

南華大學九十五學年度 碩士班 招生考試試題卷

系所別：資訊管理學系碩士班

科目編號：A1-17-11

科目：計算機概論【本科目不得使用計算機】

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1. Show the major difference between the architectures of RISC and CISC. (10%)
2. Describe the major difference between the main memory and second memory in a PC. (10%)
3. Present the major difference among assembler, interpreter, and compiler? (10%)
4. A hexadecimal code of 41H is outputted while we pushed the key of 'A' once from the keyboard. If we pushed the key of 'Z' once, then what the hexadecimal code is obtained. (10%)
5. We have an IP address that is assigned to be 203.59.20.43. In general, what the standard sequence is set for the default mask and what the standard sequence is set for the gate way. (10%)
6. Given a file-transfer protocol of 2400bps and an extra start bit and an extra stop bit are required while transfer a byte, what time will be needed for transferring a file of 4KB. (10%)
7. List the non-decreasing performance from the best case to worst case for the following different running times, $O(\log^2 n)$, $O(n \log n)$, $O(n^2)$, $O(2^n)$, $O(1)$, $O(\log n)$, and $O(n)$. (10%)
8. There are some kind of data structures, array, queue, linked list, and binary tree. Explain which one is suitable for processing the multiple procedure calls (e.g., interrupt service routings) and which one is suitable for operating the piped line tasks (e.g., instruction or data execution). (10%)
9. Give a sequence of n non-decreasing numbers, show a binary search that can find a specific value from the numbers and analyze the running time. (10%)
10. Write a C-like program that can perform the correct function of N-factorial. (10%)