

2006 Paper 1 Question 7

Operating Systems

- (a) FIFO, LRU, and CLOCK are three page replacement algorithms.
- (i) Briefly describe the operation of each algorithm. [6 marks]
 - (ii) The CLOCK strategy assumes some hardware support. What could you do to allow the use of CLOCK if this hardware support were not present? [2 marks]
 - (iii) Assuming good temporal locality of reference, which of the above three algorithms would you choose to use within an operating system? Why would you not use the other schemes? [2 marks]
- (b) What is a *buffer cache*? Explain why one is used, and how it works. [6 marks]
- (c) Which buffer-cache replacement strategy would you choose to use within an operating system? Justify your answer. [4 marks]