* **Question 1**

1.2 out of 3 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Partial Credit | Upper management has forbidden the use of scrum because they've heard nothing in scrum dictates the production of documentation of the internal APIs in a large project such as yours.  As Scrum Master, your project manager has asked you to explain to upper management how scrum will address their concern.  Which of the following arguments realistically support your agenda to use scrum? |  |  |  |
| |  |  | | --- | --- | |  | Correct  Explain the use of the Definition of Done in a scrum project and provide an example of a Definition of Done requiring documentation of the internal APIs. | |  | Incorrect  Tell your project manager to do it as explaining scrum is not part of your job | | Answers: | Explain that scrum does indeed require documentation for all APIs | |  | Correct  Explain the use of the Definition of Done in a scrum project and provide an example of a Definition of Done requiring documentation of the internal APIs. | |  | Tell your project manager to do it as explaining scrum is not part of your job |  |  |  | | --- | --- | | Response Feedback: | Scrum does not specify exactly what (documentation, product code, unit-level test code, UML diagrams, whatever) must be produced.  But there are at least two major approaches to getting anything produced:  Put it in the Product Backlog or put it in the Definition of Done. | |  |  |  |

* **Question 2**

0 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | After Sprint 5 of their 10 planned two-week sprints, a scrum team has completed 25 of the 100 Story Points that were initially in their Product Backlog.  How many two-week sprints will be required to complete all of the remaining work, assuming that the team velocity does not change?  (Enter an integer number without decimals as your answer). |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Incorrect 8 | | Correct Answer: | Correct 15 | | Answer range +/- | 0 (15.0 - 15.0) |  |  |  | | --- | --- | | Response Feedback: | #RemainingSprints = RemainingWork / Velocity  Where  RemainingWork is the estimated incomplete work in the Product Backlog  Velocity is the average amount of work completed in each sprint | |  |  |  |

* **Question 3**

0 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | Use the Williams\_ESEM2011\_Scrum\_3\_Microsoft\_Teams.pdf paper, "Scrum + Engineering Practices:  Experience of Three Microsoft Teams" to answer the following question.  How many Lines of Production code did each engineer in Team B write on average per work day? (assume that a month has 20 work days)  Round your answer to 2 decimals. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Incorrect [None Given] | | Correct Answer: | Correct 13.37272727 | | Answer range +/- | 2 (11.37272727 - 15.37272727) |  |  |  | | --- | --- | | Response Feedback: | 3 engineers … 8,826LOC.... 11 months  ~13LOC engineer/day | |  |  |  |

* **Question 4**

0 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | In Scrum Team A, every team member works 40 hours / week and their velocity after 5 sprints is 28.  In Scrum Team B, every team member works 80 hours / week and their velocity after 5 sprints is 60.  At this work rate, at the end of Scrum 15 .... |  |  |  |
| |  |  | | --- | --- | |  | Incorrect  Scrum Team B will likely have a velocity of around 60. | |  | Incorrect  Scrum Team B will produce higher quality code (e.g., less defects) than Scrum Team A. | | Answers: | Correct  Scrum Team A will produce higher quality code (e.g., less defects) than Scrum Team B. | |  | Scrum Team B will likely have a velocity of around 60. | |  | Scrum Team B will produce higher quality code (e.g., less defects) than Scrum Team A. | |  | Correct  Scrum Team A will likely have a velocity of around 30. |  |  |  | | --- | --- | | Response Feedback: | Extreme Programming principle: sustainable pace. Programmer overwork generates fatigue and lack of productivity in the long run. | |  |  |  |

* **Question 5**

0 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | Which of the following is a potential "pitfall" (liability) of a waterfall life cycle? |  |  |  |
| |  |  | | --- | --- | | Selected Answers: | Incorrect  Failure to groom the Product Backlog | |  | Correct  Big bang integration | | Answers: | Failure to groom the Product Backlog | |  | Correct  Changing customer requirements | |  | Completed User Stories do not meet the team's Definition of Done | |  | Correct  Big bang integration | |  |  |  |

* **Question 6**

4 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | A UML State Chart Diagram: |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct  Documents the internal design of a class | | Answers: | Quantifies the quality state of a project as a defect density | |  | Correct  Documents the internal design of a class | |  | Illustrates only the burndown state of a sprint (not the product) | |  | Documents how objects in a system interact | |  |  |  |

