Part 3 – More PSM Exam specific material

"The greater danger for most of us lies not in setting our aim too high and falling short; but in setting our aim too low, and achieving our mark." – Michelangelo [Italian sculptor, painter, architect, poet, and engineer of the High Renaissance...]

Chapter 1 - Detailed view of the Assessment process

Chapter 1.1 - Overview of all Scrum.org Assessments

The following are the different assessments to get certifications. Once acquired, the certificates need NOT be renewed again. Please verify any information related to the assessments by checking www.scrum.org. You can also send your questions to the friendly and super responsive support group at support@scrum.org.

Scrum Master and Anyone willing to learn Scrum

For assessing Scrum or Scrum Master knowledge, there are four levels of assessments.

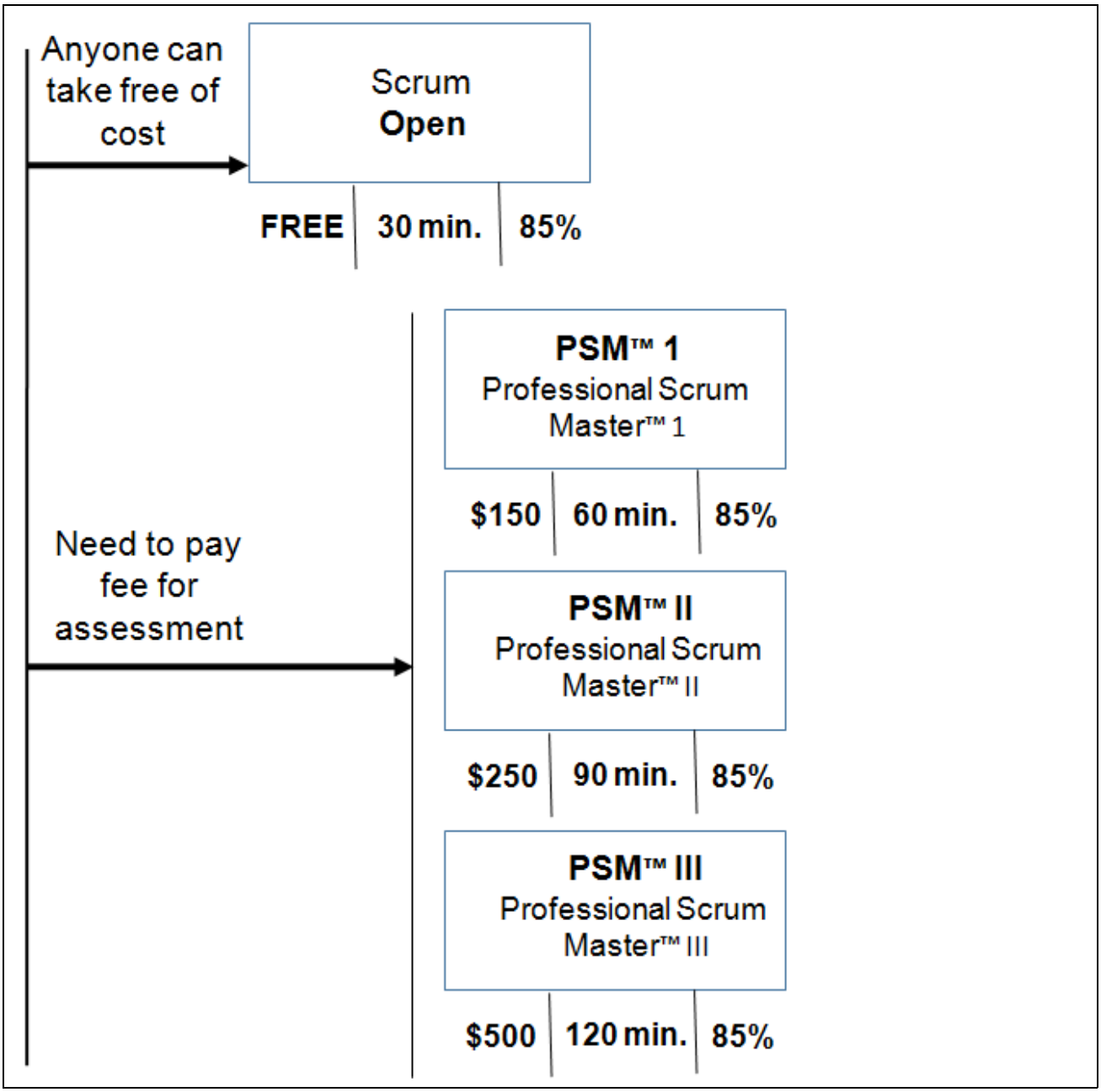

Fig. 18- Scrum Master Assessments

Scrum Open

- Tests the basic knowledge of Scrum.
- Offered free of cost and can be taken by anyone by accessing the Open-Assessments at www.scrum.org/.
- Consists of 30 questions with a 30 minute time limit.
- There are no limits on the number of attempts.
- This free assessment also provides an idea of the type and structure of the questions that are asked in the paid Professional Scrum Master 1 (PSM 1) assessment. Before taking the PSM 1, it is highly useful to practice using the free Scrum Open.

Professional Scrum Master™1 (PSM 1)

- Tests the intermediate knowledge of Scrum.
- Requires a payment of $150 and can be taken from anywhere by buying the assessment at www.scrum.org/Assessments/Professional-Scrum-Master-Assessments/PSM-I-Assessment. Click on the "BUY PSM 1 ASSESSMENT" button.
- Consists of 80 questions with a 60 minute time limit.
- Only one attempt is allowed.
- The subject of this book is the preparation for this assessment.

Professional Scrum Master™ II (PSM II)

- Tests the advanced knowledge of Scrum.
- Requires a fee payment of $250 and can be taken from anywhere.
- Consists of 30 questions with a 90 minute time limit.
- Only one attempt is allowed.
- Passing the PSM 1 is mandatory before attempting the PSM **II**.

Professional Scrum Master™ III (PSM III)

- Tests the in-depth knowledge of Scrum.
- Requires a fee payment of $500 and can be taken from anywhere.
- Consists of multiple choice and essay-type questions with a 120 minute time limit.
- Only one attempt is allowed.
- Passing the PSM **II** is mandatory before attempting the PSM **III**.

Scrum Product Owner

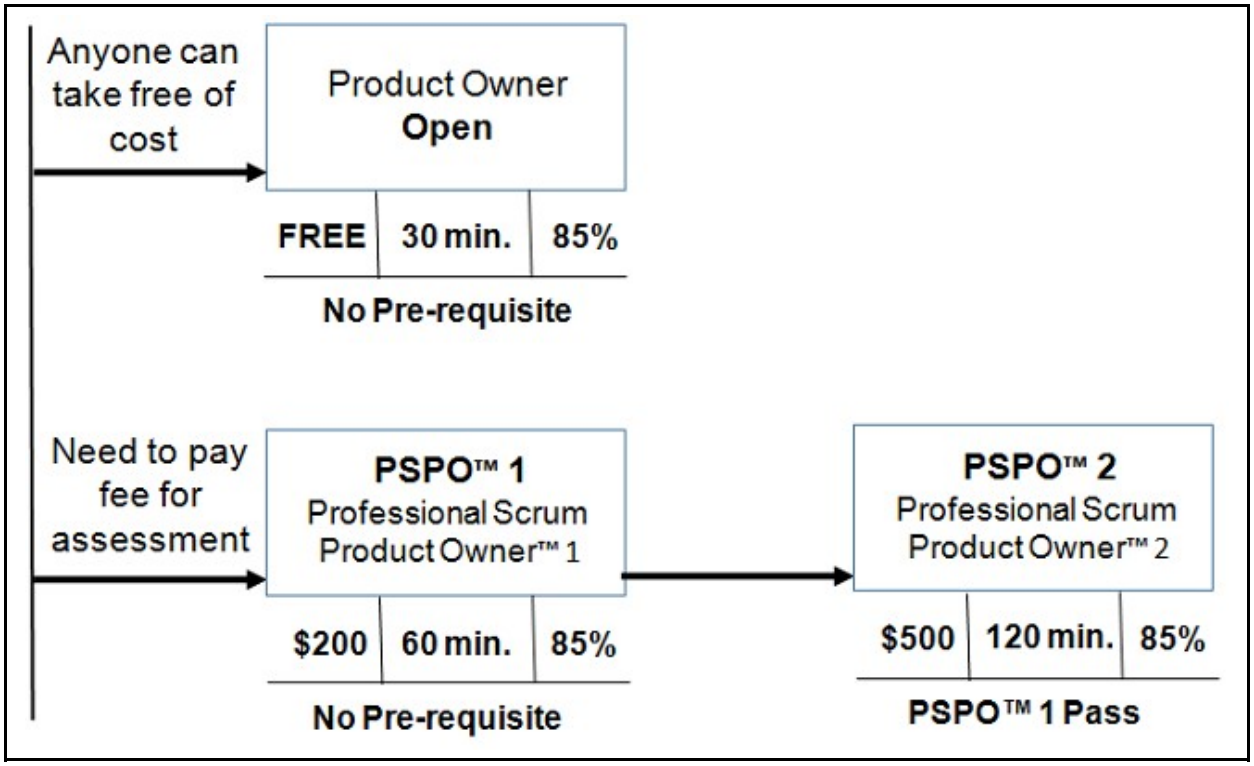

Fig. 19- Product Owner Assessments

Product Owner Open

- Tests the basic knowledge of Scrum needed for the Product Owner role.
- Offered free of cost and can be taken by anyone.
- Consists of 15 questions with a 30 minute time limit.
- There are no limits on the number of attempts.
- This free assessment also provides an idea of the type and structure of the questions that are asked in the paid Professional Scrum Product Owner 1 (PSPO 1) assessment. Before taking the PSPO 1, it is highly useful to practice using the free Product Owner Open.

Professional Scrum Product Owner™ I (**PSPO I**):

- Tests the intermediate knowledge of the Product Ownership aspect in Scrum.
- Requires a fee payment of $200 and can be taken from anywhere.
- Consists of 80 questions with a 60 minute time limit.
- Only one attempt is allowed.

Professional Scrum Product Owner™ II (**PSPO II**):

- Tests the advanced knowledge of the Product Ownership aspect in Scrum.

- Requires a fee payment of $500 and can be taken from anywhere.
- Consists of multiple choice and essay-type questions with a 120 minute time limit.
- Only one attempt is allowed.
- Passing the PSPO **I** is mandatory before attempting the PSPO **II**.

Scrum Developer

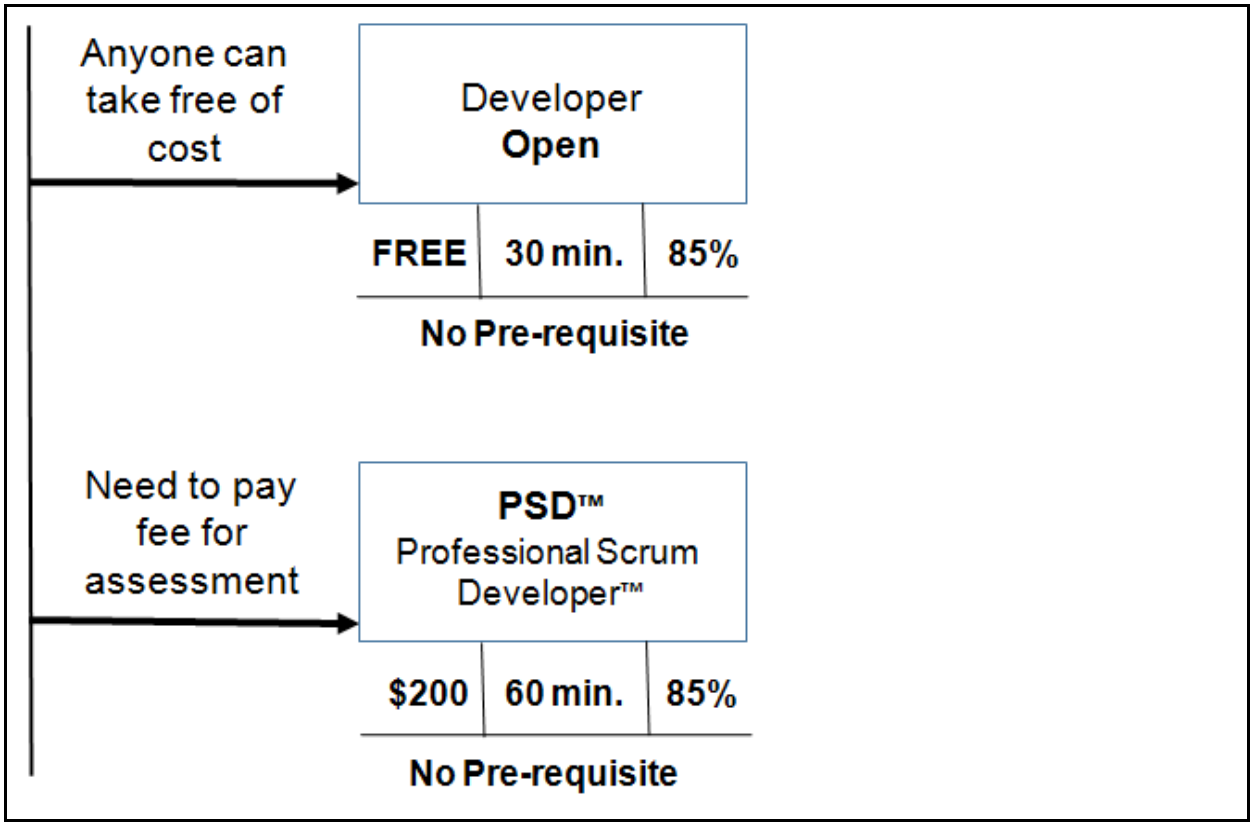

Fig. 20- Scrum Developer Assessments

Developer Open

- Tests the basic knowledge of Scrum needed for the Developer role.
- Offered free of cost and can be taken by anyone.
- Consists of 30 questions with a 30 minute time limit.
- There are no limits on the number of attempts.
- This free assessment also provides an idea of the type and structure of the questions that are asked in the paid Professional Scrum Developer (PSD) assessment. Before taking the PSD, it is highly useful to practice using the free Developer Open.

Professional Scrum Developer™ (**PSD**):

- Tests the software engineering principles like Test First Development, Continuous Integration, etc. within the Scrum framework.
- Requires a fee payment of $200 and can be taken from anywhere.
- Consists of 80 questions with a 60 minute time limit.
- Only one attempt is allowed.

