一、单选题(一共10 题，每题2分，共20分)

提示：在每小题列出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。

1. Which of the following view belongs to Component-and-Connector view? (　　　　)

　(A)Layer

　(B) Shared data

　(C) Implementation

　(D) Use

2. The aspect that testability concerns include (　　　　)

　(A) How to modify system

　(B) How to check system faults

　(C) Show the easiness of software bugs

　(D) Whether easy to use

3. Which quality attribute does tactic that delete from service support? (　　　　)

　(A) Availability

　(B) Modifiability

　(C) Testability

　(D)Accuracy

4. Which of the following architectural patterns belongs to allocation type architectural patterns ?

(　　)

　(A)　Layered pattern

　(B)　MVC pattern

　(C)　Pipe-and-Filter pattern

　(D)　publish-subscribe

　(E)　Map-Reduce pattern

5. Which tactic is Broker pattern mainly adopt? （　　　）

　(A)　Use an Intermediary

　(B)　Defer binding time

　(C)　Limit　Access

　(D)　Refactor

6. Which one is not the tactic supporting Testability? （　　　）

　(A)　Specialized Interfaces

　(B)　Record/Playback

　(C)　Sandbox

　(D)　Abstract common services

7. Which quality attribute does "user friendly" belong to? （　　　　）

　(A)　Availability

　(B)　Usability

(C) Modifiability   （D）Security

8. What does CBAM mean？（   ）

(A) Cost Benefit Architectural Method   (B) Customer Benefit Architectural Method

(C) Cost Benefit Analysis Method   (D) Customer Benefit Analysis Method

9. Which one is not the context of architecture？(   )

(A) Project   (B) Technical

(C) Business   (D) Hobby

(E) Professional

10. If we want to develop a house guard system against theft, the software can adapt to different kinds of sensors in order to form the product-line, what kind of quality attribute does it satisfy?

（   ）

(A) Availability   （B）Usability

(C) Modifiability   （D）Security

二、多选题 (一共 5 题，每题 2 分，共 10 分)

提示：在每小题列出备选项中有多个是符合题目要求的，请将其代码填写在括号中。错选、多选或未选均无分。

1．Performance tactics include （   ）

(A) Reduce Overhead   (B) Manage Sample Rate

(C) Use an Intermediary   (D) Increase Resources

(E) Limit Access

2．CIA characteristics of Security mean （   ）

(A) Authorization   (B) Confidentiality

(C) Authentication   (D) Integrity

(E) Certification

3．What questions does the module structure answer（　　　　）

（A）What is the primary function responsibility of each module

（B）What are the major executing components

（C）What processor does each software element execute on

（D）What other elements allowed to use

（E）What software does it use and depend on

4．Why an architecture is important from a technical perspective（　　　　）

（A）It supports or inhibits the quality attributes

（B）It reduces design and system complexity by restricting design alternatives

（C）It can help project manager accurately estimate the cost and schedule

（D）It's documents enhances communication among stakeholders

（E）It can be the foundation for training a new team member

5．The outputs of ATAM include (　　　　)

（A）A concise presentation of the architecture.

（B）Articulation of the business goals.

（C）A set of risks and nonrisks.

（D）A set of risk themes.

（E）A set of identified sensitivity and tradeoff points.

三、名词解释（一共 5 道题，每题 4 分，共 20 分）

1．Software architecture

2．Architectural Pattern

3．Availability

4．Maintain Audit Trail

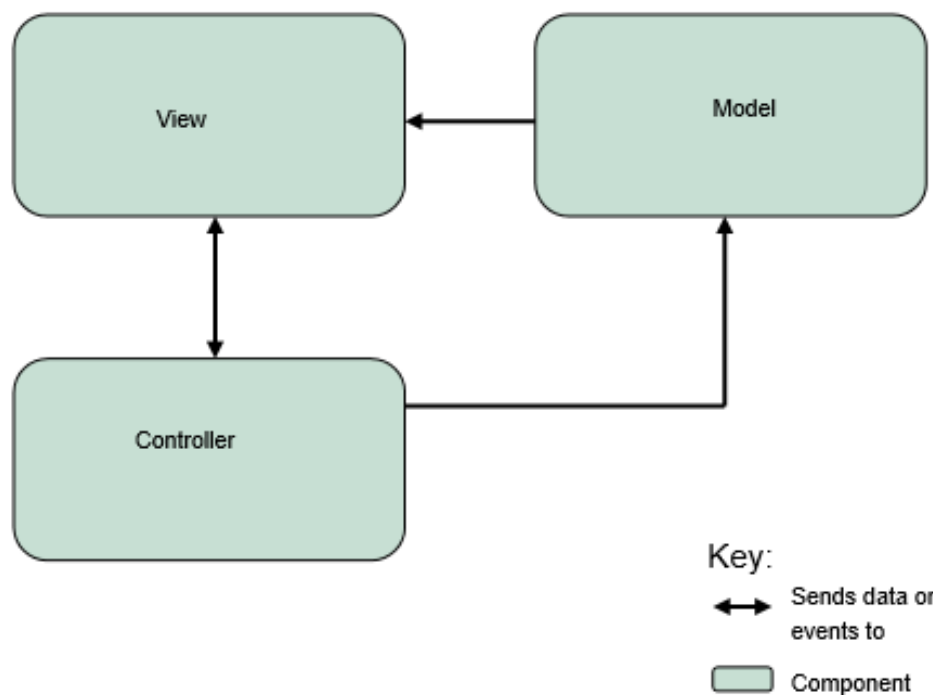5. Software Product Line

四、问答题（一共 3 题，每题 10 分，共 30 分）

1. Talk about your understanding on the relation between software design and software quality.

2. How various tactics to support quality attributes of software do impact each other? Give two

   examples, one explains the positive impact, another explains negative impact.

3. Drawing a concrete quality attribute scenario(six parts) according to the following description.

   An improved COTS discrete event generator product is available for the system, and the system

   permits engineers to remove the old discrete event generator and incorporate the new one in

   less than two person-weeks

五、分析题（一道题，两个问题，共 20 分)

1．Analyze the following structure, and answer questions.

   1) What's name of the following architectural pattern? Explain the structure by analyzing it's

      elements, relation among elements and affected quality attributes？(8 points)

   2) List modifiability tactics used in the above structure and give a short explain. (12 points)