國 立 臺 北 科 技 大 學

101 學年度研究所碩士在職專班招生

電腦與通訊研究所

甲組：計算機結構試題

注意事項：

1. 本試題共【7】題，配分共 100 分。
2. 請按順序標明題號作答，不必抄題。
3. 全部答案均須答在試卷答案欄內，否則不予計分。

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1. (10%) Describe the steps in transforming a C program in a file on disk into a program running on a computer.

2. (10%) Describe the operations of the following 80x86 instructions:

   JNZ, RET, ADD, CMP, INC

3. (10%) The C345C2 is the hexadecimal string of ASCII characters. The leftmost of the eight bits in each pair of digits is a parity bit. The remaining bits are the ASCII code. Convert the string to the ASCII characters.

4. (20%) Please describe the following terms and explain their advantages and disadvantages.
   (1) Carry Lookahead
   (2) Booth's Algorithm

5. (15%) Please describe the steps for executing floating-point addition.

6. (20%) In RISC what are the possible steps (stages) for pipelining executions.

7. (15%) In a computer system how to connect I/O devices to processor and memory ?