QUIZ #4 - Solutions
(5pts each)

Name ______________________

1. Which of the following is not one of the elements of a design pattern?
   a. name
   b. application domain
   c. problem
   d. solution

   Answer: b (Section 12.1)

2. The concepts and techniques discussed for ___________ can be used in conjunction with a pattern-based approach.
   a. Architectural design
   b. Component-level design
   c. User interface design
   d. All of the above

   Answer: d (Section 12.2.1)

3. Before choosing an architectural design pattern it must be assessed for its appropriateness to the application and overall architectural style.
   a. True
   b. False

   Answer: a (Section 12.3)

4. Which of the following is not one of the attributes of software quality?
   a. Adds value for developers and users
   b. Effective software process creates infrastructure
   c. Removes need to consider performance issues
   d. Useful products satisfy stakeholder requirements

   Answer: c (Section 14.2)
5. Good enough software delivers high quality software functions along with specialized functions that contain known bugs.
   a. True
   b. False

   Answer: b (Section 14.3.1)

6. Which of the following is likely to be the most expensive cost of quality?
   a. Appraisal costs
   b. External failure costs
   c. Internal failure costs
   d. Prevention costs

   Answer: b (Section 14.3.2)

7. Poor quality leads to software risks that can become serious?
   a. True
   b. False

   Answer: a (Section 14.3.3)

8. When a system fails to deliver required functions it is because the customer changes requirements?
   a. True
   b. False

   Answer: b (Section 14.3.4)

9. Developers must start focusing on quality during the design phase in order to build secure systems.
   a. True
   b. False

   Answer: a (Section 14.3.5)
10. Quality control encompasses a set of software engineering actions that help to ensure that each work product meets its quality goals.
   a. True  
   b. False  
   Answer: a (Section 14.4.3)

11. In general the earlier a software defect is discovered and corrected the less costly to the overall project budget.
   a. True  
   b. False  
   Answer: a (Section 15.1)

12. Which of the following are objectives for formal technical reviews?
   a. allow senior staff members to correct errors  
   b. assess programmer productivity  
   c. determining who introduced an error into a program  
   d. uncover errors in software work products  
   Answer: d (Section 15.6)

13. A review summary report answers which three questions?
   a. terminate project, replace producer, request a time extension  
   b. what defects were found, what caused defects, who was responsible  
   c. what was reviewed, who reviewed it, what were the findings  
   d. none of the above  
   Answer: c (Section 15.6.2)

14. In any type of technical review, the focus of the review is on the product and not the producer.
   a. True  
   b. False  
   Answer: a (Section 15.6.3)
15. People who perform software quality assurance must look at the software from the customer's perspective.
   a. True
   b. False

   Answer: a (Section 16.1)

16. Which of these activities is not one of the activities recommended to be performed by an independent SQA group?
   a. prepare SQA plan for the project
   b. review software engineering activities to verify process compliance
   c. report any evidence of noncompliance to senior management
   d. serve as the sole test team for any software produced

   Answer: d (Section 16.3.1)

17. Statistical quality assurance involves
   a. using sampling in place of exhaustive testing of software
   b. surveying customers to find out their opinions about product quality
   c. tracing each defect to its underlying cause, isolating the "vital few" causes, and moving to correct them
   d. tracing each defect to its underlying causes and using the Pareto principle to correct each problem found

   Answer: c (Section 16.5)

18. Six Sigma methodology defines three core steps.
   a. analyze, improve, control
   b. analyze, design, verify
   c. define, measure, analyze
   d. define, measure, control

   Answer: c (Section 16.5.2)
19. Software reliability problems can almost always be traced to

   a. errors in communication  
   b. errors in design  
   c. errors in implementation  
   d. all of the above

   Answer: d (Section 16.6.1)

20. Software safety is a quality assurance activity that focuses on hazards that

   a. affect the reliability of a software component  
   b. may cause an entire system to fail  
   c. may result from user input errors  
   d. prevent profitable marketing of the final product

   Answer: b (Section 16.6.2)