Other Assessments for Experts – Scaled Scrum

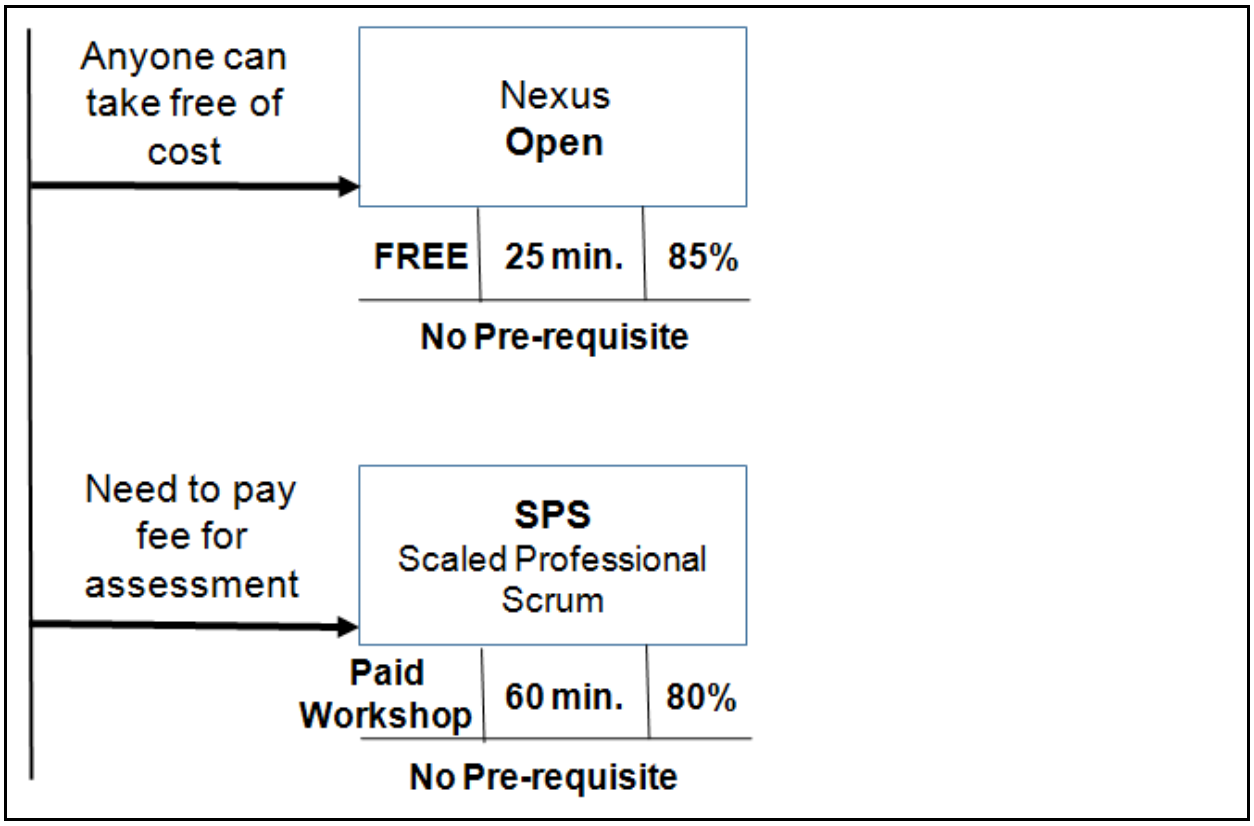

Fig. 21- Scaled Scrum Assessments

Nexus Open

- Offered free of cost and can be taken by anyone.
- Consists of 15 questions with 25 minute time limit.
- There are no limits on the number of attempts.

Scaled Professional Scrum

- Tests the knowledge of scaling Scrum for large software development projects.
- This is a professional assessment that requires taking a paid training course by Scrum.org and attempting the assessment after the training course.

----------Question (Not related to the PSM assessment)----------

It is mandatory to take a training course and pass the Scrum Open Assessment before taking the PSM 1 assessment.

a) True

b) False

-------Answer-------

Only the **Scaled Professional Scrum** assessment requires taking a paid course before taking the online assessment. For all other assessments including the PSM 1, one can enroll for the online assessment at any time.

The Scrum Open is a free online assessment for anyone to test their fundamental knowledge of Scrum. Though it is highly useful as a practice assessment, it is not mandatory before any assessment. Correct answer is ‘b’.

----------Question (Not related to the PSM assessment) ----------

Chapter 1.2 - Professional Scrum Master™ 1

The PSM 1 tests the demonstration of intermediate knowledge of Scrum. It includes Theory of Empiricism, Team Self-Organization, Servant Leadership and Coaching, and Scrum Teams and their associated roles, events, artifacts, and rules. Some knowledge of optional techniques of Scrum also may be needed.

It is noteworthy to mention that the knowledge verified through PSM 1 will help in other ways too:

- Passing the PSM 1 is mandatory before attempting PSM **II**: Even for other assessments such as PSD and PSPO, one needs to have foundational knowledge of Scrum that is tested in the PSM 1.
- Also, the PSM 1 is the first step towards acquiring the Professional Scrum Trainer (PST): To apply for PST one needs to get 95% or higher in the PSM 1 assessment. If one has passed the assessment but failed to get 95%, they can retake the assessment until they get the required percentage.

----------Question (Not related to PSM assessment)----------

The PSM 1 assessment tests

a) The job skills of a Scrum Master.

b) The understanding of engineering practices of Scrum.

c) The intermediate knowledge of Scrum.

d) The Scrum knowledge through Scrum Open.

-------Answer-------

Correct answer is 'c'.

----------Question (Not related to PSM assessment)----------

Certification Qualification and Format

- There are no prerequisite qualifications for this assessment.
- It consists of 80 multiple choice questions that include

a) Questions with one correct answer.

b) Questions with multiple correct answers. To get full points for these questions, all correct answers must be selected. There is no point awarded for partially correct answers.

c) Questions answered with Yes or No and Questions answered with True or False.

- This assessment is offered only in English. Non-native speakers without English as a professional language may have minor issues in understanding some of the questions.
- The time limit is 60 minutes.
- To pass one needs to score 85% or higher. It translates to 68 questions answered correctly, but sometimes a question can be awarded a weight other than 1 point. How much weight each question carries is not made explicit.
- You can bookmark a question without answering it and move on to the next question. You can go back to bookmarked questions during the 60 minutes.

Certification Fee, Payment Mode, and Registration

- Please check Scrum.org for the latest fee. As of September 2016 it is $150.
- If you took a paid training class from Scrum.org like Professional Scrum Foundations™ or Professional Scrum Master™, you will get one free attempt at the PSM 1. The password for the assessment will be emailed to within 3-5 business days after successfully completing the class. However, taking a course is not required to take the assessment.
- To register for the assessment, go to www.scrum.org/Assessments/Professional-Scrum-Master-Assessments/PSM-I-Assessment. Click on the "BUY PSM 1 ASSESSMENT" button.
- You can use credit/debit card to pay.
- If the card is non-USA, the equivalent amount for 150 US dollars will be deducted by your card issuer subject to their currency conversion rules. Sometimes you have to call your card issuer (bank) to remove any limits/security settings on your card before paying. You can also clarify with them about the local currency conversion rate that will be applied.
- After paying the fee, the password for the assessment is sent to the registered email usually within a business day.

- The password does not have an expiration date.
- Only one attempt is allowed.

Certification Medium – No Test Center

- Scrum.org assessment's including the PSM 1 can be taken from your place of choice. You do not need to go to a Test Center.
- In other words, it is an open book test. However, you cannot depend on just looking online or in the Scrum Guide to find the answers. The questions may not be so straightforward.
- You will need a computer with a reasonably fast internet connection.
- The online assessment works on any web browser: Internet Explorer, Chrome, and Safari.

Taking the Assessment

- You can access Scrum.org and use the password to take the assessment.
- In case the connection is lost or the online assessment terminates abruptly due to technical reasons, you can contact support@Scrum.org with evidence. They may offer a discount for the next attempt, but the author recommends you clarify with them if you want to confirm or clarify any questions.
- With sufficient preparation using this book, you can complete most of the questions within 45 minutes. This will provide 15 minutes more to go back to bookmarked questions. Using this book, you can further increase your speed by training yourself to answer each question within 30 seconds.

After the Assessment – Passing and Certificate

- At the earliest occurrence of submitting the quiz or the 60 minutes ending, the results will be shown on the screen. If you scored 85% or higher, you will see a congratulatory message on the screen. The breakdown of the results will look something like this

Scrum Framework - XX%

Theory & Principles - XX %

Cross-Functional, Self-Organizing - XX%

Coaching & Facilitation - XX%

- You will get the PSM 1 certificate in an email in 5 - 7 business days.
- After passing the assessment, your name will be posted on Scrum.org under the PSM 1 Certificate Holders list.
- **Once acquired the certificate need not be renewed.**

After the Assessment – Not Qualifying

If someone scored less than 85%, they can write to Scrum to get feedback on specific areas of improvement.

They will not provide the details of exact questions that went wrong. However, you will know the concepts around which you had difficulty.

An example of feedback for someone who had difficulty in understanding the concept of self-organizing is provided below. This is only indicative of the kind of feedback and is not an authorized version from Scrum.org.

You got a number of questions incorrect around Scrum roles and how they support Scrum principles. Focus on understanding the roles within Scrum. If you face a question that asks what a Scrum Master would do in a particular situation, think about their role. The Scrum Master teaches the team to solve the problems themselves using Scrum values. Your previous experience as a leader may push you to own the problem of others and solve it. However, it is against building up a self-organized team. A Scrum Master does not serve the team if they tend to own something and do it when the team can own and do it themselves.

Chapter 2 - How to Prepare for the PSM 1 Certification

Before looking at the approach to prepare for the assessment be assured that one can clear the assessment without practical job knowledge of Scrum.

This book helps you to get the required information and practice as well.

Use this book to Learn, Prepare, and Practice

You can follow the approach recommended in Figure 22.

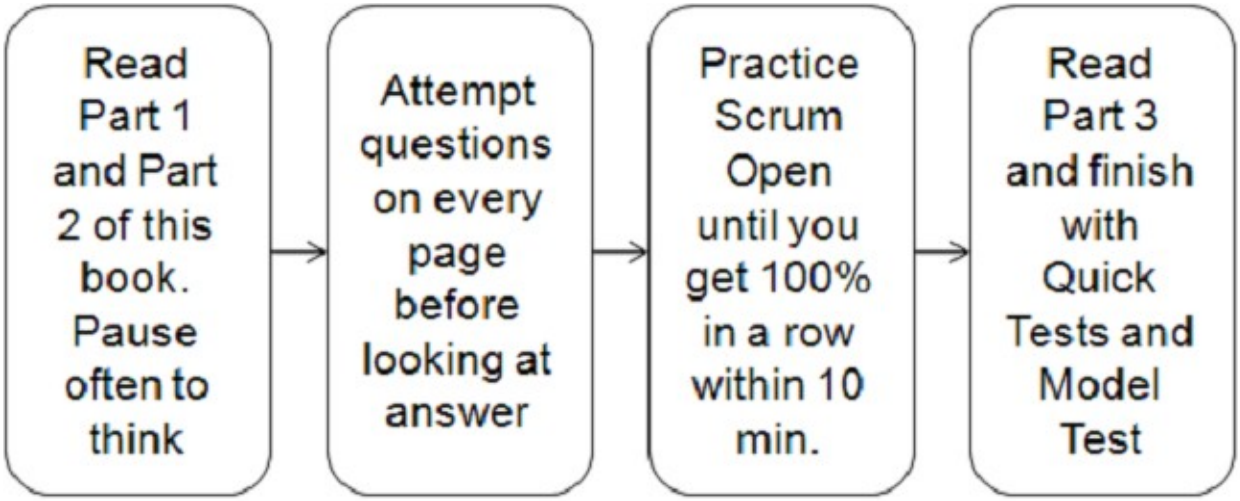

Fig. 22- PSM Preparation Approach

Understand Scrum and Practice for the PSM 1 at the same time

In general, it is important to understand absolutely everything in the 16-page "The Scrum Guide." It is available free of cost at http://www.scrumguides.org/. This book explains the Scrum Guide.

While studying Scrum try to answer the questions that are on almost every page of this book. The questions are provided immediately after introducing any concept. These questions make you think about the granular interpretations behind every statement of the Scrum Guide. These granular interpretations are usually not evident in normal reading, but pop out when backed by questions. Such learning helps in a firm anchoring of what you just read.

The questions in this book represent questions that may be asked on the PSM 1 test. So it allows you to practice for the assessment too.

Fully Prepare for the PSM 1 from all angles:

There is lot of additional contextual information that not only makes you fully prepared for the assessment, but also aids your job skills. For example, this book helps you

develop the understanding how Scrum works in larger organizational ecosystems by pointing out peripheral interfaces of Scrum like management, stakeholders, etc. At specific places this book highlights some techniques like burn-down that are usually employed by practitioners in an actual situation.

For the experienced Scrum practitioners, there is some amount of unlearning and clearing of misconceptions required, so they can correctly understand the PSM 1 questions and appropriate answers from an authentic Scrum perspective. This book has a separate chapter on that.

Finally, use this book to know useful information and tips such as word play in Scrum, Agile versus Scrum, Scrum Values, etc. so that you are covered from all angles.

Benchmark with Scrum Open Assessment

Take the Scrum Open assessment which is available freely to anyone online at www.Scrum.org/Assessments/Scrum-Open-Assessment. For each question, do not just stop with what was the right or best choice. Look at all the choices and clearly understand why they are not the best choices.

If you score more than 85% when taking the Scrum Open assessment, then you have good understanding of the assessment.

When you repeat the Scrum Open assessment, many of the same questions repeat. So after taking the assessment the first time, set a time limit of less than 10 minutes to complete the Scrum Open assessment. DO NOT EVER RELAX THIS TIME. If you really understand Scrum, you will think faster. Verify that you are able to score more than 90% within 10 minutes.

Make multiple attempts at the Scrum Open assessment until you get 100% in less than 10 minutes several times in a row.

More Practice

This book provides more than 250 PSM 1 assessment-related questions. In Part 3, there are five quick tests with ten questions each. If you score high in the first test, i.e., a minimum of 8, then you can go to the next quick test. Finally, you can take one complete test which simulates an actual PSM 1 assessment. If you can get through that with a score of 85% or higher, you are well prepared.

Last day before the Assessment

The summary behind each chapter is a nugget of Scrum. Revisit those. Also, many chapters are designed in question and answer format. You can have someone ask these questions, and you can ensure that you know the answers.

