



EXIN Lean IT

KAIZEN

Certified by


Sample Exam

Edition 202111

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Introduction

This is the EXIN Lean IT Kaizen (LEANITK.EN) exam. The Rules and Regulations for EXIN's examinations apply to this exam.

This exam consists of 40 multiple-choice questions. Each multiple-choice question has a number of possible answers, of which only one is correct.

The maximum number of points that can be obtained for this exam is 40. Each correct answer is worth 1 point. You need 26 points or more to pass the exam.

The time allowed for this exam is 90 minutes.

Good luck!

Sample Exam

1 / 40

Which is the **best** description of a good A3 problem-solving report?

- A) It is restricted to no more than a single page which restricts verbosity.
- B) It helps the team to follow a structured problem-solving method.
- C) For completeness it should include Background and Follow-up sections.
- D) Remaining issues and upcoming actions should be described.

2 / 40

The IT Service Management department of a national Estate Agency has suffered from a high number of failures in the customer record application. The Systems Architecture team has proposed a set of changes to the IT Director that will not only fix the quality problems, but will also move the organization to a web-based solution for the management of customer records.

Which factor supports a decision to use the DMEDI problem-solving method?

- A) Easy to understand and adopt
- B) Implements change in a gradual manner
- C) Creates competitive advantage by delivering a new service that currently does not exist
- D) Can be used for most IT changes

3 / 40

In IT terms, which is an example of Kakushin?

- A) A Change to an application that will not involve the disappearance of roles in the organization.
- B) Replacing a complete application with a different application that supports the process in a different way.
- C) A change to an application which does not affect processes associated with the application.
- D) The upgrade of an application currently in use from a release level to a new release level.

4 / 40

Which of these is the correct sequence of six steps of the measurement phase in DMAIC?

- A) 1. Identify the outputs and inputs of the process, 2. Validate the measurement system, 3. Create and execute the data collection plan, 4. Value stream map the process, 5. Assess the capability and performance of the process, 6. Identify Quick Wins
- B) 1. Identify the outputs and inputs of the process, 2. Value stream map the process, 3. Create and execute the data collection plan, 4. Validate the measurement system, 5. Assess the capability and performance of the process, 6. Identify Quick Wins
- C) 1. Assess the capability and performance of the process, 2. Identify the outputs and inputs of the process, 3. Validate the measurement system, 4. Create and execute the data collection plan, 5. Value stream map the process, 6. Identify Quick Wins
- D) 1. Assess the capability and performance of the process, 2. Create and execute the data collection plan, 3. Identify the outputs and inputs of the process, 4. Validate the measurement system, 5. Value stream map the process, 6. Identify Quick Wins

5 / 40

If you were addressing a process which was unstable, what kind of variation would you be attempting to understand and ultimately control?

- A) Common cause variation
- B) Independent variation
- C) Special cause variation
- D) Quantitative variation

6 / 40

What are the Seven Basic Tools of Quality?

- A) Histogram, Pareto chart, Scatter diagram, Flow chart, Control chart, Fishbone (Ishikawa) diagram, Check sheet
- B) Root cause analysis, Pareto chart, Scatter diagram, Flow chart, Control chart, Fishbone (Ishikawa) diagram, Check sheet
- C) Histogram, Pareto chart, Spaghetti diagram, Flow chart, Control chart, Fishbone (Ishikawa) diagram, Check sheet
- D) Histogram, Pareto chart, Scatter diagram, Flow chart, Control chart, Fishbone (Ishikawa) diagram, Brainstorming

7 / 40

In the context of completing an A3 report, which is a skill used in Summarizing?

- A) Able to combine several aspects of a problem into a single statement
- B) Able to break a problem down into its constituent parts
- C) Able to express relevant information briefly and concisely
- D) Able to utilize pictures and graphics to explain problems and solutions

8 / 40

What is Step 3 of the Improve Phase?

- A) Select and prioritize solutions
- B) Apply best and good practices
- C) Generate potential solutions
- D) Develop 'Future state' VSM

9 / 40

High-impact IT incidents which occur regularly but require different levels of effort and time are an example of what unit of work category?

- A) Joggers
- B) Sprinters
- C) Runners
- D) Repeaters

10 / 40

What is the meaning of Standardization?

- A) Using a successful solution to solve similar problems elsewhere in the organization
- B) Developing standard education modules using examples extracted from successful projects
- C) Using team members from earlier successful Kaizen events to provide education and training
- D) Applying good ideas, lessons learned and solutions to other problems in the organization

11 / 40

Which qualifies an individual to become a member of a Kaizen team?

- A) Experienced in the area or value stream affected by the problem
- B) Knowledge of the problem from an external customer's perspective
- C) Be open-minded and previous experience of working in a Kaizen team
- D) Knowledge of the problem from an external supplier's perspective

12 / 40

You are leading up Kaizen project focused on improving the productivity and effectiveness of Service Desk operations. The team has created a problem statement, analyzed the current condition including a value stream map, and created SMART future state goals. You are maintaining an A3 to capture the team's progress as well as their learning. As you wrap up the Analyze phase and fill in the Analysis section of the A3, you are considering using the Quality tools to better understand the various symptoms, causes, and effects and how these may be addressed. Your team uses control charts, pareto diagrams, tally sheets, and fishbone diagrams to better understand the problems, symptoms, causes, and potential remedies. You have limited space and a large amount of analysis.

What is the **most** appropriate information to go in the Analysis section of your A3?

- A) All the analysis performing using references to "supplemental" sheets
- B) Pareto analysis
- C) The analysis that demonstrates a validated understanding of cause and effect
- D) If the team uses control charts, they should be included as they show common versus special cause variation

13 / 40

The first step of the Improve phase is to start generating ideas for possible solutions to the problems identified earlier in the DMAIC problem-solving method. The Kaizen team have now progressed to the stage of option selection and prioritization, and have categorized each of the solutions according to its impact and feasibility.

What are the **most** likely perspectives used as primary sources to understand and validate a problem statement?