* **Question 7**

0 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | For Sprint 7, team Alpha agreed to implement the following four stories:   * + #A (3 story points)   + #B (7 story points)   + #C (8 story points)   + #D (5 story points)   Towards the end of the sprint, team Alpha realizes that it cannot complete story #B before the Sprint 7 Review. What was team Alpha’s **Expected Velocity** (**[EV]**) for Sprint 7 and what was team Alpha’s **Actual Velocity** (**[AV]**) at the end of Sprint 7?  (Enter as answers two integer values) |  |  |  |
| |  |  | | --- | --- | | Specified Answer for: EV | Incorrect[None Given] | | Specified Answer for: AV | Incorrect[None Given] |  |  | | --- | | **Correct Answers for: EV** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | 23 |  |  |  | | --- | | **Correct Answers for: AV** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | 16 |  | |  |  |  |

|  |  |
| --- | --- |
| Response Feedback: | Expected velocity: 23 (estimates of proposed stories: #A + #B + #C + #D) Actual velocity: 16 (estimates of completed stories: #A + #C + #D) |

* **Question 8**

Needs Grading

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Ungraded | A scrum team completed 9 five-week sprints at velocities of 5, 10, 30, 28, 31, 30, 30, 31 and 30 respectively. In preparation for a big demo with important stakeholders at the end of sprint 10 (which will also have a five-week duration), during the Sprint 10 Planning meeting the product owner urges the team to implement 4 top-priority stories worth 13, 21, 13 and 8 story points.  What should the team do? Briefly justify your answer. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | [None Given] | | Correct Answer: | [None] | | Response Feedback: | [None Given] | |  |  |  |

* **Question 9**

0.8335 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Partial Credit | UML Diagrams are useful for: |  |  |  |
| |  |  | | --- | --- | |  | Correct  Discussing/capturing various design decisions | |  | Incorrect  Estimating the progress of a waterfall project toward its completion | |  | Correct  Documenting a finished implementation | | Answers: | Charting the progress of a scrum project toward its completion | |  | Correct  Discussing/capturing various design decisions | |  | Estimating the progress of a waterfall project toward its completion | |  | Correct  Documenting a finished implementation | |  | Correct  Creating a common understanding amongst team members | |  |  |  |

* **Question 10**

0 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | For Sprint 13, team Alpha agreed to implement the following five stories:   * + #A (5 story points)   + #B (1 story points)   + #C (3 story points)   + #D (8 story points)   + #E (2 story points)   These five stories were broken down into 34 tasks, with a sum of the task estimates of 104. Assumming that Sprint 13 was successful, and the team was able to complete all proposed tasks and stories, what is the **Actual velocity** at the end of the sprint?  (Enter as answer an integer value, without decimals) |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Incorrect [None Given] | | Correct Answer: | Correct 19 | | Answer range +/- | 0 (19.0 - 19.0) |  |  |  | | --- | --- | | Response Feedback: | Actual velocity: 19 (estimates of completed stories: #A + #B + #C + #D + #E). The task estimates are not included in the actual velocity. | |  |  |  |

* **Question 11**

0 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | During the implementation of project X there were 30 defects/KLOC introduced. If the defect removal model included unit testing (with 40% effectiveness) and pair programming (with 10% effectiveness), how many defects/KLOC were delivered to the client?  HINTS:   * + Do not round your intermediate values   + Round your final answer to two decimals   + You can use the excel spreadsheet (Template quality plan and defect removal model) from the last sprint to compute these values |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Incorrect [None Given] | | Correct Answer: | Correct 16.2 | | Answer range +/- | 0.5 (15.7 - 16.7) |  |  |  | | --- | --- | | Response Feedback: | In 30 defects/KLOC  3 defects/KLOC removed by Pair Programming  10.80 defects/KLOC removed by Unit Tests    Pair programming is performed before unit testing. | |  |  |  |

* **Question 12**

0 out of 2 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | What is the difference between a User Story and a Use Case? |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Incorrect  User Stories describe what the customer needs, while Use Cases determine if a story is usable by the customer | | Answers: | A User Story describes what a customer needs the System to do, while a Use Case describes all the interactions between a customer and the System | |  | User Stories are only used with a scrum process, while Use Cases are only used with a waterfall process | |  | Correct  A User Story describes what a customer needs the System to do, while a Use Case describes a sequence of interactions between an Actor and the System | |  | User Stories describe what the customer needs, while Use Cases determine if a story is usable by the customer |  |  |  | | --- | --- | | Response Feedback: | Perhaps oversimplified:  User Stories are about what the customer needs while Use Cases are mostly about what the customer will get!  Stories are usually described in the literature as descriptions of what the customer needs.  Use Cases are usually described as a sequence of interactions between an Actor and the System to achieve a goal.  Goals may have some commonality with User Stories.  For example, "As a user, I need to login to the system to recall my account data" might be a User Story but it's similar to the Goal in a "User Login" Use Case which would \*also\* include a sequence of interactions describing how an end-user will interact with the system to login. | |  |  |  |

