

1. In the context of computer performance, a benchmark is:

- (a) A specific computer designed in the 1990s
- (b) An ideal program with provable performance boosts
- (c) A collection of real-world programs
- (d) An idealised computer with no memory bottlenecks

Answer: (c)

2. Which one of the following limits is the achievable performance improvement in a computer?

- (a) Huddle space constraint
- (b) Magnolia's effect
- (c) Amdahl's law
- (d) Little's theorem

Answer: (c)

3. A program's CPI will most likely not be affected by the use of:

- (a) integer versus floating point arithmetic
- (b) signed versus unsigned integers for small positive integer variables
- (c) optimisation techniques employed by the computer
- (d) memory versus compute intensive algorithms

Answer: (b)

4. Which of the following factors affect a program's number of executed instructions? Select all that apply.

- (a) algorithm
- (b) HLL used
- (c) instruction set architecture
- (d) CPU frequency

Answer: (a), (b), (c)

5. What is the estimated sea level rise directly due to melting of the Arctic sea ice, should all of it melt due to global warming?

(House points question, optional)

- (a) 1m
- (b) 10m
- (c) 20m
- (d) 0m

Answer: (d)