- A) Voice of the Regulator, Voice of the Customer
- B) Voice of the Process, Voice of the Customer
- C) Voice of the Customer, Voice of the Business
- D) Voice of the Process, Voice of the Business

14 / 40

The Kaizen team lead is preparing a communication plan. The following information will be included: Content, Audience, Timing, Form, Input, Actions, Capacity.

Which information will be missing from the report?

- A) Status
- B) Issues
- C) Purpose
- D) Author

15 / 40

A basic A3 Problem-solving report is required to describe a problem. The report has been partially completed with the following information: Background, Current condition, Analysis, Proposed options, Plan/improvement, Follow up.

Which information is missing from this report?

- A) Measure
- B) Incident(s)
- C) Known error
- D) Future State goals

16 / 40

Which is a characteristic of daily Kaizen?

- A) Responds to everyday occurrences such as incidents, mistakes and other quality issues
- B) Brings together a group of people who have an interest in solving a particular problem
- C) Requires a substantial time investment and the results may not always be as successful as desired
- D) Requires organization and management to ensure that the right people are involved

17 / 40

Which is the **best** definition of an independent variable?

- A) Free from outside control; not depending on another's authority
- B) The problem that needs to be solved
- C) An input that may or may not contribute to the problem
- D) An input that is kept constant to determine its independence

18 / 40

Your Company has been experiencing a significant increase in customer returns and, as a representative of IT, you have been asked to participate on a Kaizen improvement team. An initial look at the data shows that returns are occurring for a number of reasons including wrong and/or missing item, size, color, style, packaging, labels, and documentation.

What quality tool should you use to identify whether the process suffers from common or special cause variation?

- A) Pareto chart
- B) Scatter diagram
- C) Control chart
- D) None of the choices available

19 / 40

According to the Cynefin model, IT problems which require expert knowledge to determine cause and effect relationships are called what?

- A) Composite problems
- B) Complicated problems
- C) Ordered problems
- D) Chaotic problems

20 / 40

Using the Business case development technique what is the maximum period within which the Kaizen solution should produce positive return?

- A) Within three months
- B) Within six months
- C) Within nine months
- D) Within twelve months

21 / 40

What is an alternative to a Standard Operating Procedure?

- A) Checklist
- B) Arrangement
- C) Directory
- D) Catalogue

22 / 40

The manager of IT Service Management has been requested to add a new KPI to the monthly dashboard report: performance against a target to reduce the number of capacity-related issues by 50% within 12 months. The manager of IT Service Management has proposed a monthly metric that will ensure the affected department fully understands how they are performing against this target.

Which information about capacity-related issues should appear in the monthly dashboard report in order for the metric to be meaningful?

- A) Target number of issues raised this month. Actual number of issues raised this month.
- B) Target % reduction in the number of issues raised to date. Actual % reduction in the number of issues raised to date.
- C) Target number of issues raised to date. Actual number of issues raised to date.
- D) Target % reduction in the number of issues raised this month. Actual % reduction in the number of issues raised this month.

23 / 40

After deciding which Kaizen initiative is the most important to the customer and the organization, what is the next decision required for the initiative?

- A) Timing
- B) Feasibility
- C) Cost
- D) Affordability

24 / 40

What is the purpose of a SIPOC diagram, used in the Define step of the DMAIC method?

- A) Produce a data collection plan
- B) Verify the measurement system
- C) Generate potential solutions
- D) Define the scope

25 / 40

Which of the following steps is **not** carried out in the Analyze phase?

- A) Determine root cause
- B) Prioritize root causes
- C) Determine critical independent variables
- D) Audit the data

26 / 40

In terms of IT, what is the purpose of measurements?

- A) To establish critical success factors
- B) To understand the dynamics and performance of processes and services
- C) To record the number of problems
- D) To provide input for a dashboard

27 / 40

The IT department has recently heard "rumors" that people have become frustrated with the level of service they receive when calling the help desk for support. One of the VP's in your company called the CIO and asked what was being done about the problem. The CIO called you and said, "take care of it."

Your first step is to prepare a problem statement.

What are two things you should do when preparing to write a problem statement?

- A) Go talk with end users to see for yourself and gather the facts
- B) Create a draft Value Stream Map and talk to customers about the problem
- C) Identify the sponsor and members of the core Kaizen team
- D) Categorize the problem based on the Cynefin model

28 / 40

What are the components in a Control plan, in addition to Documentation and Response?

- A) Maintenance and Training
- B) Monitoring and Training
- C) Monitoring and Communications
- D) Maintenance and Communications

29 / 40

What is the definition of a Control?

- A) A means of checking that accepted changes are maintained
- B) A record of changes accepted by the sponsor
- C) An A3 report to support the Kaizen initiative
- D) A way of identifying whether work is done in the correct way

30 / 40

Your company has been involved in a series of acquisitions over the past 3 year with more planned. IT is responsible for onboarding and integrating the financial systems of acquired companies in order to generate consolidated financial reporting capability as soon as possible. You are leading a Kaizen team charged with improving this process. The last three onboardings took on average 210 days. The board of directors has informed the CIO they require consolidated financial statements 30 days after the close of all acquisitions. The activities to integrate an acquisition's financials include onsite =survey, systems inventory, database analysis, security analysis, transition project planning, system configuration, data migration, unit testing, integration testing, go live, generate trial consolidated statements, audit, debug, iterate until generation of valid consolidated statements, go live. Of the total elapsed time to onboard a new acquisition, it is estimated that 147 days of the total time is spent waiting for information from the acquired company, IT resources to become available and coordinate with the acquired company staff, and in some cases for equipment to be delivered. The current backlog of work before the IT team can begin on the next acquisition is always at 60 days. There is a single team that works on onboarding acquisitions and they have the capacity to work on no more than one acquisition at a time due to other assignments. They are dispersed throughout the IT organization in various departments (e.g., PMO, Infrastructure, Apps Support, Database, Network, Security, Governance).

