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| 1. | True/False | |
|  | Q: | True or False: Superlinear speedup is usually due to a particularly clever parallel algorithm. |
|  |  |  |
|  | A: | False, superlinear speedup is typically observed when a sub-optimal sequential algorithm is used in the measurement of the speedup factor, or because the amount of main memory is larger because of the associated memory each processor brings to the system. |
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|  | Ref: | Page 7 |

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| 2. | Multiple Choice | |
|  | Q: | Which of the following is (or is equivalent to) Amdahl’s law:  a.  b.  c.  d. |
|  |  |  |
|  | A: | (a) and (c) |
|  |  |  |
|  | Ref: | Page 8 |

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| 3. | Fill in the Blank | |
|  | Q: | Fill in the blanks of the formula: |
|  |  |  |
|  | A: | These are equivalent representations of the formula for efficiency. The correct answers are: |
|  |  |  |
|  | Ref: | Pages 7-8 |

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| 4. | Short Answer/Code | |
|  | Q: | List and briefly describe the two concerns there are with the scalability of a parallel computing system. |
|  |  |  |
|  | A: | The first concern is with the scalability of the hardware/architecture used in the system. The system should be designed such that adding abnormally costly hardware is needed as the network grows and such that the communication network between processors does not get overloaded and become inefficient.  The second is the concern of the scalability of the algorithm. It should be noted that increasing the size of the problem, *n*, will not always result in a linear increase in the computational size of the problem, sometimes increasing the size of the problem can drastically increase the computational size of the problem. |
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|  | Ref: | Page 11 |