Started on	Monday, 16 October 2023, 10:50 AM
State	Finished
Completed on	Monday, 16 October 2023, 10:52 AM
Time taken	2 mins 17 secs
Marks	11.00/12.00
Grade	**9.17** out of 10.00 (**91.67**%)

Question 1

Correct

Mark 1.00 out of 1.00

Which technology is currently used for processors?

- ○ A.   All the above are correct
- ⦿ B.   Integrated circuits ✔
- ○ C.   Vacuum tubes
- ○ D.   Transistors

Câu trả lời của bạn là chính xác.

The correct answer is:
Integrated circuits

Question 2

Incorrect

Mark 0.00 out of 1.00

In the Von Neumann architecture, instructions and data of a program are stored in:

- ○ A.   Instruction memory
- ⦿ B.   Two separated physical memories ✖
- ○ C.   Data memory
- ○ D.   Single physical memory

Câu trả lời của bạn không chính xác.

The correct answer is:
Single physical memory

Question 3

Correct

Mark 1.00 out of 1.00

A clock signal becomes logic value 1 2×10^9 time per second; what is the clock's rate?

- ○ A. $2 \times 10^9 s$
- ● B.   2 GHz ✔
- ○ C.   Cannot determine
- ○ D.   0.5 ns

Câu trả lời của bạn là chính xác.

The correct answer is:
2 GHz

Question 4

Correct

Mark 1.00 out of 1.00

Which is(are) characteristic(s) of the RISC (Reduced Instruction Set Computer) ISA?

- ○ A.   Small average CPI
- ● B.   All other answers are correct ✔
- ○ C.   Less number of instructions
- ○ D.   Large number of registers (≥ 32)

Câu trả lời của bạn là chính xác.

The correct answer is:
All other answers are correct

Question 5

Correct

Mark 1.00 out of 1.00

Which parameters will affect the performance of an application?

- ○ A. Compiler
- ○ B. Instruction set architectures
- ○ C. Programming languages
- ● D. All other answers are correct ✔

Câu trả lời của bạn là chính xác.

The correct answer is:
All other answers are correct

Question 6

Correct

Mark 1.00 out of 1.00

To improve system performance, what can we do?

- ○ A. Changing the algorithm to reduce the cycles required by the application
- ○ B. Using another programming language to reduce machine instructions
- ● C. All other answers are correct ✔
- ○ D. Reducing cycle time of processors

Câu trả lời của bạn là chính xác.

The correct answer is:
All other answers are correct

Hi! Here some our recommendations
BLACKBOX:

Be as clear as possible

End the question in what la
answer to be, e.g: 'connec

or you can just

Here are some

Write a function that rea

How to delete docs fr

Connec

Question 7

Correct

Mark 1.00 out of 1.00

Choose the correct statement in the MIPS processor context.

○ A.   A machine language instruction is equivalent to multiple ANSI C instructions

◉ B.   An assembly instruction is equivalent to one machine instruction ✔

○ C.   A high-level language instruction always requires multiple machine instructions

○ D.   None of the above

Câu trả lời của bạn là chính xác.

The correct answer is:
An assembly instruction is equivalent to one machine instruction

Question 8

Correct

Mark 1.00 out of 1.00

Which topic does the Moore law mention?

◉ A.   The increasing of the number of transistors integrated into chips ✔

○ B.   The increasing of the manufacturing cost of chips

○ C.   The increasing of the performance of chips

○ D.   The increasing of the size of chips

Câu trả lời của bạn là chính xác.

The correct answer is:
The increasing of the number of transistors integrated into chips

Question 9

Correct

Mark 1.00 out of 1.00

A program consists of 1000 assembly instructions, of which 30% are load/store instructions, 10% are jump ins instructions, while the rest are arithmetic instructions. CPI for load/store, jump, branch, and arithmetic instruct respectively. Assume that the processor has a 2 GHz clock rate.

What is the execution time of the above program?

○ A.   1000 ns

○ B.   1950 ns

○ C.   None of the above

◉ D.   975 ns ✔

○ E.   950 ns

Câu trả lời của bạn là chính xác.

The correct answer is:
975 ns

Question 10

Correct

Mark 1.00 out of 1.00

A program consists of 1000 assembly instructions, of which 30% are load/store instructions, 10% are jump ins instructions, while the rest are arithmetic instructions. CPI for load/store, jump, branch, and arithmetic instruct respectively. Assume that the processor has a 2 GHz clock rate.

How much must the new CPI of load/store instructions be if we want the program to run 1.5× faster?

○ A.   1.5

◉ B.   All other answers are wrong ✔

○ C.   0.5

○ D.   1

Câu trả lời của bạn là chính xác.

The correct answer is:
All other answers are wrong

Question **11**

Correct

Mark 1.00 out of 1.00

A program consists of 1000 assembly instructions, of which 30% are load/store instructions, 10% are jump ins
instructions, while the rest are arithmetic instructions. CPI for load/store, jump, branch, and arithmetic instruct
respectively. Assume that the processor has a 2 GHz clock rate.

Estimate the speed-up of the above program if the CPI of load/store instructions is reduced by a factor of 2.

- A.   1.28
- B.   1.22
- C.   None of the above
- D.   1.26
- E.   1.24 ✔

Câu trả lời của bạn là chính xác.

The correct answer is:
1.24

Question **12**

Correct

Mark 1.00 out of 1.00

An ISA of a processor includes three instruction types, A, B, and C, whose CPIs are 1, 2, and 3. respectively. We
program. The two compiled sequences use the following instructions:

Instructions	A	B	C
Compiler X	300	200	200
Compiler Y	400	100	200

Which compiler is better?

- A.   Compiler X
- B.   Both are the same due to the same ISA
- C.   Compiler Y ✔
- D.   Lack of data to conclude

Câu trả lời của bạn là chính xác.

The correct answer is:
Compiler Y

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