Which of the following statements is true?

- A) Takt time is 210 days.
- B) Queue time is 60 days.
- C) Takt time is 147 days.
- D) Queue time is 30 days.

31 / 40

At the end of the Analyze phase the Kaizen team has a good understanding of the factors which cause the problem. The first step of the Improve phase is to generate ideas for possible solutions to the problem.

Which is a technique that is available to the Kaizen team to facilitate the next step in the Improve phase?

- A) Value stream mapping
- B) Failure Mode Effects Analysis
- C) Multi-voting
- D) Stakeholder analysis

32 / 40

What is a Solution test for the Complicated type of problem (Cynefin)?

- A) Implement a pilot using market place best practice techniques
- B) Experiment with the solution to determine how it performs in practice
- C) Implement a small pilot to test how the solution performs in the live environment
- D) Use risk analysis techniques on each action to identify which actions to take

33 / 40

Which is an indicator of a 'Kaizen' mindset?

- A) Setting a target for the speedy resolution of problems, as they occur.
- B) Managers and employees regard problems as an opportunity to work out who made the mistake.
- C) Managers and employees focus on understanding and fixing the root causes of problems.
- D) Managers encourage employees to participate in the sharing of lessons learned.

34 / 40

The Kaizen team is working on improving the process that manages the execution of changes. There is a meeting once every two weeks in which changes are reviewed to determine whether they can be implemented. The team determines that this is a bottleneck in the process.

What type of issue is being removed?

- A) Waste
- B) Variability
- C) Overburden
- D) Waiting time

35 / 40

A Kaizen event has been scheduled to recommend a way forward in dealing with a particular problem with a key database. However, the people involved in the affected department are aware of the problem, but are ambivalent about the urgency to fix the problem - they believe there are other, more urgent problems which need to be fixed. The Kaizen sponsor has been identified and is anxious to have the problem solved as quickly as possible.

What steps should be taken to secure the buy-in of the affected department to the proposed plan of action?

- A) Hold a workshop to discuss the problem and invite the manager of the affected department to speak
- B) Invite the Kaizen sponsor to speak about the problem at the next department meeting of the affected group
- C) Select another Kaizen initiative as the people supporting the database are not convinced of the need
- D) Go ahead with the Kaizen event and assume that the affected department will eventually agree

36 / 40

Which of the following is **not** an objective of the Define phase of DMAIC?

- A) Understanding the customer's expectations
- B) Clarifying the problem that needs to be addressed
- C) Identifying SMART measures
- D) Defining challenges and obstacles likely to be encountered during implementation

37 / 40

The Kaizen team are executing the final step in the DMAIC cycle and are considering how to ensure that the successes from the Improve phase will be maintained in the production environment. The team have decided to re-use a number of the metrics chosen in the Define and Measure phases when there was a need to understand the scale of the problems.

Which statement **best** describes the difference between qualitative and quantitative measures?

- A) Quantitative measures are always measurable and qualitative measures are a matter of opinion.
- B) Quantitative measures are not subject to bias whereas qualitative measures are always open to bias and human perception.
- C) Quantitative measures are used to gain objective insight into performance while qualitative measures measure capability or maturity from the perspective of the people involved.
- D) Quantitative measures are more subjective and qualitative measures are intuitive .

38 / 40

What is the purpose of an A3 Status report?

- A) To inform all stakeholders of the progress of the execution of a longer-running project or action
- B) To provide the sponsor with a report on steps completed and planned in the current DMAIC cycle
- C) To provide the Kaizen team with a regular update on the status on ongoing activities and issues
- D) To inform the user community about the current status of problems and issues

39 / 40

The Kaizen team are developing a communication plan which is intended to provide information to members of the IT department about the current status of the Kaizen event.

In the Measure phase, an automated data collection system is an example of what?

- A) The power of big data
- B) Annotated observation
- C) A qualitative measurement system
- D) A quantitative measurement system

40 / 40

How is a Kaizen initiative selected?

- A) Problems that require investigation are selected by the sponsor and added to an improvement board.
- B) IT investigates and fixes problems based on the sequence shown on an improvement board.
- C) Problems are listed on an improvement board by the sponsor and are actioned by IT.
- D) Problems are selected from an improvement board by the sponsor and or a small team including the sponsor and investigated.

Answer Key

1 / 40

Which is the **best** description of a good A3 problem-solving report?

- A) It is restricted to no more than a single page which restricts verbosity.
 - B) It helps the team to follow a structured problem-solving method.
 - C) For completeness it should include Background and Follow-up sections.
 - D) Remaining issues and upcoming actions should be described.
-
- A) Incorrect. This is an objective but is not a criteria for a good report.
 - B) Correct. This is one of the two determinants of a good A3 Problem-solving report.
 - C) Incorrect. This is recommended content but does not constitute a good A3 Problem-solving report.
 - D) Incorrect. This content relates to an A3 Status report.

2 / 40

The IT Service Management department of a national Estate Agency has suffered from a high number of failures in the customer record application. The Systems Architecture team has proposed a set of changes to the IT Director that will not only fix the quality problems, but will also move the organization to a web-based solution for the management of customer records.

Which factor supports a decision to use the DMEDI problem-solving method?

- A) Easy to understand and adopt
 - B) Implements change in a gradual manner
 - C) Creates competitive advantage by delivering a new service that currently does not exist
 - D) Can be used for most IT changes
-
- A) Incorrect. This is a factor which supports the use of DMAIC.
 - B) Incorrect. This is a factor which supports the use of DMAIC.
 - C) Correct. This is a factor which supports the use of DMEDI.
 - D) Incorrect. This is a factor which supports the use of DMAIC.

3 / 40

In IT terms, which is an example of Kakushin?