Question Types

The PSM 1 assessment examines the Scrum knowledge in the following subject areas:

- Scrum Theory and Principles
- The Scrum Framework
- Coaching and Facilitation
- Cross-functional and self-organizing teams

The following section provides a detailed idea about the type of questions that may be asked in the assessment along with examples and how this book helps with each type.

Question directly from the Open Assessment

From the feedback of multiple PSM 1 holders, 5 – 10% of the questions in the actual assessment are directly from the Scrum Open assessment. That's also another reason to attempt the PSM Open assessment until you get 100%.

How much does this book cover these types of questions? Getting 100% in a PSM 1 Open assessment is enough. Knowledge of Part 1 and Part 2 will prepare for the Open Assessment.

Question directly from the Scrum Guide

These are questions that are straightforward, but require you to remember every word of Scrum. Active learning helps to remember the core content. First, study this book. Then, read the Scrum Guide word by word.

How much does this book cover these types of questions? Actively learning Scrum using this book will cover all the questions directly from the Scrum Guide.

----------Question- 1----------

Having more than nine members on a Scrum Team

a) Is good because a larger team increases productivity.

b) Is good because there is more opportunity for cross training and backups.

c) Is not recommended because the empirical process behind Scrum may not manage the complexities associated with larger teams.

d) Is not recommended because the Scrum roles cannot be provided to everyone on the team.

-------Answer-------

The source of the answer is a direct statement from the Scrum Guide: "*Having more than nine members requires too much coordination. Large Development Teams generate too much complexity for an empirical process to manage*". Correct answer is 'c'.

----------Question- 1----------

Questions outside the Scrum Guide

The following is a sample of the question that you cannot answer directly from the Scrum Guide. To answer this specific question, you need to know a technique that is not explained in the Scrum Guide. It is expected that you as a Scrum Master with some practical experience know certain "real-time techniques." This book covers enough of these techniques where the questions can be anticipated.

How much does this book cover these types of questions? Thorough understanding of this book is essential. Attempting the questions on your own without jumping into the answers will provide an opportunity to think through and develop such understanding.

----------Question- 2----------

The Scrum Team is in the middle of a Sprint. The burn-down indicates that there is a big divergence between planned burn-down and actual burn-down. The inference is

a) The Scrum Master did not plan the Sprint properly.

b) There is more remaining work to do than originally anticipated.

c) There is less remaining work to do than originally anticipated.

d) The Development Team needs to re-plan as soon as possible.

-------Answer-------

The actual progress is different from what was forecast by the team. So, the team has to re-plan to meet the Sprint Goal. Other answers are incorrect because though there is a

divergence, there is no indication if the team is ahead or behind. Also, the Scrum Master is not the owner of the planning.

The Scrum Guide touches upon burn-down on a fleeting note only with no description. Answering this question requires additional knowledge beyond that description. Correct answer is 'd'.

----------Question- 2----------

Questions that check the Deeper Meaning and Experience

This is the difficult type of question. Such questions require a good understanding of the Scrum concepts around Self-organization, Servant Leadership, Product Ownership, handling issues at the periphery of the Development Team's boundary, etc. and some practical experience of applying Scrum. This book addresses these needs.

----------Question- 3----------

Select all that apply. For a Scrum Team, the Sprint Planning meetings are always going beyond the time-boxing. What could be the likely causes?

a) The Scrum Master does not moderate and control the participants.

b) The Team didn't invest enough into Backlog Refinement.

c) The Product Backlog size is huge.

d) The Development Team is trying to get a perfect and detailed Sprint plan.

-------Answer-------

The Scrum Master's role is not to control people or discussions but let the Team self-organize. They only coach and educate the Team to become self-organized. The Product Backlog size does not impact the time because the team does not need to discuss all items in the Product Backlog only those that are ordered on the top and are sufficiently deemed "ready" to be pulled into the Sprint.

Most teams are usually stuck with Product Backlog items that are not decomposed and refined to a level that have sufficient clarity and transparency so they can be done within a Sprint. If the Team has not continuously engaged in Backlog Refinement sessions, they will end up doing "Just in Time refinement" during Sprint Planning.

The chosen Product Backlog Items and the details of work planned for first few days of the Sprint are enough to close the Sprint Planning and start the work. The Development Team does not need to create a detailed work plan for a complete Sprint in the Sprint Planning. They can update the work plan as more details emerge during the Sprint.

Correct answers are ‘b’ and ‘d’.

----------Question- 3----------

Chapter 3 - Experienced Practitioners – Is it original Scrum?

Many Scrum practitioners acquire their knowledge of Scrum from multiple sources - some on the job, some from the open literature, some from various training sessions, and some with a combination of a few or all of these.

By virtue of their experience from multiple sources, they develop their "own understanding and interpretation" of what Scrum is including the roles, events, artifacts, and rules.

Important:

If you acquired your Scrum knowledge from random sources, please read the following statement very carefully.

For PSM testing purposes the approved body of knowledge of Scrum is 'The Scrum Guide' authored by Jeff Sutherland and Ken Schwaber. Scrum is 'The Scrum Guide.'

Scrum - Intentional Flexibility and Binding the Optional Techniques

Scrum clearly defines each event, role, artifact, rule, and those that constitute the Scrum framework. However, there are many subtechniques of product development that are left undefined intentionally.

While it is optional to apply the technique that works for the team, Scrum does not bind the Scrum users to specific subtechniques. The Scrum Team is expected to figure out the best methods, techniques, and practices themselves. Scrum is lightweight and can be implemented without the need of subtechniques. Some of the experienced Scrum practitioners working in an environment where teams "filled" these intentional gaps with some techniques tend to associate these techniques with Scrum. Here is an indicative list of those that are not prescribed by Scrum but are often mistaken as a definitive part of Scrum.

Writing Product Backlog Items as User Stories:

Scrum does not prescribe a specific format for how the Product Backlog Items (requirements) are defined. Many Scrum Teams use the format of **User Stories** to

define the Product Backlog Items, and find them useful. A User Story format looks something like the following

As a <User Role>, I would like <this feature / action>, so that I can <specific benefits>.

----------Question- 4----------

A Scrum Team is in the process of defining the Product Backlog Items. The Scrum Master notices that the team is not using the User Story format to capture the Product Backlog Items. The Scrum Master should

a) Correct the team's behavior by coaching them about User Stories.

b) Add a business analyst with the knowledge of writing User Stories to the team with the specific responsibility of documenting the Product Backlog with User Stories.

c) Let the team decide the format of the Product Backlog Items.

-------Answer-------

Scrum does not define a specific technique for documenting the Product Backlog Items. Correct answer is 'c.'

----------Question- 4----------

Applying Specific Estimation Techniques

Scrum does not prescribe a specific estimation technique. Often the practice of estimation by the Planning Poker card game is associated with Scrum. Planning Poker is a practice where a Development Team along with the Product Owner estimates the Product Backlog Items as described below.

1. Each Development Team member holds a set of plain index cards.

2. The Product Owner introduces a Product Backlog Item and clarifies any questions.

3. Now each team member writes the estimate for this Item on one of the index cards without revealing the estimate to anyone else.

4. Then all the team members reveal their card with their estimate at the same time. If there are only marginal differences between their estimates, they arrive at a consensus by discussion.

5. If there are outliers by considerable margin, the owners of those outliers explain how and why they came up with those estimates. This may lead to more discussion and questions for the Product Owner increasing the overall clarity.

6. Then the team goes for the next round of estimation. They repeat this process until the team reaches complete consensus about all the estimates.

----------Question- 5----------

The estimation method recommended by Scrum is

a) Poker Game.

b) T-Shirt Sizing.

c) Yesterday's weather.

d) None of the above.

-------Answer-------

Any technique that is useful can be chosen by the Development Team. Correct answer is 'd.'

----------Question- 5----------

Using Task boards / Kanban boards / Scrum boards to visually communicate the artifacts:

These are the visual representations of the Sprint Backlog and the current work status. These boards are useful in making the information publicly available on the product development floor. Also, they can be used to increase the efficiency of managing the work items through the **lean** principles like 'Flow', 'Limit the Work in Progress', etc. Lean is another powerful philosophy of product development like Agile.

Though many Scrum Teams may use this, the task board or Kanban board is an optional implementation in Scrum.

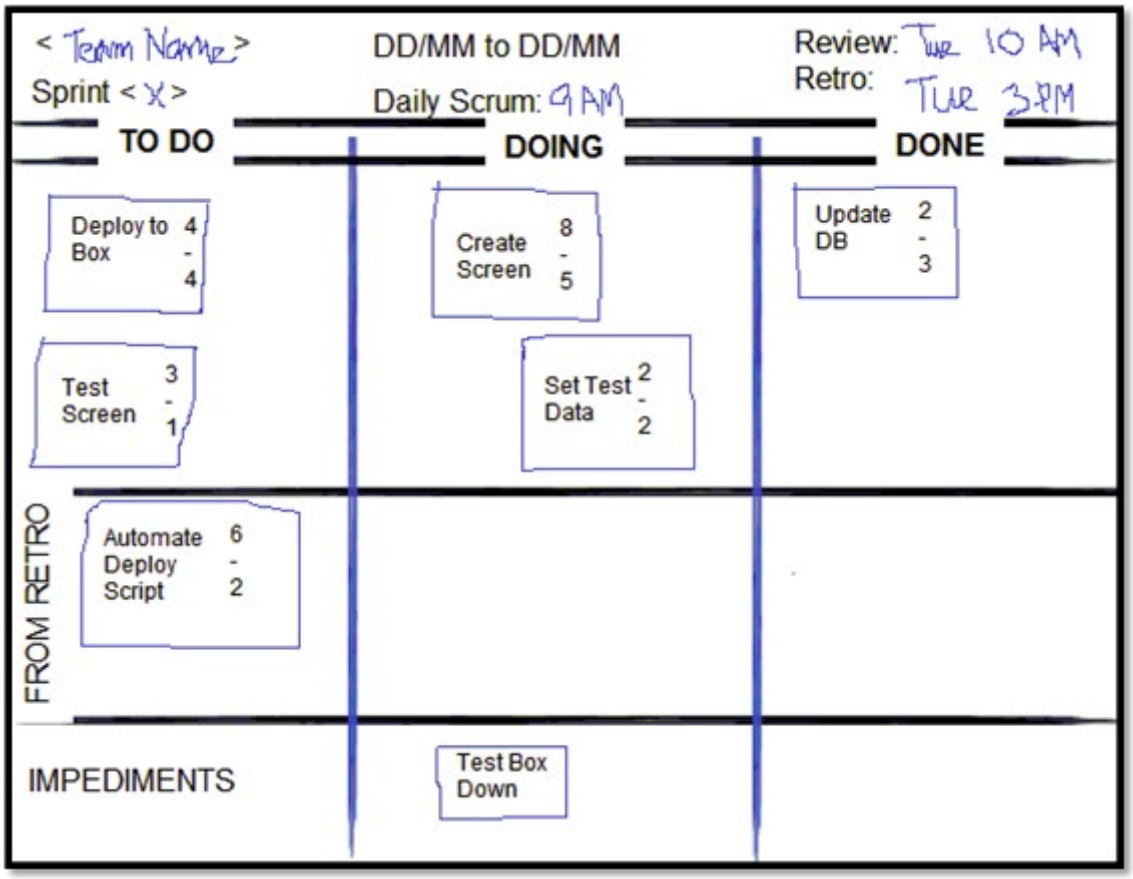

Fig. 23- Sample Task Board

----------Question- 6----------

A Development Team has created the Sprint Backlog in the form of a task board. What is your inference?

a) The Sprint Backlog contains the Product Backlog Items for the current Sprint and the plan to meet the Sprint Goal. The team can choose to represent it in any form that makes sense.

b) It is okay to have it in task board format, but it must be ensured that it follows Kanban guidelines.

c) The Scrum Master must advise the team to create a proper Sprint Backlog in the form of a matrix of the selected Product Backlog Items, related tasks, estimations, owners, and expected completion dates.

-------Answer-------

Correct answer is ‘a.'

----------Question- 6----------

Tracking technical debt

In software development, technical debt refers to the sub-standard technical work that leaves gaps in the technical quality of the Product Increment. A Product Increment that is already tested to be functionally fit and useable in the market can still have bad technical quality and hence the technical debt. Technical debt accrues due to bad technical choices. Technical debt will need additional work to improve the quality of the Product Increment and may increase the cost of the maintenance of the product.

An example of technical debt is – writing lengthy code, all dumped into one file, leading to several thousand lines of code in that single file. Such code will look unreadable, be prone to injecting errors while introducing the code changes later, increase the dependencies during code deployments, and so on. In this example, an acceptable standard would be to write simple and short code in modules. To fix this technical debt (bad technical choice of lengthy code), code refactoring (modifying to short code modules) is needed later.

There are tools that scan the software code and come up with a numerical index that reflects the technical debt of that code. Many Scrum Teams measure technical debt, but there is no specification of technical debt within Scrum. However, it is useful to know what the technical debt is.

----------Question- 7----------

Effort required to fix or refactor a product after it has been built is known as

a) Maintenance.

b) Technical Debt.

c) Plumbing code.

-------Answer-------

Technical debt is accrued as a result of making poor technical choices. Technical debt is not part of Scrum. A Scrum Team may employ this if that helps them in meeting their definition of “Done” and increase the quality. Correct answer is 'b.'

----------Question- 7----------

Scrum – Open Questions

There are some questions that are not clarified in Scrum. You may want to be aware of them so you can use Scrum values and high-level principles to infer guidelines around them. That understanding will be handy if there are any related questions in the assessment.

Example 1: In which event are the cost and the number of Sprints decided?

Parameters like release date, cost, etc. are reviewed in the Sprint Review. However, Scrum leaves it open about their first definition. Unless otherwise inferred through the question, it is safe to assume that they are defined at the time when the Just Enough Backlog is defined before the first Sprint.

Example 2: How are defects handled?

- Scrum is a product development framework and not a software development method. Hence The Scrum Guide does not detail the process of how to handle bugs/defects since the definition of bugs/defects are different in different product development sectors.
- When techniques such as Burn-down were changed to optional in 'The Scrum Guide 2013,' the Scrum authors provided the following explanation:

"*It is expected for the Scrum Teams to figure out the best methods, techniques, and practices themselves. While it is optional to apply the technique that works for their team, Scrum does not bind the Scrum users to specific subtechniques. The reason is Scrum is lighweight and can be implemented even without the need of subtechniques*."