* **Question 13**

Needs Grading (Extra Credit)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Ungraded | Briefly interpret the message communicated the following Burndown Chart for Sprint 1 |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | [None Given] | | Correct Answer: | [None] | | Response Feedback: | [None Given] | |  |  |  |

* **Question 14**

0 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | Why do many scrum advocates advise us to create Acceptance Criteria (AC) for the User Stories prior to beginning a sprint? |  |  |  |
| |  |  | | --- | --- | | Selected Answers: | Incorrect  AC provide an opportunity for management to evaluate the performance of each Developer | |  | Incorrect  To avoid problems arising from Big Bang integration | |  | Correct  AC promote a common understanding of what the Team plans to build | |  | Correct  AC promote improved estimates which leads to better Sprint Planning | | Answers: | AC provide an opportunity for management to evaluate the performance of each Developer | |  | To avoid problems arising from Big Bang integration | |  | Correct  AC promote a common understanding of what the Team plans to build | |  | Correct  AC promote improved estimates which leads to better Sprint Planning | |  |  |  |

* **Question 15**

4 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | A *use case* describes: |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct  An interaction by one or more actors with the product | | Answers: | Correct  An interaction by one or more actors with the product | |  | What the customer needs | |  | The designs proposed by the development team to build the product | |  | How management will use the product in the business plan | |  |  |  |

* **Question 16**

4 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | An alternate sequence can be used to: |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct  Describe how a system will respond to its user's illegal input | | Answers: | Describe an alternate sequence of user stories for implementing the product | |  | Describe the *happy path* | |  | Correct  Describe how a system will respond to its user's illegal input | |  | Describe an alternate UML sequence diagram illustrating the system's design in more detail | |  |  |  |

* **Question 17**

2.5 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Partial Credit | Agile software development processes are sometimes accused of omitting planning activities.  Which of the following scrum artifacts and activities have a role in planning? |  |  |  |
| |  |  | | --- | --- | | Selected Answers: | Correct  User Stories | |  | Correct  Acceptance Criteria | |  | Correct  Daily Scrum | |  | Correct  Definition of Done | |  | Correct  Sprint Planning Meeting | | Answers: | Correct  User Stories | |  | Correct  Acceptance Criteria | |  | Correct  Daily Scrum | |  | Correct  User Story Estimates (In Story Points) | |  | Correct  Task Estimates | |  | Correct  Tasks | |  | Correct  Definition of Done | |  | Correct  Sprint Planning Meeting | |  | Correct  User Story Priorities | |  | Correct  Task Owners |  |  |  | | --- | --- | | Response Feedback: | They all either contribute to the plan or comprise the plan.  Scrum is packed with planning, but what-is-planned-when differs from some other software life cycles. | |  |  |  |

* **Question 18**

3.75 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Partial Credit | The Williams\_ESEM2011\_Scrum\_3\_Microsoft\_Teams.pdf paper, "Scrum + Engineering Practices:  Experience of Three Microsoft Teams," reports that the quality from one of the three examined scrum teams was significantly less than the other two.  Which of the following metrics likely indicate that failure? |  |  |  |
| |  |  | | --- | --- | |  | Incorrect  The ***Source LoC*** was 8826, well below the 24952 achieved by another team | |  | Correct  The ***Test LoC / Source LoC*** ratio was 0.46, well below the 0.84 achieved by another team | |  | Correct  The ***% of Code Coverage*** was 53%, well below the 82% achieved by another team | | Answers: | The project team failed to use the scrum practices (Sprints, Daily Scrum, Planning Poker, etc) employed by the other teams | |  | The ***Source LoC*** was 8826, well below the 24952 achieved by another team | |  | The project's team members were distributed between Redmond and China, unlike the other teams which were located locally in Redmond, Washington. | |  | Correct  The ***Test LoC / Source LoC*** ratio was 0.46, well below the 0.84 achieved by another team | |  | Correct  The ***% of Code Coverage*** was 53%, well below the 82% achieved by another team |  |  |  | | --- | --- | | Response Feedback: | Team B test/source LoC ratio was only 0.46 while the other teams achieved 0.84.  Team B's test coverage was only 53% while another team achieved 82%.  The best performing teams were surprisingly those distributed between Redmond and China; the failing team's members were co-located in Redmond.  All teams employed scrum; the differences lie in their application of software engineering practices! | |  |  |  |

