

淡江大學八十九學年度碩士班招生考試試題

系別：資訊工程學系

科目：計算機組織與系統(含作業系統、計算機組織)

本試題共 2 頁

本試題雙面印製

(計算機組織)

1. Although there are different implementations of bus architecture, there are five design elements to differentiate bus technique. What are these five design elements? Please briefly explain them. (30%)
2. The key to multiprogramming is scheduling. Typically, there are three types of scheduling involved in multiprogramming environment. What are there? Please brief explains them.(10%)

(作業系統)

3. Given a system that assigns three frames for each process. Execute the following page-replacement algorithms to compute their number of page faults, respectively, with the reference string : 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0,1
 - a. FIFO algorithm(10%)
 - b. LRU algorithm(10%)

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本試題僅供參考

4. Write down the logical addresses for Paging scheme, Inverted Page Table scheme, Segmentation, and Segmentation with Paging.(10%)
5. Suppose that the following processes arrive for execution at the times indicated. Each process will run the listed amount of time.

<u>Process</u>	<u>Burst Time</u>	<u>Arrival Time</u>
P_1	10	0
P_2	4	4
P_3	1	10

- a. Given the non-preemptive scheduling, what is the turnaround time of each processes with FCFS and SJF scheduling algorithms?(20%)
- b. Using the preemptive scheduling, what is the waiting time of each process for RR scheduling algorithm with Time quantum 2?(10%)