**四川大学期末考试试题（闭卷）**

**（2019~2020学年第1学期）**A卷

课程号：**304064030** 课程名称：**现代软件工程** 任课教师：

适用专业年级：学号： 姓名：

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **考生承诺**  我已认真阅读并知晓《四川大学考场规则》和《四川大学本科学生考试违纪作弊处分规定（修订）》，郑重承诺：   1. 已按要求将考试禁止携带的文具用品或与考试有关的物品放置在指定地点； 2. 不带手机进入考场； 3. 考试期间遵守以上两项规定，若有违规行为，同意按照有关条款接受处理。   **考生签名：** | | | | | | | | | |
| **题号** | **一(20%)** | **二(10%)** | **三(15%)** | **四(20%)** | **五(35%)** | | **六(0%)** | **七(0%)** | **八(0%)** |
| **得分** |  |  |  |  |  | |  |  |  |
| **卷面总分** |  | | **教师签名** |  | **阅卷时间** |  | | | |

##### 注意事项：1. 请务必将本人所在学院、姓名、学号、任课教师姓名等信息准确填写在试题纸和添卷纸上；

##### 2. 请将答案全部填写在本试题纸上；

##### 3. 考试结束，请将试题纸、添卷纸和草稿纸一并交给监考老师。

◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈◈

##### 一、单项选择题（本大题共20小题，每小题1分，共20分）

##### 提示：在每小题列出的四个备选项中只有一个是符合题目要求的，请将其代码填写在下表中。错选、多选或未选均无分。

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
|  |  |  |  |  |  |  |  |  |  |
| **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** |
|  |  |  |  |  |  |  |  |  |  |

1. Software is c .   
   a) set of programs  
   b) documentation and configuration of data  
   c) set of programs, documentation & configuration of data  
   d) None of above
2. Which one of the following is a functional requirement? d  
   a) Maintainability  
   b) Portability  
   c) Robustness  
   d) None of above
3. Which of the following is the best type of module coupling? b  
   a) Control Coupling  
   b) Stamp Coupling  
   c) Data Coupling  
   d) Content Coupling
4. Which is the first step in the software development life cycle ? c  
   a) Analysis  
   b) Design  
   c) Problem Identification  
   d) Development and Documentation
5. In design phase, which is the primary area of concern ? d  
   a) Architecture  
   b) Data  
   c) Interface  
   d) All of above
6. Which model in system modeling depicts the dynamic behavior of the system ? b  
   a) Context Model  
   b) Behavioral Model  
   c) Data Model  
   d) Object Model
7. What is the first step of requirement elicitation? a  
   a) Identifying Stakeholder  
   b) Listing out Requirements  
   c) Requirements Gathering  
   d) All of above
8. What are the types of requirement in Quality Function Deployment(QFD) ? d  
   a) Known, Unknown, Functional  
   b) User, Customer ,Developer  
   c) Functional, Non-Functional  
   d) Normal, Expected, Exciting
9. Which of the following is not included in software requirement specifications? d  
   a) Performance  
   b) Functionality  
   c) Design solutions  
   d) External Interfaces
10. Which of the following does not apply to agility to a software process? c  
    a) Uses incremental product delivery strategy  
    b) Only essential work products are produced  
    c) Eliminate the use of project planning and testing  
    d) All of above
11. Which of the following activities of a Generic Process Framework provides a feedback report? d  
    a) Communication  
    b) Planning  
    c) Modeling & Construction  
    d) Deployment
12. Which of the following is a mechanism that allows several objects in a class hierarchy to have different methods with the same name? c  
    a) Aggregation  
    b) Polymorphism  
    c) Inheritance  
    d) All of above
13. Which of the following describes “is a kind of” relationship ? b  
    a) Aggregation  
    b) Inheritance  
    c) Dependency  
    d) All of above
14. Which of the following interface design principles does not allow the user to remain in control of the interaction with a computer ?   
    a) allow interaction to interruptible   
    b) allow interaction to be undoable   
    c) hide technical internals from casual users   
    d) only provide one defined method for accomplishing a task
15. White Box testing is also classified as .b  
    a) Design based testing  
    b) Structural testing  
    c) Error guessing technique  
    d) None of above
16. Exhaustive testing is .b  
    a) always possible  
    b) practically possible  
    c) impractical but possible  
    d) impractical and impossible
17. Boundary value analysis belongs to .b  
    a) White Box Testing  
    b) Black Box Testing  
    c) White Box & Black Box Testing  
    d) None of above
18. Which of the following is one of the steps in the integration testing of object-oriented software? d  
    a) cluster testing  
    b) thread-based testing  
    c) use-based testing  
    d) none of above
19. An abstract class is ? c  
    a) A class that has direct instances, but whose descendants may have direct instances  
    b) A class that has direct instances, but whose descendants may not have direct instances  
    c) A class that has no direct instances, but whose descendants may have direct instances  
    d) All of above
20. Which diagram in UML emphasizes the time-ordering of messages? b  
    a) Activity  
    b) Sequence  
    c) Collaboration  
    d) Class

