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LITA

Lean IT Foundation

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Sample Exam

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Edition 201608

LITA



LEAN IT



LEAN IT  
ASSOCIATION

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# Introduction

This is the sample exam Lean IT Foundation. The Rules and Regulations for EXIN's examinations apply to the Lean IT Foundation exam.

This exam consists of 40 multiple-choice questions.

When you do the exam on paper, be careful to read all relevant information and all answers, even if they are printed on the next page.

When you do the exam on a computer, be careful to always scroll down to read the entire question and all answers.

Each multiple-choice question has a number of possible answers, of which only one is the correct answer.

The maximum number of points that can be obtained for this exam is 40. Each correct answer is worth one point. If you obtain 26 points (65%) or more you will pass.

The time allowed for this exam is 60 minutes.

Good luck!

# Sample exam

1 / 40

Which tool is used in the Measure phase of DMAIC?

- A. SIPOC
- B. Standard Operating Procedure
- C. Ishikawa Diagram
- D. Value Stream Map

2 / 40

Why is empowering the frontline employees essential in a Lean IT organization?

- A. Because the frontline is part of the primary process
- B. To make use of the frontline employees professional knowledge
- C. To ensure that the frontline employees have knowledge of the customer needs
- D. Because the frontline has its own autonomy

3 / 40

Why should a Kanban system be introduced?

- A. To control the initiation of new work
- B. To visualize what has been developed
- C. To manage the inventory of incidents
- D. To ensure that no units of work are forgotten

4 / 40

What does a Pareto chart display?

- A. An analysis of value stream flow
- B. The distribution of product quality
- C. The percentages of the various types of waste in a process
- D. The causes of a problem or condition from large to small contribution

**5 / 40**

Which activity should be described as Necessary Non-Value-Added (NNVA)?

- A. Rework
- B. Finance
- C. Overproduction
- D. Waiting time

**6 / 40**

What tool is used in the Analyze phase of DMAIC?

- A. SIPOC
- B. Ishikawa Diagram
- C. Value Stream Map
- D. Critical to Quality

**7 / 40**

What is an important objective of a Skills & Knowledge analysis?

- A. Personal development
- B. Balance demand and supply
- C. Improve skills and knowledge
- D. Increase flexibility

**8 / 40**

When does the 'Valley of Despair' occur?

- A. The moment when management decide to stop the project
- B. When it is clear that the changes will not achieve the lean principle of perfection
- C. When people understand the changes to the way they work due to Lean
- D. When people become despondent with the lack of success regarding the change

**9 / 40**

In a Pull system, what does an empty slot mean?

- A. It means that Kanban doesn't work
- B. It means there is a problem down the production line
- C. It is a replenishment signal
- D. It is the same as Andon

**10 / 40**

Which topics should **NOT** be covered by the manager during a performance dialogue with an employee?

- A. Discussing new and ongoing objectives for the employee
- B. Offering support to the employee for the achievement of their objectives
- C. Discussing solutions with the employee to enable them to meet their objectives
- D. Giving feedback on how the employee performed or behaved

**11 / 40**

What is a Lean tool to investigate the root cause of problems?

- A. 3 Whys
- B. 4 Whys
- C. 5 Whys
- D. 6 Whys

**12 / 40**

Chairman Cho of Toyota had a key message regarding Lean Leadership.

What was this key message?

- A. Define strategic goals
- B. Go see, ask why, show respect
- C. Ensure active participation of everyone in the organization
- D. Support employees to develop problem-solving skills

**13 / 40**

What is an objective of the Improve phase?

- A. Develop Process Control Plans
- B. Make quick-hit improvements
- C. Implement solutions
- D. Create high-level process map

**14 / 40**

What is **NOT** a form of waste?

- A. Passing on work to the next-in-line without explanation
- B. Solving an incident
- C. Implementing unauthorized changes
- D. Training end-users

15 / 40

What is the **MOST** important behavior within Lean?

- A. Learning
- B. Talking
- C. Listening
- D. Seeing

16 / 40

What is a form of waste?

- A. Programming software
- B. Creating and managing a project plan
- C. Defining system specifications
- D. Managing the list of inventory changes

17 / 40

What board contains all necessary KPIs needed to steer the organization?

- A. Day board
- B. Week board
- C. Month board
- D. Improvement board

18 / 40

What tool would be used to understand how much time is spent on value-added activities?

