1. Which of these are desirable characteristics of a software design? Choose the three correct answers.

1 / 1 point

☐ tight coupling

☑ maintainability

　　✓ Correct
　　Correct! Code should be maintainable, which means the code can be modified or extended easily.

☑ reusability

　　✓ Correct
　　Correct! Software designers hate to repeat themselves. If code is reusable, then there is less overall coding to do.

☑ flexible

　　✓ Correct
　　Correct! We strive to make code flexible, which is to say that it can be adapted for new requirements

2.

1 / 1 point

Identify two outcomes of the design process. Choose the two correct answers.

☐ code implementation

☐ design plan

☑ technical design

　　✓ Correct
　　Correct! Technical design gets even closer to the actual implementation.

☑ conceptual design

　　✓ Correct
　　Correct! Conceptual design covers the early part of design, where the problem is translated into a high-level solution.

3. You are writing out a CRC card for a bank machine component. Under which section should you put "Track Cash Remaining."

1 / 1 point

○ Responsibility

○ Collaborator
Class

○ Risk

✓ Correct
Correct! One of the responsibilities of this bank machine is to track how much money it has left.

4.

1 / 1 point

Which two of these are likely to be a part of conceptual design?

☑ CRC Cards

✓ Correct
Correct! CRC cards are used to get a sense of the classes, components, etc. that your design may have.

☑ Mockups

✓ Correct
Correct! Mockups help the designers decide on relationships between components.

☐ Methods

☐ Abstract data types

5. When during the design process are you likely to produce CRC cards the most?

1 / 1 point

○ after releasing the software

○ technical design

◉ conceptual design

○ customer meetings

⊘ Correct
Correct! CRC cards are most often created and used in conceptual design, especially when the team is almost ready to transition into technical design.

6. Which of the following are examples of non-functional requirements? Choose the three correct answers.

1 / 1 point

☑ security

⊘ Correct
Correct. The security of a system and how it protects data may be as important as its function. Remember that the function is the system's reason for being.

☑ availability

⊘ Correct
Correct! That the functions of the system are available for use is as important as the functions themselves. Remember that the function is the system's reason for being.

☐ purpose

☑ performance

⊘ Correct
Correct. The speed and responsiveness of a system is often as important as what its actual function is! Remember that the function is the system's reason for being.

7.

1 / 1 point

Select the three categories of objects generally present in object-oriented software.

☑ entity

⊘ Correct
Correct! Entity objects are the backbone of the system, and often correspond to real life objects.

☐

tool
☑ control

⊘ Correct
Correct! Control objects manage the interactions of other objects.

☑ boundary

⊘ Correct
Correct! Boundary objects typically interface with another system.

8.   1 / 1 point

An object which is responsible for showing data to the user could be considered which category of object?

○ entity

○ representation

○

control
◉ boundary

⊘ Correct
Correct! This object interacts with another "system" (the user), so it is considered a boundary object.

9. You are planning a Professor class as part of your software design. Which of these will   1 / 1 point
you consider a collaborator ? Choose the two correct answers.

☐

Track Employment Status
☑

Course

⊘ Correct
Correct! Typically the Professor will have to teach a course, so a course object is likely to be a collaborator.

☑ Student

⊘ Correct
Correct! The student and professor classes will likely be collaborators.

☐ Teach Course

10. What is a requirement of this form called? "As a ____, I want to ____, so that ____".   1 / 1 point

◉ user story

○ entity abstraction

○ conceptual mockup
○ key concept

⊘ Correct
Correct! User stories help you to identify the functional requirements of the system.

11. You are a programmer creating software for a bank machine system. Which section of a CRC card for the bank machine component will the "User" go into?   1 / 1 point

⦿ Collaborator
○ Class
○ Object
○ Responsibility

⊘ Correct
Correct! Users collaborate with the bank machine component.

12. During conceptual design, you will talk about... (Choose the three correct answers):   1 / 1 point

☑ requirements

⊘ Correct
Correct! Customer requirements of what the system should be and do are the start for all discussions of the design.

☑ tradeoffs

⊘ Correct
Correct. Every design decision involves trade-offs, even in the early stages of design.

☐ technical diagrams
☑ mockups

⊘ Correct
Correct. Mockups are important for customer communication and to start to think about the architecture.