國立台南大學九十七學年度第一學期期中考試 數位二 系統分析與設計 試卷

_____年 學號:_____姓名：_____ 共 2 張 4 面

Part I、Multiple Choice *Identify the choice that best completes the statement or answers the question*

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1. When companies attempt to simplify operations or reduce costs, a popular strategy is to have managers and systems analysts perform ____.

a. electronic data interchange (EDI)
b. joint application development (JAD)
c. business process reengineering (BPR)
d. rapid application development (RAD)

2. In a typical company organizational model, top managers ____.

a. develop long-range plans, called strategic plans, that define the company's overall mission and goals
b. provide direction, necessary resources, and performance feedback to supervisors and team leaders
c. oversee operation employees and carry out day-to-day functions, coordinating operational tasks and people
d. include users who rely on TP systems to enter and receive the data they need to perform their jobs

3 In object-oriented programming, an object is a member of a(n) ____, which is a collection of similar objects.

a. property
b. class
c. message
d. instance

4. A systems analyst needs ____.

a. solid technical knowledge and good analytical ability
b. strong oral and written communication skills
c. an understanding of business operations and processes
d. all of the above

5. External factors that affect IT systems projects include all of the following *except* ____.

a. managers
b. technology
c. suppliers
d. competitors

6. In the preliminary investigation report, the ____ section contains the results of the preliminary investigation, including a description of the project's scope, constraints, and feasibility.

a. appendix
b. introduction
c. recommendations
d. findings

7. Using a(n) ____, an analyst can show business functions and break them down into lower-level functions and processes.

a. UML
b. TCO
c. FDD
d. REJ

8. ____ is a typical example of a system requirement for the control category.

a. The customer analysis system must produce a quarterly report that identifies changes in ordering patterns
b. The system must maintain separate levels of security for users and the system administrator
c. The data entry screens must be uniform, except for background color, which can be changed by the user
d. The warehouse distribution system must analyze daily orders and create a routing pattern for delivery trucks

9. In an interview, _____ are questions that ask a person to evaluate something by providing limited answers to specific responses or on a numeric scale.

a. open-ended questions
b. closed-ended questions
c. leading questions
d. range-of-response questions

10. When recording and documenting information, a _____ program, such as Microsoft Word or Corel WordPerfect, can create reports, summaries, tables, and forms.

a. word processing
b. spreadsheet
c. database
d. presentation graphics

11. A spontaneous generation process is a process that has _____.

a. no input
b. at least one output and one input, but the output obviously is too insufficient to generate the input shown
c. no output
d. at least one input and one output, but the input obviously is too insufficient to generate the output shown

12. When DFDs are drawn, each of the following conventions should be followed *except* _____.

a. each context diagram must fit on one page
b. use the same names within each set of symbols
c. do not cross lines
d. use a unique reference number for each process symbol

13. An auto parts store inventory _____ might include part number, description, supplier code, minimum and maximum stock levels, cost, and list price.

a. device
b. field
c. record
d. data element

14. The selection structure is the completion of ____.
a. one or more process steps based on the results of a test or condition
b. steps in a chronological order, one after another
c. a process step that is repeated until a specific condition changes
d. a specific condition that is repeated until a process changes

15. The disadvantage of the four-model approach is ____.
a. it gives an unclear picture of the current system functions before any modifications or improvements are made
b. the requirements of a new information system always are different from the current information system
c. the added time and cost needed to develop a logical and physical model of the current system
d. all of the above

16. In launching a new information system, the greatest risk occurs when a company ____.
a. begins by outlining its business models and identifying possible IT solutions
b. tries to decide how the system will be implemented before determining what the system is supposed to do
c. considers implementation options after having a clear set of objectives
d. all of the above

17. Systems development typically starts with a ____.
a. feasibility study, followed by a systems request, which includes a preliminary investigation
b. systems request, followed by a preliminary investigation, which includes a feasibility study
c. preliminary investigation, followed by a feasibility study, which includes a systems request
d. feasibility study, followed by a preliminary investigation, which includes a systems request

18. When setting priorities for systems requests, the highest priority goes to projects that provide the ____.
a. least benefit, at the highest cost, in the longest period of time
b. least benefit, at the lowest cost, in the longest period of time
c. greatest benefit, at the highest cost, in the shortest period of time
d. greatest benefit, at the lowest cost, in the shortest period of time