There are many subtechniques of product development like handling defects that are intentionally left undefined. So, by providing a detailed guideline for handling bugs, we tend to add more rules than necessary to keep Scrum lightweight.

Here are some high-level guidelines to answer related questions.

1. Current Sprint defects: These are the defects from the work performed in the current Sprint. The Development Team fixes them as part of the current Sprint.

The Development Team makes an informed decision about forecasting what they can accomplish in the current Sprint. There is less likelihood of large defects being introduced because the team has refined the Product Backlog Items to a fine degree so that they can see through the requirements. So, when the team does get defects, it is

expected that the defects are minor in nature and the team fixes them in the current Sprint. However, in complex problems, what can happen is unknown. So, if the team does identify major defects, i.e., those that will be considered as new work, they are added to the Product Backlog.

2. Production defects: These are existing production defects of the product. If the defect fixing effort is negligible, the team fixes them in the current Sprint. If it is a time-consuming defect and if completing the current Sprint without addressing this production defect does not makes sense, the Sprint Goal automatically becomes obsolete. The Product Owner is responsible for maximizing the value of the product and the work of the Development Team. So, the Product Owner will usually cancel the current Sprint and have the team work on this new business imperative.

3. All other defects: They include the defects from the prior Sprints, non-critical production defects, etc. These are treated as new work to be performed and hence they are added to the Product Backlog.

----------Question- 8----------

In the middle of the Sprint, a Development Team identifies a defect. Initially they were not sure about the cause of the defect, and hence they involved the Product Owner to discuss it. After the discussion, both the Product Owner and the Development Team agreed that the defect is indeed a clear gap in the feature being developed in their Sprint and not a new requirement. The defect should be

a) Deferred to the Product Backlog since it is a new requirement.

b) Deferred since this is not a critical defect.

c) Fixed in the current Sprint.

-------Answer-------

This defect is from the work performed in the current Sprint. Correct answer is ‘c.’

----------Question- 8----------

Customizing Scrum for special situations

Some teams may have special roles like an impediment manager. Sometimes they create a sub team for production support (Business as usual teams). However, Scrum is immutable and does not allow customization.

----------Question- 9----------

A Development Team often gets some production support requirements in addition to the work in the Sprint Backlog. The team adapted their team composition and created a sub team to support these ad-hoc requirements.

a) It is okay to create sub teams within a Development Team.

b) It is not okay since there cannot be sub teams within a Development Team.

c) The team can complete the production support as one team, since it is high priority, and then come back to the original Sprint work.

-------Answer-------

Every Sprint is meant for delivering a potentially releasable product Increment as required in the Sprint Goal. If an outside item is taking the team's time, it is treated as an issue. If the team is forced by any authority, the Scrum Master needs to coach them about how Scrum works and facilitates removing this issue. Correct answer is 'b.'

----------Question- 9----------

Iteration/Sprint zero which does not produce a working Increment

Many professionals with on the job Scrum experience may have seen a Sprint called Sprint zero. This Sprint zero is created to accomplish some upfront preparations before the other Sprints. Some of the upfront preparation includes tasks such as setting up the work environment, staffing people, etc. This Sprint zero will not produce a working Increment. This is common in many organizations following Scrum. However, Scrum does not endorse a Sprint that is not intended to create a potentially releasable Increment.

----------Question- 10----------

The architectural features of the product need to be

a) Evolved along with the Sprint deliveries.

b) Completely designed upfront before the Sprints.

c) Decided at least at a skeleton level in Sprint zero.

-------Answer-------

Some teams customize Scrum to include an iteration called Sprint zero before the first Sprint to do the initial design. This is the replacement of the traditional "Big Upfront Design" of waterfall. Such practices defeat the purpose of empiricism. Correct answer is 'a.'

----------Question- 10----------

Hardening Sprint

Some teams customize Scrum to include an exclusive Sprint for increasing quality called the "Hardening Sprint." The Hardening Sprint focuses on 'perfecting' the Increment to meet the production release requirements. The team takes the Increment that was approved by the Product Owner in the Sprint Review and performs a list of "post Sprint Review" activities to enhance the technical fit of the Increment so it can go to production.

However, in Scrum the purpose of every Sprint is to deliver an Increment that meets the quality requirements for production. This means that every Increment coming out of any Sprint must be in a potentially releasable and useable state without the need for additional work. The definition of "Done" maintained by the Scrum Team should include conditions to meet these "releasable" criteria consistent with the organization's quality objectives.

----------Question- 11----------

After the Sprint Review, production release in Scrum requires

a) Hardening Sprints.

b) Non-Functional Testing.

c) Architectural Validations.

d) Usability/End User testing.

e) All of the above.

f) None of the above.

-------Answer-------

Every Sprint must produce an Increment that is potentially releasable and useable. Correct answer is ‘f.'

----------Question- 11----------

Chapter 4 – Additional Tips

This Chapter is meant to fully prepare you for the assessment. It provides additional material and more assessments to practice.

Changes in The Scrum Guide

The Scrum Guide is continuously updated. The latest version is July 2016. The older versions are removed and NOT available at Scrum.org. In the latest 2016 version, a small section on Scrum values was added. A list of the changed terms between the latest version and the prior versions is given below. When you see any of these terms in the assessment, whether old or new, treat them as the same.

Term in Latest Version vs. Term in Old Versions

Backlog Refinement (latest) – was called Backlog Grooming

Sprint Forecast (latest) - was called Sprint Commitment

Events (latest) - was called Ceremonies

Some of the mandatory elements in the older versions are optional now

The older versions of The Scrum Guide had something called "strategies and tips." They contained the discussion of some techniques and practices that can be employed within the broader framework of Scrum as guidelines. An example of a practice is Release Planning.

The latest version does NOT contain “strategies and tips.” It was removed to communicate that Scrum is lightweight and can be implemented without the need for specific techniques provided in “strategies and tips.” While it is optional to apply the technique that works for the team, Scrum does not bind the Scrum users to specific subtechniques. The following list contains items that are now optional:

Release Planning (Removed)

Velocity (Made optional within Scrum)

Burn-up and Burn-down (Made optional within Scrum)

Also, in older versions Sprint Planning was considered to have two separate **parts** called Part 1 (What) and Part 2 (How). In the latest version, Sprint Planning still has these two parts "What and How" as two **topics** that need to be addressed by the team. But, it is

not mandatory to separate them into two separate exclusive sessions within Sprint Planning. The team can address the two topics in seamless one session.

Word Play

For non-native speakers of English, some of the wording may be confusing. Here is the list of some potential phrases and what they mean:

Increment / Done Product Increment / Done Working Increment / Potentially Shippable – All these phrases mean the same thing which is "Potentially releasable and useable product Increment."

Product Development - Could mean both product development and software development.

Developer - Developer is same as a Development Team Member. They are interchangeably used.

Please note that if your native language is not English, and if The Scrum Guide is available in your language, read The Scrum Guide first in your native language to grasp some concepts that may otherwise be missed due to language nuances. As of the writing this book, The Scrum Guide is available in several languages other than English.

Some optional standards

Definition of Ready: Scrum explains that the Product Backlog Items are refined in an act called 'Backlog Refinement' until they are "Ready" for selection in Sprint Planning. There is no explicit reference to anything called "Definition of Ready."

Definition of Ready helps in two ways:

It provides a shared understanding between the Product Owner and the Development Team regarding the preferred level of description and transparency each item should meet before introducing them in Sprint Planning. The Team can use this standard as a guideline to refine (decompose) the items.

It provides the transparency to the team so they can estimate the effort and verify that they can get them "Done" within a Sprint. When a Product Backlog Item reaches this level of transparency, it is also known as "Ready."

Team Velocity: The Scrum Guide explains that Scrum Teams always try to optimize their productivity, and the Scrum Master causes changes that enhance their productivity. However, it does not mandate any standard to measure the team's productivity. Velocity

is an optional standard used within Scrum. Some teams use it to track their development speed and as a basis for their productivity to make a forecast during Sprint Planning. Velocity is usually an absolute number that represents the average quantity of work of the Development Team. It shows the average amount of Product Backlog turned into an Increment during a Sprint. The Development Team tracks this to project the capacity of the Development Team to make a forecast.

Coding Standards, Architectural Guidelines: The Scrum Guide does not talk about the technical practices or artifacts. There is no reference to anything called "Coding Standards" or "Architectural Guidelines." However, many Scrum Teams use them as part of their technical practices. Coding Standards ensure that the team produces readable and maintainable code. In Scrum, architecture is evolved continuously throughout the product development duration as more is learned. There is no exclusive Sprint or Scrum event to define architecture upfront. Usually, the Scrum Team defines architectural guidelines that every team member can use in their work. The team can have core hours to review the design and architecture during the Sprint. As a result, these guidelines are continually updated.

Scrum for Large efforts (Scaling Scrum)

Though questions are unlikely on this topic on the assessment, there were a few occasions where some PSM 1 assessment takers informed me about one question they face on large scale Scrum. So, it helps to know a little information on this which should help if a question or two appears in the exam. Scrum.org provides a framework called Nexus to scale Scrum for large product development efforts.

At Scrum.org, originally there was a Scrum practitioners Open which later was replaced with the Nexus open assessment. You can also practice the Nexus open assessment available at Scrum.org. It is not a "MUST DO" to prepare for the exam.

Some basic information on structuring the team is given below:

Structuring a large team into feature teams helps minimize or eliminate dependencies. Dividing on other basis such as a technical component is called layer teams or component teams. The advantages of feature teams are

- They are usually self-sufficient and hence have low communication overheads with external teams.

- There will be increased opportunity for direct business collaboration.
- Any dependencies that still exist between feature teams are made transparent and planned in an event called Scrum of Scrums.

----------Question- 12----------

Hundreds of developers are identified for a Scrum work. Which two of the following may be appropriate considerations to form these developers into teams?

a) Each team must have a required number of technical leads.

b) Each team must be sized to reduce external dependencies with less internal communication issues.

c) Each team must be a business feature team.

d) The team formation should seek input from the business side.

e) Each team must be a technical component team.

-------Answer-------

There is no technical lead role in Scrum. Hence choice 'a' is incorrect.

Feature team, though a preferred practice, is not a mandatory requirement by Scrum. Hence, choice 'c' is incorrect.

A technical component team increases dependency and reduces the ability for the team to produce a fully integrated working increment. Hence choice 'e' is incorrect.

Correct answers are 'b' and 'd.'

----------Question- 12----------

----------Question- 13----------

A large-scale product development requires more than 100 Developers. What is the most appropriate approach to develop an overall technical architecture?

a) Start the product development with the minimal number of teams possible. Let them evolve the foundation architecture that reflects the core product features of high value and commonly expected non-functional needs. Gradually add more teams.

b) Create a complete reference architecture before the development. Provide training to the Developers to teach them to comply with this architecture and hand over the architecture to them.

c) Identify a small set of best designers and let them guide the Development Teams during the Sprint with its implementation.

d) Divide the teams into technical component teams with specific responsibilities to design and manage their own components. Resolve any ongoing integration issues using Scrum of Scrums.

-------Answer-------

Scrum recognizes no titles for the Development Team members other than 'Developer' regardless of the work being performed by the person. There are no exceptions to this rule. As for the technical architecture, the design emerges throughout the journey: Development Teams do not create a big upfront design before they start Sprints. Instead they evolve the design.

Given this, choices ‘b’ and ‘c’ are incorrect. There is no designer or design team.

Technically dividing the team increases the dependency between the teams in large scale Scrum. Hence choice ‘d’ is incorrect. Correct answer is 'a.'

----------Question- 13----------

----------Question- 14----------

When multiple Scrum Teams are working on a same product, how many Product Owners and Product Backlogs are needed?

a) Multiple Product Owners and multiple Product Backlogs.

b) One Product Owner and one Product Backlog.

c) Multiple Product Owners and one Product Backlog.

d) One Product Owner and multiple Product Backlogs.

-------Answer-------

If there is one product, then there must be only one Product Backlog and one Product Owner. All the teams must work from the same Product Backlog. Also, note that it is not

necessary for the definition of “Done” to be same but a mutually defined definition of “Done” should enable the combined Increments to be potentially releasable. Correct answer is 'b.'

----------Question- 14----------

----------Question- 15----------

When multiple Scrum Teams are working on the same Product Backlog, each team selects the Product Backlog Items for the Sprint with the guidance of the Product Owner.

a) True.

b) False.

-------Answer-------

The Product Backlog is continuously refined to a thinly sliced functionality so that each Product Backlog Item has very minimal dependency between the Scrum Teams. The refinement also strives to identify which team will deliver what item. Later, in the Sprint Planning, each Scrum Team selects the Product Backlog Items with the guidance of the Product Owner. Correct answer is 'a.'

----------Question- 15----------

Knowledge of The Agile Manifesto

Scrum mutually respects The Agile Manifesto as a newer way of working. For the questions on the assessment, if the answer is not deductible from within the boundary of Scrum, apply the knowledge from The Agile Manifesto as a second body of knowledge.

Complementing ideas between Agile and Scrum - Four Values

The Agile Manifesto has four values and twelve principles. These are provided below. Scrum implements many of The Agile Manifesto values and principles in terms of Scrum Teams and their associated roles, events, artifacts, and rules.

Agile Value 1: For a better way of building software, The Agile Manifesto values “Individuals and interactions over processes and tools.” Scrum implements this value through Self-Organizing teams.

Agile Value 2: For a better way of building software, The Agile Manifesto values “Working Software over comprehensive documentation.” Scrum implements this value

through Sprints: A Sprint is a container of a few weeks of development work, where a "Done," useable, and potentially releasable product Increment is created. The mark of progress is the creation of this "Done" Increment, and not the creation of documents.

Agile Value 3: For a better way of building software, The Agile Manifesto values "Customer collaboration over contract negotiation." Scrum implements this value through the Product Owner role: the Product Owner maximizes the value of the product being developed and optimizes the work of the team through continuous collaboration with the Development Team.

Agile Value 4: For a better way of building software, The Agile Manifesto values "Responding to change over following a plan." Scrum implements this value through Scrum events: Each Scrum event is an opportunity for inspection and plan adjustment. Also, each Scrum event is time-boxed to eliminate unnecessary and extensive planning.

Complementing ideas between Agile and Scrum - Twelve Principles

1. "Our highest priority is to satisfy the customer through early and continuous delivery of valuable software." Scrum continuously delivers a useable Increment through Sprints which are produced at least once a month.

2. "Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage." Scrum absorbs the latest insights and needs into the Product Backlog at anytime.

3. "Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale." Scrum continuously delivers a useable Increment through Sprints that are not more than 1 calendar in duration.

