# True/False

1. RISC machines originally offered a smaller instruction set compared with CISC machines.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Easy

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2. CISC architectures include a large number of instructions that directly access memory.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Medium

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# Multiple Choices Static

3. CISC machines rely on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to tackle instruction complexity.

A. macrocode

B. microcode

C. nanocode

D. bytecode

<Answer: B>

Topic: Alternative Architectures

Difficulty: Easy

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# True/False

4. Most of the CPU architectures today have a combination of RISC and CISC.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Medium

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# Multiple Choices Static

5. \_\_\_\_\_\_\_\_\_\_\_\_\_ considers two factors: the number of instructions and the number of data streams that flow into the processor.

A. Flynn’s taxonomy

B. Faynn’s taxonomy

C. Flyan’s taxonomy

D. Flewnn’s taxonomy

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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6. There are two major parallel architectural paradigms, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A. Single multiprocessors (SMPs), massively parallel processors (MPPs)

B. symmetric multiprocessors (SMPs), multiple parallel processors (MPPs)

C. systematic multiprocessors (SMPs), massively parallel processors (MPPs)

D. symmetric multiprocessors (SMPs), massively parallel processors (MPPs)

<Answer: D>

Topic: Alternative Architectures

Difficulty: Difficult

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# True/False

7. Program instructions act on the data, unlike data-driven, or dataflow, architectures.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Medium

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# Multiple Choices Static

8. The superscalar components analogous to our additional highway lanes are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_units.

A. execution

B. production

C. transaction

D. compilation

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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# True/False

9. Interconnection networks can be either static or dynamic.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Easy

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# Multiple Choices Static

10. Multistage networks are often called \_\_\_\_\_\_\_\_\_\_\_\_ networks.

A. shuffle

B. ruffle

C. shunt

D. shuttle

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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11. Shared memory MIMD machines can be divided into two categories: \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_.

A. UMA, NUMA

B. VMA, NVMA

C. UUA, NUUA

D. UMA, DUMA

<Answer: A>

Topic: Alternative Architectures

Difficulty: Difficult

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# True/False

12. Pervasive computing are the systems that are totally embedded in the environment, simple to use, completely connected, typically mobile, and often invisible.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Medium

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13. Cloud computing and the classical distributed computing are not the same in all of the concepts they use.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Medium

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14. Neural network computers are composed of a large number of simple processing elements that individually handle one piece of a much larger problem.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Easy

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# Multiple Choices Static

15. \_\_\_\_\_\_\_\_\_\_\_\_\_ computers derive their name from drawing an analogy to how blood rhythmically flows through a biological heart.

A. Systonic array

B. Symbolic array

C. Systolic array

D. Systoly array

<Answer: C>

Topic: Alternative Architectures

Difficulty: Medium

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# True/False

16. DNA computing uses DNA as software and enzymes as hardware.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Easy

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# Multiple Choices Static

17. The realization of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ computing has prompted many to consider what is known as the technological singularity.

A. quanum

B. quadratic

C. quandum

D. quantum

<Answer: D>

Topic: Alternative Architectures

Difficulty: Difficult

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18. \_\_\_\_\_\_\_\_\_\_\_ are trained by use of either supervised or unsupervised learning algorithms.

A. Perceptron

B. Proton

C. Perton

D. Percepton

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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19. The computation sequence of a dataflow computer can be understood by examining its \_\_\_\_\_\_\_\_\_\_\_\_\_\_ graph.

A. dataflow

B. flow

C. sequence flow

D. data draw

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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20. Public-resource computing is also known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ computing.

A. global

B. local

C. static

D. dynamic

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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# True/False

21. The analogy of human languages can be compared with the qualities of RISC and CISC.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Medium

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# Multiple Choices Static

22. High-level languages depend on \_\_\_\_\_\_\_\_\_\_\_\_\_\_ for efficiency.

A. modularization

B. modularity

C. modernization

D. multiplexing

<Answer: A>

Topic: Alternative Architectures

Difficulty: Easy

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23. SIMD means

A. single instruction stream, multiple display streams

B. single instrument stream, multiple data streams

C. single instruction stream, multiple data streams

D. single instruction stream, multiple device streams

<Answer: C>

Topic: Alternative Architectures

Difficulty: Difficult

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24. A \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a collection of distributed workstations that works in parallel only while the nodes are not being used as regular workstations.