- A) A Change to an application that will not involve the disappearance of roles in the organization.
 - B) Replacing a complete application with a different application that supports the process in a different way.
 - C) A change to an application which does not affect processes associated with the application.
 - D) The upgrade of an application currently in use from a release level to a new release level.
-
- A) Incorrect. An example of Kakushin is the opposite of this - it is a change to an application that WILL involve the disappearance of roles in the organization.
 - B) Correct. Replacing a complete application with a different application that supports the process in a different way is an IT example of Kakushin.
 - C) Incorrect. An example of Kakushin is the opposite of this - it is a change to an application which WILL have an effect on processes associated with the application.
 - D) Incorrect. The upgrade of an application currently in use from a release level to a new release level is an example of Kaikaku.

4 / 40

Which of these is the correct sequence of six steps of the measurement phase in DMAIC?

- A) 1. Identify the outputs and inputs of the process, 2. Validate the measurement system, 3. Create and execute the data collection plan, 4. Value stream map the process, 5. Assess the capability and performance of the process, 6. Identify Quick Wins
 - B) 1. Identify the outputs and inputs of the process, 2. Value stream map the process, 3. Create and execute the data collection plan, 4. Validate the measurement system, 5. Assess the capability and performance of the process, 6. Identify Quick Wins
 - C) 1. Assess the capability and performance of the process, 2. Identify the outputs and inputs of the process, 3. Validate the measurement system, 4. Create and execute the data collection plan, 5. Value stream map the process, 6. Identify Quick Wins
 - D) 1. Assess the capability and performance of the process, 2. Create and execute the data collection plan, 3. Identify the outputs and inputs of the process, 4. Validate the measurement system, 5. Value stream map the process, 6. Identify Quick Wins
-
- A) Incorrect. You cannot validate the measurement system before you value stream map and create and execute the data collection plan.
 - B) Correct. This is the correct sequence.
 - C) Incorrect. Assess the capability and performance of the process is the final step in the sequence, not the first.
 - D) Incorrect. Assess the capability and performance of the process is the final step in the sequence, not the first.

5 / 40

If you were addressing a process which was unstable, what kind of variation would you be attempting to understand and ultimately control?

- A)** Common cause variation
 - B)** Independent variation
 - C)** Special cause variation
 - D)** Quantitative variation
-
- A)** Incorrect. The kind of variation is inherent in a stable process.
 - B)** Incorrect. There is no such thing as independent variation as it relates to controlling a process.
 - C)** Correct. Although their occurrence may be unpredictable, special causes generate patterns in the data and provide signals about the problems in the process and how they can be resolved.
 - D)** Incorrect. Quantitative variation is variation measured on a continuum (e.g. length of service outages) rather than in discrete units or categories (e.g. number of password resets).

6 / 40

What are the Seven Basic Tools of Quality?

- A)** Histogram, Pareto chart, Scatter diagram, Flow chart, Control chart, Fishbone (Ishikawa) diagram, Check sheet
 - B)** Root cause analysis, Pareto chart, Scatter diagram, Flow chart, Control chart, Fishbone (Ishikawa) diagram, Check sheet
 - C)** Histogram, Pareto chart, Spaghetti diagram, Flow chart, Control chart, Fishbone (Ishikawa) diagram, Check sheet
 - D)** Histogram, Pareto chart, Scatter diagram, Flow chart, Control chart, Fishbone (Ishikawa) diagram, Brainstorming
-
- A)** Correct. This is the correct list of the 7 basic tools of quality.
 - B)** Incorrect. Root cause analysis is not one of the 7 basic tools of quality.
 - C)** Incorrect. Spaghetti diagram is not one of the 7 basic tools of quality.
 - D)** Incorrect. Brainstorming is not one of the 7 basic tools of quality.

7 / 40

In the context of completing an A3 report, which is a skill used in Summarizing?

- A)** Able to combine several aspects of a problem into a single statement
 - B)** Able to break a problem down into its constituent parts
 - C)** Able to express relevant information briefly and concisely
 - D)** Able to utilize pictures and graphics to explain problems and solutions
-
- A)** Incorrect. This is a skill used in Synthesizing.
 - B)** Incorrect. This is a skill used in Analyzing.
 - C)** Correct. This is a skill used in Summarizing.
 - D)** Incorrect. This is a skill used in Visualizing.

8 / 40

What is Step 3 of the Improve Phase?

- A) Select and prioritize solutions
- B) Apply best and good practices
- C) Generate potential solutions
- D) Develop 'Future state' VSM

- A) Incorrect. This is step 2.
- B) Correct. This is step 3.
- C) Incorrect. This is step 1.
- D) Incorrect. This is step 4.

9 / 40

High-impact IT incidents which occur regularly but require different levels of effort and time are an example of what unit of work category?

- A) Joggers
- B) Sprinters
- C) Runners
- D) Repeaters

- A) Incorrect. Joggers is not a unit of work category.
- B) Incorrect. Sprinters is not a unit of work category.
- C) Incorrect. In some ways IT incidents act like runners in that they occur on a regular basis, however high-impact incidents fall into the repeater category as they difficult to determine time to resolve and are less suited to be planned for.
- D) Correct. This is the very nature of repeaters in IT: high impact incidents require direct response, and therefore have a dynamic that more closely resemble runners. Their impact means that solving the incident can require a different effort than regular incidents.

10 / 40

What is the meaning of Standardization?

- A) Using a successful solution to solve similar problems elsewhere in the organization
- B) Developing standard education modules using examples extracted from successful projects
- C) Using team members from earlier successful Kaizen events to provide education and training
- D) Applying good ideas, lessons learned and solutions to other problems in the organization

- A) Incorrect. Using a successful solution to solve similar problems elsewhere in the organization is Replication.
- B) Incorrect. This is not the meaning of Standardization in the context of Lessons Learned.
- C) Incorrect. This is not the meaning of Standardization in the context of Lessons Learned.
- D) Correct. Applying good ideas and lessons learned to other problems in the organization is the meaning of Standardization.

11 / 40

Which qualifies an individual to become a member of a Kaizen team?

