※ 注意：請於答案卷內所附之表格上作答。

第一部份：選擇題（單選）35 題，每題 2 分，共 70 分。答錯不倒扣。請在答案卷依序作答，否則不予以計分。

1. [ ] Which of the following is wrong? (A) a desktop computer is designed so that the system unit can fit on or under a desk (B) a mainframe is a large, expensive, and very powerful computer that can handle hundreds or thousands of users simultaneously (C) a supercomputer is the fastest, most powerful computer that is capable of processing more than 100 trillion instructions per second (D) the primary company producing mainframes is IBM (E) all of the about are correct (choose this one only if none of the above can be chosen).
2. [ ] Which of the following protocols is used by mail servers to determine how to route and send an email through the Internet to a destination? (A) SMTP (B) HTTP (C) POP3 (D) TCP/IP (E) FTP
3. [ ] Which of the following is wrong? (A) typically an instruction consists of the following four basic operations: fetch, encode, execute, store (B) the execute operation is performed by the ALU unit (C) the fetch operation is performed by the control unit (D) the pipelining technology allows the next instruction to begin execution before the first one is completed (E) all of the above are correct (choose this one only if none of the above can be chosen).
4. [ ] Which of the following is wrong? (A) USB stands for "universal serial bus" (B) USB can connect up to 127 different peripherals (C) USB devices are daisy-chained (D) the latest version of USB is USB 1.0 (E) all of the above are correct (choose this one only if none of the above can be chosen).
5. [ ] Which of the following is wrong? (A) dpi is the unit of printing devices resolution (B) ppi is the unit of screen resolution (C) at least 16 MB of display memory is needed for a display of 1280*1024, 32-bit in depth (D) the smallest unit in an electronic image is *pixel* (E) all of the above are correct (choose this one only if none of the above can be chosen).
6. [ ] Which of the following is wrong? (A) BIOS is a firmware that contains the computer's startup instructions (B) BIOS stands for basic input/output system (C) BIOS is typically stored in the first sector of the first hard disk (D) one of the BIOS's task is to find the operating system and then to load its kernel into memory for execution (E) all of the above are correct (choose this one only if none of the above applies).
7. [ ] An operating system that allows a single user to run two or more applications at the same time is called (A) multiprocessing (B) multiuser (C) multithreading (D) multitasking (E) pipeline.
8. [ ] Which of the following technology let an operating system allocate a portion of a storage medium, usually the hard disk, to function as additional RAM? (A) paging (B) thrashing (C) virtual memory (D) cache (E) disk partition.
9. [ ] A kind of system that consists of one or more earth-based receivers that accept and analyze signals sent by satellites in order to determine the receiver's geographic location is (A) GPRS (B) SGP (C) GSM (D) GSP (E) GPS.
10. [ ] Which of the following network topologies best reflects the network of users who are connected by ADSL? (A) bus (B) ring (C) star (D) mesh (E) none of the above.
11. [ ] A private Internet-like network internal to a certain company is called a (A) intranet (B) internal-net (C) private Internet (D) virtual LAN (E) VNP.
12. [ ] Which of the following is wrong? (A) current technology can offer 56K bps data transmission speed for a modem (B) in ADSL the upstream rate is higher than the downstream rate (C) ADSL uses telephone lines for transmitting data (D) cable modem can be used while watching cable TV (E) all of the above are correct (you select this when none of the above four solutions can be chosen).
13. [ ] A mathematical function that generates a code from the content of a message so that different messages will likely to generate different codes, and it is very difficult to determine the content of the message given only the code is (A) two-way function (B) trashing (C) mash (D) hash (E) archival.
14. [ ] A malicious-logic program that can copy itself repeatedly in memory or on a disk space until no memory or disk remains is called a (A) virus (B) cell (C) Trojan horse (D) worm (E) none of the above.
15. [ ] A security attack that makes users unable to access a service is (A) DoD (B) DoS (C) zombie (D) DnS (E) DDS.
16. [ ] Which of the following SQL statements retrieves from table EMPLOYEE the two fields BDATE

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and ADDRESS of the employee whose first name (field FNAME) is 'John' and last name (field LNAME) is 'Smith'?

