**Course Final Assessment (Graded)**

1.Question 1

On an uncertainty space diagram, if you have low means uncertainty, what does that indicate?



You know what product you are going to build



You don’t know what product you are going to build



You don’t know how you are going to build your product.



You know how you are going to build your product

**ANSWER:** (d) You know how you are going to build your product

2.Question 2

On an uncertainty space diagram, what does the navigation path depict?



The level of means and ends uncertainty at specific points in time for a project.



The optimal path to go from high uncertainty to low uncertainty.



A trail of the resolved uncertainties as the project progresses.



The critical path from the beginning to the end of the project.

**ANSWER:** (a) The level of means and ends uncertainty at specific points in time for a project.

3.Question 3

On an uncertainty space diagram, from high means and high ends uncertainty, a waterfall process would tend to navigate toward which way initially?



low means uncertainty and high ends uncertainty



high means uncertainty and high ends uncertainty



high means uncertainty and low ends uncertainty



low means uncertainty and low ends uncertainty

**ANSWER:** (c) high means uncertainty and low ends uncertainty

4.Question 4

For a software product, what is an effective initial basis to form a work breakdown structure for its implementation?



Use the activities in the phases of a software process.



Break down the product into its constituent parts.



Determine a key task and connect other tasks to it.



Consult the roles of the development team.

**ANSWER:** (b) Break down the product into its constituent parts.

5.Question 5

What would be a useful way to determine the specific project risks for a software product?



For a risk, consider its likelihood and impact.



Form a work breakdown structure, and discuss the potential risks for each work product with the developers.



Refer to a book on management anti-patterns to collect people risks.



Consult an article on project failures to gather common risks.

**ANSWER:** (b) Form a work breakdown structure, and discuss the potential risks for each work product with the developers.

6.Question 6

A software product team is applying Scrum, and is breaking down the work for a user story into required developer tasks. They have identified an implementation task to write the source code. To meet a typical definition of “done” for this user story, which other tasks should be identified?



Write/run unit tests, integrate the code, review the code, write documentation, write/run acceptance tests.



Write the code, commit the code, integrate the code, test the code.



Write unit tests, write documentation, write acceptance tests



Test the code, document the code, accept the code.

**ANSWER:** (a) Write/run unit tests, integrate the code, review the code, write documentation, write/run acceptance tests.

7.Question 7

A software team is breaking down the work for a user story into required developer tasks. They have identified a task to add a section to the user manual for the feature. They also have a task to spellcheck the new section. Would this be appropriate?



Yes, because user manuals are useful to have.



No, because no one reads user manuals.



No, because spellchecking is too small a task and should be merged with the other.



Yes, because having a separate task for spellchecking ensures it is not missed.

**ANSWER:** (c) No, because spellchecking is too small a task and should be merged with the other.

8.Question 8

A development team thinks that it should take them four months to complete everything that the client has asked for. The client wants it delivered in two months, on New Years Day. The development team and client determine that they will complete half of the requested requirements. Which of these is the commitment?



four months



two months



New Year’s Day



half the requirements

**ANSWER:** (d) half the requirements

9.Question 9

What are story points?



A numeric estimate on the size of a user story based on the number of developer tasks.



An estimate on the effort to implement a user story in hours.



An estimate on the relative business value of a user story.



A numeric estimate on the relative effort to complete a user story.

**ANSWER:** (d) A numeric estimate on the relative effort to complete a user story.

10.Question 10

What are the consequences of having an inflated story point estimate for a user story?



The user story is an epic, and should be divided into smaller stories.



When the story is completed, the points received to compute the velocity could mislead about higher productivity.



An estimate should always be inflated, to accommodate for optimism.



The development team is gold plating the product.

**ANSWER:** (b) When the story is completed, the points received to compute the velocity could mislead about higher productivity.

11.Question 11

How do you calculate the actual velocity of a team for a sprint?



Take the total number of story points of the user stories completed within the sprint.



Take the total task hours for the tasks that developers completed within the sprint.



Take the number of user stories completed within the sprint.



Take the number of tasks that developers completed within the sprint.

**ANSWER:** (a) Take the total number of story points of the user stories completed within the sprint.

12.Question 12

A development team calculates their velocity to be 20 story points in their recently finished sprint. They had completed a user story estimated at 5 story points. However, later in the project, it is noticed that the user story needs some enhancements, estimated at 1 story point. How should their previously calculated velocity be revised?



Reduce by 5 story points.



Reduce by 1 story point.



Reduce by 6 story points.



No change.

