考 試 科 目	計算機概論	系 所 別	資訊管理學系/資管組	考 試 時 間	2 月 9 日(三) 第 二 節

I. Multiple Choice (40%, 4 points for each)

1. By using public key encryption to secure data:

    a. both the keys used to encrypt and decrypt the data are public

    b. both the keys used to encrypt and decrypt the data are private

    c. the key used to encrypt is public; the key used to decrypt is private

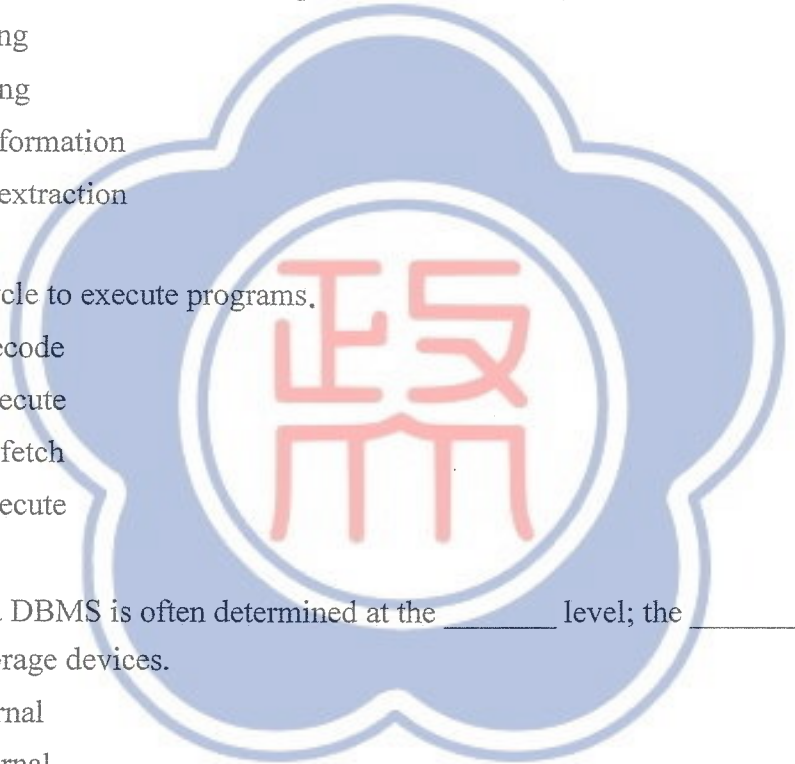   d. the key used to encrypt is private; the key used to decrypt is public

2. Which of the following statement is NOT true?

    a. screen host firewall lacks defense in depth

    b. both SSL and TLS provide the same end-to-end security properties

    c. the OSI layer 6 (presentation) includes protocols that handle encryption

    d. using the same key to encrypt both directions of a communication channel can lead to reflection attacks

3. Which of the following evaluation metric is available for classification models:

    a. r squared

    b. root mean squared error

    c. mean Absolute Error

    d. gini coefficient

4. Instead of sending documents to a printer, the _____ process sends them into to a _____ to wait for the resources.

    a. buffering; spooler

    b. buffering; buffer

    c. spooling; spooler

    d. spooling; buffer

5. _____ coordinates most of the operations in the computer; _____ performs arithmetic and comparison operations.

    a. control unit; ALU

    b. control unit; GPU

    c. calculate unit; ALU

    d. calculate unit; GPU

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6. Which of the following is *Not* the functions of data warehouse?

    a. data Cleaning

    b. data Consolidation

    c. data Integration

    d. data Protection

7. For the RAID configurations, ____ writes data on two drives at the same time; whereas ____ splits data, instructions, and information across multiple drives in the array.

    a. mirroring; striping

    b. striping; mirroring

    c. extraction; transformation

    d. transformation; extraction

8. CPU use _____ cycle to execute programs.

    a. fetch-execute-decode

    b. fetch-decode-execute

    c. decode-execute-fetch

    d. decode-fetch-execute

9. The data model of a DBMS is often determined at the _____ level; the _____ level defines where data is stored on the storage devices.