19. The ____ phase of the SDLC includes four main activities: requirements modeling, data and process modeling, object modeling, and consideration of development strategies.

a. systems planning
b. systems analysis
c. systems design
d. systems implementation

20. In data and process modeling, a(n) ____ model shows what the system must do, regardless of how it will be implemented physically.

a. operational
b. physical
c. logical
d. relational

Part II、True /False *Indicate whether the statement is true ⓣ or false ⓕ.*

1. Today, systems development is much more team-oriented than in the past.

2. Hardware-based security controls include passwords, various levels of user access, and coding data.

3. Depending on what information is needed to investigate a systems request, fact-finding might consume several hours, days, or weeks.

4. IT professionals recognize that successful systems must be user-oriented, and users need to be involved, formally or informally, at every stage of systems development.

5. Closed-ended questions are useful when a systems analyst wants to understand a larger process or draw out the interviewee's opinions, attitudes, or suggestions.

6. Preparing a good questionnaire, like a good interview, requires skill and time.

7. A set of DFDs provides a logical model that shows *how* the system works, not *what* the system does.

8. In a DFD, a process symbol can have only one outgoing data flow.

9. A context diagram provides the most detailed view of an information system and contains multiple process symbols.

10. It is not necessary to document every data element in the data dictionary.

Part III、Review Questions *Give short but sufficient answers, express by your own words*

1. Explain the difference between vertical and horizontal systems packages.
2. Describe one of five types of information systems, and give an example of it.
3. What is a SWOT analysis and why is it important?
4. What is a system requirement, and how are system requirements classified?
5. What are the five questions typically used in fact-finding? What additional question can be asked during this process?

Part IV、Answer All Questions

1. Situation: The Claremont School course catalog reads as follows: "To enroll in CIS 288, which is an advanced course, a student must complete two prerequisites — CIS 110 and CIS 286. A student who completes either one of these prerequisites and obtains the instructor's permission, however, will be allowed to take CIS 288."

   (a). Simplify the table you just created. Describe the results.

   (b). Create a decision table that describes the Claremont School course catalog regarding eligibility for CIS 288. Show all possible rules.

   (c). Draw a simplified decision tree to represent the Claremont School catalog. Describe the results.

   (d). Discuss the pros and cons of decision tables versus decision trees.

2. Review the order system context diagram on , and compare it to the order system diagram 0 DFD on Figure 1-B. Then ask them to answer the following questions:
   (a). How many external entities are shown in each diagram? (兩個圖中各有幾個外部實體?)
   (b). In each diagram, how many data flows connect to the external entities? (兩個圖中各有幾個資料流連接到外部實體?)
   (c). How many sub-processes are identified in the diagram 0 DFD? (DFD 圖 0 顯示幾個次級處理工作?)
   (d). Could the data store have been shown in the context diagram? Why or why not? (資料儲存是否可顯示在全景圖中?並說明原因。)
   (e). What is a balanced DFD?(說明什麼是一個平衡的 DFD 圖?)

