## Multiple Choice

1. During the implementation phase of the SDLC, what happens?
2. Analysts will write programs
3. Programmers will develop user interfaces
4. Project managers will convert logical ERDs into physical DFDs
5. Champions will do the data management design
6. None of these

Ans: e

Reference: Introduction

Difficulty: medium

1. During the implementation phase of the SDLC, what happens?
2. System is developed
3. System is tested
4. System is documented
5. All of these

Ans: d

Reference: Introduction

Difficulty: medium

1. The largest single component of any systems development project in terms of both time and cost could be what?
2. Conducting JAD sessions
3. Gamma testing
4. Developing the user interface
5. Writing programs
6. Having meetings

Ans: d

Reference: Introduction

Difficulty: medium

1. Which is generally the best understood component of the SDLC and may offer the fewest problems?
2. Developing the database design
3. Developing the system’s software
4. Writing onscreen documentation
5. Changing the data into third normal form
6. Doing interviews

Ans: b

Reference: Introduction

Difficulty: medium

1. According to the textbook, which of the following is not a cause of project failure?
2. Flaws in analysis
3. Flaws in aesthetics
4. Flaws in user interface design
5. Flaws in database design
6. Flaws in developing correct system specifications

Ans: b

Reference: Managing the Programming Process

Difficulty: medium

1. Bridget is managing a systems development project. The programmers have gotten farther and farther behind in the schedule. One thing she should NOT do is what?
2. Use a code generator that comes with high-end CASE tools
3. Add more programmers to the development team
4. Keep communication channels open
5. Hold weekly meetings
6. Keep close tabs on the process so it doesn’t slip farther

Ans: b

Reference: Managing the Programming Process

Difficulty: medium

1. The process of coordinating a program as it changes through construction (like keeping files and programs in different places) is called \_\_\_\_\_.
2. Change control
3. Separation of duties
4. Judicial control
5. Scope creep
6. None of these

Ans: a

Reference: Coordinating Activities

Difficulty: medium

1. If a program module is taking longer to develop than expected, the recommended action is what?
2. Put more programmers on the staff
3. Force the developers to work weekends to catch up
4. Move the expected completion date back
5. Incorporate scope creep into the requirements
6. Change the development environment into an object-oriented language

Ans: c

Reference: Managing the Schedule

Difficulty: medium

1. The authors describe “writing programs” as which of the following?
2. A fun, creative activity
3. A tedious process
4. A very mathematical and logical process
5. An excellent learning process for end-users
6. Answers B and C

Ans: a

Reference: Testing

Difficulty: medium

1. The term ‘bug’ in software came from where?
2. An English translation of the word for defect in German
3. The story of a moth getting caught inside an early computer
4. The acronym BUG – for binary unknown glitch
5. No one knows the reason
6. None of these

Ans: b

Reference: Testing (and footnote about Admiral Grace Hopper)

Difficulty: medium

1. A program is not considered finished until when?
2. It has been used successfully for six months
3. The cost of developing the program ‘breaks-even’ with the benefits of the program
4. The ROI is positive
5. It has passed its testing
6. It ‘dies’ and is replaced by a newer version

Ans: d

Reference: Testing

Difficulty: medium

1. Test plans…
2. Are generally developed by the programmers informally
3. Generally only cover main processing and not the various sub-processes
4. Often have 20 to 30 pages
5. Can be massive with over 200 pages of very explicit plans and directions
6. Can generally be written in three pages or less

Ans: c

Reference: Test Planning

1. On test plans…
2. Each individual test has a specific objective and describes a set of very specific test cases to examine
3. Each user must contribute to the specific goals of the test plan
4. Each member of the project team, plus all developers (programmers) must identify one specific application that they will test
5. Only the master project manager tests, and only after all coding has been completed in what is called the “Omega” test
6. The use of multiple choice options has been shown to effectively assess to a 99.9% accuracy rate

Ans: a

Reference: Test Planning

Difficulty: medium

1. The test objective is taken directly from where?
2. The results of the JAD session
3. The program specification
4. The use-cases
5. The project sponsor
6. The questions raised in a focus-group application

Ans: b

Reference: Test Planning

Difficulty: medium

1. The authors suggest which of the following?
2. “All testing must include live production data”
3. “All testing must include both alphabetic and numeric data”
4. “It is impossible to test every possible combination of input and situation”
5. “Testing rarely pays for itself”
6. “Testing should only be used for complex programs and situations”

Ans: c

Reference: Test Planning

Difficulty: medium

1. Not all program modules are likely to be finished at the same time, so the programmer usually writes \_\_\_\_\_\_\_for the unfinished modules to enable the modules around them to be tested.
2. By-passes
3. Temporary Modules
4. Placeholder Modules
5. Stubs
6. End Modules

