

Theory Notes Task: CPU Performance

1a. Outline the function of the clock inside the CPU

1b. If a computer has a 2.5 GHz CPU then how many tasks could be processed each second?

1c. Increasing the clock speed from 2.5 GHz to 4 GHz would improve a computers performance. Explain the reason for this.

1d. Identify why there is an upper limit at which the CPU clock can comfortably run

1e. Explain what is meant by overclocking and identify why people might want to overclock their CPU

1f. A CPU has been overclocked. Identify how it is possible to do this without permanently damaging the CPU chip.

2a. Identify what is meant by the term 'core'

2b. Outline how increasing the number of cores can lead to an improvement in the CPU's performance

2c. What is meant by multi tasking?

2d. What is meant by parallel processing? Explain why parallel processing won't necessarily lead to an improvement in CPU performance.

3a. Outline the role of the cache.

3b. Identify why having a larger cache can speed up processing time

3c. Identify why there is usually a limit to how much cache memory is used in a computer system

4a. What is the purpose of Random Access Memory (RAM) in a computer system

4b. What is the purpose of virtual memory?

4c. Explain why your computer will appear to be running slowly if it doesn't have sufficient RAM.

4d. Adding more RAM will usually improve the performance of a computer system. However if too much RAM is added you are unlikely to see a further improvement in performance. Explain why this might happen.

5a. If you are running a video game, explain how installing a graphics card could help improve the performance of your system.

5b List some of the issues that you might need to consider when thinking about installing a graphics card to improve performance