Assignment Week 10

1) Transfer of data directly between a peripheral and memory without the aid of CPU is achieved using:

- NMI controller
- DDR controller
- DMA controller
- None of the above

Accepted Answers:
DMA controller

2) Block transfer from memory will be beneficial due to which of the following?

- Spatial Locality
- Lesser Memory Latency
- Paging
- All of the above

Accepted Answers:
All of the above

3) The presence of a page in a cache is detected by checking the:

- Valid bit
- Dirty bit
- Tag bit
- None of the above

Accepted Answers:
Tag bit

4) In an n-way set associative cache with n << total number of cache lines, a given page can be present in any of the cache lines.

- True
- False

1 point

1 point

1 point

1 point
5) To check a n-way set associative cache for a given page, the process needs to check
   - All the cache lines
   - one cache line
   - n cache lines
   - Cannot be predicted

   **Accepted Answers:**
   *n cache lines*

6) The problem of cache incoherency happens when
   - The modified value in cache is not reflected in the RAM
   - The modified value in cache is reflected in the current core, but not in other cores
   - The value in RAM has been modified by some core, but is not reflected in the cache,
   - All of the above

   **Accepted Answers:**
   *All of the above*

7) A modified value is simultaneously modified in a write-through cache
   - True
   - False

   **Accepted Answers:**
   *True*

8) A modified value is simultaneously modified in a write-back cache
   - True
   - False

   **Accepted Answers:**
   *False*

9) Split Caches are required for
   - Larger Cache Sizes
   - Concurrent Instruction and Data Access
   - managing multiple instruction fetches
   - None of the above

   **Accepted Answers:**
   *Concurrent Instruction and Data Access*

10) Structural Hazards due to dual ported caches are handled by
   - Giving preference to read over write
   - Write-back caches
   - Giving preference to write over read
Round Robin Scheduling is achieved using which of the following Interrupts?

- Timer Interrupt
- Exception
- Maskable Interrupt
- None of the above

Accepted Answers:
- Timer Interrupt