* **Question 19**

0 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | Which of the following statements are true: |  |  |  |
| |  |  | | --- | --- | | Selected Answers: | Incorrect  It is significantly better to remove defects at the beginning of the sprint versus the end of the sprint. | |  | Correct  It is a good practice to remove a defect as soon as the defect is discovered assuming that it is feasible to remove it. | | Answers: | It is significantly better to remove defects at the beginning of the sprint versus the end of the sprint. | |  | Correct  It is cheaper to remove a defect before integration rather than after integration. | |  | Correct  It is a good practice to remove a defect as soon as the defect is discovered assuming that it is feasible to remove it. | |  | It is better to remove a defect after integration rather than before integration. | |  |  |  |

* **Question 20**

0 out of 3 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | Choose the best workflow that any scrum team should use: |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Incorrect  Sprint-branch workflow | | Answers: | Sprint-branch workflow | |  | "Master" workflow (i.e., committing directly to master and created release branches when needed) | |  | GItHub flow (using pull-requests) | |  | Correct  A customized workflow based on the project/team needs | |  | Story-based workflow | |  | Task-based workflow | |  |  |  |

* **Question 21**

0 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | After finishing 4 two-week sprints, Team Mach1 completed 80 of the 560 Story Points that were initially in their Product Backlog. Based on historical data related to velocity, how many Story Points team Mach1 is expected to complete in the fifth two-week sprint, assuming that the team does not change?  (Enter an integer number without decimals as your answer). |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Incorrect [None Given] | | Correct Answer: | Correct 20 | | Answer range +/- | 0 (20.0 - 20.0) |  |  |  | | --- | --- | | Response Feedback: | Velocity = (InitialWork - RemainingWork) / #Sprints  which is the same as:  Velocity = CompletedWork / #Sprints  The velocity can be used to estimate how many story points will be completed in the next sprint. | |  |  |  |

* **Question 22**

Needs Grading

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Ungraded | Enumerate at least 3 different strategies that a novice developer could utilize for identifying the location of a bug on a large (i.e., 10 millions lines of code) and unfamiliar system. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | [None Given] | | Correct Answer: | [None] | | Response Feedback: | [None Given] | |  |  |  |

* **Question 23**

4 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | Match project descriptions with the most appropriate life cycle |  |  |  |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | |  |  |  | | --- | --- | --- | | Question | Correct Match | Selected Match | | Contractual software development for a government agency in which the developer will specify exactly what the finished product will do, when it will be available and what it will cost | Correct A.  waterfall | Correct A.  waterfall | | web application for a startup business that hasn't yet created revenue | Correct B.  scrum | Correct B.  scrum | | Next generation version of an existing client-side application facing rapid, emerging competition | Correct B.  scrum | Correct B.  scrum | | A next generation client-side product from an experienced team that knows their customer well in a stable business | Correct A.  waterfall | Correct A.  waterfall |  |  | | --- | | All Answer Choices | | A.  waterfall | | B.  scrum | | |  |  |  |

* **Question 24**

3 out of 3 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | Which of the following are scrum roles? |  |  |  |
| |  |  | | --- | --- | | Selected Answers: | Correct  Scrum Master | |  | Correct  Developer | |  | Correct  Product Owner | | Answers: | Correct  Scrum Master | |  | Test Engineer | |  | Database Administrator | |  | System Architect | |  | Project Manager | |  | Correct  Developer | |  | Sponsor | |  | Correct  Product Owner | |  |  |  |

