Multiple Choice (40%)

1. In the file-oriented approach, data is maintained in:
   a. a central database
   b. many interconnected files
   c. many separate files
   d. a decentralized database

2. Development of the Internet enables software companies to conduct their --- activities electronically
   a. inbound logistic
   b. outbound logistic
   c. shipping
   d. delivery

3. A lower level view of the database that describes how the data are actually stored and accessed is the:
   a. schema
   b. subschema
   c. internal level schema
   d. external level schema

4. A special database file called the --- contains detailed information about all the data elements in the database
   a. schema
   b. internal level schema
   c. external level schema
   d. data dictionary

5. The potential inconsistency problem that could arise if there were multiple occurrences of a data item in a database is called the:
   a. update anomaly
   b. insert anomaly
   c. inconsistency anomaly
   d. integrity anomaly

6. The process of losing desired information from a database because an unwanted record is purged from the database is referred to as the --- anomaly
   a. purge
   b. erase
   c. delete
   d. integrity

7. Within an AIS, which is not an object of internal controls?
   a. to ensure that information is reliable
   b. to ensure that activities are performed efficiently
c. to safeguard organizational assets
d. to ensure that all accounts are accurate to the penny

8. In a payroll processing DFD, the prepare reports activity will be represented by ___, the employee payroll file will be represented by ___, and the bank will be represented by ___.
   a. a circle, two horizontal lines, a square
   b. an rectangle, a square, a circle
   c. a circle, two horizontal lines, horizontal lines
   d. a square, two horizontal lines, a circle

9. The database constraint that says that foreign keys must be null or have a value corresponding to the value of a primary key in another table is formally called the:
   a. entity integrity rule
   b. referential integrity rule
   c. unique primary key rule
   d. foreign key rule

10. An analytical technique that use standard symbols to graphically represent an information system in a clear, concise, and logical manner is called a:
    a. data flow diagram
    b. flowchart
    c. decision table
    d. narrative

11. File-oriented approach create problems for organizations because of:
    a. multiple transaction files
    b. a lack of sophisticated file maintenance software
    c. multiple users
    d. multiple master files

12. Business-to-business electronic commerce requires electronic data interchange capabilities because
    a. large amount of data being exchanged
    b. the dollar amount of the transaction can be large
    c. transactions are often nonrecurring events
    d. data encryption is needed

13. A ___ flowchart illustrates the sequence of logical steps as the computer executes instructions from software
    a. systems
    b. data flow
    c. program
    d. context

14. An E-R diagram represent entities as ___ and the relationships between them as lines and ___.
    a. circles, squares
b. squares, diamonds
c. rectangles, diamonds
d. rectangles, circles

15. Each event in an REA model will in most cases have at least one --- agent and --- agent involved with the event
   a. internal, resource
   b. external, entity
   c. internal, employee
   d. internal, external

16. The --- of a relationship in an REA diagram expresses the occurrences of one entity that may be associated with a single occurrence of the other entity.
   a. ordinary
   b. primary key
   c. agency
   d. cardinality

17. Which of the following is not a "private" portion of the company's network?
   a. value-added network
   b. company's personal computer
   c. local area network
   d. wide area network

18. Information about data base content and about business practices is best shown by:
   a. DFDs
   b. Document flowcharts
   c. REA diagrams
   d. System flowcharts

19. With modern data base accounting, the system:
   a. is still a double-entry model with journals, ledgers, and chart of accounts
   b. is a process for collecting and disseminating information about transactions
   c. is both traditional and new in its approach to accounting mechanics
   d. all of the above are true

20. The primary key of a table representing an entity consists of --- attribute(s) and the primary key for many-to-many relationship tables consists of --- attribute(s)
   a. 2,1
   b. 1,2
   c. 2,2
   d. 1,1
Essay Questions (60%)

1. (20%) Since opening its doors in Hawaii two years ago, Oriental Trading has enjoyed tremendous success. As a wholesaler, Oriental Trading purchases textile from Asian markets and resells the textiles to local retail shops. To keep up with the strong demands for the textiles in the Hawaiian Islands, Oriental Trading is expanding its local operations. At the heart of the expansion is the introduction of a new information system to handle the tremendous increase in purchases.

You have conducted several interviews with supervisors in the departments that interact with acquisition/payment system. The following is a summary of your discussion.

A purchase requisition is sent from the inventory system and is received by Sky Ishibashi, a clerk in the Purchasing Department. Sky prepares a purchase order from information vendor and inventory files and mails it to the vendor. The vendor returns a vendor acknowledgement to Sky indicating receipt of the purchase order. Sky then sends a purchase order notification to ELei Mateaki, a clerk in the Accounts Payable Department.

When the Receiving Department accepts vendor goods, the inventory system notifies Elei by sending him a receiving report. Elei also receives the invoices that are mailed by the various vendors. Ekei matches the invoices with the purchase order notification and the receiving report and updates the accounts payable master file.

Elei then sends a payment authorization to the Accounting Department. In the Accounting Department, Andeloo Nona prepares and mails a check to the vendor. When the check is issued, the system automatically updates the accounts payable master file and the general ledger.

Required: Develop a context diagram and a DFD of the acquisition/payment system at Oriental Trading.

2. (20%) The BusyB Company wants to store data about its employee's skill. Each employee may possess one or more specific skills. In addition, several employees may have the same skill. The following facts need to be included in the database: employee name, supervisor, date hired, skill number, skill name, date of birth, pay rate, employee number, date skill acquired.

a. Design a set of relational tables to store these data (15%)

b. Identify the primary key for each table (5%)

3. (20%) Using the set of relational tables, write queries to answer the following questions:

a. How many different kinds of inventory items does S&S sell?

b. How many sales were made during October?

c. What was the total amount of sales in October?

d. What was the average of sales transaction?

e. Which salesperson made the largest sale?

f. How many units of each product were sold?
g. Which product was sold most frequently?

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