

ECE3073 Computer Systems

Practice Questions

Performance Enhancement

i) In the context of computer cache memory explain the following terms:

- a) spatial coherence
- b) temporal coherence
- c) cache hit

ii) What is the average memory access time of a computer whose hit rate is 93% with a cache access time of 5 ns and a main memory access time of 80 ns?

iii) If we want an average memory access time of 6.5 ns, our cache access time is 5 ns and our main memory access time is 80 ns, what cache hit rate must we achieve?

iii) How does pipelining increase the throughput of a computer?

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