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重庆大学《软件工程导论》课程试题（A/B卷）

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

一. Answer each question by choosing A , B, C or D.(each question 1 point, total 15 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. 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

( ) 8. 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

( ) 9. 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

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

( ) 11. 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

( ) 12. 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

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

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( ) 14. 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

( ) 15. 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.

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

1. Software takes on a dual role: _____ and _____.
2. The three generic phases of software engineering are _____、_____ and _____.
3. The five phases of software requirements analysis are _____、_____、_____、_____ and _____.
4. The data model consists of three pieces of interrelated information _____、_____ and _____.
5. Three structured constructs of the flowchart are _____、_____ and _____.
6. The design model includes: _____、_____、_____ and _____.

三. Decide whether the following statements are true or false. Write "a" for true and "b" for false in bracket.（each question 1 point, total 10 points）

( ) 1. Adding more people to a project that is already behind schedule is a good way to catch up.
a. True
b. False

( ) 2. Change cannot be easily accommodated in most software systems, unless a system was designed with change in mind.
a. True
b. False

( ) 3. Evolutionary software process models are iterative in nature.
a. True
b. False

( ) 4. One of the most difficult parts of software requirements analysis is ensuring the developer understands the customer's needs.
a. True
b. False

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

( ) 6. When using structured design methodologies the process of stepwise refinement is unnecessary.
a. True
b. False

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

( ) 8. The architectural model provides the software engineer with a view of the system as a whole.
a. True
b. False

( ) 9. Data structure design takes less time than algorithm design, so it may be saved for last.
a. True
b. False

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

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

1. Software

Solution :

2. Software engineering

Solution :

3. Modularity

Solution :

4. Information hiding

Solution :

5. Data dictionary

Solution :

四．**List a set of independent paths for flow graph illutrated Figure 1, and compute cyclomatic complexity. (total 5 points)**

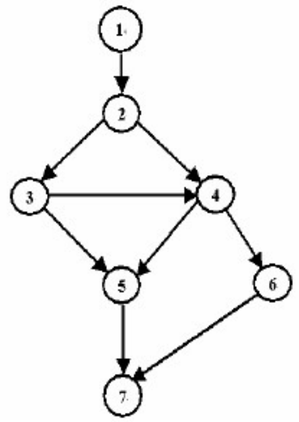

Figure 1

五．**Answer the following questions.(each question 5 point, total 25 points)**

1. How do software characteristics differ from hardware characteristics?

Solution:

2. What are the three generic phases of software engineering.

Solution:

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3. What are three primary objectives of the analysis model?
Solution :

4. List four interface design issues present in the development of most user interfaces.
Solution :

5. Describe the differences between black-box testing and white-box testing.
Solution :

六．在软件工程中，试述需求分析的重要性。**(Total 10 points)**

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