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重庆大学《软件工程导论》课程试题（$\frac{A}{B}$卷）

题　号	一	二	三	四	五	六	七	八	九	十	总　分
得　分											

一．Complete the sentences with the correct words or phrases.（each blank 1 point, total 20 points）

1. Four interface design issues are _____、_____、_____ and _____.
2. The four procedure of design model includes: _____ 、_____、_____ and _____.
3. The five phases of software requirements analysis are _____ 、_____、_____、_____ and _____.
4. The data model consists of three pieces of interrelated information_____、_____ and _____.
5. Four types of change are encounter：_____、_____、_____ and _____.

二．Decide whether the following statements are true or false. Write “a” for true and “b” for false into bracket.（each question 1 point, total 15 points）

( ) 1. Software is developed or engineered , it is not manufactured in classical sense.
a. True
b. False

( ) 2. Once we write the program and get it to work, our job is done.
a. True
b. False

( ) 3. Evolutionary models are iterative ..
a. True
b. False

( ) 4. A data flow diagram is a graphical technique that depicts information flow and the transforms
a. True
b. False

( ) 5. For software prototyping to be effective technique, tools are required to develop prototypes rapidly to keep the schedule on track.
a. True
b. False

( ) 6. It is not possible to use ordinary data flow diagrams to model the functional requirements of real-time systems.
a. True
b. False

( ) 7. The states shown in a state transition diagram do not necessarily correspond to the processes shown in a control flow diagram for the same system.
a. True
b. False

( ) 8. Horizontal partitioning defines separate branches for major program functions, while vertical partitioning distributes control in a top-down manner.
a. True
b. False

( ) 9. Information hiding makes program maintenance easier by hiding data and procedure from unaffected parts of the program.
a. True
b. False

( ) 10. Data design actually begins during the creation of the analysis model, not the architectural model.
a. True
b. False

( ) 11. When refining the DFD during transform mapping the goal is to strive to derive bubbles showing high cohesion.
a. True
b. False

( ) 12. One means of defining user interface objects and actions is to conduct a grammatical parse of the user scenario.
a. True
b. False

( ) 13. With thorough testing it is possible to remove all defects from a program prior to delivery to the customer.
a. True
b. False

( ) 14. Equivalence testing divides the input domain into classes of data from which test cases can be derived to reduce the total number of test cases that must be developed.
a. True
b. False

( ) 15. The focus of validation testing is to uncover places that users will be able to observe failure of the software to conform to its requirements.
a. True
b. False

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三. Answer each question by choosing A , B, C or D.(each question 1 point, total 25 points)

( ) 1. Which question no longer concerns the modern software engineer?
a. Why does computer hardware cost so much?
b. Why does software take a long time to finish?
c. Why does it cost so much to develop a piece of software?
d. Why can't software errors be removed from products prior to delivery?

( ) 2. Software deteriorates rather than wears out because
a. Software suffers from exposure to hostile environments
b. Defects are more likely to arise after software has been used often
c. Multiple change requests introduce errors in component interactions
d. Software spare parts become harder to order

( ) 3. Most software continues to be custom built because
a. Component reuse is common in the software world
b. Reusable components are too expensive to use
c. Software is easier to build without using someone else's components.
d. Off the shelf software components are not commonly available

( ) 4. Which of the items listed below is not one of the software engineering layers?
a. Process
b. Manufacturing
c. Methods
d. Tools

( ) 5. The spiral model of software development
a. Ends with the delivery of the software product
b. Is more chaotic than the incremental model
c. Includes project risks evaluation during each iteration
d. All of the above

( ) 6. The linear sequential model of software development is
a. A reasonable approach when requirements are well defined.
b. A good approach when a working program is required quickly.
c. The best approach to use for projects with large development teams.
d. An old fashioned model that is rarely used any more.

( ) 7. Which of these terms is a level name in the Capability Maturity Model?
a. Ad hoc
b. Repeatable
c. Reusable
d. Organized

( ) 8. The rapid application development model is
a. Another name for component-based development.
b. A useful approach when a customer cannot define requirements clearly.
c. A high speed adaptation of the linear sequential model.
d. All of the above.

( ) 9. In the context of requirements analysis, two types of problem partitioning are
a. bottom-up and top-down
b. horizontal and vertical
c. subordinate and superordinate
d. none of the above

( ) 10. The state transition diagram
a. depicts relationships between data objects
b. depicts functions that transform the data flow
c. indicates how data are transformed by the system
d. indicates system reactions to external events

( ) 11. The relationships shown in a data model must be classified to show their
a. Width and depth
b. Directionality and reliability
c. cardinality and modality
d. probability and risk

( ) 12. The data dictionary contains descriptions of each software
a. configuration item
b. data object
c. diagram
d. notation

( ) 13. Which of the following is not an area of concern in the design model?
a. architecture
b. data
c. interfaces
d. project scope

( ) 14. Which of these is a characteristic of a good design?
a. exhibits strong coupling between its modules
b. implements all requirements in the analysis model
c. includes test cases for all components
d. incorporates source code for descriptive purposes

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( ) 15. Which of the following is not a characteristic common to all design methods?
a. configuration management
b. functional component notation
c. quality assessment guidelines
d. refinement heuristics

( ) 16. The control hierarchy represents the
a. decision order
b. organization of modules
c. repetition of operations
d. sequence of processes

( ) 17. To achieve high modularity of software components you need
a. high coupling and high cohesion
b. high coupling and low cohesion
c. low coupling and high cohesion
d. low coupling and low cohesion

( ) 18. Cohesion is a qualitative indication of the degree to which a module
a. can be written more compactly.
b. focuses on just one thing.
c. is able to complete its function in a timely manner.
d. is connected to other modules and the outside world.

( ) 19. Coupling is a qualitative indication of the degree to which a module
a. can be written more compactly.
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( ) 20. Which of the following is not a fundamental structured programming construct?
a. recursion
b. condition
c. repetition
d. sequence

( ) 21. Which of these are objectives for software testing?
a. determine the productivity of programmers
b. eliminate the need for future program maintenance
c. eliminate every error prior to release
d. uncover software errors

( ) 22. The cyclomatic complexity metric provides the designer with information regarding the number of
a. cycles in the program
b. errors in the program
c. independent logic paths in the program
d. statements in the program

( ) 23. Black-box testing attempts to find errors in which of the following categories
a. incorrect or missing functions
b. interface errors
c. performance errors
d. all of the above

( ) 24. Top-down integration testing has as it's major advantage(s) that
a. low level modules never need testing
b. major decision points are tested early
c. no stubs need to be written
d. none of the above

( ) 25. Which of the following is an approach to debugging?
a. backtracking
b. brute force
c. cause elimination
d. all of the above

四．Term explanation（each term 3 point, total 15 points）

1. Software Crisis

Solution :

2. Cohesion

Solution :

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3. Information hiding
Solution:

4. Black-box testing
Solution :

5. Software maintaining
Solution :

五. Answer the following questions.(each question 5 point, total 25points)
1. Cyclomatic complexity is Computed in three ways,List them.
Solution :

2. List three structured constructs of the flowchart.
Solution :

3. List the elements of the analysis model.
Solution :

4. List four types of systems tests.
Solution :

5. What are the three generic phases of software engineering?
Solution :

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