一 、選擇題(70%) 每題 2 分，包含單選及複選

1. How many unique characters does ASCII allow?(1)16(2)32(3)128(4)255

2. RAM is an example of which of the following?(1)non-volatile memory(2) cache memory(3) volatile memory (4) virtual memory

3. What is a data structure consisting of contiguous memory locations (1)Stack(2)Array(3)Queue(4)Tree

4. Which of the following is a new port that provides greater speed, simpler upgradable storage devices, easier configuration, and an increased data transfer rate between the motherboard and hard drive?(1)SATA (2) PS/2 (3) Ethernet (4) USB drive

5. Which of the following character codes uses 16 bits and can represent many languages? (1) PCI (2) ASCII (3) Unicode (4) EBCDIC

6. What is the freeway of parallel connections that allows components within and connected to the system unit to communicate?(1)port(2)bus(3)ALU(4) register

7. Which are actions performed using a pointing device?(1) selecting (2) tagging (3) clicking (4) double-clicking

8. What is a unit of memory on a flash drive called?(1) platter (2) cluster (3) block (4) sector

9. Which term describes what you create to compartmentalize a hard drive so that it is capable of storing two operating systems and allowing you to select one at start-up?(1)sector(2)tag(3)cluster(4) partition

10. Which of the following statements about flash storage is true?(1) Flash storage is not portable. (2) Flash storage does not require an installed device driver. (3) The largest flash storage device is 8 gigabytes. (4) Flash storage is also called Internet storage.

11. Which type of network topology uses a switch or hub as its central point of connection?(1) P2P (2)ring(3)bus(4)star

12. Which file format is best used for images placed in documents to be published in paper form?(1) JPEG (2)BMP (3) TIFF (4) PNG

13. What type of programs are Picasa 3 and Gimp 2?(1) image editors (2) animation programs(3) sound capturing and processing programs(4) 3D rendering programs

14. Which is not a format for saving an image created in a paint program?(1) JPEG (2) PNG (3) PDS (4) BMP

15. Which of the following is part of the process to create an online business?(1) create and register a domain name (2) create a default or index page (3) purchase display shelves (4) find a host for your Web site

16. What is the name of the next generation of the Web that provides increased opportunities for collaboration?(1) URL (2) Web 2.0 (3) Hyper Web (4) Usenet

17. What utility program reduces a file size by as much as 80 percent by substituting short codes for lengthy data patterns?(1) Defragmentation (2)Clean up (3) Interrupt (4) Compression

18. Which of the following are OS functions?(1) Creating documents and spreadsheets (2) Managing memory (3) Starting the computer (4) Providing the user interface

19. In virtual memory, what are program instructions and data divided into?(1) Drivers (2) Pages (3) IRQs (4) Archives

20. Which system utility creates duplicates of the files and programs on a system ?(1) Compression (2) Defragmentation (3) Backup (4) Driver

21. When someone makes a cellular phone call to another cellular phone, which of the following eventually handles the call?(1) Public switched telephone network (PSTN) (2) Mobile switching centre (MSC) (3) Global Positioning System (GPS) (4) Synchronous optical network (SONET)

22. Which of the following is true of VoIP (Internet telephony)? (1) It is often cheaper than conventional phone service.　(2) It is of such poor quality that businesses refuse to use it. (3) It is only usable with a dial-up Internet connection. (4) It is too expensive to install for home use.

23. Which of the following is an example of malware?(1) a zombie(2) an evil twin(3) a macro virus(4) an active badge

24. What is the substitute for barcodes, often used for inventory tracking, which can also pose privacy risks if not deactivated?(1) RFID (2) SET (3) WEP (4) WPA

25. What method of user validation uses a variety of techniques such as voice recognition, retina scans, and fingerprints?(1) digital signature(2) digital certificate(3) biometric authentication(4) global unique identifier

26. Which of the following statements about management information systems is NOT true?(1) The theoretical aspects of computing are emphasized.(2) Finance and marketing skills, communication skills, and interpersonal skills are required for effective teamwork and leadership.(3) Training usually includes several semesters of higher math.(4) Topics such as artificial intelligence and programming language structure are required.

27. Which statement is true about a career in the IT field?(1) A graduate with a BS in computer science will never need any retraining.(2) IT professionals usually stay at the same job doing the same tasks for their entire career. (3) IT professionals usually change jobs several times during their career and are dedicated to lifelong learning.(4) IT professionals today do not need strong interpersonal skills.

28. Which of the following is not used in developing interactive Web pages?(1) Oracle(2) ERP systems(3) project management software(4) AJAX

29. Which is the only language a computer understands without having to be translated? (1)BASIC(2)machine language(3)C++(4)Visual Basic .NET

30. Which language is used to produce Web pages that can be read on many different types of devices, including mobile devices?(1)ECMA Script(2)Visual Studio .NET(3)Visual C#(4)XHTML

31. Which of the following is used to ensure the integrity of entered data?(1) data validation(2) data independence(3) data redundancy(4) data authorization

32. What is the name of the type of graphic that displays all of the interested parties and the relationship between them that is used to create the process under construction?(1)Case diagram(2) Gantt chart(3) E-R diagram (4) data flow diagram

33. Which of the following statements about joint application development is NOT true?(1) It is also known as rapid application development.(2) It produces a fully functional model.(3) It produces a small-scale mock-up of the system.(4) It combines the first four phases of the traditional SDLC.

34. Which enterprise computing tool enables companies to use Web-based software for a fee and avoid expensive and time-consuming installations?(1) XML(2) OSS(3) XBRL(4)SaaS

35. ERP Which of the following are drawback of ERP projects?(1) The job duties for customer service representatives may be expanded.(2) Employee resistance to change.(3) Implementation times and costs may be underestimated.(4) Separate ERP modules replace established systems.

二、問答題(30%)

1. Distinguish between a compiler and an interpreter. Give an example of a compiled language and an interpreted language. (5%)

2. Explain the difference between syntax errors and logic errors. Identify the errors below as either a syntax or logical error. (5%)

   a. Calculating the average of four numbers by adding the four numbers and dividing by 3

   b. Missing a semicolon at the end of a programming line of code

   c. Missing a set of parentheses

   d. Figuring out the total cost of an item, including an 5% sales tax, by multiplying the cost of the item by .05

   e. Misspelling a keyword in a program, such as "print" as "pint," or "mov" as "move"

3. What is the output of following program? (5%)

```java
public class InitialArray
{
  public static void main(String[] args)
    {
      int a[] = {0, 1, 2, 3, 4};
        for(int i=0; i<5; i++)
          System.out.println("a[" + i + "] = " + a[i]);
    }
}
```

4. What is a primary key? What is a foreign key? How are these used in a relational database? (5%)

5. What is the difference between topology and protocol? (5%)

6. What is cloud computing? What is one of its benefits? (5%)