

任课教师:

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班级:

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## 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: 2020 年 8 月 21 日 (答题内容请写在装订线外)

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

- Software is a set of instructions (programs), ( ), and documents.  
A. data                      B. test                      C. process                      D. architectures
- 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. reliable                      B. disciplined                      C. readable                      D. traceable
- The ( ) is the company, organization, or person who is building the software system for the customer.  
A. user                      B. coder                      C. developer                      D. designer
- An ( ) is part of the project that takes place over a period of time.  
A. milestone                      B. activity                      C. schedule                      D. timetable
- We can think of a set of ordered tasks as a process, a series of steps involving constraints ( ) and resources that produce an intended output of some kind.  
A. steps                      B. testing                      C. coding                      D. activities
- A requirement is an expression of software ( ).  
A. ability                      B. lifecycle                      C. behavior                      D. product

7. Design is the creative process of figuring out how to implement all the customer's requirements; the ( ) plan is called the design.  
A. resulting      B. final      C. document      D. product
8. In client-server architecture, the ( ) component offer services, and the client access them using a request/reply protocol.  
A. peer      B. server      C. pipe      D. filter
9. The ( ) model is a standard for software process quality.  
A. CMM      B. CPM      C. ROI      D. WBS
10. Design principles are guidelines for ( ) our system's required functionality and behavior into modules.  
A. decomposing      B. testing  
C. understanding      D. reading
11. Modularity, also called ( ), is the principle of keeping separating the various unrelated aspects of the system.  
A. separation concern      B. process concern  
C. data concern      D. performance concern
12. In pipe-and-filter style, the filter functions is to pass the input data through a sequence of data-transforming component, and the ( ) simply transmit data from one filter to the next without modifying the data.  
A. filter      B. pipe      C. peer      D. client
13. The ( ) method is used to express the software requirement.  
A. use case diagram      B. beta test  
C. black box      D. white box
14. No matter how what language is used, each program component involves at least three major aspects, ( ) algorithms and data structures.  
A. parameters      B. units      C. interfaces      D. control structures
15. Stress or overload fault occur when the data structures are filled past their specified ( ).  
A. function      B. volume      C. performance      D. capacity

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

1. ( ) When the process involves building of some product we sometime refer to the process as life cycle.
2. ( ) The critical path is a path that the slack time as every node is non-zero.
3. ( ) DFD is used in the stage of software testing.
4. ( ) Any work done to change the system after it is in operation is considered to be maintenance.
5. ( ) In acceptance test stage, an in-house test is beta test, and the alpha test is out-house test.
6. ( ) Software Requirement Specification is read by developer.
7. ( ) Head Comment Block is a descriptive material written directly within code.
8. ( ) Black-Box test methods are usually used to test program's internal structures.
9. ( ) A WHILE-DO construct do not wear out after 10000 loops, and the semicolons do not fall off the end of statement.
10. ( ) In Bottom-Up integration test, we should write driver components.

## III. Questions (6 \*5= 30 points)

- 1、 Describe the Waterfall model and its advantages and disadvantages.
- 2、 Briefly describe the functions of three core constructs of ERD (Entity Relation Diagram).
- 3、 Briefly describe functions of the Filer and the Pipe in Pipe-Filter architecture style, respectively.
- 4、 Give out the contents of Head Block Comment.
- 5、 Briefly describe the concept of corrective maintenance.