    a. conceptual; internal

    b. conceptual; external

    c. internal; conceptual

    d. external; conceptual

10. _____ search for an unordered list; _____ search for an ordered list.

    a. hash; bubble

    b. bubble; hash

    c. sequential; binary

    d. binary; sequential

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II. Answer the following questions (60%)

1. What is the output most likely to derive from the following code segment? (5%)

```c
#include <stdio.h>
#include <string.h>
int main()
 {
     char str [10] ;
     strcpy(str, "NCCU" ) ;
     strcpy(&str [ 1 ] , "MIS" ) ;
     printf ( "%s \n" , str ) ;
 }
```

2. What is the output most likely to derive from the following code segment? (5%)

```c
#include <stdio.h>
#include <string.h>
int main()
 {
     char str[20];
     strcpy(str,"1,3,5,7,9");
     int length = strlen(str);
     for(int i = 0; i < length; i++) {
        if(str[i] >= '0' && str[i] <= '5')
            str[i] = (str[i] + '0' - 5) %5 +'0';
     }
   printf("%s\n", str);
 }
```
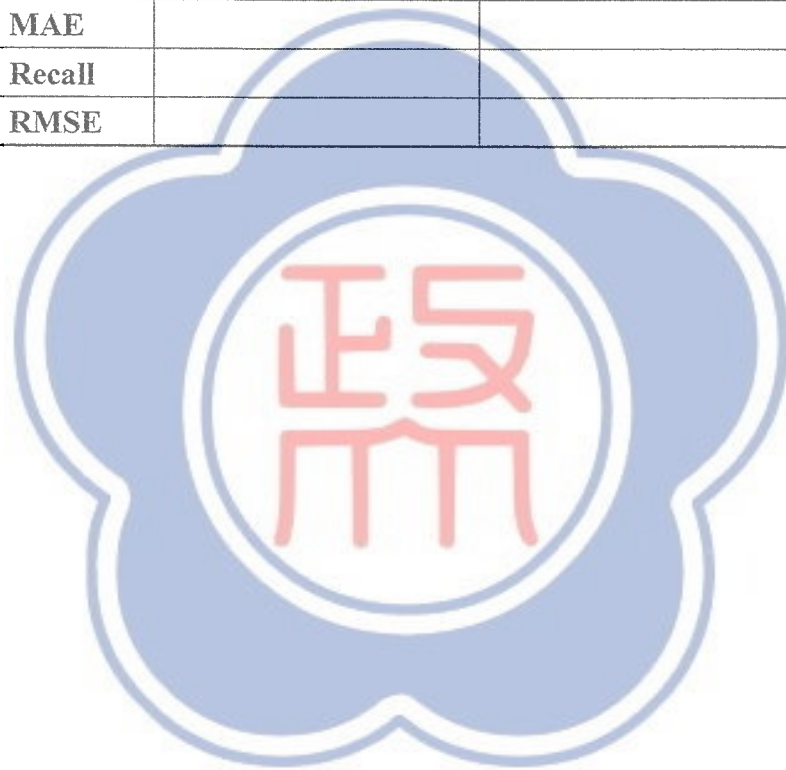
3. Name and describe three kinds of pipeline hazards. (9%)

4. How many subset(s) does a screened subnet include? List and describe the subset(s). (10%)

5. What is round-robin scheduling? (4%) Provide one advantage and one disadvantage regarding small quantum sizes. (6%)

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6. What is the difference between classification and regression in machine learning (3%)? Based on the following evaluation metrics in the table, put a mark (V) on the cell if the evaluation metric is available for evaluating the model type, classification vs. regression (18%).

Metrics	Classification	Regression
Accuracy		
AUC		
F1-score		
MAE		
Recall		
RMSE		

備　　註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。