Assignment 11

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

1. The memory access latency does not depend on -
   - Length of the program
   - Size of the memory
   - Number of ports
   - Technology used
   - None of the above

   Answer: [C] Length of the program

2. The CPU's current privilege level to set the permissions is -
   - Equal to 0 for user programs
   - Equal to 0 for interrupt handlers
   - Equal to 3 for kernel programs
   - None of the above

   Answer: [C] Equal to 0 for kernel programs

3. The concept that a resource is accessed at some point in time, then similar resources will be accessed again at a later time is known as -
   - Temporal locality
   - Spatial locality
   - Block distance
   - Address distance

   Answer: [A] Temporal locality

4. Which of the following is true?
   - Typical latency of a master slave D Flip-Flop is a fraction of a cycle
   - Typical latency of a D Flip-Flop is a fraction of a cycle
   - All of the above

   Answer: [D] All of the above

5. Adding the code of the call into the code of the caller function is known as -
   - Register splicing
   - Instruction splicing
   - Call code removal
   - Algorithmic work

   Answer: [C] Call code removal

6. For implementing the input and output buffers during exception handling, which of the following pipeline stages are augmented to use special registers?
   - IF stage only
   - IF and OF stages
   - OF and SE stages
   - OF and SE stages

   Answer: [B] IF and OF stages

7. Frequency (cycles per second) does not depend on -
   - Technology
   - Instruction set
   - Compiler
   - None of these

   Answer: [D] None of these

8. Time taken per stage in the case of pipelining is -
   - inversely proportional to the clock delay
   - directly proportional to the clock delay
   - directly proportional to the number of pipeline stages
   - None of the above

   Answer: [A] inversely proportional to the clock delay

9. Increasing the latch delay in an ideal pipeline implies that -
   - Number of optimal pipeline stages should increase
   - Number of optimal pipeline stages should decrease
   - Number of optimal pipeline stages remains the same
   - None of the above

   Answer: [B] Number of optimal pipeline stages should decrease

10. Which of the following is correct for a non-ideal CPU where scale ratio and n is constant proportionality?
    - CPI = \( n \times \frac{(n+1)}{n+1} \times \frac{m}{m+1} \)
    - CPI = \( n \times \frac{(n+1)}{n+1} \times \frac{m}{m+1} \)
    - CPI = \( n \times \frac{(n+1)}{n+1} \times \frac{m}{m+1} \)
    - None of the above

    Answer: [A] CPI = \( n \times \frac{(n+1)}{n+1} \times \frac{m}{m+1} \)