* **Question 25**

0 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Incorrect | Check all the answers that are true: |  |  |  |
| |  |  | | --- | --- | |  | Incorrect  Continuous Integration is the process of updating my local branch with the master branch as often as possible (i.e., local branch integrates changes from the master). | |  | Incorrect  The absolute best workflow is the one where each user story is developed in its own branch. | |  | Correct  Integration tests are useful for testing code on a shared branch. | | Answers: | Continuous Integration only works for projects with up to 100 developers. | |  | Continuous Integration is the process of updating my local branch with the master branch as often as possible (i.e., local branch integrates changes from the master). | |  | The absolute best workflow is the one where each user story is developed in its own branch. | |  | Correct  Integration tests are useful for testing code on a shared branch. | |  | The absolute best workflow for all projects is the GitHub workflow. | |  | Correct  A builder is a tool that can compile code and run unit tests if needed. | |  |  |  |

* **Question 26**

3 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Partial Credit | Which of the following activities occur during the Sprint Planning meeting? |  |  |  |
| |  |  | | --- | --- | |  | Correct  Rewrite an overly complex User Story (an *epic*) as two or more simpler User Stories | |  | Correct  Developers volunteer to implement the Tasks | |  | Correct  Create new Tasks in the Sprint Backlog that will implement the User Stories selected for the upcoming sprint | | Answers: | The Scrum Master defines what process improvements are necessary in the upcoming sprint | |  | The Scrum Master assigns Tasks to the Developers | |  | Correct  Rewrite an overly complex User Story (an *epic*) as two or more simpler User Stories | |  | Correct  Developers volunteer to implement the Tasks | |  | Correct  Select items (e.g., User Stories) from the Product Backlog that can likely be implemented in the upcoming sprint | |  | The Project Manager assigns Tasks to the Developers | |  | Correct  Create new Tasks in the Sprint Backlog that will implement the User Stories selected for the upcoming sprint | |  | Each team member reports what they did yesterday, what they plan to do today, and what impediments they were unable to resolve | |  | Correct  The team creates a new Sprint Backlog for the upcoming sprint | |  | Team uses Planning Poker to estimate tasks. | |  | Developers write the tests required to exercise the Acceptance Criteria |  |  |  | | --- | --- | | Response Feedback: | The Scrum Master is not a Project Manager (The Elements of Scrum:  Ch6) | |  |  |  |

* **Question 27**

2 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Partial Credit | A task should always be linked to a **[x]** to ensure **[y]** between artifacts  (for each variable input a single lower case word) |  |  |  |
| |  |  | | --- | --- | | Specified Answer for: x | Incorrectuser stories | | Specified Answer for: y | Incorrect[None Given] |  |  | | --- | | **Correct Answers for: x** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | story |  |  |  | | --- | | **Correct Answers for: y** |  |  |  |  | | --- | --- | --- | | **Evaluation Method** | **Correct Answer** | **Case Sensitivity** | | Correct*Exact Match* | traceability |  | |  |  |  |

|  |  |
| --- | --- |
| Response Feedback: | A task should always be linked to a story to ensure traceability between artifacts |

* **Question 28**

Needs Grading (Extra Credit)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Ungraded | Briefly describe some insights you gained or an “Aha” moment you had during the lectures describing how to use Information Retrieval (IR) techniques to support software maintenance tasks in order to make developers more productive. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | [None Given] | | Correct Answer: | [None] | | Response Feedback: | [None Given] | |  |  |  |

* **Question 29**

6 out of 6 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | Given a git repository with the following branches visualization (i.e., this is the original state of the repository):   |  |  |  | | --- | --- | --- | |  |  |  | | Sourcetree representation | or | Abstract (markdown) representation |   What git commands should be used to transform the repository as follows (i.e., below is the expected state of the repository):   |  |  |  | | --- | --- | --- | |  |  |  | | Sourcetree representation | or | Abstract (markdown) representation | |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct  $ git checkout master  $ git merge someBranch | | Answers: | $ git checkout someBranch  $ git merge master | |  | Correct  $ git checkout master  $ git merge someBranch | |  | $ git checkout someBranch  $ git rebase -i HEAD~1 | |  | $ git checkout someBranch  $ git rebase master | |  | $ git checkout master  $ git rebase someBranch | |  | $ git checkout master  $ git rebase -i HEAD~2 someBranch  git rebase -i HEAD~3 | |  |  |  |

* **Question 30**

3 out of 3 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | Describe in a few words one of the major problems of expressing/documenting requirements using natural language (e.g., English), instead of using more formal methods. |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | It is ambiguous to leads to different interpretations. | | Correct Answer: | [None] | | Response Feedback: | [None Given] | |  |  |  |