**ANSWER:** (d) No change.

13.Question 13

In release planning, what user stories should be planned first for development in the earliest sprints?



must do, low risk



could do, low risk



could do, high risk



must do, high risk

**ANSWER:** (d) must do, high risk

14.Question 14

Suppose, while release planning, the total number of story points of user stories chosen for the next sprint exceeds the development team's estimated velocity. What should be done?



Start removing one or more user stories from the sprint.



Start hiring more developers to increase the estimated velocity.



Start reducing the story point estimates.



Start extending the sprint durations.

**ANSWER:** (a) Start removing one or more user stories from the sprint.

15.Question 15

In release planning, a development team estimates their velocity to be 20 story points. For the next sprint, they plan to finish 2 high priority user stories of 5 story points each. With 10 story points left, which of the following combinations of user stories should they choose (assuming the stories are independent and equal risk)?



1 high priority story of 2 points, 2 medium priority stories of 3 points each



1 high priority story of 2 points, 1 medium priority story of 3 points, 1 low priority story of 5 points



2 low priority stories of 5 points each



3 medium priority stories of 3 points each

**ANSWER:** 1 high priority story of 2 points, 2 medium priority stories of 3 points each

16.Question 16

Suppose a release plan has a user story to be completed in the current sprint. At the end of the sprint, however, the tasks for the user story have not started. How should the release plan be updated?



Have developers work overtime to complete the user story before the next sprint starts.



Move the user story into the next sprint of the release plan.



Move the user story to the product backlog, and redo the release planning for the next sprints.



Drop the user story if the product owner does not notice it is not completed.

**ANSWER:** (c) Move the user story to the product backlog, and redo the release planning for the next sprints.

17.Question 17

What does the cone of uncertainty mainly illustrate about estimates?



Start the project with detailed design so that estimates have less variability.



Estimates for a large project have higher variability than estimates for a small project.



Estimates need higher variability early in a project when there is more uncertainty.



Estimates become more accurate if you just wait long enough.

**ANSWER:** (c) Estimates need higher variability early in a project when there is more uncertainty.

18.Question 18

A team of 3 developers is estimating the time to complete a user story. One developer forms an estimate by determining the tasks needed, estimating their times, and deriving a total. Another developer implemented a similar user story for another product, and derives an estimate based on personal experience. The third developer looked at another user story with the same number of story points and used its time estimate. How should they come to a final estimate?



Reveal each estimate one at a time, and discuss after each reveal to agree to a final estimate.



Take the smallest and largest estimate to form the interval for the final estimate.



Have them reveal their estimates at the same time, and discuss to agree to a final estimate.



Take the arithmetic mean of the estimates.

**ANSWER:** (c) Have them reveal their estimates at the same time, and discuss to agree to a final estimate.

19.Question 19

In estimating the duration to complete a project, the resulting interval that would contain the actual duration about 68% of the time is 14 to 24 days. What is the interval that would contain the actual duration about 95% of the time?



12 to 26 days



9 to 29 days



10 to 34 days



4 to 34 days

**ANSWER:** (b) 9 to 29 days

20.Question 20

For a software requirement, a development team is planning a task to write the implementation code and a task to inspect a reviewable version of the code for defects. After the inspection, the coding task addresses the discovered defects for the final version. What kind of task dependency is this between the coding and inspection tasks?



Finish-Start



Finish-Finish



Start-Start



Start-Finish

**ANSWER:** (b) Finish-Finish

21.Question 21

A product support team has a long-term task to operate version 1 of an invoicing service. Version 2 is almost ready for to replace version 1, so another long-term task is planned to operate that version. The service must be available at all times, so if version 2 is not in place, version 1 is used. What kind of task dependency is this between the version 1 and version 2 operations tasks.



Start-Finish



Start-Start



Finish-Start



Finish-Finish

**ANSWER:** (a) Start-Finish

22.Question 22

In a PERT chart, the nodes represented milestones. When multiple tasks lead directly into a node, what does that mean? Choose 2 responses.



The tasks can be done in parallel.



The tasks end by synchronizing at the milestone.



The tasks are on the critical path.



The tasks need to be done sequentially.

**ANSWER:** (a) The tasks can be done in parallel.

(b) The tasks end by synchronizing at the milestone.

23.Question 23

Suppose for the tasks of an iteration plan, the critical path from begin to end to implement the user stories for the sprint has a total duration of 80 hours. There is an independent path from begin to end to prepare training materials for a separate set of features, and there is 16 hours of slack on that path. How much time is planned to prepare these training materials?



