time.

(a) Describe what is meant by virtual memory. **[2]**

(b) Explain how virtual memory is created on the company's computer. **[2]**

2 **Total: 5 marks**

Complete the paragraph about how virtual memory is used. Use terms from the list. Not all terms are used. **[5]**

pages · RAM · ROM · full · empty · secondary storage · cache · needed · deleted

When RAM is ..... , part of ..... is used as virtual memory. Data that is not currently in use is transferred out of RAM in blocks called ..... . When this data is ..... again, it is transferred back into ..... so the CPU can use it.

3 **Total: 3 marks**

Explain why virtual memory is necessary on the company's computer. **[3]**

4 **Total: 4 marks**

Tick (✓) **one** box in each row to show whether each statement is true or false. **[4]**

Statement	True	False
Virtual memory is created on a ROM chip.		
The CPU can only process data once it is in RAM.		
Virtual memory is used to store files permanently.		
Pages of data can be transferred from RAM to virtual memory.		

5 **Total: 4 marks**

An editor notices the computer becomes very slow when many films and programs are open at once.

(a) Explain why using virtual memory can make the computer slow. **[2]**

(b) Suggest how the company could reduce the need for virtual memory. Give a reason for your answer. **[2]**

Total for this worksheet: 20 marks