長庚大學107學年度研究所碩士班招生考試試題

系所：電機工程學系碩士班　　　　　考試科目：計算機概論

注意：請詳細閱讀下列試題，並請標明題號依試題順序將答案書寫於答案卷上。　　本試題共 1 頁：第 1 頁

1. **Explain the following terminologies briefly. (40%)**
   (a) Algorithm (b) Router (c) phishing (d) HTML
   (e) multitasking (f) paging (g) program counter (h) CISC

2. **Convert each of the following ten representations into its equivalent binary and hexadecimal representations, respectively. Assuming the maximum number of digits used in fraction part is 3. (10%)**
   (a) 23　(b) 185.36

3. **Represent each value in the floating-point format shown as below, where S(sign bit): 1 bit, C(exponent field) :3 bits excess code, M(mantissa field):4 bits. (10%).**

S	C	M

   (a) $\frac{31}{32}$ (b) 5

4. **Using the following error-correcting code to decode (10%)**
   (a) 111010　110110　　(b) 010011　000000　101001 100110

Symbol	Representation
A	000000
B	001111
C	010011
D	011100
E	100110
F	101001
G	110101
H	111010

5. **What is the difference between assembler, interpreter, and compiler? (10%)**

6. **Rewrite the following instructions using a single if- else statement. (10%)**

   ```
   if (X == 5) goto 50
        goto 60
   50   print(Z)
        goto 100
   60   print(Y)
   100  ...
   ```

7. **List the result of each pass when applying insert sort algorithm to the list below. (10%)**
   17, 100, 20, 15, 150, 32, 9