#### IV. Problem Solving (10 \* 3= 30 points)

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

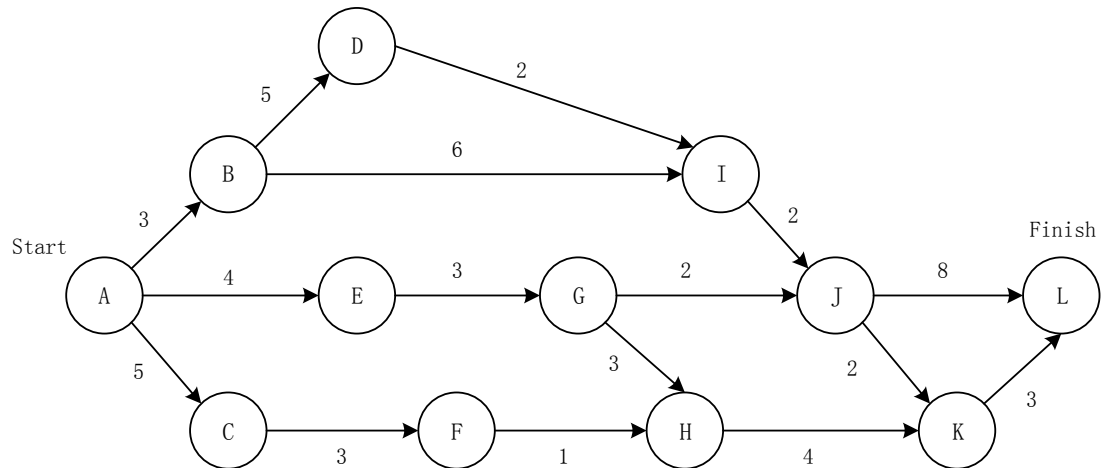


Figure 1 An Activity Graph

2、Figure 2 is the flow chart of a component. Give out the test case for the branch test.

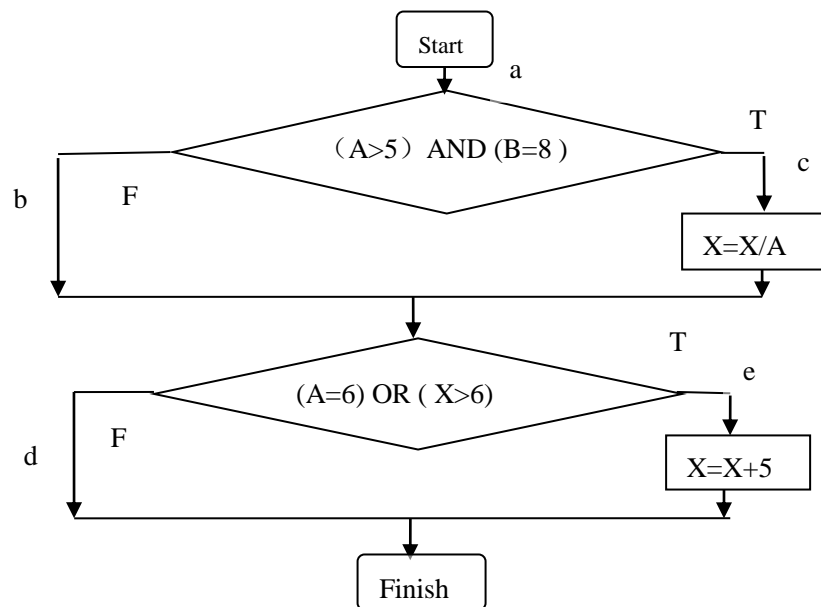


Figure 2 A Flow Chart

3、 Figure 3 is the control flow of a component. Find out all the paths of path testing.

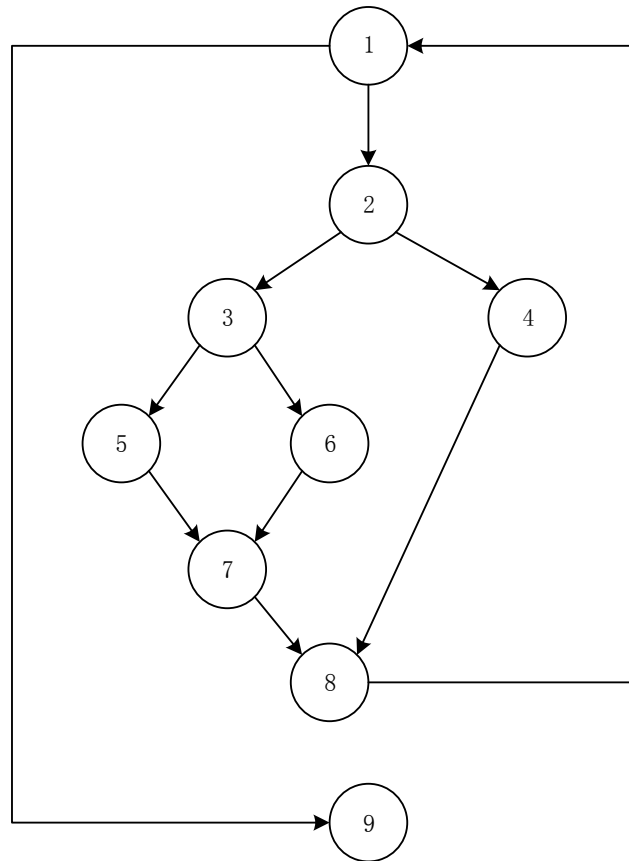


Figure 3 A Control Flow of a Component