4. "Business people and developers must work together daily throughout the project." Scrum emphasizes the role of Product Owner around maximizing the value of the Development Team through Product Backlog management and helping them to understand the business needs.

5. "Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done." Scrum Teams are self-organized where no external authority can direct them on how to perform their work.

6. “The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.” Scrum structures the team such that the communication is less complex and highly effective.

7. “Working software is the primary measure of progress.” Scrum squarely positions the Increment as the only mark of progress.

8. “Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.” Scrum empowers the team with both responsibilities and privileges so that they can make informed and realistic decisions about work without burning themselves out on unrealistic and externally enforced expectations.

9. “Continuous attention to technical excellence and good design enhances agility.” Scrum emphasizes the continuous inspection and adaptation of the Scrum Teams themselves focusing on quality, creativity, and productivity through Sprint Retrospectives.

10. “Simplicity--the art of maximizing the amount of work not done--is essential.” Scrum is intentionally lightweight avoiding thick and heavy processes and tools which have questionable value.

11. “The best architectures, requirements, and designs emerge from self-organizing teams.” Scrum Teams are self-organized teams.

12. “At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.” Scrum Teams perform a mandatory Sprint Retrospective every Sprint which is an inspection and adaptation of the team itself.

Additional knowledge from the “Developer Open”

The PSM 1 may contain one or two questions from the Scrum development work perspective. If you have time, attend the Developer Open assessment to grasp some of the related concepts.

Chapter 5 – Practicing Quick Tests

Here are five short tests to test your Scrum knowledge. If you score high in the first test, i.e., a minimum of 8, then you can go to next quick test. In case, you score less than eight in a quick test, analyze what you missed. You can go back to relevant sections in previous chapters to reinforce your learning, and come back to quick tests again. Finally, you can take one full blown model assessment that resembles the real assessment. If you get through that with a score of 68+ correct questions, you are well prepared.

Chapter 5.1 - Quick Test 1

Quick Test 1 - Questions

1. The role of Scrum Master in Sprint Retrospective is
   a) Auditor
   b) Silent Observer
   c) Peer Team Member
   d) None of the above

2. To deliver a single product, three different Development Teams are formed. How many Product Owners are needed?
   a) As many as recommended by Scrum Master
   b) Three
   c) One

3. Scrum framework is founded on
   a) Empiricism
   b) Empiricism and Technical Practices
   c) Empiricism and Emotional Intelligence

4. After Sprint Review, Production release in Scrum requires
   a) Hardening Sprints
   b) Non-Functional Testing
   c) Architectural Validations
   d) Usability/End User testing
   e) All of the above
   f) None of the above

5. A Scrum Team crafts the following Sprint Goal: "All the Sprint code should have passed 100% automated unit tests".

a) Not an appropriate goal, since Sprint Goal should be about expected business value

b) It is incorrect, since Product Owner formulates the goal and not the Scrum Team

c) It is well formed Sprint Goal

6. One of the Scrum Teams chose to have a Development Team member also playing the role of Scrum Master. A Development Team member cannot also play Scrum Master's role.

a) True

b) False

7. Duration (length) of the Sprint is decided by

a) Product Owner

b) Scrum Master

c) Scrum Team

8. During Daily Scrum, this plan is used as a reference to understand the changes in progress.

a) Sprint Backlog

b) Product Backlog

c) Sprint Burn-down

9. An important executive wants the Development Team to take in a highly critical feature in the current Sprint. The Development Team

a) Will work on that since organization priority is more important

b) Will ask the executive to work with Product Owner

c) As empowered team, will seek the executive to select an alternative work to be removed instead

10. A Scrum Team is in the process of defining Product Backlog items. The Scrum Master notices that the team is not using User Story format to capture the backlog items. Scrum Master should

a) correct the team's behavior by coaching them about user stories

b) let the team decide the format of Product Backlog items

c) add a business analyst with knowledge of writing user stories to the team, with specific responsibility of documenting backlog in terms of user stories

Quick Test 1 - Answers

1. Correct answer is 'c'. One of the items reviewed in retrospective is the "implementation of Scrum framework." Since Scrum Master is the owner for that, they participate as a peer team member

2. Correct answer is "c." A single product should have a single Product Backlog and hence the only one owner, a Product Owner. A Product Owner can delegate some of his responsibilities to the team, however they are still accountable for Product Backlog ownership

3. Correct answer is "a." Technical practices or any other value adding techniques can be optionally chosen by the Team and followed within the Scrum framework. However they do not reflect the foundation of Scrum.

4. Correct answer is 'f'. Every Sprint produces potentially releasable production quality Increment.

5. Correct answer is 'a'. Sprint Goal reflects the intended business functionality that will be delivered in a Sprint.

6. Correct answer is 'b'. A Scrum Master can be a Development Team member but that is not mandatory

7. Correct answer is 'c'.

8. Correct answer is ‘a’. The Sprint Backlog is a plan with enough detail that changes in progress can be understood in the Daily Scrum

9. Correct answer is ‘b’

10. Correct answer is ‘b’. Scrum does not prescribe any specific technique to capture the Product Backlog items. The team can choose the most beneficial technique that works for them

Chapter 5.2 - Quick Test 2

Quick Test 2 - Questions

1. Scrum Team uses the information of Scrum artifacts to make ongoing decisions. The soundness of these decisions depends on

a) artifacts' Adaptability

b) artifacts' Transparency

c) artifacts' Agility

d) artifacts' Format

2. An organization decides to have small Development Teams of size fewer than three. The likely result could be

a) The team may have decreased interaction

b) The team may have skills shortage

c) The team may have low productivity gains

d) All of the above

3. The product development project is about delivering an internal feature for an organization. The team has good skill composition and worked in similar projects. The Sprint lengths can be

a) Decided after the first release

b) Ignored since it is internal project

c) Up to one calendar month

4. Select all that apply. Empiricism provides…

a) Frequent opportunities to get information using which uncertainty can be completely eliminated

b) Frequent opportunities to discuss different possibilities

c) Frequent opportunities to make informed decisions, reducing risk

5. The leadership model followed by Scrum Master is

a) Micro Management

b) Servant Leadership

c) Command and Control

6. During a Sprint Review, the stakeholders notice that the product development progress is not clearly visible and lacked transparency. Moreover, they are not able to understand the next steps. Who is responsible for this?

a) Development Team

b) Product Owner

c) Scrum Master

d) Scrum Team

7. In the middle of the Sprint, a team member was required by another department manager to support an important task outside the Sprint work. What is recommended for the team member to do?

a) The team member must support since it is important task

b) The team member should ask the manager to speak with the Scrum Master

c) The team member should politely decline and explain the manager about his ownership and accountability for the Scrum Team

8. When more Scrum Teams are added to a project that works on one single product, the productivity of the original Scrum Teams mostly likely will increase

a) True

b) False

9. Select all that apply. Within just few Sprints, Scrum increases the transparency of the following

a) Technical ability of team to create Product Increment

b) Information of real progress

c) Both

10. The architectural features of the product need to be

a) Evolved along with Sprint deliveries

b) Completely designed upfront before the Sprints

c) Decided at least at skeleton level in Sprint zero

Quick Test 2 - Answers

1. Correct answer is ‘b’. Significant aspects of the development process must be visible to those responsible for outcome. These aspects must be highly transparent (should provide accurate and same understanding) so appropriate decisions can be taken

2. Correct answer is ‘d’. While the Development Team should be small enough to be nimble, fewer than three Development Team members decrease interaction and results in smaller productivity gains. Smaller Development Teams may encounter skill constraints during the Sprint, causing the Development Team to be unable to deliver a potentially releasable Increment.

3. Correct answer is ‘c’. Sprint length should be decided for all Sprints including for the first Sprint. Sprints are limited to one calendar month. Product Owner’s input need to sought to verify that the business risk due to this Sprint length is acceptable to them. In this case, since the team is cross-functional and experienced, risk appears to be lower. So it can be shorter.

4. Correct answers are 'b' and 'c'. Empiricism is alternative to waterfall to manage complexity and uncertainty. In waterfall, risk of uncertainty accumulates over long cycles. The risk is reduced by providing frequent feedback and course correction points, where more information may be available to view different possibilities and make informed decisions. However, empiricism does not completely eliminate uncertainty

5. Correct answer is ‘b’. The Scrum Master is a servant-leader for the Scrum Team

6. Correct answer is ‘b’. Product Owner is responsible for maintaining the transparency of Product Backlog, the progress so far, and the next steps along with alternatives if any.

7. Correct answer is ‘c’. Other than the “Backlog Refinement”, the Development Team should work on the tasks related to Sprint Goal. If any external authority brings different work, the team should explain about how they self-organize their work in Scrum way. After that, the team can refer them to speak with the Product Owner if the external authority still wants to add this new work

8. Correct answer is ‘b’. Each Scrum Team needs to mutually define their definition of “Done” so their combined work will be potentially releasable. This involves some overhead work in syncing up, and hence the impact to productivity

9. Correct answer is ‘c’. Since a Sprint fully completes one full cycle of development activities including Sprint Planning, developing, delivering a releasable Increment, etc. it brings out lot of useful information and transparency

10. Correct answer is ‘a’. Some teams may customize the Scrum to include iteration / Sprint zero before first Sprint, to do design. This is replacement of traditional “Big Upfront Design” of waterfall, and defeats the purpose of empiricism.

Chapter 5.3 - Quick Test 3

Quick Test 3 - Questions

1. Sprint longer than one calendar month may result in

   a) Too much to inspect in short meetings

   b) Detached stakeholders

   c) Increased complexity needing more traditional controls like documentations

   d) All of the above

2. The work left against time is shown by

   a) Team Velocity

   b) Burn-down graph

   c) Story Points Burn

   d) Release Burn-up

3. In Sprint Review, along with the review of the product Increment and progress, "what (steps) to do next" is also discussed

   a) False

   b) True, and the scope of the next Sprint is also finalized here

   c) True, and it may capture probable backlog items for next Sprint, but the scope of the next Sprint is deferred until Sprint Planning

4. In the middle of Sprint, the Product Owner wants the Development Team to participate in an important meeting with group of customers

   a) Development Team should strive to work on items related to current Sprint Goal. They should involve Scrum Master who can educate Product Owner to defer such interruptions and if required plan them in next Sprint

   b) Development Team should participate the meeting since it is with customers

c) Development Team should stop current Sprint work until that meeting to ensure they clearly understand customer concerns

5. A Scrum Team decides that the frequency of Daily Scrum should be reduced to once per week.

a) The Scrum Team is self-organized. They can choose their practices

b) Self-organization is alright but such decisions need to be approved by agile coach. So, they should involve agile coach.

c) Self-organization is about how to get the Sprint work done but subject to following Scrum. So, Scrum Master should strive to coach the team on the essentials of Daily Scrum

6. Who performs inspections of work in Scrum?

a) External Audit Team

b) Scrum Master in defined inspection points

c) Development Team

7. During the Daily Scrum, a team member says he does not know when his task will be complete.

a) It is acceptable as Sprint Review date is far away

b) Replace the team member with new team member

c) Development Team should collaborate to plan alternative steps such as pairing with someone else, etc. to eliminate the risk of not meeting Sprint Goal.

d) Scrum Master to mentor the team member on how to estimate the task

8. Every Sprint, the working Increment should be tested progressively from unit testing, to integration testing, and then user acceptance testing.

a) Yes. It is the prescribed method

b) No. The test strategy is decided by the Quality Assurance Lead in the team

c) Not necessary. While the team needs to ensure that each Increment is thoroughly tested, ensuring that all Increments work together, and meets definition of "Done", it is up to the team to find best method to achieve this

d) Incorrect. It should also include non-functional testing.

9. You are in a Scrum Team that is in the middle of the Sprint. Your team gets some additional team members. The likely result is:

a) The team can take more stories on the top of originally forecast Sprint Backlog

b) The team will have to do Sprint Planning again and get buy-in from new members on the new planning

c) The team may suffer in its productivity

10. A Scrum Team needs to develop a web application in Increments. Some of the Sprints have Sprint Goals like this: 'Develop Data layer for Functionality A'. What is your inference?

a) The Scrum Team follows horizontal decomposition of Product Backlog items. This is recommended

b) The Scrum Team follows vertical decomposition of Product Backlog items. This is recommended

c) The Scrum Team follows horizontal decomposition of Product Backlog items. This is NOT recommended

d) The Scrum Team follows vertical decomposition of Product Backlog items. This is NOT recommended

Quick Test 3 - Answers

1. Correct answer is 'd'. The longer the Sprint length, the work practices tend to drift towards waterfall style: with lengthy meetings, lack of early feedback from stakeholders, documentation/communication needs due to increasing complexity

2. Correct answer is 'b'.

3. Correct answer is ‘c’. Each Sprint event is an opportunity to inspect and adapt. “What to do next” is about adapting the Product Backlog if needed. The scope of the Sprint is finalized in the Sprint Planning, and not Sprint Review

4. Correct answer is ‘a’. Other than the act of “Backlog Refinement”, each task that Development Team performs must be related to Sprint Goal. Any distraction should be avoided and if needed, Scrum Master’s help needs to be sought to educate those causing the disruption

5. Correct answer is ‘c’

6. Correct answer is ‘c’. The Development Team is responsible for inspecting its own work.

7. Correct answer is ‘c’. The highest priority of Development Team is to complete the Sprint Goal. If there are impediments, they need to be resolved either directly or using workarounds. Later, in retrospective, the cause of this impediment can be discussed to find potential improvements

8. Correct answer is ‘c’. The team is self-organizing its own work. They can employ approaches and techniques that provide best return on effort.

9. Correct answer is ‘c’. The productivity will not increase because there will be learning curve for new members. The Sprint cannot be aborted to go back to Sprint Planning. The Sprint can be cancelled only by the Product Owner upon their inference that the Sprint Goal is not valid anymore

10. Correct answer is ‘c’. It is preferable to decompose the Product Backlog items such that each team can produce useable business functionality instead of producing a technical component. Such decomposition based on useable business functionality is also called as vertical decomposition. A horizontal decomposition on the other hand makes the team as technical component team that will have external dependencies.