A. network of servers

B. network of nodes

C. collection of workstations

D. network of workstations

<Answer: D>

Topic: Alternative Architectures

Difficulty: Medium

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# True/False

25. VLIW processors rely entirely on the compiler rather than on the hardware.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Medium

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# Multiple Choices Static

26. Like \_\_\_\_\_\_\_\_\_\_\_\_\_\_, EPIC bundles its instructions for delivery to various execution units.

A. VLIW

B. VLIV

C. WLIW

D. VLLW

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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# True/False

27. Switching networks use switches to dynamically alter routing.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Easy

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28. Distributed computing is another form of multiprocessing.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Medium

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# Multiple Choices Static

29. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ extend the concept of distributed computing and help provide the necessary transparency for resource sharing

A. Remote procedure calls (RPCs)

B. Remote program calls (RPCs)

C. Remote procedure codes (RPCs)

D. Remote protocol calls (RPCs)

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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30. The example of a neural net is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ a single trainable neuron.

A. perceptron

B. proton

C. perton

D. percepton

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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# True/False

31. Optical computing uses photons instead of electrons to perform logic in a computer.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Easy

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# Multiple Choices Static

32. The first company in the world to manufacture and sell what it identifies as a quantum computer was \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A. Wave Computers

B. B-Wave Computers

C. D-Wave Computers

D. E-Wave Computers

<Answer: C>

Topic: Alternative Architectures

Difficulty: Medium

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# True/False

33. Biological computing uses components from living organisms instead of inorganic silicon ones.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Difficult

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34. One obstacle is the tendency for qubits to decay into a single incoherent state (called decoherence), which leads to inconsistency of data.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Difficult

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# Multiple Choices Static

35. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are typically used for repetitive tasks, for example, Fourier transformations, image processing, data compression, and shortest path problems.

A. Systonic array

B. Symbolic array

C. Systolic array

D. Systoly array

<Answer: C>

Topic: Alternative Architectures

Difficulty: Easy

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# Multiple Choices Static

36. Only explicit load and store instructions were permitted access to memory in \_\_\_\_\_\_\_\_\_\_\_ machines.

A. RISC

B. CISC

C. FISC

D. RSIC

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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# True/False

37. The RISC clock cycles are often longer than CISC clock.

<Answer: False>

Topic: Alternative Architectures

Difficulty: Medium

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# Multiple Choices Static

38. \_\_\_\_\_\_\_\_\_\_\_ has focused on efficiency in the mobile and embedded systems market.

A. ARM

B. RAM

C. AARM

D. RMA

<Answer: A>

Topic: Alternative Architectures

Difficulty: Easy

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# True/False

39. The problem with Flynn’s taxonomy is with the MIMD category; it considers how the processors are connected and the memory is viewed.

<Answer: False>

Topic: Alternative Architectures

Difficulty: Medium

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40. A pile of PCs (PoPC) is a cluster of dedicated heterogeneous hardware used to build a parallel system out of mass market commodity components, or COTs.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Medium

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41. Super pipelining occurs when a pipeline has stages that require less than two o’clock cycle to execute.

<Answer: False>

Topic: Alternative Architectures

Difficulty: Difficult

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# Multiple Choices Static

42. \_\_\_\_\_\_\_\_\_\_\_networks are those in which all components are connected to all other components.

A. Completely connected

B. Ring

C. Bus

D. Mesh

<Answer: A>

Topic: Alternative Architectures

Difficulty: Medium

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43. Specially designed hardware units, known as \_\_\_\_\_\_\_\_\_\_\_, monitor inconsistencies in data on the system.

A. snoopy vector controllers

B. snoopy common controllers

C. snoopy cache controllers

D. snoopy cache compilers

<Answer: C>

Topic: Alternative Architectures

Difficulty: Difficult

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# True/False

44. Data drives processing on dataflow systems, and dataflow multiprocessors do not suffer from the contention and cache coherency problems.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Easy

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45. Quantum computers use quantum bits (qubits) that can be in multiple states simultaneously.

<Answer: True>

Topic: Alternative Architectures

Difficulty: Medium

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