Quiz #3 (Section A)

1. Using the following page requests, find the total number of page faults.

Page requests: 0, 15, 4, 2, 12, 0, 1, 7, 9, 7, 15, 0, 4, 7, 10, 5, 21, 3, 11, 5, 1, 21, 15, 1, 17, 12, 9, 7

    A. Use the *'Least Recently Used'* algorithm. Assume that, number of page frames in the memory is: 4   **[5]**
    B. Use the *'Optimal page replacement'* algorithm. Assume that, there are only three page-frames in the memory.   **[5]**

2. A. What is memory address translation? How can an OS provide memory protection in contiguous memory allocation?   **[5]**

B. Explain the address translation process in any virtual memory system with a *Translation Look-aside Buffer*.   **[5]**

Quiz #3 (Section B)

1. Using the following page requests, find the total number of page faults.

Page requests: 15, 1, 4, 22, 14, 10, 1, 7, 9, 7, 25, 10, 4, 7, 10, 5, 21, 3, 11, 5, 11, 21, 15, 1, 17, 22, 19, 21, 7, 9

   A. Use the *'Least Recently Used'* algorithm. Assume that, number of page frames in the memory is: 4   **[5]**
   B. Use the *'Optimal page replacement'* algorithm. Assume that, there are only three page-frames in the memory.   **[5]**

2. A. Explain the process of demand paging by an OS in memory management with any logical to physical address translation process.   **[5]**

B. Derive the equation for optimal page size in demand paging and calculate the page size if average process size is 2 MB and e= 8 bytes. (Symbols have their usual meaning) **[5]**