Chapter 5.4 - Quick Test 4

Quick Test 4 – Questions

1. Definition of "Done" is

a) Initially defined per product by Scrum Team, but may change throughout the product development duration

b) Initially defined per Scrum Team, and does not change

c) Defined after first Sprint based on the new insights obtained from first Sprint Review

2. Which of the following statements are true? Select all that apply

a) After Sprint Planning, a sprint cannot proceed without complete requirement specification

b) After Sprint Planning, a sprint cannot proceed without a Sprint Goal

c) After Sprint Planning, a sprint can proceed without complete Sprint Backlog

d) After Sprint Planning, a sprint cannot proceed without complete architecture

3. A Development Team is self-organized and empowered. It is also the authority on deciding what business needs are required to be developed

a) True

b) False

4. Who decides the duration of the Sprint?

a) Product manager

b) Scrum Master

c) Development Team

d) Scrum Team

5. A Product Owner is not available for Scrum events and not supportive enough for Development Team. The next immediate accountability is with

a) Development Team that needs to cancel the Sprint

b) Stakeholders that need to get a written commitment from Product Owner

c) Product Owner's manager who needs to engage the Development Team and understand their problems

d) Scrum Master, who needs to educate Product Owner on his role

6. When a Product Backlog is retired?

a) When the Product Owner retires

b) When all the Sprints are over

c) When the Product retires

d) When the Customer provides the sign-off on completion of the project

7. A Product Owner cannot send a representative (delegate) to the Sprint Review.

a) True

b) False

8. A Product Owner is also knowledgeable on technology. In addition to product requirements, they also impose some technical conditions that the product should meet. These conditions must be added to

a) Product Backlog

b) Sprint Backlog

c) Definition of "Done"

9. An increment is

a) The sum of the value of all increments from previous iterations integrated with the Product Backlog Items "done" in latest Sprint

b) The sum of Product Backlog Items selected into Sprint Backlog

c) The sum of Product Backlog Items "done" in latest Sprint

10. What are the true statements?

a) Scrum Team is responsible for formulating a Sprint Goal

b) When existing Product Backlog Items in the Sprint Backlog are modified, the Sprint Goal is bound to become invalid

c) The coherence between Product Backlog items is made transparent by Sprint Goal. Lack of coherence will lead to Development Team members working individually

Quick Test 4 – Answers

1. Correct answer is 'a'.

2. Correct answers are 'b' and 'c'.

3. Correct answer is 'b'.

4. Correct answer is 'd'. The final Sprint duration, i.e., how much shorter than one month, is decided by the Scrum Team after considering the need of the Product Owner to limit business risks and the need of the Development Team so they can synchronize the development work with other business events.

5. Correct answer is 'd'. Scrum Master has the responsibility to remove Development Team's impediment and coach every role. Also, Scrum Master can show the resultant poor results due to lack of Product Ownership to Product Owner during retrospective.

6. Correct answer is 'c'. A Product Backlog is a living artifact that lives as long the Product lives.

7. Correct answer is 'a'. A Product Owner though they are accountable for Product Backlog, they can delegate many of the activities around Product Backlog Management, such writing them, ordering them, etc. However, they cannot delegate their participation in Scrum events.

8. Correct answer is 'c'. Every Product Backlog item should be about the product need that carries business value. The condition that Product Owner brings here is about the technical constraint. So, it should be added to the definition of "Done".

9. Correct answer is ‘a’ The Increment is the sum of all the Product Backlog items completed during a Sprint and the value of the increments of all previous Sprints

10. Correct answers are ‘a’ and ‘c’. The Sprint Goal provides opportunity for team members to work together and offers some flexibility of adjusting the Product Backlog items when required. Development Team can modify the Product Backlog Items in the Sprint Backlog with Product Owner’s consent, such that the Sprint Goal will still be met.

Chapter 5.5 - Quick Test 5

Quick Test 5 – Questions

1. Which is not a Product Backlog Management activity?

a) Clearly expressing and ordering Product Backlog items

b) Optimizing the value of the work the Development Team performs

c) Using formal change control to manage Product Backlog when market provides feedback from Product usage.

d) Ensuring the Development Team understands items in the Product Backlog to the level needed.

2. Select all that apply. Scrum Team participates in

a) Sprint Planning

b) Daily Scrum

c) Sprint Review

d) Sprint Retrospective

3. An inspector finds that a work aspect deviates outside acceptable limits, and that the resulting product will be unacceptable. When will the team adjust this work aspect to minimize the deviation?

a) In the next Scrum event

b) As soon as possible

c) After the Scrum Master approves the adjustment

4. A Scrum Team can identify the improvements only during the Sprint Retrospective

a) True

b) False

5. For the first Sprint, the inputs are the Product Backlog and the Projected Capacity of the Development Team. What are the additional inputs to the subsequent Sprints?

a) Defect list from previous Sprint

b) Sprint Plan

c) Past performance of the Development Team

d) Latest Product Increment

6. When a Sprint is cancelled, the Scrum Team discards all the work and refines a new Product Backlog

a) True

b) False

7. At the end of Sprint Planning, the Development Team could not decompose all of the work into units of one day or less. It could decompose the work for only the first few days of the Sprint.

a) The Development Team should close the Sprint Planning and start the work

b) Since the team is self-organized, they should continue Sprint Planning in the following days before they start the work

c) The Scrum Master should coach the team in required skills

8. What is a key inspect and adapt meeting for the Development Team?

a) Project Status Meeting

b) Daily Scrum

c) Design Sessions

9. What are the true statements?

a) Only the Product Owner should update the Product Backlog without delegating to anyone

b) Only the Development Team should be responsible for estimates of Product Backlog Items

c) Only the Product Owner should cancel the Sprint. Others can influence the decision to cancel.

d) Only the Product Owner can change the Sprint Backlog

10. Who defines the definition of "Done"?

a) Development Team

b) Technical / Domain Experts

c) Product Owner

d) Scrum Team

Quick Test 5 – Answers

1. Correct answer is 'c'. Changes in business requirements, market conditions, or technology may cause changes in the Product Backlog. Product Owner keeps the Product Backlog updated as a living artifact to reflect these changes, without a formal change control process.

2. Correct answers are 'a', 'c', and 'd'. Scrum Team participates in all events except Daily Scrum. Only the Development Team participates in that event, because, it organizes, plans, and controls its work without direction or management by Product Owner or Scrum Master. Scrum Master can participate if there is a need to coach or facilitate, until the Development Team can do on its own.

3. Correct answer is 'b'. The Development Team does not wait for any formal event to make this adjustment; instead make it as soon as possible to minimize further deviation.

4. Correct answer is 'b'. Sprint Retrospective provides a formal opportunity to focus on inspection and adaptation. However, improvements may be identified and implemented any time.

5. Correct answers are 'c' and 'd'.

6. Correct answer is ‘b’. The team still conducts Sprint Review to review “Done” Product Backlog items. If part of the work is potentially releasable, the Product Owner typically accepts it. All incomplete Product Backlog Items are re-estimated and put back on the Product Backlog.

7. Correct answer is ‘a’. The Sprint Planning is time boxed and cannot be extended. It is enough to have the work decomposed for first days of the Sprint to start the work, and can be decomposed later as needed throughout the Sprint.

8. Correct answer is ‘b’. Daily Scrums improve communications, eliminate other meetings, identify impediments to development for removal, highlight and promote quick decision-making, and improve the Development Team’s level of knowledge. This is a key inspect and adapt meeting for Development Team.

9. Correct answers are ‘b’ and ‘c’

10. Correct answer is ‘a’. It is developed by the Development Team with conditions that are acceptable to Product Owner.

Chapter 6 – Model Assessment

Model Assessment - Questions

1. The standard used by the Product Owner and the Scrum Team to identify unfinished work in a Sprint is

   a) Coding Standard

   b) Definition of Ready

   c) Testing Standard

   d) Definition of "Done"

2. Scrum is immutable. What may be the result of an organization modifying Scrum Framework in its implementation for the convenience of existing culture?

   a) The organization may lose the opportunity to expose its current cultural dysfunctions that impede the ability to develop the Product Increment Sprint after Sprint.

   b) Scrum is bound by technical tools and these tools will break

   c) It can only be done with the help of Scrum coaches

3. In a Scrum based software project, "Earned Value" is a good metric to track product development progress

   a) Yes

   b) No

4. The Scrum Master manages

   a) Scrum People

   b) Scrum Framework

   c) Scrum Technology

   d) All of them

   e) None of them

5. Select all that apply. Which Scrum events facilitate inspection and adaptation?

a) Sprint

b) Backlog Refinement

c) Sprint Retrospective

d) Development Work

6. The Sprint Review is an opportunity to review

a) Timeline and Budget

b) Defects and causes

c) Requirements and Capacity

d) All of the above

7. The Scrum Team optimizes the following and deliver business value

a) Flexibility, creativity, and productivity

b) Self-Improvement, Leadership, Motivation

c) Individual Power, Heroic Efforts, Recognition

8. Scrum allows having gaps between two subsequent Sprints, in which the team can accomplish support activities and team building activities

a) True

b) False

9. Sprint Planning helps in

a) Building entire technical architecture

b) Staffing plan

c) Testing strategy

d) Release plan

e) None of the above

10. When can a Product Owner negotiate the scope of what the team will work on next?

a) Anytime during the current Sprint with or without Development Team's consent

b) Until the Sprint Planning for the current Sprint

c) Both

11. The Development Team has not completed any of the Product Backlog Items selected for the Sprint by Sprint end. Next step is

a) Extend the Sprint since Scrum favors "getting done"

b) Advice the Product Owner to accept the completed portion of the incomplete Product Backlog Items, and plan to complete them by next Sprint, since Scrum favors "empowered teams"

c) End the Sprint with a Retrospective, since Scrum favors "time boxing"

12. The Scrum Team, based on the learning from previous Sprints, decides to revisit the length of the Sprint. What is the appropriate Scrum event to discuss and agree on the change?

a) Scrum Planning

b) Sprint Planning

c) Retrospective

d) Daily Scrum

13. To effectively track the Sprint progress, Scrum mandates

a) Preparing Sprint burn down charts

b) Increasing the transparency by frequently updating the remaining work

c) Earned Value approach

14. Only the Product Owner can come up with items that can be considered for Product Backlog. Others cannot provide input / recommendations / ideas about new items

a) True

b) False

15. Sprint Planning is the only occasion where the Development Team estimates the Product Backlog items

a) True, because without estimate, the team cannot plan what can go into the Sprint

b) False, estimation of Product Backlog Items is a continuous event throughout

16. Which is true?

a) Sprint Retrospective focuses on Product and Sprint Review focuses on development process

b) Sprint Retrospective focuses on development process and Sprint Review focuses on Velocity

c) Sprint Retrospective focuses on development process and Sprint Review focuses on Product

17. A Scrum Team often runs into following issues: Conflicting requirements from different departments, ad-hoc work requests from different business managers, no feedback on Increments. What could be the likely cause?

a) Issues with how Scrum Master guides the team

b) Issues with Product Owner responsibilities

c) Issues with planning abilities of Development Team

18. During a Sprint Review, the Scrum Master notices that the Product Owner does not use the Product burn-down graph to explain the status to the stakeholders. The Scrum Master

a) Should coach the Product Owner on the importance of using this Scrum tool

b) Should cancel the Sprint Review and schedule it back when the Product Owner is ready with this tool

c) Do Nothing

19. A short expression of the purpose of a Sprint which is often a business need– is called

a) Sprint Goal

b) Acceptance Criteria

c) Definition of Done

20. The estimation method recommended by Scrum is

a) Planning Poker

b) T-Shirt Sizing

c) Yesterday's weather

d) None of the above

21. It is mandatory that the definition of "Done" includes "Release to Production"

a) Yes

b) No

22. Under this topic of the Sprint Planning, the Development Team is more active in planning and Product Owner is mostly observing or clarifying

a) Topic One (What)

b) Topic Two (How)

c) Topic Three

23. Definition of "Done" is

a) Testing strategy for Scrum Team

b) A standard used by Scrum Team to assess if a product Increment is "done"

c) Defined by Product Owner and safeguarded by Scrum Master

24. Shortly into using Scrum for the first time in an organization, the Scrum Team runs into several impediments in following Scrum. The most common inference is

a) Scrum does not work for their organization

b) The Scrum Team didn't plan the project end-to-end well in advance

c) It is normal for first timers. Scrum will expose all weakness in the current eco-system that impede developing Product Increments in short Sprints.

25. A person external to the Scrum Team with a specific interest in and knowledge of a product that is required for Incremental discovery, is known as

a) Technical/Domain Expert

b) Stakeholder

c) Senior Management

26. On their kick-off day, a new Scrum Team didn't have any Scrum tool. The next best thing to do is

a) Expedite the installation of tool before the close of iteration zero

b) Get the recommendation from Product Owner about how to manage Scrum artifacts without the tool

c) Do nothing. Implementation of Scrum does not require any tool

27. The Development Team tries to put together some guidelines on testing approach. Who will own these guidelines?

a) Development Team

b) Test Lead

c) Scrum Master

28. Select all that apply. The mandatory participants of the Sprint Retrospective meeting are

a) Product Owner

b) Stakeholders invited by Product Owner

c) Scrum Master

d) Development Team

e) Technical/Domain/Process experts invited by Development Team

29. Sprint Backlog is modified throughout the Sprint. As soon as a new task is identified,

a) Product Owner adds it to the Sprint Backlog and communicates about it to Scrum Team

b) Scrum Master adds it to the Sprint Backlog and communicates about it to Scrum Team

c) Development Team adds it to the Sprint Backlog and communicates about it to Scrum Team

30. Select all that apply. The Sprint Review is an event that requires

a) Product Owner’s sign-off

b) Stakeholders active participation

c) Transition sign-off

d) Inspection and Adaptation activities

31. Multiple Development Teams are required to work on the same product. How can they integrate their development?

a) by mutually working with each other to create an integrated Increment

b) by maintaining individual Product Backlog for each team

c) by setting up some common working sessions between the lead Developers of each team to merge their changes before the Sprint Review

32. The Sprint Backlog emerges during the Sprint because the Development Team modifies it throughout the Sprint. In the middle of the Sprint, new work is added to Sprint Backlog. As a result, estimated remaining work will

a) Increase

b) Decrease

c) Stay the same

33. A Scrum Team develops software. Only when the Product Owner decides to go for the release, the team creates end user documentation for the Product Increment at that point.

a) It is correct. Creating document early will require constant effort to keep them updated.

b) It is correct. Scrum favors less documentation and deferring the decision to last minute.

c) It is incorrect. Anything required for the Product Increment to be production fit must be part of definition of "Done"

34. Pick the Scrum Values

a) Respect and courage

b) Simplicity

c) Commitment and Openness

d) Creativity and Intuition

e) Focus

35. A Scrum Team has five members. Each one works on a different product. What could we infer about the team?

a) The team will have higher productivity since division of work is clear

b) The team implements diversity, a principle of Scrum

c) The potential of team work and benefit of Scrum is less

d) All of them still will have common definition of "Done"

