題號: 91 國立臺灣大學 102 學年度碩士班招生考試試題

科目:計算機概論與程式設計

題號: 91

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Question and Answer (簡答題)

- 1. (15%) The CPU is considered the heart or the brain of the computer. Discuss the functions of the processor.
 - (1) What is the function of the control unit?
 - (2) What does the ALU do? Provide an example of a function that the ALU would perform.
 - (3) What are the steps of the machine cycle or processing cycle?
- 2. (20%) What is virtual memory? How is it different from RAM? When does the computer make use of virtual memory? Under what condition is the use of virtual memory kept to a minimum?
- 3. (20%) Describe how top-down program and bottom-up program designs work. What are the advantages and disadvantages of these two designs?
- 4. (25%) LANs and WANs that make up the Internet connect to the Internet backbone.
 - (1) What is the purpose of a backbone?
 - (2) How do LANs and WANs differ in terms of equipment components?
 - (3) What role does a POP play in a network?
 - (4) What is the importance of TCP/IP?
 - (5) What are some practical examples of why a business might use a WAN?
- 5. (20%) Please describe the logical steps and plot the flow chart in finding the real roots of the equation $ax^3+bx^2+cx+d=0$ between the interval of m and n, where a, b, c, d, m and n are all given integers.

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