

1996 Paper 4 Question 7

Operating System Functions

What is meant by the term *demand paging* in a virtual memory management system, and how is it implemented? [5 marks]

Briefly describe five techniques which the operating system and/or hardware can implement to improve the efficiency of demand paging. [5 marks]

What is the *working set* of a program, and how can an operating system use it in the management of virtual memory? [3 marks]

Describe the clock (second chance) algorithm for selecting a VM page for replacement when a page fault occurs. How is the performance of this algorithm affected by the memory size of the computer system, and how may this be avoided? [7 marks]