- A) Experienced in the area or value stream affected by the problem
 - B) Knowledge of the problem from an external customer's perspective
 - C) Be open-minded and previous experience of working in a Kaizen team
 - D) Knowledge of the problem from an external supplier's perspective
- A) Correct. An auditor of the process affected by the problem will understand the regulatory rules governing the process.
- B) Incorrect. Somebody who is external to the organization is not a suitable candidate for membership of an internal Kaizen team.
- C) Incorrect. A candidate for membership of a Kaizen team must work within the process on a daily basis, and have first-hand experience of the problem.
- D) Incorrect. Somebody who is external to the organization is not a suitable candidate for membership of an internal Kaizen team.

12 / 40

You are leading up Kaizen project focused on improving the productivity and effectiveness of Service Desk operations. The team has created a problem statement, analyzed the current condition including a value stream map, and created SMART future state goals. You are maintaining an A3 to capture the team's progress as well as their learning. As you wrap up the Analyze phase and fill in the Analysis section of the A3, you are considering using the Quality tools to better understand the various symptoms, causes, and effects and how these may be addressed. Your team uses control charts, pareto diagrams, tally sheets, and fishbone diagrams to better understand the problems, symptoms, causes, and potential remedies. You have limited space and a large amount of analysis.

What is the **most** appropriate information to go in the Analysis section of your A3?

- A) All the analysis performing using references to "supplemental" sheets
 - B) Pareto analysis
 - C) The analysis that demonstrates a validated understanding of cause and effect
 - D) If the team uses control charts, they should be included as they show common versus special cause variation
- A) Incorrect. One of the purposes of an A3 is to summarize the essential discoveries of the team, using clever ways to insert all the analysis misses the point of the A3.
- B) Incorrect. The Pareto chart is a way to show the relative importance of root causes of problems and may be included in the A3, but not necessarily.
- C) Correct. The purpose of the Analysis section on an A3 is to demonstrate the team's learned understanding of potential causes and effects. The information that should be included in this section clearly shows the work the team has done to validate its understanding of cause and effect.
- D) Incorrect. The control chart is used to show variation whether a process is experiencing special and/or common cause variation. It may be included in the A3, but not necessarily.

13 / 40

The first step of the Improve phase is to start generating ideas for possible solutions to the problems identified earlier in the DMAIC problem-solving method. The Kaizen team have now progressed to the stage of option selection and prioritization, and have categorized each of the solutions according to its impact and feasibility.

What are the **most** likely perspectives used as primary sources to understand and validate a problem statement?

- A) Voice of the Regulator, Voice of the Customer
 - B) Voice of the Process, Voice of the Customer
 - C) Voice of the Customer, Voice of the Business
 - D) Voice of the Process, Voice of the Business
-
- A) Incorrect. Voice of the regulator is a not a primary source of defining problems.
 - B) Correct. Voice of the customer and voice of the process are the most likely sources for understanding current problems.
 - C) Incorrect. While voice of the business may provide an internal view of IT and shed light on problems from an IT perspective, it is a not a primary source of defining problems.
 - D) Incorrect. Voice of the process is a not a primary source of defining problems.

14 / 40

The Kaizen team lead is preparing a communication plan. The following information will be included: Content, Audience, Timing, Form, Input, Actions, Capacity.

Which information will be missing from the report?

- A) Status
 - B) Issues
 - C) Purpose
 - D) Author
-
- A) Incorrect. Status is not required information.
 - B) Incorrect. Issues is not required information.
 - C) Correct. Purpose is required information.
 - D) Incorrect. Author is not required information.

15 / 40

A basic A3 Problem-solving report is required to describe a problem. The report has been partially completed with the following information: Background, Current condition, Analysis, Proposed options, Plan/improvement, Follow up.

Which information is missing from this report?

- A) Measure
 - B) Incident(s)
 - C) Known error
 - D) Future State goals
-
- A) Incorrect. Measure is not the missing information, this is a step in the DMAIC method.
 - B) Incorrect. This is the first section of an IT-related A3 Problem-solving report and describes the impact(s) of the system failure.
 - C) Incorrect. This is part of the IT-related A3 Problem-solving report and describes a problem for which the root cause and a workaround are known.
 - D) Correct. In the context of the partially-completed A3 Problem-solving report this is the missing information. It requires a description of the way the situation should be if the problem did not occur.

16 / 40

Which is a characteristic of daily Kaizen?

- A) Responds to everyday occurrences such as incidents, mistakes and other quality issues
 - B) Brings together a group of people who have an interest in solving a particular problem
 - C) Requires a substantial time investment and the results may not always be as successful as desired
 - D) Requires organization and management to ensure that the right people are involved
-
- A) Correct. This is a characteristic of daily Kaizen.
 - B) Incorrect. This is a characteristic of improvement Kaizen.
 - C) Incorrect. This is a characteristic of improvement Kaizen.
 - D) Incorrect. This is a characteristic of improvement Kaizen.

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Which is the **best** definition of an independent variable?

- A) Free from outside control; not depending on another's authority
 - B) The problem that needs to be solved
 - C) An input that may or may not contribute to the problem
 - D) An input that is kept constant to determine its independence
-
- A) Incorrect. This is the definition of the word "independent" but does not directly address the nature of an independent variable.
 - B) Incorrect. This describes a dependent variable.
 - C) Correct. This best describes an independent variable. The objective is to find the independent variables that have the greatest effect on the problem.
 - D) Incorrect. This incorrectly blends the description of a control variable and the idea of independence.

18 / 40

Your Company has been experiencing a significant increase in customer returns and, as a representative of IT, you have been asked to participate on a Kaizen improvement team. An initial look at the data shows that returns are occurring for a number of reasons including wrong and/or missing item, size, color, style, packaging, labels, and documentation.

What quality tool should you use to identify whether the process suffers from common or special cause variation?

