2005 Paper 11 Question 6

Operating System Foundations

(*a*) A system has paging hardware but no segmentation hardware. Discuss the likely structure of a process page table. What information would you expect to be held in a page table entry?   [5 marks]

(*b*) Describe the operation of the following hardware support options for paging:

  (*i*) A pair of processor registers.
    PTBR holds the address of the base of the page-table of the current process.
    PTLR holds the size of the page table in bytes.   [5 marks]

  (*ii*) A TLB (Translation Lookaside Buffer).   [10 marks]