Assignment Week 8

1) Structural hazards happen due to
   - too many instructions in pipeline [1 point]
   - un-executable instructions in pipeline
   - enough execution units not being available
   - Error in an execution unit

   **Accepted Answers:**
   *enough execution units not being available*

2) Amdahl's law gives a measure of
   - Time
   - Area
   - Power
   - Speedup [1 point]

   **Accepted Answers:**
   *Speedup*

3) Which of the following is virtual memory?
   - RAM
   - Cache
   - Hard Disk
   - None of the above [1 point]

   **Accepted Answers:**
   *None of the above*

4) Address Translator is required to
   - Convert from Physical Memory Address to Virtual Memory Address
   - Convert from Virtual Memory Address to Physical Memory Address
   - Convert Page Number to Page Frame Number [1 point]
None of the Above

**Accepted Answers:**

*Convert from Virtual Memory Address to Physical Memory Address*

5) The Memory Translation Unit gives a page fault when

- A Physical Address is not present in the Physical Memory
- A Logical Address is not present in the Logical Memory
- A Physical Address is not present in the Virtual Memory
- A Logical Address is not present in the physical memory

None of the Above

**Accepted Answers:**

*A Logical Address is not present in the physical memory*

6) A page fault handler is managed by

- Programming Language
- Process
- Operating System
- Memory Translation Unit

**Accepted Answers:**

*Operating System*

7) Spatial Locality of Reference is based upon

- The probability of the same instruction being accessed in small timing intervals
- The probability of same data being fetched in subsequent instructions
- The probability of data from same page being accessed in subsequent instructions
- None of the Above

**Accepted Answers:**

*The probability of data from same page being accessed in subsequent instructions*

8) The page translation table will be

- always in logical memory only
- In physical memory but not in logical memory
- always in physical memory
- None of the above

**Accepted Answers:**

*always in physical memory*

9) The valid bit from a page address is set to 1 when

- The page is loaded into the main memory
- The page is present in the logical memory
- The page is present in the disk memory
- None of the above

**Accepted Answers:**
The page is loaded into the main memory

10. The dirty bit in the page address is set to 1 when
   - A page is removed from the main memory
   - When a modification has been made to the loaded page
   - When the page is no longer valid
   - When the page is not available for use

Accepted Answers:
When a modification has been made to the loaded page

11. Multi-level paging enables
   - Storing more pages in main memory
   - Dynamically shrinking and growing page tables
   - Faster access
   - None of the above

Accepted Answers:
Dynamically shrinking and growing page tables