

2004 Paper 10 Question 6

Operating System Foundations

(a) Describe a scheduling algorithm with the following properties:

- favours I/O-intensive processes
- responds dynamically when processes change their behaviour: e.g. enter a compute-bound or I/O-intensive phase
- has acceptable context switching overhead
- avoids indefinite overlook (starvation) of a process

[7 marks]

(b) In order to carry out its functions, a filing system holds metadata on each stored object.

(i) What is this metadata likely to comprise? [6 marks]

(ii) Describe the directory service functions of a filing system, including how the metadata is used. [7 marks]