HPC - Unit Test-I (9 July 2020)

* Required

1. The _____ plays very important role in superscalar processors *   2 points

   Mark only one oval.

   ( ) Memory

   ( ) Peripherals

   ( ) Motherboard

   ( ) Compilers

2. Which of the following is true about parallel computing performance? *   2 points

   Mark only one oval.

   ( ) Computations use multiple processors

   ( ) There is an increase in speed.

   ( ) Increase in speed is loosely tied to the number of processor or computers used.

   ( ) All of the above

3. In superscalar processors, _____ mode of execution is used *   2 points

   Mark only one oval.

   ( ) In order

   ( ) Post order

   ( ) Out of order

   ( ) None of the above

4. Type of HPC applications is_ *   2 points

Mark only one oval.

○ A. Management

○ B. Media mass

○ C. Business

○ D. Science

5. VLIW performance is highly dependent on the _____ *   2 points

Mark only one oval.

○ Branch prediction

○ Compiler

○ loop unrolling

○ speculative execution

Q6 to Q10

6. FLOPS stands __ *   2 points

Mark only one oval.

○ Flip Flop

○ Floating point operating system per second

○ Floating point operation per second

○ Floating point second

7.   If increasing in the memory block size then it affects latency *   2 points

Mark only one oval.

○ Latency becomes zero

○ Latency becomes less

○ Latency becomes more

○ Does not affect

8.   which pages we are going to browse ahead of time and issue requests for   2 points
them in advance...this approach know as_____ *

Mark only one oval.

○ multithreading

○ spatial locality

○ prefetching

○ none of the above

9.   Following is the drawback of SIMD architectures *   2 points

Mark only one oval.

○ High Bandwidth

○ Hardware Cost

○ Single Control Unit

○ Resource utilization

10.   UMA & NUMA consider the following factor to access any memory word *   2 points

Mark only one oval.

( ) time

( ) speed

( ) cost

( ) delay

Q11 to Q15

11.   "Degree" of the switch referred to as *   2 points

Mark only one oval.

( ) Only input ports

( ) Only output ports

( ) total number of ports

( ) none of the above

12.   What is the role of an interconnection network? *   2 points

Mark only one oval.

( ) To transport data and messages between static and dynamic networks

( ) To transport data and messages between the processing unit and memory modules

( ) To transport memory modules through switches

( ) To transport memory and processing units via switches

13. Following is the limitation of the snoopy protocol * 2 points

Mark only one oval.

- Each coherence operation is sent to all processors
- each coherence operation is sent to limited processors
- each coherence operation is sent to selected processors
- each coherence operation is sent to only those processors that need to be notified

14. In Packet Routing, each packet must carry * 2 points

Mark only one oval.

- error checking information
- sequencing information
- header information
- all of the above

15. 4*4 mesh can be mapped into the following hypercube * 2 points

Mark only one oval.

- 1-D Hybercube
- 2-D Hybercube
- 3-D Hybercube
- 4-D Hybercube

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