**二、判断题（本大题共10小题，每小题1分，共10分）**

##### 提示：正确打🗸，错误打🗶。

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| F | T | F | F | T | F | T | T | T | F |

1. Object diagram captures the behavior of a single use case.
2. A software engineer designs the user interface by applying an iterative process.
3. Software Debugging is a set of activities that can be planned and conducted systematically.
4. Spiral Model has user involvement in all its phases.
5. In XP, the work on a task will be integrated into the whole system as soon as it is completed.
6. A Use-case actor is always a person having a role that different people may play.
7. Functional requirements capture the intended behavior of the system.
8. Requirements elicitation is an iterative process.
9. Activity diagrams are used to model the processing of data.
10. The reason for reducing the user's memory load is make his or her interaction with the computer quicker to complete.

##### 三、名词解释（本大题共5小题，每小题3分，共15分）

##### 提示：解释每小题所给名词的含义，若解释正确则给分，若解释错误则无分，若解释不准确或不全面，则酌情扣分。

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **1** | **2** | **3** | **4** | **5** |
|  |  |  |  |  |

1. Regression Testing

2. Prototyping Model

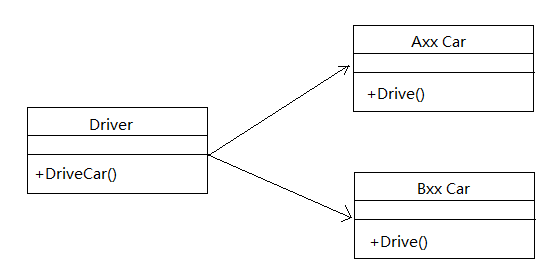
3. QFD (Quality Function Deployment)

4. Refactoring

5. Use Case

##### 四、问答题（本大题共2小题，每小题10分，共20分）。

##### 1. What does OCP (Open-Closed Principle) stand for?(4分) Please modify the following design model to avoid violation of OCP.（6分）



##### 2. What are the contents of user interface analysis ? (4分) Please describe them in detail. (6分)

**五．分析设计题（本大题共5小题，共35分）**

Suppose you are a member of a team and are asked to develop a hotel reservation system according to the following requirements:

**Customers can check available rooms ( rooms that are not booked ). Customers can book one or more rooms with their names, phone numbers, check-in time and check-out time. Customers can check the room they reserved by their names. They may withdraw their reservation. System administrators can set the type and number of rooms for customers to book. Reserved rooms cannot be booked by other customers for same time period.**

Please answer the following questions:

1. Identify your stakeholders.（5分）
2. What elicitation techniques will you use to elicit the requirements of the system?（5分）
3. Draw a Use Case Diagram for the system.（5分）
4. Write a Use Case Specification for each use case.（10分）
5. Draw a Sequence Diagram showing object interactions when customers withdraw their reservation.（10分）

附录：词汇表

administrator 管理员

aggregation 聚合

agility 敏捷

architecture 体系结构

behavior 行为

cohesion 内聚

collaboration 协作

concern 关注

conflict 冲突

consistent 一致的

coupling 耦合

depicts 刻画/描述

deployment 部署

descendants 继承者

elicitation 导出

eliminate 消除

emphasizes 强调

essential 本质的

exhaustive 耗尽

hierarchy 层次

identify 识别

impractical 不切实际

inheritance 继承

instances 实例

integrate 集成

interface 接口

interruptible 可中断

involvement 参与

iterative 迭代

maintainability 可维护性

off-the-shelf 现成的

polymorphism 多态

portability 可移植性

prototype 原型

regression 回归

represent 代表

requirement 需求

reservation 预订

retain 保持

robustness 稳健性

sequence 顺序

specification 规格说明

stakeholder 利益相关者

strategy 策略

systematically 系统地

spiral 螺旋

undoable 可撤销

verifiable 可验证

withdraw 撤销