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班级：

西 安 电 子 科 技 大 学

考试时间 120 分钟

试　　题

题号	I	II	III	IV	总分
分数	30	10	30	30	

1. 考试形式：闭卷☑ 开卷☐ A 卷
2. 考试日期：　　年　　月　　日(答题内容请写在装订线外)

I. Single Choice (2 * 15 = 30 points)

1. Software is a set of instructions (programs)，( ) , and documents。

   A. test　　B.data　　C. architectures　　D. process

2. Software engineering means the application of a systematic, measureable and ( ) approach to the development, operation, and maintenance of software. That is, the application of engineering to software.

   A. readable　　B. traceable　　C. reliable　　D. disciplined

3. The ( ) is the company, organization, or person who is paying the software system to be developed.

   A. customer　　B. developer　　C. coder　　D. user

4. A ( ) is the completion of an activity-a particular point in time

   A. activity　　B. milestone　　C. timetable　　D. schedule

5. If you are developing a software system, which is relatively small in size, and the requirements are poorly defined. ( ) would be the most appropriate process model for this type of development?

   A. prototyping　　B. waterfall　　C. spiral　　D. V-model

6. A requirement is an ( ) of software behavior.

   A. product　B. expression　　C. life cycle　　D. ability

7. A quality requirement, or ( ) describes some quality characteristic that the software solution must possess.

   A. Security　　B. design constrains

C. non-functional requirement D. functional requirements

8. ( ) models functionality and the flow of data from one function to another.

A.State machine B. Data-flow diagram

C. Entity-relationship diagram D. Event trace

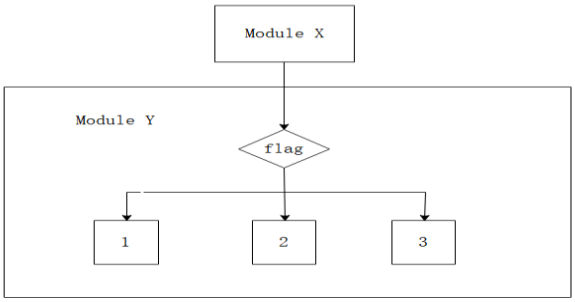
9. The quality of ( ) reflects the ease with which a user is able to operate the system.

A. usability B. robustness C. reliability D. performance

10. There are six types of coupling, they are content coupling, common coupling, stamp coupling, data coupling, control coupling and ( ).

A. local variable B. global variable C. independence D. uncoupled

11. As shown in the following figure, Module X passes a parameter "flag" to control the behavior of Module Y, then these two modules are connected by ( ) coupling.



A. stamp B. data C. content D. control

12. A ( ) test evaluates the system to determine if the functions described by the requirements specification are actually performed by the integrated system.

A. function B. volume C. stress D. performance

13. A ( ) test is run to make sure that the system still functions as it should.

A. installation B. white box C. acceptance D. beta test

14. The figure below shows the component hierarchy of a software system. Use this figure to identify the testing strategy indicated by the sequences given. The ";" is used between test sets and each test set is represented as a comma-separated list. For example, the sequence {C};{C, H} means that component C were tested first. Then, components C, and H were tested. For the following test sequence: {F};{G};{H};{I};{J};{K};{B,F,G};{C,H};{D,I};{E,J,K};{A,B,C,D,E,F,G,H,I,J,K}, ( ) testing is applied.

A. bottom-up B. top-down

C. sandwich D. big-bang

15. To control the day-to-day system functions, we on the maintenance team respond to problems from faults. This kind of maintenance is called ( ) maintenance.

A. prevent B. perfect C. adaptive D. corrective

II. T(True) or F(False) (1*10 = 10 points)

1.( ) The V model makes more explicit some of the risk and risk control that are hidden in the waterfall model

2.( ) Any work done to change the system after it is in operation is considered to be maintenance.

3.( ) White-Box test methods are usually used to test program's internal structures.

4.( ) In Bottom-Up integration test, we should write a stub component..

5.( ) When we evaluate the quality of a software, the product value is always less important than the process value and the business value.

6.( ) A requirement is an expression of desired behavior.

7.( ) "The system should be easy for new customers to use" is NOT a good requirement.

8.( ) Designing software is an intellectually challenging task and an iterative process.

9. ( ) The objective of a software testing is NOT to prove the correctness of the software.

10.( ) White box test method is often used during system testing.

