

國立中央大學九十一年度碩士班研究生入學試題卷

所別: 資訊工程學系 不分組 科目: 系統程式 共 1 頁 第 1 頁
網路學習科技研究所 甲組

(請依序按題號作答)

1. What is the Virtual Round-Robin (VRR)? Please explain its purposes and functions in details. (10%)
2. Please draw a figure to show the relation between the CPU utilization and the degree of multiprogramming in a virtual memory system and explain it briefly. (b) Is it always true that giving a process more memory page frames will reduce the process' page faults? You must use an example to explain your answer. (15%)
3. Describe the wait-die and wound-wait protocols for deadlock prevention. (10%)
4. Consider a file currently consisting of 100 blocks. Assume that the file control block (and the index block, in the case of indexed allocation) is already in memory. Calculate how many disk I/O operations are required for contiguous, linked, and indexed (single-level) allocation strategies, if, for one block, the following conditions hold. In the contiguous-allocation case, assume that there is no room to grow in the beginning but there is room to grow in the end. Assume that the block information to be added is stored in memory. (15%)
 - (a) The block is added at the beginning.
 - (b) The block is added in the middle.
 - (c) The block is removed from the beginning
5. Explain the task of a compiler-compiler such as YACC. (10%)
6. Explain the following terms: (a) virtual machines, (b) RISC and CISC (c) Backus-Naur Form and Chomsky Normal Form (10%)
7. What is DLL (Dynamic Linking Library)? How does it work? What does the system provide? (10%)
8. What is program relocation? How do assemblers be implemented for program relocation? (10%)
9. An interrupt is a signal that causes a computer to alter its normal flow of instruction execution. Describe the basic process of interrupt handling. (10%)