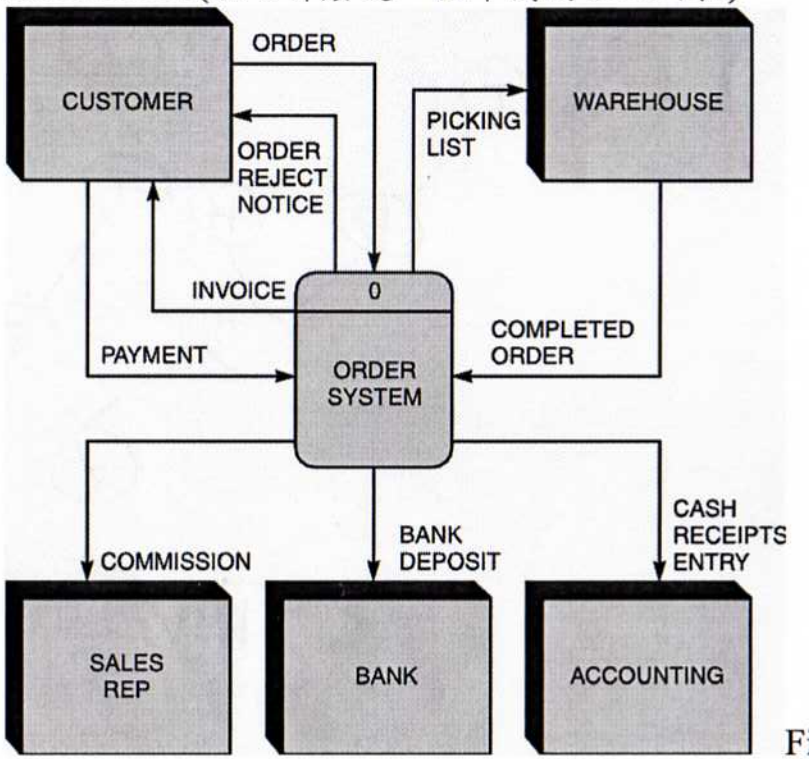

Figure 1-A

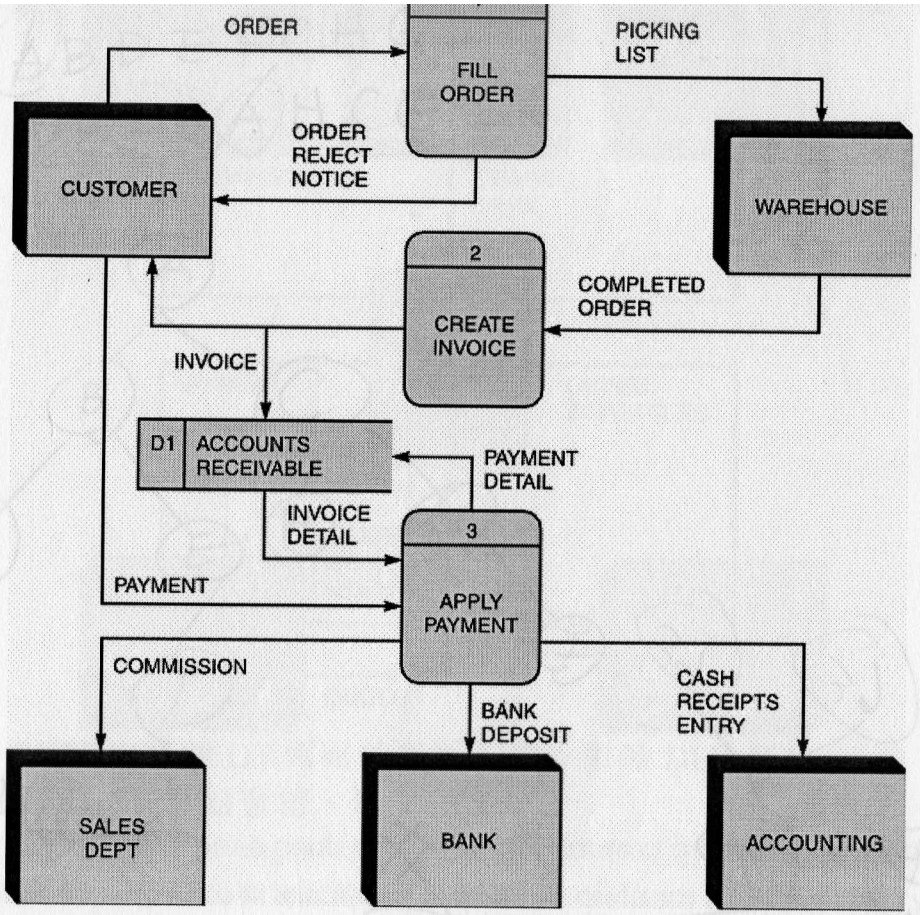
ORDER
FILL ORDER
PICKING LIST
CUSTOMER
ORDER REJECT NOTICE
WAREHOUSE
2
CREATE INVOICE
COMPLETED ORDER
INVOICE
D1
ACCOUNTS RECEIVABLE
PAYMENT DETAIL
INVOICE DETAIL
3
APPLY PAYMENT
PAYMENT
COMMISSION
BANK DEPOSIT
CASH RECEIPTS ENTRY
SALES DEPT
BANK
ACCOUNTING

Figure 1-B