注意：考試開始鈴響前，不可以翻閱試題

台灣聯合大學系統111學年度學士班轉學考試題

考試科目：計算機概論

組別：A4

參考用

—作答注意事項—

1. 作答中如發現試題印刷不清，得舉手請監試人員處理，但不得要求解釋題意。
2. 請核對答案卷（卡）上之准考證號、考試科目是否正確。
3. 本考科禁止使用計算器。
4. 選擇題請在答案卡上作答。
5. **考生限在作答區內作答，不可書寫姓名、准考證號或與作答無關之其他文字或符號。**
6. 答案卷用盡不得要求增加。
7. 答案卷限用藍筆或黑色鋼筆、原子筆或鉛筆書寫；答案卡限用2B軟心鉛筆畫記，如畫記不清（含未依範例畫記）致光學閱讀機無法辨識答案者，其後果考生自行負責。
8. 因字跡潦草或作答未標明題號等情事，致評閱人員無法辨識答案者，該部分不予計分。

科目 計算機概論 類組別 A4 共 9 頁 第 1 頁

單選題，共 25 題，每題 4 分(答錯不倒扣)

1. Which operation is functionally complete in Boolean logic?
   (A) OR
   (B) NOR
   (C) NOT
   (D) AND
   (E) None of the above

2. Which algorithm or representation is typically used for circuit construction?
   (A) Logic Optimizer
   (B) Branch-and-Bound
   (C) Multiply–Accumulate
   (D) Sum-of-Products
   (E) Dynamic Programing

3. Which of the machines is designed to directly provide a wide range of powerful features in such a way that the end result is a smaller program?
   (A) MISC
   (B) CISC
   (C) SISC
   (D) SICC
   (E) RISC

4. How many bits are required for each address field in a machine language instruction on a computer with a maximum of 2^N memory cells?
   (A) N-1
   (B) N+1
   (C) 2N
   (D) 2^N
   (E) N

5. Typically, what do we refer to a program written in assembly language as?
   (A) Data Program
   (B) Object Program
   (C) Control Program
   (D) Stored Program
   (E) Source Program

注意:背面有試題

6. What should be transmitted to the processor to alert the computer that an input/output operation has been completed?
   (A) Condition Code
   (B) Execution Instruction
   (C) Operand Address
   (D) Interrupt Signal
   (E) Switch Context

7. Which machine is able to provide the set of services and resources created by the system software and made available by the users?
   (A) Harvard
   (B) Multi-Tasking
   (C) Virtual
   (D) Von Neumann
   (E) Super-computing

8. Which type of computer network allows third parties (such as vendors or customers) to access restricted information?
   (A) Intranet
   (B) Middlenet
   (C) Lannet
   (D) Internet
   (E) Extranet

9. What is the device that connects internetworks and provides routing between different wide area networks?
   (A) Gateway
   (B) Switch
   (C) Bridge
   (D) Repeater
   (E) Hub

10. Which following representation of numeric data has two forms of zero?
   (A) Fixed-sized Numbers
   (B) Floating Point
   (C) Signed-magnitude
   (D) Ten's Complement
   (E) Scientific Notation

注意:背面有試題

11. What type of computer application is designed to facilitate the exchange of messages and files on a network?
    (A) Chat Room
    (B) Social Network
    (C) Bulletin Board System
    (D) World Wide Web
    (E) Internet of Things

12. What is the common term used to describe John Von Neumann's radically different computer concept based on a model conceived in 1946?
    (A) External Program
    (B) Stored Program
    (C) Programmable Function
    (D) Memory Unit
    (E) Firmware

13. What is the process involved in finding errors that are uncovered by repeated use with varying input values?
    (A) Resource Recycling
    (B) Program Maintenance
    (C) Data Warehousing
    (D) Garbage Collection
    (E) Buffer Management

14. Which gate produces the carry portion of two binary digits in a half adder?
    (A) AND
    (B) NAND
    (C) XOR
    (D) OR
    (E) NOR

15. Which process is used to verify who is granted access to one computer, whether it is a local computer or a Web server?
    (A) Authorization
    (B) Encryption
    (C) Certification
    (D) Authentication
    (E) Accounting

注意：背面有試題

16. Which unit of binary storage has a size that is processor-dependent?
    (A) Byte
    (B) Nibble
    (C) Bit
    (D) Word
    (E) Block

17. Which are useful for measuring the performance of one machine against another, and evaluating the sensitivity of an algorithm to variations in input on a particular machine?
    (A) Time Trials
    (B) Multivariate Analysis
    (C) Comparison Times
    (D) Turing Tests
    (E) Benchmarks

18. What is the common practice of sending fraudulent messages to trick recipients into releasing sensitive information or installing malicious software on their system?
    (A) Fishing
    (B) Pharming
    (C) Blasting
    (D) Phishing
    (E) Hijacking

19. How does a numeric overflow occur?
    (A) Using fixed-sized numbers in a floating-point calculation
    (B) A calculation producing an invalid result
    (C) A calculation producing a value that won't fit into the allotted space
    (D) Using a radix point instead of a decimal point
    (E) Using a radix point in a fixed-sized number calculation

20. Which of the following is the best description of a register?
    (A) A memory location which stores a sum
    (B) A device that contains the arithmetic/logic unit
    (C) A device that contains the control unit
    (D) A large memory location in auxiliary storage
    (E) A small memory location in the central processing unit

注意:背面有試題

21. Which of the following is stored in the instruction register?
    (A) The memory location of an instruction
    (B) An instruction
    (C) The number of program instructions executed
    (D) The number of programs executed
    (E) The data used by an instruction

注意:背面有試題

22. Given the following C code,

```
#include <stdio.h>

void add(unsigned a) { ++a; }

void sub(unsigned *a) { --(*a); }

unsigned a = 0;

int main() {
  if (a = 3) {
    for (int i = 0; i < 2; i++)
      add(a);
    for (int i = 0; i < 2; i++)
      sub(&a);
  }
  printf("%u", a);

  return 0;
}
```

what is the output displayed on the screen?

(A) 0
(B) 1
(C) 3
(D) 5
(E) None of the above

23. Given the following C code,

```
#include <stdio.h>

int A(int m, int n) {
    if (m == 0)
        return n + 1;
    else if (n == 0)
        return A(m - 1, 1);
    else
        return A(m - 1, A(m, n - 1));
}

int main() {
    printf("%d", A(2, 2));
    return 0;
}
```

what is the output of the following code?

(A) 4
(B) 5
(C) 6
(D) 7
(E) 8

24. Given the following C code,

```
#include <stdio.h>
#include <unistd.h>

int main() {
  for (int i = 1; i < 5; i++) {
    if ((fork()) == 0)
      fork();
    else {
      fork();
      fork();
    }
  }
  return 0;
}
```

how many processes are created (including the main process) ?

(A) 256
(B) 625
(C) 3125
(D) 1296
(E) 7776

25. Given the following C code,

```
#include <stdio.h>
void f(char *in) {
  (*in--)++;
}
void (*p)(char *) = f;
int main() {
    char c = 48;
    p(&c);
    p(&c);
    printf("%d", c);

    return 0;
}
```

what is the output of the following code?

(A) 49
(B) 50
(C) 51
(D) 52
(E) None of the above