- A)** Pareto chart
- B)** Scatter diagram
- C)** Control chart
- D)** None of the choices available

- A)** Incorrect. The Pareto chart is a way to visualize the relative importance of root causes of problems.
- B)** Incorrect. A Scatter diagram is a graph that aims to demonstrate the relationship between two sets of data.
- C)** Correct. The control chart is a time-series chart used to understand variation in a repeating process and whether a process is under control and experiencing special and/or common cause variation.
- D)** Incorrect. C is the correct answer.

19 / 40

According to the Cynefin model, IT problems which require expert knowledge to determine cause and effect relationships are called what?

- A)** Composite problems
- B)** Complicated problems
- C)** Ordered problems
- D)** Chaotic problems

- A)** Incorrect. This is not one of the four types of problems in the Cynefin model.
- B)** Correct. Complicated problems require expert knowledge to understand the relationship between cause and effect.
- C)** Incorrect. This is not one of the four types of problems in the Cynefin model. Ordered problems are either simple or complex in nature.
- D)** Incorrect. This is not one of the four types of problems in the Cynefin model.

20 / 40

Using the Business case development technique what is the maximum period within which the Kaizen solution should produce positive return?

- A)** Within three months
 - B)** Within six months
 - C)** Within nine months
 - D)** Within twelve months
-
- A)** Incorrect. A positive return on investment should be achieved within six months.
 - B)** Correct. A positive return on investment should be achieved within six months.
 - C)** Incorrect. A positive return on investment should be achieved within six months.
 - D)** Incorrect. A positive return on investment should be achieved within six months.

21 / 40

What is an alternative to a Standard Operating Procedure?

- A)** Checklist
 - B)** Arrangement
 - C)** Directory
 - D)** Catalogue
-
- A)** Correct. A checklist is an acceptable alternative to the SOP when the process is non-standard.
 - B)** Incorrect. This is not an alternative to an SOP.
 - C)** Incorrect. This is not an alternative to an SOP.
 - D)** Incorrect. This is not an alternative to an SOP.

22 / 40

The manager of IT Service Management has been requested to add a new KPI to the monthly dashboard report: performance against a target to reduce the number of capacity-related issues by 50% within 12 months. The manager of IT Service Management has proposed a monthly metric that will ensure the affected department fully understands how they are performing against this target.

Which information about capacity-related issues should appear in the monthly dashboard report in order for the metric to be meaningful?

- A) Target number of issues raised this month. Actual number of issues raised this month.
 - B) Target % reduction in the number of issues raised to date. Actual % reduction in the number of issues raised to date.
 - C) Target number of issues raised to date. Actual number of issues raised to date.
 - D) Target % reduction in the number of issues raised this month. Actual % reduction in the number of issues raised this month.
-
- A) Incorrect. A dashboard report showing the number of issues raised - plan to actual this month - will be meaningless if it ignores % and to date performance.
 - B) Correct. A dashboard report showing the % reduction in number of issues raised - plan to actual to date - will be a meaningful report.
 - C) Incorrect. A dashboard report showing the number of issues raised - plan to actual to date - will be useful, but would be more meaningful if the information was expressed in % terms.
 - D) Incorrect. A dashboard report showing the % reduction in the number of issues raised - plan to actual this month - will be meaningless if it ignores to date performance.

23 / 40

After deciding which Kaizen initiative is the most important to the customer and the organization, what is the next decision required for the initiative?

- A) Timing
 - B) Feasibility
 - C) Cost
 - D) Affordability
-
- A) Incorrect. Timing is not the next decision that needs to be taken on a potential Kaizen initiative.
 - B) Correct. Feasibility is the next decision that needs to be taken for a Kaizen initiative.
 - C) Incorrect. Cost is not the next decision that needs to be taken on a potential Kaizen initiative.
 - D) Incorrect. Affordability is not the next decision that needs to be taken on a potential Kaizen initiative.

24 / 40

What is the purpose of a SIPOC diagram, used in the Define step of the DMAIC method?

- A) Produce a data collection plan
 - B) Verify the measurement system
 - C) Generate potential solutions
 - D) Define the scope
-
- A) Incorrect. This is an activity in the Measure step.
 - B) Incorrect. This is an activity in the Analyze step.
 - C) Incorrect. This is an activity in the Improve step.
 - D) Correct. The purpose of a SIPOC diagram is to assist in the definition of the scope of the activity.

25 / 40

Which of the following steps is **not** carried out in the Analyze phase?

- A) Determine root cause
 - B) Prioritize root causes
 - C) Determine critical independent variables
 - D) Audit the data
-
- A) Incorrect. This is step 4 of the Analyze phase.
 - B) Incorrect. This is step 5 of the Analyze phase.
 - C) Incorrect. This is the first step of the Analyze phase.
 - D) Correct. Auditing the data is not a step in the Analyze phase.

26 / 40

In terms of IT, what is the purpose of measurements?

- A) To establish critical success factors
 - B) To understand the dynamics and performance of processes and services
 - C) To record the number of problems
 - D) To provide input for a dashboard
-
- A) Incorrect. A critical success factor (CSI) is an objective whereas measurements are the subjective recording of facts.
 - B) Correct. Measurement in itself does nothing, it is what we do with the measurement that counts. Knowledge about how well or badly our processes are performing is an essential step towards improvement.
 - C) Incorrect. To record the number of problems is an example of a measurement but does not explain the purpose.
 - D) Incorrect. A selection of measurements will undoubtedly provide input for a dashboard but it is not the purpose of measurements.

27 / 40

The IT department has recently heard "rumors" that people have become frustrated with the level of service they receive when calling the help desk for support. One of the VP's in your company called the CIO and asked what was being done about the problem. The CIO called you and said, "take care of it."

Your first step is to prepare a problem statement.

What are two things you should do when preparing to write a problem statement?

- A) Go talk with end users to see for yourself and gather the facts
 - B) Create a draft Value Stream Map and talk to customers about the problem
 - C) Identify the sponsor and members of the core Kaizen team
 - D) Categorize the problem based on the Cynefin model
-
- A) Correct. Going to the gemba to see for yourself and deeply understand is essential when preparing a problem statement.
 - B) Incorrect. The problem statement must be SMART SMART (Specific, Measurable, Achievable, Realistic, Time-bound), so getting the facts is essential.
 - C) Incorrect. Although it may be done shortly after preparing the intimal problem statement, this step is not required prior to preparing a problem statement.
 - D) Incorrect. This step is not required prior to preparing a problem statement.

