**西安电子科技大学**

**考试时间 120 分钟**

**班级： 姓名： 学号： 任课教师：**

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**试 题**

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| --- | --- | --- | --- | --- | --- |
| **题号** | **一** | **二** | **三** | **四** | **总分** |
| **分数** |  |  |  |  |  |

**1.考试形式：闭卷☑ 开卷□**

**2.考试日期： 年 月 日(答题内容请写在装订线外)**

**I. Single Choice (2 \* 10= 20 points)**

**1. Software crisis（危机） is** [ ].

**A. The emergence of computer viruses（病毒）**

**B. The use of computers for criminal（犯罪的）activity**

**C. A series of problems in software development and maintenance**

**D. Overly attached to computer systems**

**2. Which of the following is not one part of Software? [ ]**

**A. program B. data C. document D. record**

**3. Which of the following is the software development model that frequently communicate between users and designers. [ ]**

1. **Prototyping B. Waterfall model**
2. **V model D. Spiral model**

**4. The software requirements specification should not include [ ].**

**A. main function B. detailed description of algorithm**

**C. runtime environment D. the performance of the software**   **5. In client-server architecture, [ ] offer services.**

1. **client B. server C. user D. computer**
2. **The highest cohesiveness of the module is [ ].**

**A. coincidental cohesion B. logical cohesion**

**C. communication cohesion D. functional cohesion**

**7. [ ] combines the attributes and operations of an object to form an independent object, whose internal information is hidden from the outside world, and the outside world can contact the object only through limited interfaces.**

**A. Inheritance B. Encapsulation**

**C. Polymorphism（多态） D. Message**

**8. Which of the following may not be involved in each program component no matter what language is used? [ ]**

**A. control structure B. algorithm,**

**C. data structure D. annotation（注释）**

**9. Which of the following test case designs is the weakest [ ]**

**A. statement testing B. branch testing**

**C. path testing D. all-uses testing**

**10. When receipts are printed, if the customer's name exceeds a certain length then the purchase price does not fit on the receipt and is not printed. This situation should lead to a(n) [ ] maintain.**

**A. perfective B. adaptive C. corrective D. preventive**

**II. Questions (40 points)**

1. **Please give a comparison of waterfall model and** [**agile development model**](javascript:;)**, describe the advantage and disadvantage of both models.**
2. **Briefly describe two criteria（标准） for measuring module independence?**
3. **Please describe the client/server architecture and discuss the advantages and disadvantages of this architectural style.**
4. **Please compare black box testing and white box testing.**
5. **Please list the types of maintenance and give each type an example.**

**III. Requirement Modeling (20 points)**

**The dilidili is a software where users can post new videos, follow/unfollow another user, and is able to see the 10 most recent videos in the user’s home page. And when a user is watching others’ videos, this user could hit the “Like” button, “Unlike” button and “Collect” button. The dilidili also provides the recommendation（推荐） page for the user to find the fascinating（有吸引力的） videos.**

**However, the dilidili also needs reviewers（审查者） to inspect（检查） the content of the videos posted by the users, and the reviewers should refuse video posting if the video is about violence（暴力）, bullying or something bad for society. The reviewer should also delete the videos if the videos violate（违反） copyright requirement.**

**Please complete the following questions according to the above description.**

1. **Draw the use case model of the dilidili;**

**2. Identify the main classes of reviewing the videos use cases and draw the sequence diagram of reviewing the videos use cases.**

**IV. Problem Solving (20 points)**

**1. This is an activity diagram for a software development project. The number on** **each edge represents days required to complete this activity.**

1

1

5

3

4

2

**FINISH**

**START**

4

3

2

4

4

5

**You are required to find out the critical（关键的） path and calculate the duration of the project.**

1. **Compound conditional expression**

**if ((A > 1)&&( B == 0))**

**{**

**X = X / A;**

**}**

**if ((A == 2) || ( X > 1))**

**{**

**X = X + 1;**

**}**

**To achieve 100% conditional coverage（条件覆盖）, at least how many test cases are required and write a correct set of test cases;**