* **Question 31**

5 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | Explain the difference between User Stories and Tasks |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct  User Stories describe what the customer needs in the customer's business language, while Tasks describe in engineering language how those needs will be implemented | | Answers: | Correct  User Stories describe what the customer needs in the customer's business language, while Tasks describe in engineering language how those needs will be implemented | |  | A User Story describes who is responsible for implementing it while a Task describes what code changes will be required | |  | A User Story defines a User Personna, a class of similar users in a role, while a Task each test that must pass to implement that story per the Definition of Done | |  | A User Story defines what the customer needs while Tasks define what the Project Manager has snowplowed into a future sprint | |  |  |  |

* **Question 32**

2 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Partial Credit | Which of the following are motivations for or characteristics of the scrum process? |  |  |  |
| |  |  | | --- | --- | |  | Correct  Incremental development through a series of small, ever-more functional versions | |  | Correct  Each incremental version, (also known as the *Product Increment*)  is a full-tested, potentially releasable, subset of the final product | | Answers: | Correct  The customers' needs change during the course of a long project | |  | Because plans are likely to change, scrum teams don't waste time creating them | |  | Correct  Incremental development through a series of small, ever-more functional versions | |  | The Project Manager, as the most experienced member of the scrum team, estimates the User Stories | |  | Correct  Customers don't always know what they need | |  | The Project Manager assigns tasks in the Sprint Backlog to developers | |  | The Definition of Done requires all product code to be completely written before any of it can be tested (since incomplete code is likely to change) | |  | The Daily Standup can be skipped if team needs to catch up with their work. | |  | Correct  The development team's initial approach to building the product does not always work | |  | Correct  Each incremental version, (also known as the *Product Increment*)  is a full-tested, potentially releasable, subset of the final product |  |  |  | | --- | --- | | Response Feedback: | Most of this appeared in the lecture and/or Elements of Scrum.  Skipping Standup Daily meeting is a bad practice, and is indicative of a much larger problem within the team. | |  |  |  |

* **Question 33**

4 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | A UML Sequence Diagram illustrates: |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct  Interactions between objects | | Answers: | The sequence of scrum life-cycle activities (e.g. Sprint Planning, Daily Scrum, Sprint Review, Sprint Retrospective) in UML | |  | The sequence of an object's state transitions | |  | Correct  Interactions between objects | |  | The sequence of a class's state transitions | |  |  |  |

* **Question 34**

3 out of 3 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | Which of the following are responsibilities of the Scrum Master? |  |  |  |
| |  |  | | --- | --- | |  | Correct  Ensuring the scrum process is followed by the team | |  | Correct  Removing impediments to the team's progress | | Answers: | Prioritizing User Stories for the upcoming sprint | |  | Hiring new team members | |  | Identifying what Tasks are necessary in the upcoming sprint | |  | Correct  Ensuring the scrum process is followed by the team | |  | Correct  Removing impediments to the team's progress | |  |  |  |

* **Question 35**

1.68333 out of 5 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Partial Credit | Careful scrutiny of *The Elements of Scrum* reveals that the word "design" rarely, if ever, appears in this description of the widely used scrum process.  Yet design is an important aspect of software development.  Which of the following are true about software design in scrum? |  |  |  |
| |  |  | | --- | --- | |  | Incorrect  Scrum expects the team will design the entire product prior to the first sprint | |  | Correct  Complex (time-consuming) design choices could be planned as Tasks in the Sprint Backlogs | |  | Correct  Design decisions can be refactored as a product evolves in subsequent sprints | | Answers: | Correct  Scrum leaves trivial (obvious) design decisions that don't require a plan to the Developer volunteering for a Task | |  | Scrum expects the team to use the final sprint to produce the design | |  | Scrum leaves design choices are the responsibility of the experienced Scrum Master | |  | Scrum eliminated the need for software design because it was painful in waterfall | |  | Scrum expects the team will design the entire product prior to the first sprint | |  | Correct  Complex (time-consuming) design choices could be planned as Tasks in the Sprint Backlogs | |  | Correct  Design decisions can be refactored as a product evolves in subsequent sprints | |  |  |  |

* **Question 36**

4 out of 4 points

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | | |
| Correct | A UML Class Diagram illustrates: |  |  |  |
| |  |  | | --- | --- | | Selected Answer: | Correct  The static relationships between classes | | Answers: | The internal operation of classes | |  | How a class transitions between its states | |  | The static relationships between classes as well as the dynamic interactions between classes. | |  | Correct  The static relationships between classes | |  |  |  |