第一部分（是非與選擇題）

一、是非(30%)（T/F）

1. A hard disk is classified as volatile memory, because it requires a constant power supply in order to retain its information.
2. A directory is a collection of files that are organized together and labeled with a common name.
3. Because the ARPANet utilized ordinary phone lines to connect computers over large distances, it was slow compared to existing technologies of the time.
4. When a message is broken into packets as transmitted over the Internet, it is guaranteed that all packets will take the same route from source to destination.
5. A microprocessor is a special-purpose computer that is used to control scientific machinery.
6. An algorithm is a step-by-step sequence of instructions for carrying out some task.
7. Suppose you have been given a sorted list of 100 names and need to find a particular name in that list. Using sequential search, it is possible that you might have to look at every location in the list before finding the desired name.
8. On an Ethernet network, computer A can send a message directly to computer B, without any other computer on the network receiving that message.
9. The Turing Test was proposed by Alan Turing as a means of determining whether an artificially intelligent machine has been constructed.
10. When developing large software projects, it generally takes more time to develop the code than it does to test and maintain it.
11. The binary value 11012 represents the decimal number 27.
12. ASCII code is a program written to convert binary numbers to their decimal equivalents.
13. In a bitmap, the number of pixels used to represent an image affects both how sharp the image appears and the amount of memory it requires.
14. The path that data follows within the CPU, traveling along buses from registers to the ALU and then back to registers, is known as the CPU datapath.
15. Moore's Law dictates that integrated circuitry must be manufactured out of silicon, as opposed to other semiconductors such as germanium.

二、 選擇(40%)

16. _____ key encryption requires that the receiver obtain the key to decrypt the message.
   A) Symmetric B) Asymmetric C) Digital certificate D) Digital signature

17. The goal of Secure Electronic Transmissions (SET) is to:
A) alert the network administrator to packet sniffing activities.
B) create safe online transactions using digital certificates.
C) provide firewall standards for all network servers.
D) add public key encryption techniques to all Internet traffic.

18. A _____ is a uniform set of encryption standards that could facilitate secure Internet transactions.
A) ciphertext　B) public key infrastructure (PKI)　C) pretty good privacy (PGP) policy　D) key escrow plan

19. _____ is the obligation for parties to a lawsuit to exchange documents that exist only in electronic form.
A) E-evidence　B) E-discovery　C) E-law　D) E-exchange

20. Vacation hackers, one of the newest trends in Internet fraud, involve all of the following EXCEPT:
A) travelers being targeted by Cybercriminals.　B) in addition to the information reaching the intended destination, such as an airport or hotel, the cybercriminal also obtains the user's data.　C) phony WiFi hot spots, called evil twins, are used to obtain data from unsuspecting individuals.　D) users believe they are using a valid WiFi access point.

21. Machine language is said to be machine dependent because it is dependent on the:
A) version of memory.　B) hard drive.　C) processor.　D) source code.

22. In assembly language, each program statement corresponds to a(n):
A) object.　B) instruction.　C) program.　D) control structure.

23. Which of the following is the first step toward a true natural language interface?
A) Control classes B) Continuous speech recognition C) Mnemonics D) Fast compilers

24. Which of the following is the process used to create software applications?
A) Algorithms　B) Pseudo coding　C) Programming　D) Debugging

25. Software applications are developed by trained experts known as:
    A) programmers.　B) coders.　C) analysts.　D) debuggers.

26. A(n) _____ is a written plan that specifies steps to be taken in the event of an emergency.
    A) emergency plan　B) backup plan　C) disaster recovery plan　D) contingency plan

27. Which of the following is another term for duplicating all enterprise data?
    A) Mirroring　B) Replicating　C) Fault tolerant　D) Contingency

28. A(n) ____ is a person, place, object, event, or idea for which you want to store and process data.
    A) attribute　B) DBMS　C) entity　D) DBA

29. Which of the following statements is correct?
    A) In a nondatabase, file-oriented environment, data is often partitioned into several disjointed systems with each system having its own collection of files.
    B) User data cannot be combined and shared among authorized users.　C) Database users should not have access to the same information.　D) The elimination of redundancy is always possible.

30. ____ is the prevention of unauthorized access to the database.
    A) Data independence　B) Integrity constraint　C) Redundancy　D) Security

31. Independent entities have ____ in an E-R diagram.
    A) dashed borders B) dark backgrounds　C) square corners　D) rounded corners

32. A subtype is also called a(n) ____ in IDEF1X terminology.
    A) dependent　B) inner type　C) specification　D) category

33. On an E-R diagram, the number closest to the relationship represents ____ cardinality.
    A) maximum　B) minimum　C) midvalue　D) largest

34. Each phase of the SDLC is intended to address key issues and produce:
    A) incremental budgets.　B) test plans.　C) requirements.　D) deliverables.

35. A collection of components organized into a functioning whole is known as a(n):
A) application program.　B) artificial intelligence program.　C) life cycle.　D) system.

第二部分（問答題）

三、問答(30%)

1. Describe three elements common to a Graphical User Interface (GUI)? How do these elements make it easier for a user to interact with the computer.

2. Internet communications are defined by a set of protocols called TCP/IP. What do TCP and IP stand for, and what is the role of each protocol in transmitting and receiving information?

3. What does the acronym VLSI stand for? How did the development of VLSI technology contribute to the personal computer revolution of the late 1970s?

4. What does it mean for an operating system to support multitasking? How is multitasking different from time sharing?

5. What decimal value is represented by the binary number 011010012? Show the steps involved in the conversion, then use the Data Representation Page to verify your answer.