

✓ **恭喜！您通过了！**

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1.

If two tasks are executing in parallel, which of the following statements is true?

- ☐ They are using exactly the same hardware at the same time.
- ☒ They are using different hardware, but running at the same time.

正确

Correct!

- ☐ Their executions are alternating in time.
- ☐ One task executes immediately after the other finishes.



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2.

What does the von Neumann bottleneck state about computer architectures?

- ☐ Power consumption is a limiting factor for performance.
- ☐ Temperature is a performance bottleneck.
- ☐ Clock frequency cannot be improved without considering temperature.
- ☒ Memory access time is a performance bottleneck.

正确

Correct!

Module 1 Quiz

测验, 7 个问题

7/7 分 (100%)

3.

What does Moore's law directly observe?

☐ Power consumption doubles every 18 months.

☒ Transistor density doubles every 2 years.



正确

Correct!

☐ Processor power doubles every 2 years.

☐ Transistor switching delay is cut in half every year.



1 / 1

分数

4.

How is dynamic power consumption related to voltage swing?

☒ Dynamic power is proportional to the square of the voltage swing.



正确

Correct!

☐ Dynamic power is proportional to the cube of the voltage swing.

☐ Dynamic power is proportional to the square root of the voltage swing.

☐ Dynamic power is proportional to the capacitance.



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分数

5.

Why can't Dennard Scaling continue forever?

I. The speed of light limits the potential performance improvements.

II. Voltage must remain above threshold voltage.

III. Some noise margin must be maintained.

☐ / only.

Module 1 Quiz

测验, 7 个问题

7/7 分 (100%)



// and ///, NOT I.



正确

Correct!



I, II, and III.



1 / 1

分数

6.

What factor limits clock rates in future designs?

I. The speed of light.

II. Excessive power consumption.

III. Excessive temperature.



I only.



I and II, NOT III.



II and III, NOT I.



I, II, and III.



正确

Correct!



1 / 1

分数

7.

One benefit of concurrent execution on a single processor is that it can hide latency. What does this mean?



When tasks execute in parallel, only the delay of the slowest task matters.



One task can execute while another task is waiting on something.



正确

Correct!

Module 1 Quiz

测验, 7 个问题

The concurrent execution time of two tasks is less than the sum of their sequential execution times.

7/7 分 (100%)



Total latency is reduced because two tasks can execute at the same time.

