QUIZ 11

* **Question 1**

1 out of 1 points

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|  | A higher frequency processor will always have higher performance than a lower frequency processor. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct False | |  |  | |  |  | |  |  |  |

* **Question 2**

1 out of 1 points

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|  | Given two different computers A and B of the same ISA, running the same application binary, what is the speedup of A over B?  A: CPI = 1.5, Frequency = 2GHz  B: CPI = 1, Frequency = 1.5GHz |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct 0.8889 | |  |  | | Answer range +/- | 0.02 (0.8689 - 0.9089) |  |  |  | | --- | --- | | Response Feedback: | CPUtimea = I\*1.5/2GHz  CPUtimeb = I\*1/1.5GHz  Speedup a/b = 2G/1.5\*1.5G = .8889 | |  |  |  |

* **Question 3**

1 out of 1 points

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|  | Given the following mix of instruction classes and CPIs, calculate the weighted average CPI for the program on a given CPU.  Class A:  percentage: 30%  CPI: 2  Class B:  percentage: 20%  CPI: 3  Class C:  percentage: 50%  CPI: 1 |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct 1.7 | |  |  | | Answer range +/- | 0.01 (1.69 - 1.71) | |  |  |  |

* **Question 4**

1 out of 1 points

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|  | Imagine you have converted a single threaded program to multi-threaded so it can execute on a multi-core processor.  You can support as many threads as there are cores but there remains a 5% overhead which cannot be parallelized.  What is the maximum speedup you can expect with an infinite core machine? |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct 20 |  |  | | --- | |  | |  |  |  |

* **Question 5**

1 out of 1 points

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| Correct | \_\_\_\_\_\_\_\_\_\_\_ is a good measure of the time a processor spent on a given job. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correctb.  CPU time | |  |  | |  |  | |  |  | |  |  | |  |  |  |