Ans: d

Reference: Test Planning

Difficulty: medium

1. Which of the following is NOT a general test stage?
2. Unit tests
3. Module tests
4. Integration tests
5. System tests
6. Acceptance tests

Ans: b

Reference: Test Planning

Difficulty: medium

1. Generally, most errors (defects) are found in which two testing periods?
2. Unit testing and integration testing
3. Integration testing and system testing
4. System testing and acceptance testing
5. Unit testing and acceptance testing
6. Alpha testing and beta testing

Ans: b

Reference: Test Planning

Difficulty: medium

1. Unit tests focus on which of the following?
2. All modules (all units)
3. Users and their acceptance of how a specific unit works
4. A program or a program module
5. Interact screen forms
6. How the overall system functions

Ans: c

Reference: Unit Tests

Difficulty: medium

1. Black-box testing is what?
2. Is reserved for special circumstances in which the tester wants to review the actual program code
3. Is reserved for NASA space missions
4. Is reserved for very complex systems
5. Is only used by highly skilled testers
6. None of these

Ans: e

Reference: Unit Tests

Difficulty: medium

1. Which of the following is NOT an approach to integration testing?
2. Use-case testing
3. User interface testing
4. Use scenario testing
5. Data flow testing
6. System interface testing

Ans: a

Reference: Integration Tests

Difficulty: medium

1. System tests are usually conducted by who?
2. Programmers (developers)
3. Project managers
4. Users
5. Systems analysts
6. Project sponsors or project champions

Ans: d

Reference: System Tests

Difficulty: medium

1. As compared to integration testing, system testing:
2. Is much broader in scope
3. Uses production data (rather than test data)
4. Is done by hand-picked end-users (rather than systems analysts)
5. Involves both black-box and red-box testing
6. Makes more extensive use of stubs

Ans: a

Reference: System Tests

Difficulty: medium

1. Integration testing focuses on \_\_\_\_\_\_\_\_\_\_\_; while system tests focus on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. Modules working together; meeting business requirements
3. Black-box tests; white-box tests
4. End-users acceptance; project sponsor acceptance
5. DFDs; ERDs
6. Beta tests; alpha tests

Ans: a

Reference: System Tests

Difficulty: medium

1. Which of the following is probably something that system testing WILL NOT verify?
2. Systems documentation
3. Ability to perform under heavy load
4. Conformance to Sarbanes-Oxley requirements
5. How well the system meets business requirements
6. The systems usability

Ans: c

Reference: System Tests

Difficulty: medium

1. Acceptance tests are done primarily by who?
2. Programmers
3. Users
4. Developers
5. Systems Analysts
6. Project Managers

Ans: b

Reference: Acceptance Tests

1. The goal of acceptance testing is what?
2. That modules and units work together with each other
3. That the databases are properly organized for both efficiency in storage and access
4. To confirm that the system is complete and meets the business needs
5. That both black-box and white-box tests have been approved by upper management
6. To verify that the use-cases, ERDs and DFD’s have been properly converted

Ans: c

Reference: Acceptance Testing

Difficulty: medium

1. Acceptance testing is generally done in which of the following two stages?
2. Alpha tests and beta tests
3. Black-box tests and white-box tests
4. Integration tests and systems tests
5. Unit tests and module tests
6. Inductive tests and deductive tests

Ans: a

Reference: Acceptance Testing

Difficulty: medium

1. The two fundamental documentation types are which of the following?
2. System documentation and integration documentation
3. Screen documentation and batch documentation
4. User documentation and online documentation
5. System documentation and user documentation
6. Acceptance documentation and integration documentation

Ans: d

Reference: Developing Documentation

Difficulty: medium

1. The authors suggest a good time to start the documentation process is when?
2. Once the interface design and program specifications are complete
3. Once the system test is complete
4. Once the alpha acceptance test is complete
5. Once the beta acceptance test is complete
6. Once the logical ERDs and DFDs have been translated into physical ERDs and DFDs

Ans: a

Reference: Developing Documentation

Difficulty: medium

1. This type of documentation is designed to be used when the user needs to learn how to perform a specific function (such as updating a field or adding a new record).
2. Reference documentation
3. Procedures manuals
4. Tutorials
5. Systems documentation
6. Final documentation

Ans: a

Reference: Types of Documentation

Difficulty: medium

1. Which of the following is NOT a general type of navigation control for help topics?
2. Table of contents
3. Index
4. Inverted pointer
5. Text search
6. Intelligence agents