64 hours



16 hours



96 hours



80 hours

**ANSWER:** (a) 64 hours

24.Question 24

Suppose while iteration planning, the total story points for the user stories of the sprint is below the estimated velocity, but the total estimated task hours for the tasks of these stories is above the available time for the team members. What should be done?



Start with choosing a user story and its tasks to remove from the sprint, to reduce the total task hours to no more than the available time.



Allow that the user stories may not be completed by the end of the sprint.



No change, since the estimated velocity is more reliable than the available time.



Stop planning, since that is reducing the available time for work.

**ANSWER:** (a) Start with choosing a user story and its tasks to remove from the sprint, to reduce the total task hours to no more than the available time.

25.Question 25

Within a sprint, for a user story, one developer finished their tasks earlier than expected, allowing some spare time. What should the developer do with the spare time?



Start work on an independent user story not planned for this sprint, to get ahead.



Add some extra features to the user story to impress the client.



Help with other tasks that need finishing to complete other planned user stories.



Relax as a reward for finishing early.

**ANSWER:** (c) Help with other tasks that need finishing to complete other planned user stories.

26.Question 26

At a development meeting to decide the underlying technology for a software product, one of the developers used their expert knowledge about one technology to pressure the rest to use it. The other developers are not convinced, but to avoid conflict, decide to follow using this technology. Which anti-patterns are happening here?



persuasion and groupthink



bullying and being bullied



loose cannon and conflict avoidance



intellectual violence and groupthink

**ANSWER:** (d) intellectual violence and groupthink

27.Question 27

The development team is deciding between two platforms for a software application. One involved proprietary tools around a proprietary language, and the contract would create a long-term relationship that would allow a relative of the team lead to profit. The other platform is open, with alternative tools. Which anti-pattern results from choosing the first platform?



Something for something



Conflict of interest



Overengineering



Vendor lock-in

**ANSWER:** (d) Vendor lock-in

28.Question 28

A development team decides to tune an existing algorithm for more speed rather than implement a better algorithm. One developer disagrees with the decision and works on the new algorithm without telling anyone. The new algorithm is taking a lot of effort, which results in not finishing other tasks, and planned user stories are not being completed for the sprint. What could the team have done to avoid this? Choose the two that are correct.



Put up a poster near the team that says "loose cannons sink ships".



Have the team lead send a daily email detailing what each developer must work on.



Monitor daily what each developer intends to work on and actually finishes.



Arrange the developers to work in pairs.

**ANSWER:** (c) Monitor daily what each developer intends to work on and actually finishes.

(d) Arrange the developers to work in pairs.

29.Question 29

For risk planning, an impact versus likelihood matrix combines a \_\_\_ and \_\_\_ to derive a single value of its \_\_\_, reducing 9 combinations into 3 categories to consider.



product's competitive strength / chance of favorable market conditions / investment strategy



product's value / probability of success / viability



risk's severity / probability of occurrence / risk amount



risk's urgency / chance of occurrence / risk importance

**ANSWER:** (c) risk's severity / probability of occurrence / risk amount

30.Question 30

For a project, the developers will follow Agile practices and the Scrum methodology. The impact of running out of funding for further development is relatively \_\_\_.



low, because they delivered working software and value in every sprint



high, because they may not have a chance to perform a phase of validation and verification activities



low, because agile projects can be easily turned into an open source project for further development



high, because they are integrating late and none of the software is working together

**ANSWER:** (a) low, because they delivered working software and value in every sprint

31.Question 31

Suppose a Scrum development team for a software product is located across two sites, 3 time zones apart. In a risk plan, there is a risk identified and indicated of poor remote communication. What would be suitable actions for this risk? Choose the two that are correct.



Set up easy-to-use communication tools and use them for the usual Scrum meeting events.



Divide duties so that one site focuses on implementing the product and the other site focuses on testing the product.



Set up globally accessible online collaboration tools for the work products of Scrum-based development.



Divide duties so that one site focuses on the user interface and the other site focuses on data storage.

**ANSWER:** (a) Set up easy-to-use communication tools and use them for the usual Scrum meeting events.

(c) Set up globally accessible online collaboration tools for the work products of Scrum-based development.

32.Question 32

An experienced Agile team is forming a release plan, and there are two user stories, both with high value. However, one user story is low risk and one is high risk. Which should be done first and why?



The low risk user story, because deferring the high risk user story will allow more time for the team to think about how best to complete it.



The high risk user story, because it is better to find out early if it is feasible.



The high risk user story, because Agile developers like to live dangerously.



The low risk user story, because completing it shows progress on the product, which is a credibility boost.

**ANSWER:** (b)The high risk user story, because it is better to find out early if it is feasible.