

The following is a series of multiple-choice questions in the style typically found in SEG2105 exams. This is provided to help students practice answering multiple-choice questions, and to review for the exam.

Questions are found in a file called SEG2105SampleExamMCQuestions.pdf and answers are in a file SEG2105SampleExamMCAnswers.pdf

1. Which of the following is **false** regarding cohesion?

- a) You can only organize a group of modules using one of the types of cohesion
- b) Functional cohesion is generally stronger than communicational cohesion
- c) Communicational cohesion relates to organizing based on type of data
- d) Higher cohesion is better
- e) Cohesion can be also called 'organizedness'

2. Reliability can be measured as

- a) The number of defects
- b) The frequency of failures
- c) The frequency of errors
- d) The percentage of time that an application is available
- e) 100 minus percent of defects found in testing

3. Which of the following architectural patterns should be employed in virtually every software system?

- a) Client-Server
- b) Layered Architecture
- c) Service-Oriented Architecture
- d) Pipe-And-Filter
- e) Transaction Processing

4. Which of the following would not be a key task of a software project manager?

- a) Co-ordinating with the managers of other teams
- b) Giving advice about the software architecture
- c) Designing the database
- d) Ensuring the developers have the right tools and technology
- e) Helping to resolve conflicts among developers

5. Using equivalence classes to design tests helps improve what?
- a) The efficiency of the testing process
 - b) The coverage of nodes in the flow graph
 - c) The reusability of the system
 - d) The ability to find defects relating to timing, such as critical races
 - e) The ability to find defects relating to stress, such as crashes in a heavily loaded system

6. Which of the following is a multi-level certification for an organization's software process, where you receive higher levels of certification, as the organization gets better?
- a) ISO 9000 series
 - b) IS) 9000-2
 - c) PSP
 - d) TSP
 - e) CMMi

7. What is the keyword used in a sequence diagram to indicate iteration
- a) opt
 - b) loop
 - c) repeat
 - d) while
 - e) fragment

8. Which kind of UML diagram describes how code is arranged into directories?
- a) Deployment
 - b) Component
 - c) Communication
 - d) State
 - e) Package

9. According to the professor, the waterfall model of software development
- a) Became widely used largely due to a journalist's misinterpretation of what an expert said
 - b) Should never be used in software projects today
 - c) Was the basis for military software development standards in the US for many years
 - d) All of the above
 - e) Two of the above

10. Which of the following is **false** regarding a use case?

- a) It should describe in detail an aspect of the user interface of the system
- b) It should have a series of steps, some done by the system and some by an actor
- c) It should have a name
- d) It appears as an ellipse in a use case diagram
- e) It can help in planning development

11. In livelock, which of the following is true?

- a) The system will be completely frozen and will consume no CPU time
- b) The system will be completely frozen and will always use as much CPU time as it can obtain
- c) The system will be unable to reach certain states
- d) The system will crash after a short period of time
- e) More than one of the above is always true

12. The Delphi technique is:

- a) A method for calculating costs algorithmically
- b) An approach to object-oriented modeling
- c) A strategy for ensuring that the right number of people work on a project team
- d) An approach for combining cost estimates from different estimators
- e) None of the above

13. When should code inspection be performed if you are using *test-driven development*?

- a) As soon as the code is written, but before the automated tests are first run
- b) As soon as possible after most of the automated tests have passed
- c) After most automated and manual tests have passed
- d) After all testing is complete
- e) On any code after a test fails and the defect is in that code

14. Control coupling exists in OCSF. Which of the following changes would reduce it?

- a) Changing the client and server so they use the Observer pattern
- b) Changing from a client-server to a peer-to-peer architecture
- c) Passing commands to the server as method names that are executed directly on the server, rather than interpreting a command string in `handleMessageFromClient`
- d) Inserting a broker between the client and the server to send different commands to different servers
- e) None of the above

15. In a state diagram, the behavior while in a state is defined by

- a) The set of incoming transitions
- b) The set of self transitions
- c) The set of outgoing transitions
- d) The set of events that the state does not respond to
- e) Three of the above

16. Which form of coupling can be effectively reduced by the delegation pattern?

- a) External coupling
- b) Data coupling
- c) Stamp coupling
- d) Routine call coupling
- e) Functional coupling

17. Affordance is:

- a) The cost of software for the consumer
- b) The value of a software development contract
- c) The set of operations a user can do
- d) A situation in which the UI restricts what the user can do
- e) None of the above