III. Questions（6*5= 30 points）

1、 Describe the Waterfall model and its advantages and disadvantages.

2、 Briefly describe the functions of four core constructs of Data Flow Diagram (DFD).

3、 Briefly describe functions of the Filer and the Pipe in Pipe-Filter architecture style, respectively.

4、 Describe the steps in the testing process.

5、 Briefly describe the concept of unit test, integrating test, and system test.

IV. Problem Solving（15 * 2= 30 points）

1、Figure 1 is an activity graph. Find out the critical path(s).

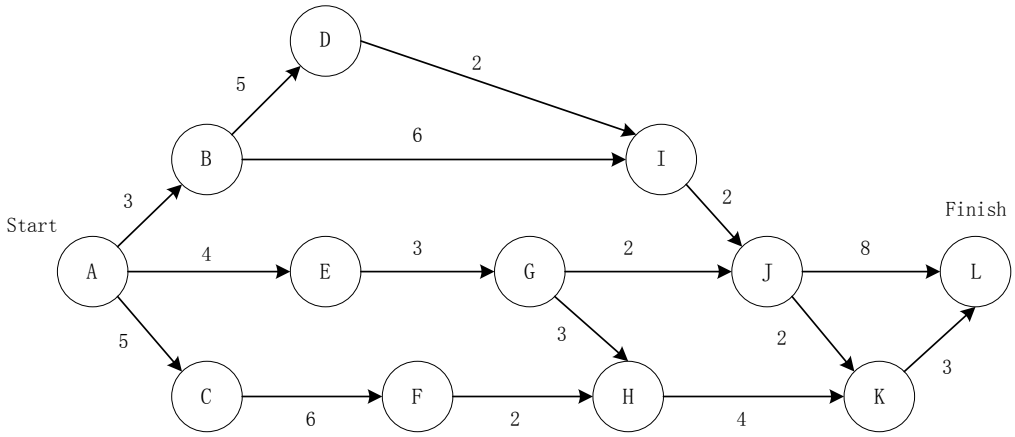


Figure 1 An Activity Graph

2、Figure 2 is a program's logic flow, give out:

(1) the test case for STAEMENT TESTING, BRANCH TESTING,

(2) the test path for PATH TESTING.

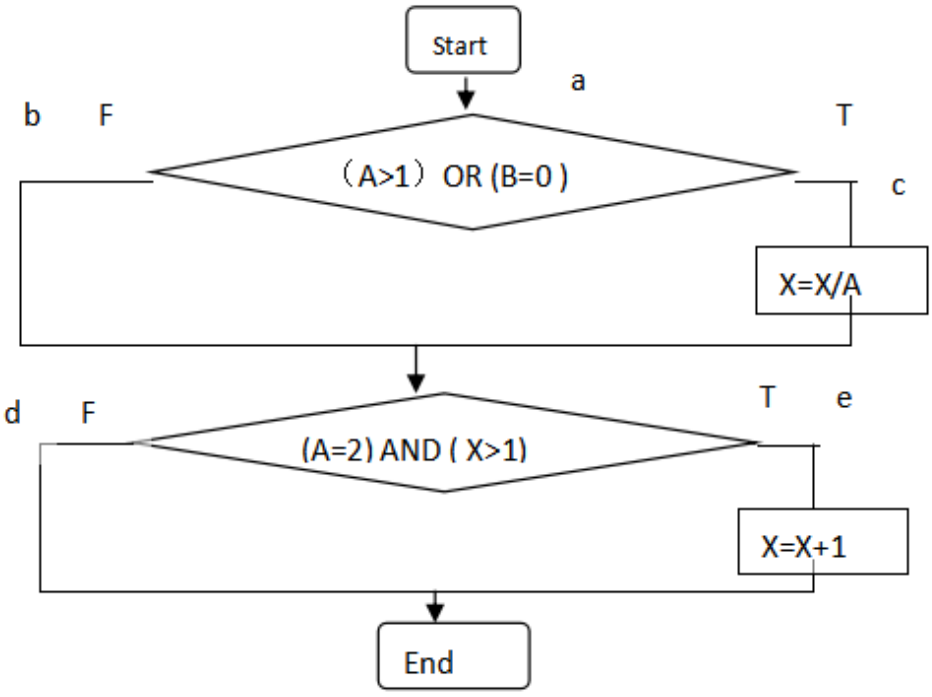


Figure 2. Program Logic Flow