Ans: c

Reference: Designing Documentation Structure

Difficulty: medium

1. This particular type of documentation control lists the information in a logical form, as though the users were to read the reference documentation from start to finish.
2. Index
3. Text search
4. Content sensitive help
5. Intelligence agents
6. Table of contents

Ans: e

Reference: Designing Documentation Structure

Difficulty: medium

1. When creating the index, which of these will probably NOT be a place to find terms to include in the index?
2. The set of commands in the user interface (like open file, modify, etc.)
3. The set of user interface design standards (like aesthetics, layout, consistency, etc.)
4. The set of major concepts in the system (like in the Tune Source example of artist, tune, music genre, etc.)
5. The set of business tasks (like ordering replacement units or making an appointment)
6. The set of synonyms for other sets (like ‘quit’, ‘stop’, ‘end’ for ‘exit’ or ‘erase’ for ‘delete’)

Ans: b

Reference: Identifying Navigation Terms

Difficulty: medium

## TRUE/FALSE

1. During the implementation phase of the Systems Development Life Cycle (SDLC), systems analysts spend their time writing programs and coding applications.

Ans: False

Reference: Introduction

Difficulty: medium

1. The authors suggest a book on managing programming projects called “The Mythical Mountain” written by Roberta Roth.

Ans: False

Reference: Managing the Programming Process

Difficulty: medium

1. If the system being analyzed, designed and developed requires programming (as compared to a package or outsourcing), developing the software may be the single largest component of any systems development activity in terms of both time and money.

Ans: True

Reference: Introduction

Difficulty: medium

1. Generally when assigning programming development tasks, the project manager will analyze skill levels and capabilities of programming staff and also analyze the modules for complexity and try to match complex modules to more experienced and skilled programming developers.

Ans: True

Reference: Managing the Programming Process

Difficulty: medium

1. If a mismatch exists between available programming skills and the programming staff, the best method to solve this is to put more programmers on the project so that it comes in on time, and within budget.

Ans: False

Reference: Managing the Programming Process

Difficulty: medium

1. An ironic fact of systems development is that the more programmers that are involved in the development of the system, the longer the project will take.

Ans: True

Reference: Managing the Programming Process

Difficulty: medium

1. Change control in application development is a formal process for changing written documentation into online documentation, and frequently uses specialized ‘cyber documentation agents’ to create menus, screens and online user documentation.

Ans: False

Reference: Coordinating Activities

Difficulty: hard

1. If a program module is taking longer to develop than expected, generally the most appropriate approach is to move the expected completion date back by the same amount of time that the module will be late.

Ans: True

Reference: Managing the Schedule

Difficulty: easy

1. Adding new requirements to a project after the system design has been finalized is called “requirements creep”.

Ans: False

Reference: Managing the Schedule

Difficulty: medium

1. Charles has been assigned to developing modules CRM\_input\_web; CRM\_input\_validation; CRM\_database\_retrieval; and CRM\_database\_update. He is two weeks behind and is only on the second module. This is definitely a serious issue and Charles should be reprimanded or even fired for incompetence.

Ans: False

Reference: Managing the Schedule (comment – we don’t know enough. Maybe Charles had a medical emergency and has been in the hospital for those two weeks; or had a scheduled vacation; or had to do emergency support and maintenance on modules that have failed in production.)

Difficulty: hard

1. When creating a project plan, project analysts normally figure out the ‘critical path’.

Ans: True

Reference: Managing the Schedule

Difficulty: medium

1. The critical path is the fine line between the alpha test and the beta test as you change from test data to real production data.

Ans: False

Reference: Managing the Schedule

Difficulty: medium

1. By the time the design phase is started, all time estimates should be within 5% of the actual completion time.

Ans: False

Reference: Managing the Schedule

Difficulty: medium

1. Testing is considered as a prized activity on a development project, and developers (programmers), analysts, and project managers frequently request being assigned to develop documentation.

Ans: False

Reference: Testing

Difficulty: medium

1. Testing and programming are tightly coupled.

Ans: True

Reference: Testing

Difficulty: medium

1. Alpha and beta tests are part of systems testing.

Ans: False

Reference: Acceptance Tests

Difficulty: medium

1. The main difference between integration testing and system testing is that integration testing looks to see if modules work together without errors; but system testing is more focused on meeting business requirements.

Ans: True

Reference: System Tests

Difficulty: medium

1. Analysts should not worry about the users’ perceptions of the new system during acceptance testing.

Ans: False

Reference: Acceptance Tests

Difficulty: medium

1. The two basic types of documentation are: portfolio documentation and assessment documentation.

Ans: False

Reference: Developing Documentation

Difficulty: medium

1. System documentation takes all the processes, notes, diagrams from systems analysis and systems design and puts it in a project binder for future reference.