28 / 40

What are the components in a Control plan, in addition to Documentation and Response?

- A) Maintenance and Training
 - B) Monitoring and Training
 - C) Monitoring and Communications
 - D) Maintenance and Communications
-
- A) Incorrect. Maintenance is not a component of a Control plan.
 - B) Correct. The components of a Control plan are Documentation, Monitoring, Response and Training.
 - C) Incorrect. Communications is not a component of a Control plan.
 - D) Incorrect. Maintenance and Communications are not components of a Control plan.

29 / 40

What is the definition of a Control?

- A) A means of checking that accepted changes are maintained
 - B) A record of changes accepted by the sponsor
 - C) An A3 report to support the Kaizen initiative
 - D) A way of identifying whether work is done in the correct way
-
- A) Incorrect. This is not the definition of a Control.
 - B) Incorrect. This is not the definition of a Control.
 - C) Incorrect. This is not the definition of a Control.
 - D) Correct. This is the definition of a Control.

30 / 40

Your company has been involved in a series of acquisitions over the past 3 year with more planned. IT is responsible for onboarding and integrating the financial systems of acquired companies in order to generate consolidated financial reporting capability as soon as possible. You are leading a Kaizen team charged with improving this process. The last three onboardings took on average 210 days. The board of directors has informed the CIO they require consolidated financial statements 30 days after the close of all acquisitions. The activities to integrate an acquisition's financials include onsite =survey, systems inventory, database analysis, security analysis, transition project planning, system configuration, data migration, unit testing, integration testing, go live, generate trial consolidated statements, audit, debug, iterate until generation of valid consolidated statements, go live. Of the total elapsed time to onboard a new acquisition, it is estimated that 147 days of the total time is spent waiting for information from the acquired company, IT resources to become available and coordinate with the acquired company staff, and in some cases for equipment to be delivered. The current backlog of work before the IT team can begin on the next acquisition is always at 60 days. There is a single team that works on onboarding acquisitions and they have the capacity to work on no more than one acquisition at a time due to other assignments. They are dispersed throughout the IT organization in various departments (e.g., PMO, Infrastructure, Apps Support, Database, Network, Security, Governance).

Which of the following statements is true?

- A) Takt time is 210 days.
 - B) Queue time is 60 days.
 - C) Takt time is 147 days.
 - D) Queue time is 30 days.
-
- A) Incorrect. Takt time cannot be deduced. We do not know how many acquisitions there have been in the past 1 year / 3 years. We only know how long the last 3 took.
 - B) Correct. This is the time that the next acquisition must wait as a result of backlog of work, i.e. Queue time.
 - C) Incorrect. Takt time cannot be deduced. We do not know how many acquisitions there have been in the past 3 years. We only know how long the last 3 took. 147 days refers to a form of waiting time.
 - D) Incorrect. 30 days is the Voice of the Customer.

31 / 40

At the end of the Analyze phase the Kaizen team has a good understanding of the factors which cause the problem. The first step of the Improve phase is to generate ideas for possible solutions to the problem.

Which is a technique that is available to the Kaizen team to facilitate the next step in the Improve phase?

- A) Value stream mapping
 - B) Failure Mode Effects Analysis
 - C) Multi-voting
 - D) Stakeholder analysis
-
- A) Incorrect. VSM is a technique carried out in the Analyze phase.
 - B) Incorrect. FMEA is a technique carried out in the Analyze phase.
 - C) Correct. Multi-voting is a technique used in the Improve phase and focuses on prioritizing the various solutions.
 - D) Incorrect. Producing a Stakeholder analysis is a technique used in the Define phase.

32 / 40

What is a Solution test for the Complicated type of problem (Cynefin)?

- A) Implement a pilot using market place best practice techniques
 - B) Experiment with the solution to determine how it performs in practice
 - C) Implement a small pilot to test how the solution performs in the live environment
 - D) Use risk analysis techniques on each action to identify which actions to take
-
- A) Incorrect. This is a Solution test for an Obvious type of problem.
 - B) Incorrect. This is the Solution test for a Complex type of problem.
 - C) Correct. This is a Solution test for a Complicated type of problem.
 - D) Incorrect. This is a Solution test for a Chaos type of problem.

33 / 40

Which is an indicator of a 'Kaizen' mindset?

- A) Setting a target for the speedy resolution of problems, as they occur.
 - B) Managers and employees regard problems as an opportunity to work out who made the mistake.
 - C) Managers and employees focus on understanding and fixing the root causes of problems.
 - D) Managers encourage employees to participate in the sharing of lessons learned.
-
- A) Incorrect. Setting targets for problem solving without envisioning a desired state is not an indicator of a 'Kaizen' mind-set.
 - B) Incorrect. Seeing problems as an opportunity to apportion blame is not an indicator of a 'Kaizen' mind-set.
 - C) Correct. One indication of a 'Kaizen' mind-set is to focus on understanding and fixing the root cause of a problem.
 - D) Incorrect. Managers and employees should both be driven to share the lessons learned as a result of solving problems with others in the IT organization.

34 / 40

The Kaizen team is working on improving the process that manages the execution of changes. There is a meeting once every two weeks in which changes are reviewed to determine whether they can be implemented. The team determines that this is a bottleneck in the process.

What type of issue is being removed?

- A) Waste
 - B) Variability
 - C) Overburden
 - D) Waiting time
-
- A) Incorrect. the frequency of a meeting is a policy decision (muri). It may lead to waste.
 - B) Incorrect. the frequency of a meeting is a policy decision (muri). It may cause variability.
 - C) Correct. The frequency of meetings is a policy decision, such as muri.
 - D) Incorrect. the frequency of a meeting is a policy decision (muri). It may lead to waiting time (a specific form of waste).