36. Team Velocity refers to

a) Average of amount of Product Backlog Items turned into "done" Items per Sprint

b) Average rate of churn of team members in Scrum Team during a Sprint

c) Average number of defects per Sprint normalized over all defect types

37. One of the major challenges for the team getting newly into Scrum can be

a) Developing skills to produce useable Increment just within a short Sprint

b) Learning about Scrum terminology

c) Difficulty in getting adapted to Scrum tools

38. In the middle of the Sprint, Development Team finds that few more days of work is needed to complete the scope. The planning options include:

a) Add more team members

b) Catch up using weekends

c) Defer the activities like testing after stakeholder's demo

d) Involve the Product Owner and negotiate alternatives

e) All of the above

39. Scrum Master forecasts the Product burn-down during Sprint Review.

a) True

b) False

40. In the middle of the Sprint, the Development Team did not get some technical tools that were originally promised. This will slow down the work. The next best thing to do is

a) Scrum Master should escalate to Project Manager

b) Product Owner should cancel the Sprint

c) The Development Team should assess the impact to meeting the Sprint Goal and the definition of “Done”, and find alternatives to still meet the Sprint Goal without compromising the definition of "Done"

41. A Development Team has created the Sprint Backlog in the form of a task board. What is your inference?

a) The team can choose to represent it any form that makes sense

b) It is okay to have it in task board format, but it must be ensured that it follows Kanban guidelines

c) Scrum Master must coach the team to create proper Sprint Backlog in the form of list of backlog items, related tasks, and estimations

42. The selection of items from the Product Backlog a Development Team deems feasible for implementation in a Sprint is called

a) Estimation

b) Planning Poker

c) Forecast of functionality

43. Velocity is an indication of team performance. It may be used by

a) The Scrum Team an internal measure to plan and track their improvements.

b) The managers to do performance appraisals for the team

c) The organization to aggregate into organization level productivity

44. In a new Scrum Team, a Scrum Master notices that a Developer works on a task that is not contributing to the Sprint Goal or the Sprint Backlog. The Scrum Master

a) Should escalate this to Product Owner

b) Should discuss with team member and educate about Scrum way of working

c) Should not interrupt since the team is self-organizing

45. A Development Team often gets some production support requirements, in addition to the work in the Sprint Backlog. The team adapted their team composition and created an exclusive sub team to support these ad-hoc requirements.

a) It is okay to create sub team within Scrum

b) It is not okay since there cannot be sub teams within the Development Team.

c) The team can complete the production support as one team, since it is high priority, and then come back to original Sprint work

d) It is okay if it is explicitly approved by Scrum Master

46. A Development Team has following condition under the definition of "Done": "All the code to be reviewed and approved by Industry Coding Standard Organization." This Industry Coding Standard Organization is a third party Subject Matter Expert outside Scrum Team.

a) The definition of "Done" is less effective, because it contains conditions that is not completely within influence of the Scrum Team

b) The definition of "Done" is more effective, because it ensures that required standards are met

c) The definition of "Done" can contain anything as decided by Product Owner

47. During Sprints, a Development Team has to wait for another team to provide some dependent input. Often this leads to delay in completing their work. What can be recommended to this team?

a) The team is not cross functional enough. The team should take Scrum Master's help in educating the organization to add team members with appropriate skills

b) The team should agree on Service Level Agreement (SLA) with another team and escalate to Scrum Master if the SLA breached

c) The team can mock up the sample of input instead of waiting and do the Sprint Review on time. The Product Increment can be refactored as and when another team provides input.

48. The Scrum Team gathers for Sprint Planning meeting. The Product Owner has some Product Backlog items but the Development Team finds that they do not provide enough information to understand the work involved to make forecast. The next best thing to do is

a) The Scrum Master cancels the Sprint

b) The Development Team proceeds with starting with whatever is known

c) The Development Team makes it transparent that they cannot make a forecast with insufficient information, and negotiates with Product Owner on refining the Product Backlog items to ready state

d) The Scrum Team discusses the root cause in the retrospective

49. In the middle of the Sprint, the Development Team finds that it has more capacity to take more work. The next best thing to do is

a) Make it transparent to Product Owner immediately, and collaborate to add additional work.

b) Consult and follow Scrum Master’s and follow their direction

c) Keep that as a contingency to accommodate unplanned work

50. The Development Team is not having regular (Daily) Scrums. As a Scrum Master, you

a) Will advise the team to think about conducting regular Scrums, but will let the team take the decision themselves as they are self-organizing

b) Will escalate this to resource managers

c) Will step in directly to guard the Scrum Framework by asking action-begetting questions to team and positively influencing them to conduct Scrum events

51. When a Scrum Team adds new team members for replacing some members going out, the productivity of the team

a) Will be negatively impacted

b) Will be positively impacted

c) Will remain the same

52. Effort required to fix/refactor something after it has been built is known as

a) Maintenance

b) Technical Debt

c) Plumbing code

53. The role of Scrum Master with respect to Scrum artifacts is

a) Coach the team to increase the transparency of the artifacts

b) Decide the format of the artifacts and ensures that the team follows it

c) Owner of the artifacts and responsible for having them up to date

54. Scrum framework is used to optimize value and control risk in complex product development. A component of value optimization is

a) Averaging out the values delivered over Sprints and use it to take decisions

b) Deciding to continue a Sprint only after verifying if it has enough value worth the effort

c) Ensuring that the Development Team is not having idle time by constantly monitoring their productivity

55. Three Development Teams are working as part of a big project to develop a product. When Sprints are in motion, there will be

a) Three Product Backlogs, and three Sprint Backlogs

b) One Product Backlog, and three Sprint Backlogs

c) One Product Backlog and one Sprint Backlog

56. Usually, when Scrum is applied newly in an organization,

a) Power of empiricism will be transparent

b) Everything that impedes producing value in short Sprints and accumulation of waste will be made transparent

c) The organization change management process defined by Scrum should be followed to avoid implementation issues

57. In empiricism, the decisions are based on

a) Scientific calculation and Prediction

b) Meeting and Brainstorming

c) Observation, experience and experimentation

58. What is the correct statement?

a) The technical design continuously evolves over the Sprints. Hence the team should have some basic guidelines to start with, but try to emerge the design through the Sprints.

b) The team can choose to have an exclusive Sprint only to finalize the technical design. At the end, the design should be approved by the project architect

c) The team does not need to pay attention on the architecture as it will evolve itself as a by-product of self-organization

59. A Development Team is often interrupted in the Sprint midway and assigned to work on "other" high priority items. Frequently, such interruptions lead to not meeting the Sprint Goal. The most likely cause could be

a) The Development Team is not technically competent

b) The Product Owner authority is ineffective or influenced by another authority

c) The Sprint Planning is poor

60. A Development Team is responsible for

a) Selecting the Product Backlog Items for the Sprint after clarifying with the Product Owner

b) Reporting to the Scrum Master

c) Creating a potentially shippable Increment every Sprint

d) Increasing the productivity as per management goal

61. The process of the coming into existence or prominence of new facts or new knowledge, or knowledge of a fact becoming visible unexpectedly, is called as

a) Transparency

b) Inspection

c) Emergence

62. Middle of the Scrum, the team comes to know that there are some usage related changes to the Product needs. The Product Backlog

a) Is modified to reflect the new need

b) Is closed. Project is cancelled and new Product Backlog will be built

c) Is not impacted and the Sprints continued

63. Middle of the Sprint, the Development Team finds that some of the Product Backlog Items forecast for this Sprint cannot be finished because they need significant additional effort. However, the Development Team can still meet Sprint Goal with rest of the items. The next thing to do is

a) Consult with Product Owner and if they agree, have them cancel the current Sprint, and plan new Sprint with new estimations

b) Do not cancel or modify the Sprint. Extend the Sprint duration as required for the additional effort

c) Collaborate with the Product Owner to remove the Product Backlog Items that cannot progress, and new work up to team's capacity. Complete the Sprint.

64. A good guideline to differentiate Acceptance Criteria from definition of "Done" is, "definition of "Done" provides checklist to take the Increment close to production deployable state (potentially shippable), while acceptance criteria specify the business requirements"

a) True

b) False

65. What is the desirable team composition for large product development program?

a) Program is divided into individual Scrums based on business feature. Each Scrum Team has all the skills needed to finish job without external help

b) Program is divided into individual Scrums based on technical components. Each Scrum Team has its component specific skills needed to finish their own component without external help

c) Program is organized into consumer Scrums and service provider Scrums (front end could be consumer who plays as Product Owner to a middle tier Scrum). Each Scrum gets the dependencies work done leveraging their Product Owner position

66. How are the Non-Functional Requirements addressed by the Scrum Team?

a) by testing them in 'Hardening Sprint'

b) by ensuring that they are met by every Increment and typically defining them in the definition of "Done"

c) By having a Non-Functional System Team owning them

67. A Development Team has technical specialists in its composition. The specialists perform their work when the Sprint Backlog needs their special skills, but they are idle otherwise.

a) Continue to have the specialists to deliver fully integrated Increments. Gradually facilitate the Development Team to organize their work to fully leverage these special skills. If required, the team can enhance everybody's domain of expertise, so everyone is productive as team without idle time

b) Let the project manager coordinate their staffing needs and plan partial allocations to different teams to avoid idle time

c) Defer and accumulate the special work to later Sprints until it needs full time specialists. Deliver the Increment with workarounds. Later, when specialists are added, refactor the Increment removing the workarounds so it can become releasable.

68. The Product Owner provides the transparency of their product plan to the stakeholders and the Scrum Team through

a) Planning Backlog

b) Sprint Backlog

c) Project Backlog

d) Product Backlog

69. A Scrum Team needs to develop a web application in Increments. Some of the Sprints have Sprint Goals like this: 'Develop Data layer for Functionality A'. What is your inference?

a) The Scrum Team follows horizontal decomposition of the Product Backlog items. This is recommended

b) The Scrum Team follows vertical decomposition of the Product Backlog items. This is recommended

c) The Scrum Team follows horizontal decomposition of the Product Backlog items. This is NOT recommended

d) The Scrum Team follows vertical decomposition of the Product Backlog items. This is NOT recommended

70. The Development Team can deliver an Increment that meets the definition of "Done", but the Increment still has defects that are known to the team and the Product Owner

a) Yes

b) No

71. Select all that apply. During the Daily Scrum, the Scrum Master's role is to:

a) Facilitate discussions of the Development Team

b) Moderate and control so that everyone gets a fair chance to speak

c) Ensure that all 3 questions have been answered

d) Teach the Development Team to keep the Daily Scrum within the 15 minute time box

e) All of the above

72. For the Product Backlog Refinement act, the Scrum Team needs to define a recurring pre-set time every week outside the current working hours of Development Team.

a) True

b) False

73. Burn-up and Burn-down charts show evolution of progress over time. In particular,

a) Burn-up shows increase in completion, while Burn-down shows remaining effort

b) Burn-up shows increase in team productivity, while Burn-down shows decrease in productivity

c) Burn-up shows increase in turn-around time, while Burn-down shows decrease in turn-around time

74. The Development Team meets every day to inspect the progress and adapt the next day plan. If the Daily Scrum exposes the need to re-plan rest of the Sprint, these re-planning activities happen

a) During the Daily Scrum

b) Immediately after the Daily Scrum

c) As soon as the team gets some extra time

d) The Sprint plan cannot be revised except during Sprint Planning

75. A Development Team decides to have an exclusive Sprint to evolve the technical architecture. The sole outcome of this Sprint is a finalized architecture design.

a) It is a good practice since it will help the design to emerge

b) It is not the Scrum approach, since every Sprint must produce at least one releasable functionality

c) It does not matter, since the team is self-organized about how to perform their work

76. In Scrum based software development effort, while the Sprint Goal will deliver a Product Increment, one of the Product Backlog Items is asking for production of a document.

a) It is not okay. Every Product Backlog item must be about a working software requirement

b) It is not okay. Documentation is not needed until Product Owner chooses to release an Increment to production

c) It is okay. A Sprint can produce a document as a sole outcome of the Sprint

d) It is okay. A Sprint can produce other deliverables like document requested by Product Owner along with working Increment.

77. An Organization needs to structure hundreds of Developers into Scrum Teams. You as a Scrum Master will

a) work with the organization management and prepare the best structure for the each Scrum Team based on the seniority and skills of the Developers

b) identify required number of Scrum Masters and require them to choose their Scrum Teams

c) facilitate the awareness of the Developers about the goals and objectives of the product development, coach them about Scrum, and let them work among themselves to form the Scrum Teams

78. Select all that apply. It is essential for the Product Owner to have these skills. Usually Scrum Master serves the Product Owner by coaching them

a) Software application development

b) Understanding and practicing agility

c) Coaching team

d) Product planning in empirical environments

79. An organization is on its path to adopt Scrum as its approach to software development. It decides to convert all Project Managers into Scrum Masters.

a) It is good strategy. The project managers already know how to run projects. They just need training on Scrum

b) It will create resentment to project managers, because they will have a small team to manage

c) The organization needs to rethink on this strategy. Identifying persons who are inclined or experienced in coaching and facilitation as their leadership style is a better strategy.

80. Select all that apply. A Product Owner requests Development Team to help them with some tasks related to Product Backlog maintenance.

a) The Scrum Master should step in and coach Product Owner to perform their job themselves

b) It is okay but Product Owner is still accountable for the Product Backlog maintenance.

c) Development Team should refer Product Owner to speak with Development Team manager

d) Development Team can volunteer if this additional task does not impact their Sprint work

Model Assessment - Answers

1. Correct answer is ‘d’. Definition of “Done” provides the common understanding to the Scrum Team about how to assess the completion of a Product Backlog item or the Increment.

2. Correct answer is ‘a’. Scrum does not prescribe or mandate any tools. There is no role such as Scrum coach.

3. Correct answer is 'b'. The real mark of progress in Scrum is - the delivery of useable product Increment in every Sprint.

4. Correct answer is ‘b’. Scrum Master is not a people manager. Scrum does not prescribe any technology. Scrum is container framework within which techniques and technologies can be employed to develop complex products.

5. Correct answer is ‘c’. Other than the "Sprint", all other four events facilitate inspection and adaptation. Backlog Refinement is called as an Act within Scrum.

6. Correct answer is ‘a’. Sprint Review is a Scrum event that offers an opportunity to inspect and adapt. Stakeholders collaborate to review the timeline, budget, potential capabilities, and marketplace for the next anticipated release of the product. The team also explains what happened during the Sprint. But they do not inspect about the defect and causes.