(A) SELECT FNAME='John' AND LNAME='Smith'
FROM EMPLOYEE
WITH BDATE, ADDRESS

(B) SELECT BDATE, ADDRESS
WHERE FNAME='John', LNAME='Smith'
FROM EMPLOYEE

(C) SELECT EMPLOYEE.BDATE, EMPLOYEE.ADDRESS
WHERE FNAME='John' AND LNAME='Smith'

(D) SELECT BDATE, ADDRESS
FROM EMPLOYEE
WHERE FNAME='John' AND LNAME='Smith'

(E) none of the above.

17. [ ] Which of the following SQL statements retrieves from table STUDENT the two fields NAME and MAJOR, ordered by NAME, of the students whose major (field MAJOR) is 'Information Management'?

(A) SELECT MAJOR='Information Management'
FROM STUDENT
WITH NAME, MAJOR, ORDER=NAME

(B) SELECT NAME, MAJOR, ORDER=NAME
FROM STUDENT
WITH MAJOR='Information Management'

(C) SELECT NAME, MAJOR
FROM STUDENT
WHERE MAJOR='Information Management'
ORDER BY NAME

(D) SELECT NAME, MAJOR
FROM STUDENT
WHERE MAJOR='Information Management'
GROUP BY NAME

(E) none of the above.

18. [ ] Which of the following data model views the real world as a set of basic objects and relationships among these objects? (A) O-R model (B) E-R model (C) OO model (D) Hierarical (E) E-O model.

19. [ ] Which of the following operators in relational database allows us to combine information from two or more tables that are linked by common attributes? (A) UNION (B) MULTIPLY (C) INTERSECT (D) JOIN (E) PRODUCT.

20. [ ] Which of the following normal forms makes the domains of attributes include only atomic values? (A) first (B) second (C) third (D) fourth (E) BCNF.

21. [ ] Which of the following phases in the systems development life cycle yields a general overview of the company and its objectives? (A) survey (B) planning (C) analysis (D) investigate (E) questionnaire.

22. [ ] Which of the following databases stores data in tables that consist of rows and columns? (A) relational database (B) object-oriented database (C) hierarchical database (D) network database (E) none of the above.

23. [ ] A system that processes deposits, payments, orders, and reservations is best characterized as a (A) Office Information System (B) Management Information System (C) Transaction Processing System (D) Decision Support System (E) Executive Information System.

24. [ ] Unsolicited e-mail message sent to many recipients is (A) spyware (B) spam (C) flooding (D) broadcast (E) junk mails.

25. [ ] Program that converts entire source program into machine language before executing it is (A) assembler (B) compiler (C) interpreter (D) translator (E) converter.

26. [ ] Which of the following is wrong? (A) low-level programming languages are machine-dependent (B) high-level programming languages can run on many different types of computers (C) assembly

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languages are instructions made up of symbolic instruction codes, meaningful abbreviations and codes (D) source program contains code to be converted to machine language (E) all of the above are correct (choose this one only if none of the above applies).

27. [ ] Which of the following is correct? (A) UDP is connectionless (B) UDP is reliable (C) UDP makes flow control between sender and receiver (D) UDP makes congestion control (E) none of the above.

28. [ ] The transport protocol behind Web service is (A) TCP (B) UDP (C) IP (D) http (E) none of the above.

29. [ ] Which of the following services is to translate domain names to IPs? (A) NDP (B) NTP (C) DNS (D) FTP (E) NAR.

30. [ ] The 3rd layers of the OSI networking model is (A) transport (B) data link (C) session (D) presentation (E) network.

31. [ ] The 5rd layers of the OSI networking model is (A) transport (B) data link (C) session (D) presentation (E) network.

32. [ ] Which of the following systems can be used by marketing department to learn about current customers and design new products based on customer experiences? (A) CRM (B) CMS (C) KM (D) ERP (E) Decision Support System.