Ans: True

Reference: Developing Documentation

Difficulty: medium

1. User documentation includes such things as logical ERDs, logical DFDs, use-cases, physical ERDs, physical DFDs and screen mockups.

Ans: False

Reference: Developing Documentation

Difficulty: medium

2. User documentation must be developed at the end of the project, after all programming, testing and approvals have occurred. To do it any earlier may risk not including changes in the system.

Ans: False

Reference: Developing Documentation

Difficulty: hard

1. When developing navigational controls for online documentation, you should consider tables of contents, indices, text searches, intelligent agents (like context sensitive help), and Web-like links between systems.

Ans: True

Reference: Designing Documentation Structure

Difficulty: medium

# ESSAYS

1. Michael is working on online documentation. He has about ten menu items; twenty items in the index; and wants to have about ten tutorial pages. How much time should he allocate to developing the documentation for these items (menus, index and tutorials)?

Answer

From the “Developing Documentation” materials, we have “for good-quality documentation, this process usually takes about […] 2 hours per screen for online documentation”. This would translate into about 80 hours of work (10 + 20 + 10 (=40) \* 2 for a total of 80 hours).

Reference: Developing Documentation

Difficulty: medium

1. Myles is a systems analyst on a new project that involves significant programming. What is Myles doing while the programming is going on?

Answer

Myles should be working on testing and documentation. The main project manager for this project should be assigning development (programming) tasks and monitoring so that the project doesn’t slip from its expected completion. As soon as some of the modules are completed, Myles can start testing (possibly with stub modules); then move into integration, system and acceptance testing. Likewise, he can be completing documentation tasks.

Reference: Developing Documentation

Difficulty: medium

1. Bruce is a senior project manager. What activities should he be doing in the programming / development phase?

Answer

Bruce should be overseeing and coordinating programming activities. He probably is hosting weekly project meetings, making sure that modules are progressing as planned. He is also working with other systems analysts to make sure that the testing plan has been developed and testing is going on; and that documentation is started. He also wants to make sure that scope creep is not occurring (or dealing with it), and that the project is on time. If the project does start to slip, he needs to be on top of the issue and find solutions to get it back on track – or – to extend the project time schedule if it cannot be placed back on track.

Response: Managing the Programming Process (and the entire chapter)

Difficulty: medium

1. Jing is a project manager developing a critical project that MUST be completed by December 31st. Due to some unforeseen issues early on, the project is now two weeks behind and it is mid-November. What can/should Jing do to get the project finished by December 31st?

Answer

There are lots of things that Jing can do – some of which are generally not advised. Adding additional programming staff will probably lengthen the time. If the programming is the bottleneck, it might be good to decompose complex programs into smaller modules that can be delegated to different programmers for completion. To watch the time, test plans should be ready as soon as modules are; users should be prepared to do testing as soon as possible. Documentation can be done concurrently. If the deadline is an absolute, Jing needs to make sure that everybody, and everything is kept updated and on target. It might mean that some of the staff gets only an abbreviated Thanksgiving break – or some people (maybe testing) work during the Christmas to New Year’s break week. If any slack could occur, Jing should be exploring all avenues (can the deadline be extended to January 15th? How fixed is the end date?) to see how best to manage the project in the time left in the planned schedule.

And … if nothing else, this also needs to be a learning experience for the team so that projects stay on track in the future.

Reference: Entire Chapter

Difficulty: hard

1. What is the difference between usability testing and performance testing?

Answer

Usability testing is generally more important for the user-interface, while performance testing makes sure the desired response time is met. Some processes that can help might be formal usability testing (see Chapter 9) and ensuring database response time is within expected parameters as detailed in the original requirements specifications (see Chapter 11).

Reference: Testing (also review Chapters 8 and 10)

Difficulty: medium

2. Identify three types of user documentation. Contrast when each form of documentation should be used.

Answer

There are three types of user documentation: reference documents or help systems, procedure manuals, and tutorials.

Reference documents or help systems are designed to be used when the user needs to learn how to perform a specific function, such as updating a field or adding a new record. Since users may have already attempted to perform the function prior to reading the reference documentation, it must be particularly clear and brief.

Procedure manuals describe how to perform a business task such as printing a monthly report or taking a customer order. Each item in the procedure manual typically guides the user through a task that requires several functions. Procedure manual entries are normally much longer than reference document entries.

Tutorials teach people how to use major components of the system, such as the operating system or the accounts receivable system. Tutorial entries are much longer than procedure manual entries. Tutorials are typically designed to be read in sequence whereas reference documents and procedure manuals are designed to be read individually.

Reference: Developing Documentation

Difficulty: hard