35 / 40

A Kaizen event has been scheduled to recommend a way forward in dealing with a particular problem with a key database. However, the people involved in the affected department are aware of the problem, but are ambivalent about the urgency to fix the problem - they believe there are other, more urgent problems which need to be fixed. The Kaizen sponsor has been identified and is anxious to have the problem solved as quickly as possible.

What steps should be taken to secure the buy-in of the affected department to the proposed plan of action?

- A) Hold a workshop to discuss the problem and invite the manager of the affected department to speak
- B) Invite the Kaizen sponsor to speak about the problem at the next department meeting of the affected group
- C) Select another Kaizen initiative as the people supporting the database are not convinced of the need
- D) Go ahead with the Kaizen event and assume that the affected department will eventually agree

- A) Incorrect. Holding a workshop to discuss the problem is unlikely to secure the buy-in of those working on the shop floor.
- B) Incorrect. Inviting the Kaizen sponsor to speak about the problem at the next department meeting of the affected group is unlikely to secure the buy-in of those working on the shop floor.
- C) Correct. If the people on the shop floor, the primary stakeholders of any problem to be solved, do not see the point in solving the problem, then choose a different problem.
- D) Incorrect. Going ahead with the Kaizen event without the support of those on the shop floor is unlikely to lead to a successful implementation.

36 / 40

Which of the following is **not** an objective of the Define phase of DMAIC?

- A) Understanding the customer's expectations
- B) Clarifying the problem that needs to be addressed
- C) Identifying SMART measures
- D) Defining challenges and obstacles likely to be encountered during implementation

- A) Incorrect. Understanding the choice of the customer is a primary objective of the Define phase.
- B) Incorrect. The problem statement is the central product of the Define phase.
- C) Incorrect. The problem statement should be SMART (Specific, Measurable, Achievable, Realistic, Time-bound) so the team solving the problem knows when they have solved the problem.
- D) Correct. Identifying potential barriers and anticipating risk is not part of the Define phase.

37 / 40

The Kaizen team are executing the final step in the DMAIC cycle and are considering how to ensure that the successes from the Improve phase will be maintained in the production environment. The team have decided to re-use a number of the metrics chosen in the Define and Measure phases when there was a need to understand the scale of the problems.

Which statement **best** describes the difference between qualitative and quantitative measures?

- A) Quantitative measures are always measurable and qualitative measures are a matter of opinion.
 - B) Quantitative measures are not subject to bias whereas qualitative measures are always open to bias and human perception.
 - C) Quantitative measures are used to gain objective insight into performance while qualitative measures measure capability or maturity from the perspective of the people involved.
 - D) Quantitative measures are more subjective and qualitative measures are intuitive .
-
- A) Incorrect. Qualitative measures are not a matter of opinion.
 - B) Incorrect. Both quantitative and qualitative measures are based on human perception and subject to bias.
 - C) Correct. This is an accurate contrast between qualitative and quantitative measures.
 - D) Incorrect. This statement is invalid. Quantitative measures are more objective, while qualitative measures are more subjective and open to bias.

38 / 40

What is the purpose of an A3 Status report?

- A) To inform all stakeholders of the progress of the execution of a longer-running project or action
 - B) To provide the sponsor with a report on steps completed and planned in the current DMAIC cycle
 - C) To provide the Kaizen team with a regular update on the status on ongoing activities and issues
 - D) To inform the user community about the current status of problems and issues
-
- A) Correct. The purpose of an A3 Status report is to inform all stakeholders of the progress of the execution of a longer-running project or action.
 - B) Incorrect. This is not the purpose of an A3 Status report.
 - C) Incorrect. This is not the purpose of an A3 Status report.
 - D) Incorrect. This is not the purpose of an A3 Status report.

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The Kaizen team are developing a communication plan which is intended to provide information to members of the IT department about the current status of the Kaizen event.

In the Measure phase, an automated data collection system is an example of what?

- A)** The power of big data
 - B)** Annotated observation
 - C)** A qualitative measurement system
 - D)** A quantitative measurement system
- A)** Incorrect. Most systems register data in the course of their operation. In some cases, the amounts of data are quite substantial. This data is generally held in log files that can be consulted to find out when something happened. Big data is not the primary focus of automated data collection.
- B)** Incorrect. Annotated observation (observation and notation of occurrence) is a related but different topic than automated data collection and an example of a qualitative measure system.
- C)** Incorrect. This is an example of a quantitative measurement system and not a qualitative measurement system.
- D)** Correct. This is an example of a quantitative measurement system.

40 / 40

How is a Kaizen initiative selected?

- A)** Problems that require investigation are selected by the sponsor and added to an improvement board.
 - B)** IT investigates and fixes problems based on the sequence shown on an improvement board.
 - C)** Problems are listed on an improvement board by the sponsor and are actioned by IT.
 - D)** Problems are selected from an improvement board by the sponsor and or a small team including the sponsor and investigated.
- A)** Incorrect. IT will list problems on an improvement board and the sponsor will select problems to be investigated by a Kaizen event.
- B)** Incorrect. IT will list problems on an improvement board and the sponsor will select problems to be investigated by a Kaizen event.
- C)** Incorrect. IT will list problems on an improvement board and the sponsor will select problems to be investigated by a Kaizen event.
- D)** Correct. IT will list problems on an improvement board and the sponsor will select problems to be investigated by a Kaizen event.

Evaluation

The table below shows the correct answers to the questions in this sample exam.

Question	Answer	Question	Answer
1	B	21	A
2	C	22	B
3	B	23	B
4	B	24	D
5	C	25	D
6	A	26	B
7	C	27	A
8	B	28	B
9	D	29	D
10	D	30	B
11	A	31	C
12	C	32	C
13	B	33	C
14	C	34	C
15	D	35	C
16	A	36	D
17	C	37	C
18	C	38	A
19	B	39	D
20	B	40	D



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