7. Correct answer is ‘a’. The Scrum framework is a collaboration framework within which Scrum Team can creatively and productively deliver business value with quality. The team model in Scrum is designed to optimize flexibility, creativity, and productivity.

8. Correct answer is ‘b’. Sprints are done consecutively, without intermediate gaps.

9. Correct answer is ‘e’. Sprint Planning is focused on coming up with Sprint Backlog and Sprint Goal. Sprint Backlog consists of scope of work planned for that Sprint and the plan to achieve that scope. Technical architecture is evolved over the Sprints.

10. Correct answer is ‘b’. Scrum allows the Product Owner to decide what the team will work on next by ordering the Product Backlog items. In Sprint Planning, the team picks up these backlog items as the scope of the Sprint. However, after the Sprint Planning and until the Sprint end, the Product Owner cannot correct the Sprint Backlog without Development Team’s consent.

11. Correct answer is ‘c’. The Scrum events are strictly time boxed. They end as per the time box no matter what.

12. Correct answer is ‘c’. Retrospective is an event where the team inspects their way of working (people, relationships, process, and tools), and adapts any improvements.

13. Correct answer is ‘b’. Scrum does not mandate techniques like Sprint burn down or earned value. However, it stresses bringing-in highest transparency of the underlying information behind Scrum artifacts.

14. Correct answer is ‘b’. While the Product Owner has the final say on the content and order of the Product Backlog, he can still get the input / recommendations / ideas about new items from any stakeholders for consideration.

15. Correct answer is ‘b’. Every item in Product Backlog needs to have a description, order, value, and estimate. The Product Owner works with Development Team throughout in Backlog Refinement sessions, to refine the backlog items and get the estimate.

16. Correct answer is ‘c’. Sprint Review is a Scrum event to inspect and adapt the product development. Sprint Retrospective focuses on inspecting and adapting the way of working to develop the product.

17. Correct answer is ‘b’. All these issues have something to do with collaborating with business stakeholders, maintaining Product Backlog, participating in Scrum events, etc. These are Product Owner’s responsibilities.

18. Correct answer is ‘c’. There are many tools like product burn-down that help to show the evolution of the past and its projection into future. While they are useful, none of these tools are mandated by Scrum. Scrum Master should strive to coach the team about importance of empiricism and not the tools.

19. Correct answer is ‘a’. Sprint Goal is the purpose of the Sprint and hence needs to be preserved. The Sprint Goal gives the Development Team some flexibility regarding the functionality implemented within the Sprint.

20. Correct answer is ‘d’. Scrum does not prescribe any specific estimation technique.

21. Correct answer is ‘b’. Every Sprint includes producing a potentially releasable working Increment. However, it is Product Owner’s call to release that to production.

22. Correct answer is ‘b’. In topic two, the Development Team puts together a plan of how to achieve the scope of the Sprint. It primarily involves deriving work tasks. As an owner who is going to own and perform these tasks, this team is more active during topic two.

23. Correct answer is ‘b’.

24. Correct answer is ‘c’. Scrum will expose all weakness in the current eco-system that need to be acknowledged and resolved by the organization.

25. Correct answer is ‘b’. Though stakeholder is generally regarded as those having some interest in the product, Scrum has this specific definition of the stakeholder.

26. Correct answer is ‘c’. Implementation of Scrum does not require any tool.

27. Correct answer is ‘a’. The testing approach is part of development work. The development work is owned by the Development Team.

28. Correct answers are ‘a’, ‘c’, and ‘d’. Retrospective is an opportunity for the Scrum Team to inspect and adapt the Scrum Team itself.

29. Correct answer is ‘c’. Development Team is the owner of the Sprint Backlog.

30. Correct answers are ‘b’ and ‘d’. Sprint Review is an informal meeting, not a status meeting, and the presentation of the Increment is intended to elicit feedback and foster collaboration. There are no sign-offs.

31. Correct answer is ‘a’. Multiple teams working on the **same** product must have a **single** Product Backlog. It is the responsibility of all the teams to mutually define their definitions of "Done," and then work with each other so that they can create an integrated Increment that is potentially shippable.

32. Correct answer is ‘a’. The Sprint estimation is not necessarily constant. As more is learned, the work is adjusted. When new work is added, it increases the amount of remaining work.

33. Correct answer is ‘c’. Every Increment is a potentially releasable Increment. It means that whatever is required for the release, it should be defined as part of definition of "Done". For a Product Backlog item to be considered as ‘complete’, it should have met this definition of "Done".

34. Correct answers are ‘a’, ‘c’, and ‘e’. Other answers also reflect Scrum. However, these five are the publicly understood version.

35. Correct answer is ‘c’. Since everyone is working on a different product, there is minimal chance of team work, collaboration and team self-organization.

36. Correct answer is ‘a’.

37. Correct answer is ‘a’. Scrum is lightweight with Scrum Teams and their associated simple roles, events, artifacts, and rules. But for new teams, it is difficult to master the skill to produce deployable and useable Increment within short Sprints. Scrum is not associated with any tools.

38. Correct answer is ‘d’. Scrum events are time boxed. Sprint needs to be over by defined date. However, the scope of the Sprint may expand or contract as more is learned throughout the Sprint. When new issues emerge that threaten the completion of Sprint by pre-set date- As a first step, the team needs to capture this as an issue and try to solve on their own. If they cannot, they should make this impediment transparent and take Scrum Master’s help. Even after that, if the impediment is not solved, they need to involve the Product Owner to discuss the alternatives.

39. Correct answer is ‘b’. It is responsibility of the Product Owner to track the progress of the Product Backlog and forecasts the completion. This forecasting is done in every Sprint Review.

40. Correct answer is ‘c’. The first step is to self-manage the issue and find work-around to preserve the Sprint Goal completion. If that does not solve the issue, it needs to be raised as an impediment seeking Scrum Master’s help.

41. Correct answer is ‘a’. Sprint Backlog contains the Product Backlog items for the current Sprint, and the plan to complete and realize the Sprint Goal. Scrum does not prescribe any specific format or technique to be followed for representing Sprint Backlog.

42. Correct answer is ‘c’.

43. Correct answer is ‘a’. It is an optional standard, tracked by the Development Team for use within the Scrum Team.

44. Correct answer is ‘b’. The Scrum Master does not manage people. They encourage the self-organization of the team to manage its work. However, the Scrum Master is the guardian of the Scrum framework and hence its rules. A Development Team member should only work on tasks related to Sprint Goal. When there is a violation, Scrum Master actively steps in to coach the team on Scrum.

45. Correct answer is ‘b’. Every Sprint is meant for delivering an Increment of releasable software / product, as required in Sprint Goal. If an outside item is taking the team’s time, it is treated as an issue. If the team is forced by any authority, Scrum Master needs to coach these external authorities about how Scrum works, and facilitate removing this issue. Correct answer is b.

46. Correct answer is ‘a’. The activities required to complete the Product Backlog items to a “done” state should be completely within the ownership and influence of the Scrum Team.

47. Correct answer is ‘a’. A Development Team should be cross functional enough, i.e., should have all the skills needed to convert the Product Backlog items into “done” Increment. If the team needs to depend on external entities for converting backlog items into done Increment, it is not cross functional enough. Every Sprint outcome should be potentially shippable. Mocking up does not complete the work as per that standard.

48. Correct answer is ‘c’. The Development Team should maintain highest transparency while making a forecast of the work that they believe they could complete.

In this case, they cannot do that because the Product Backlog items do not provide enough information. So, they have to utilize the time available to refine the items to required state and proceed with plan. Later, in the retrospective the Scrum does discuss the root cause and hence answer 'd' is also correct. But, the question asks about "next best thing to do".

49. Correct answer is 'a'. Scrum events are time boxed. Sprint needs to be over by defined date. However, the scope of the Sprint may expand or contract as more is learned throughout the Sprint. When the work gets contracted due the new findings, and there is more room for additional work, the team makes it transparent to the Product Owner. Scrum Master mentors the team to increase such transparency.

50. Correct answer is 'c'. The Scrum Master does not manage people. They encourage the self-organization of the team to manage its work. However, the Scrum Master is the guardian of the Scrum framework and hence its rules. Daily Scrum is an opportunity to inspect and adapt daily progress, so that the work related differences are not allowed to go beyond a day. When there is a violation, Scrum Master actively steps in to coach the team on Scrum.

51. Correct answer is 'a'. When new team members join, the productivity of the team will be temporarily reduced.

52. Correct answer is 'b'. Technical debt is not a concept within Scrum. However, it is commonly used by Scrum Teams to indicate the gap unaddressed in a done Increment.

53. Correct answer is 'a'.

54. Correct answer is 'b'. It is the responsibility of the Product Owner to verify that a Sprint has enough value to worth the effort. They are rigorous value optimizers.

55. Correct answer is 'b'. Since all of them work on a single product, there will be one common Product Backlog. But, each Development Team will have its own Sprint Backlog and Sprint Goal.

56. Correct answer is 'b'. Scrum will expose all weakness in the current eco-system that need to be resolved. Scrum does not define any organization change management process.

57. Correct answer is “c”. Empiricism is a process control theory in which only the past is accepted as certain and in which decisions are based on observation, experience and experimentation.

58. Correct answer is ‘a’. There is no exclusive Sprint only to finalize the design. Every Sprint must be used to produce at least one working functionality that is potentially releasable.

59. Correct answer is ‘b’. The Product Owner is the ultimate authority of the Product Backlog on which the Development Team must work. Those wanting to change a Product Backlog item’s priority must address the Product Owner. For the Product Owner to succeed, the entire organization must respect his or her decisions. If the Development Team is given different work, it indicates that Product Owner’s authority is interrupted.

60. Correct answers are ‘a’ and ‘c’.

61. Correct answer is ‘c’.

62. Correct answer is ‘a’. The Product Backlog is never complete during the project. It undergoes constant changes and continuously refined. It exploits emerging opportunities and adjusts the emerging risks, so the value can be optimized.

63. Correct answer is ‘c’. Cancelation of the Sprint is decided by Product Owner, and Product Owner will not cancel the Sprint unless the Sprint Goal becomes obsolete. Here the Sprint Goal is intact. Also, the Sprint duration cannot be extended since it is time boxed.

64. Correct answer is ‘a’. Definition of “Done” is a standard to define the quality for production release. Acceptance criteria is the specification of expected business behavior.

65. Correct answer is ‘a’. It is preferable to divide teams such that each team has absolute ownership of their work without external dependencies.

66. Correct answer is ‘b’. Definition of “Done” defines the standards to be met for a Product Backlog item to be considered as “done.” Typically Non-Functional Requirements are added to the definition of "Done" so that such requirements are built into every Increment.

67. Correct answer is ‘a’. There is no project manager role in Scrum and the Development Team manages its own development work. A Development Team must be

cross functional enough, that is, it should have all required special skills, without the need for any external help in completing the Sprint Backlog.

68. Correct answer is ‘d’. The Product Owner uses Product Backlog to update the stakeholders on the current state of the product plan.

69. Correct answer is ‘c’. It is preferable to decompose the Product Backlog items such that each team can produce fully working business functionality on its own rather than producing a technical component. Such decomposition is called as vertical decomposition. A horizontal decomposition on the other hand makes the team depend on other teams to integrate and create a fully working business functionality. Such teams usually end up as just technical component teams.

70. Correct answer is ‘a’. An Increment can have known gaps but must meet the definition of “Done”. The reason for having a lenient definition of “Done” is - definition of “Done” should contain conditions that are realistic to achieve for the team. For newer teams, they can start with definition of “Done” with what is realistic for them, and then can be continually be improved by maturing team's ability to perform all that is required to deliver flawless Product Increment. Having a realistic definition of “Done” for newer team means that the working Increment may have known bugs. But such gaps are transparent between Development Team and Product Owner.

71. Correct answers are ‘a’ and ‘d’. Scrum Master facilitates the Scrum events as and when requested by others or required by their observations. Scrum Master does not take any active role in directing or controlling the Daily Scrum. It is up to the Development Team to fully leverage it for their synchronization and progress. Scrum Master is the guardian the Scrum process and time boxing is a cardinal rule of Scrum. So, Scrum Master coaches the team to keep the Scrum rules.

72. Correct answer is ‘b’. This is an ongoing act that happens within the hours of current Sprint. The time can be mutually discussed and agreed by Product Owner and the Development Team. Usually it does not take more than 10% capacity of Development Team. Also, Product Backlog items can be updated at any time by the Product Owner or at the Product Owner’s discretion.

73. Correct answer is ‘a’. Both burn-up and burn-down are not mandatory but optional in Scrum. They are used to make the progress transparent.

74. Correct answer is ‘b’. The Development Team uses the Daily Scrum to inspect progress towards the Sprint Goal and to inspect how progress is trending towards completing the work in the Sprint Backlog. During the Daily Scrum they come up with the next 24 hour plan. But, if they see that the entire Sprint plan needs to revisited, they meet immediately after the Daily Scrum for detailed discussions, or to adapt, or re-plan, the rest of the Sprint’s work.

75. Correct answer is ‘b’. In Scrum, technical architecture is evolved continuously throughout the project, as more is learned. There is no exclusive Sprint or Scrum event to define the technical architecture upfront. Usually Development Team defines architectural guidelines that every team member can use in their work. The team can also have core hours to review the design and architecture during the Sprint. As a result, these guidelines are continually updated, and the technical design emerges on the go.

76. Correct answer is ‘d’. While the Sprint has to necessarily produce a potentially shippable and useable Increment, some of the Product Backlog items could produce other deliverables including documents if the Product Owner considers them having appropriate value. If a Product Backlog item is a document, it may not be subjected to definition of “Done” which is usually the standards needed for software. So, while the definition of “Done” is applicable at Increment level, it may not be applicable for some individual Product Backlog items.

77. Correct answer is ‘c’. Scrum Teams are self-organized teams. Given the knowledge of the product vision and sound understanding of how Scrum works, the team is knowledgeable enough to form themselves into Scrum Teams. A Scrum Master needs to facilitate this.

78. Correct answers are ‘b’ and ‘d’. Product Owner must have the understanding to perform product planning in empirical environment, and practicing agility. Scrum Master serves the Product Owner by coaching them these skills.

79. Correct answer is ‘c’. Scrum Master does not manage any team. The Scrum manager is not required to know project management since it is shared between three roles of Scrum.

80. Correct answers are ‘b’ and ‘d’. The Product Owner may have the Development Team help them with Product Backlog maintenance. However, the Product Owner remains accountable. There is no manager for the Development Team.

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