33. [ ] Which of the following systems can be used to help manage and coordinate the ongoing activities of the functional units of an enterprise, including manufacturing and distribution, accounting, finance, sales, product planning, and human resources? (A) Supply-Chain Management (B) ERP (C) CMS (D) KM (E) Integrated Information System.

34. [ ] By _____, companies can focus on their core business while allowing others with more expertise to conduct some aspect of their facilities management. (A) contracting (B) downsizing (C) re-engineering (D) outsourcing (E) customizing.

35. [ ] Napster, KaZaA, and Gnutella that allow Internet users to share files are an example of _____ applications. (A) client-client (B) P2P (C) C2C (D) P2C (E) C2P.

(接下頁第二部份)

第二部份：倒扣選擇題（單選）5 題，共 30 分。每題答對得 6 分，不答得 0 分，答錯倒扣 2 分。請在答案卷依序作答，否則不予以計分。

36. [ ] Consider the following function definition in C++.

```
void triple(int& n) {
     n = 3*n;
}
```

Suppose we have the following declaration:

```
int a[3]={4, 5, 6}, number=2;
```

Then, which of the following are acceptable function calls?

(I) `triple(a[2]);`
(II) `triple(a[3]);`
(III) `triple(a[number]);`
(IV) `triple(a);`
(V) `triple(number);`

(A) I, III (B) I, II, III, V (C) I, III, V (D) I, II, III (E) 以上皆非

37. [ ] Suppose a C++ program contains the following class definition:

```
class Car {
public:
   void setPrice(double newPrice);
   void setProfit(double newProfit);
   double getPrice( );
private:
   double price=0;
   double profit=0;
   double getProfit( );
};
```

Suppose the main function contains the following declaration:

```
Car Toyota, Hyundai;
```

Which of the following statements are then allowed in the main program without causing a compiler error?

(I) `Toyota.setPrice(10999.99);`
(II) `Hyundai.price=7999.99;`
(III) `cout << Hyundai.getProfit( );`
(IV) `Toyota=Hyundai;`
(V) `double price;`

(A) I, IV (B) I, III, IV, V (C) I, V (D) I, IV, V (E) 以上皆非

38. [ ] Consider the following C++ code (and assume that it is embedded in a complete and correct program and then run):

```
char << "Enter a line of input:\n";
char next;
do {
   cin.get(next);
   cout << next;
} while ((! isdigit(next))&&(next!='\n'));
cout << "<END OF OUTPUT";
```

If the dialogue begins as follows (where bold characters are user input), what will be the next line of output?

```
Enter a line of input:
I'll see you at 10:30 AM.
```

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(A) I'll see you at<END OF OUTPUT
(B) I'll see you at <END OF OUTPUT
(C) I'll see you at 1<END OF OUTPUT
(D) I'll see you at 10<END OF OUTPUT
(E) 以上皆非

39. [ ] What is the output of the following C++ program?

```
#include <iostream>
using namespace std;
void f(int& x, int y, int* z);
int main( ) {
   int a=10, b=20, c=30;
   f(a, b, &c);
   cout << a << " " << b << " " << c << endl;
   return 0;
}
void f(int& x, int y, int* z) {
   cout << x << " " << y << " " << *z << endl;
   x=1;
   y=2;
   *z=3;
   cout << x << " " << y << " " << *z << endl;
}
```

(A) 10 20 30
1 2 3
1 20 30
(B) 10 20 30
1 2 3
1 20 3
(C) 10 20 30
1 2 3
10 20 30
(D) 10 20 30
1 2 3
10 20 3
(E) 以上皆非

40. [ ] What is the output of the following C++ program?

```
#include <iostream>
using std::out;
using std:endl;
int f(int n);
int main( ) {
   cout << f(5)<< endl;
   return 0;
}
int f(int n){
   if (n<=1)
      return 1;
   else return(f(n-1)*f(n-2)+f(n-1));
}
```

(A) 36 (B) 48 (C) 60 (D) 72 (E) 以上皆非

試題隨卷繳回