

2000 Paper 3 Question 1

Concurrent Systems

- (a) A software module controls a car park of known capacity. Calls to the module's procedures *enter()* and *exit()* are triggered when cars enter and leave via the barriers.

Give pseudocode for the *enter* and *exit* procedures

- (i) if the module is a monitor [8 marks]
- (ii) if the programming language in which the module is written provides only semaphores [4 marks]
- (b) Outline the implementation of
- (i) semaphores [4 marks]
- (ii) monitors [4 marks]