一、選擇題（單選：請選出最適當的答案，每題 3 分，答錯不倒扣）

1. The first step in the decision-making process is
   (A) deciding what to do.
   (B) defining the problem.
   (C) assigning key personnel.
   (D) describing the situation in enough detail.
   (E) designing potential improvements.

2. Systems analysis
   (A) is a general process that can be applied to almost any problem.
   (B) applies to specific, well-defined problem.
   (C) always involves the use of technology.
   (D) can be used only on large-scale problems.
   (E) is inflexible and must be followed through in every detail.

3. A combination of instincts, ideas, rules, and procedures that guide actions or decisions are referred to as
   (A) data.
   (B) information.
   (C) context.
   (D) knowledge.
   (E) content.

4. This ability of an operating system to run two or more programs from any one user concurrently on one computer is called
   (A) multitasking.
   (B) RISC processing.
   (C) spooling.
   (D) time-sharing.
   (E) doubling.

5. Cache memory is
   (A) massive data storage in the central processing unit.
   (B) storage of alphabetic characters only.
   (C) high-speed storage of frequently used instruction and data.
   (D) one kind of port.
   (E) long-term storage of data outside the CPU.

6. BPR stands for
   (A) business product reengineering.
   (B) business process restructuring.
   (C) business process reordering.
   (D) business process realignment.
   (E) business process reengineering.

7. DBMS stands for
   (A) database manufacturing software.
   (B) database management software.
   (C) database management system.
8. A keyed table consisting of records is called a
   (A) database.
   (B) relation.
   (C) field.
   (D) record.
   (E) matrix.

9. A database that is spread across more than one location is called a
   (A) replicated database.
   (B) divided database.
   (C) partitioned database.
   (D) distributed database.
   (E) remote database.

10. URL stands for
    (A) uniform resource locator.
    (B) unstructured report locator.
    (C) unified record locking.
    (D) uniform router logic.
    (E) uniform record locator.

11. Taking timely action based on what a customer wants is called
    (A) quality.
    (B) responsiveness.
    (C) reliability.
    (D) conformance to standards.
    (E) reaction.

12. The professional title of the head of the information systems is
    (A) CIO.
    (B) CEO.
    (C) EIO.
    (D) CIM.
    (E) CFO.

13. Because of the difficulty foreseeing opportunities, IS plans should be designed to be
    (A) inflexible and rigid.
    (B) inflexible and strong.
    (C) robust and rigid.
    (D) flexible and extendable.
    (E) inflexible and extendable.

14. Things that must go right in order for a business to succeed are called
    (A) strategic factors.
    (B) competitive elements.
    (C) critical success factors.
    (D) key indicators.
15. A compiler is
   (A) hardware which increases the processing speed of the microprocessor.
   (B) software which translates a complete program of English-like source code statement into machine-code.
   (C) hardware which orders the execution of programs.
   (D) software which assists end users in writing their own programs.
   (E) a programmer who writes application code.

16. Breaking a lengthy block of text into small bundles of data is called
   (A) frame relay.
   (B) multiplexing.
   (C) packet switching.
   (D) asynchronous transfer mode.
   (E) protocol.

17. The group responsible for monitoring a firm’s daily activities is
   (A) senior management.
   (B) middle managers.
   (C) the board of directors.
   (D) operational managers.
   (E) knowledge workers.

18. The component of a DSS that provides the ability to create, maintain, and manipulate mathematical models is called
   (A) a model base.
   (B) user interface.
   (C) a database.
   (D) report base.
   (E) knowledge base.

19. Which of the following is not a capability of EIS?
   (A) friendly interface
   (B) provide timely and effective tracking and control
   (C) fits individual’s decision style
   (D) provide quick access to details (drilldown)
   (E) provide efficient computation of information tracked

20. SQL stands for
   (A) sequential quality language.
   (B) standard query language.
   (C) semantic query language.
   (D) structured query language.
   (E) simulated query language.
二、問答題

1. What is a data warehouse?  

2. What are the main functions (purposes) of operating systems?  

3. What is a digital signature?  

4. What is a firewall?  

5. Explain how public key encryption functions.  

6. The least common multiple (\textit{LCM}) of two positive integers \( n \) and \( m \) is the smallest positive integer that is a multiple of both \( n \) and \( m \). Design a program to find \textit{LCM} of two given positive integers \( n \) and \( m \). (You are required to use either one of C, C++, Java, or Visual Basic language to code a program.)