- A. DMAIC
- B. SIPOC
- C. PCE
- D. Critical to Quality

19 / 40

What is a principle of Lean?

- A. The organization should be profitable
- B. Value is defined by the customer
- C. Employees are satisfied
- D. Customers are satisfied



**20 / 40**

What is **NOT** a requirement for a KPI?

- A. Supports execution of the strategy
- B. Consistent across the organization
- C. Should be owned by the manager
- D. Controllable by the team

**21 / 40**

What is the key production factor within IT?

- A. Quality
- B. Time
- C. Money
- D. Services

**22 / 40**

In a Lean transformation, how can IT serve as a major catalyst for change?

- A. Everyone needs computers
- B. Information enables all Value Streams
- C. Access to the Internet is vital
- D. IT touches everyone

**23 / 40**

What is the purpose of a Skills & Knowledge (S&K) analysis?

- A. Produce Personal Development Plans aligned to S&K
- B. Enable segregation of duties according to customer demands and S&K
- C. Develop S&K in line with employee preferences
- D. Develop the right amount of S&K to provide the value that customers expect from IT.

**24 / 40**

What is **NOT** a Value-Added activity?

- A. Coordinating an incident resolution
- B. Carrying out an impact analysis
- C. Creating a project plan
- D. Programming software

25 / 40

Which is **NOT** a goal of Lean?

- A. Improving customer value
- B. Continual improvement
- C. Reducing waste
- D. Increasing profits

26 / 40

How does Flow simplify demand planning?

- A. By freezing the planning horizon
- B. By meeting customer needs
- C. By shortening the planning horizon
- D. By removing wasted effort

27 / 40

What is the purpose of a Kanban card?

- A. To communicate the status of the product or service to the customer
- B. To inform the process about the progress of the product or service
- C. To visualize the loop holes in the process
- D. A manual back-up system for if the computer system fails

28 / 40

What is **MOST** likely to be a customer requirement for a specified product?

- A. The product is built in an efficient way
- B. The product is cheap to build
- C. The product meets expectations
- D. The product is reliable in service

29 / 40

What is a definition of overburden (Muri)?

- A. Managers are not able to plan correctly
- B. Inability to meet customer demand due unrealistic workloads on people
- C. Employees are uncertain what to do next
- D. Long system upgrade cycles encouraging user workarounds

**30 / 40**

Which list contains examples of what a customer values in a service?

- A. Pricing, Reliability and Timeliness
- B. Design, Features and Availability
- C. Innovation, Completeness and Operation
- D. Model, Achievement and Accuracy

**31 / 40**

In which DMAIC phase would a Root Cause Analysis be carried out?

- A. Define
- B. Measure
- C. Analyze
- D. Improve

**32 / 40**

Learning from mistakes is one of the ways an IT organization can make progress.

Which of the following statements represents the Lean way of dealing with mistakes?

- A. In IT, we are only human, we all make mistakes
- B. IT management must focus on ensuring that improvement work is done
- C. It is more important to know WHO made a mistake than WHY it occurred
- D. Mistakes are an inevitable part of work, but must be taken seriously

**33 / 40**

What is a major possible barrier for the value flow?

- A. Muri
- B. Poka-yoke
- C. Kanban
- D. Jidoka

**34 / 40**

What is the CTQ tree used for?

- A. To describe the technical systems that are critical within IT for delivering services
- B. To translate the constraints in IT to customer value
- C. To translate customer expectations to measurable internal objectives and activities
- D. To describe critical KPIs necessary to meet customer value

**35 / 40**

What is the definition of overburden?

- A. Incapability to solve problems
- B. Inability to meet customer demand with a certain resource
- C. Inability to manage people based on situational leadership
- D. Lack of understanding of the challenges of the IT organisation

**36 / 40**

What is **NOT** a specific objective of Six Sigma?

- A. Statistical analysis
- B. Problem solving
- C. Behavior and attitude change
- D. Reduction of variation

**37 / 40**

What is a purpose of Voice of the Customer (VoC) tools?

- A. To set priorities and goals consistent with customer needs
- B. To identify areas where work can be started on eliminating waste
- C. To document and categorize the costs associated with waste
- D. To facilitate the feedback of summary results to VoC contacts

**38 / 40**

Why is it important that IT management deeply understands the principles and methods of Lean?

- A. To create sustainable improvements in IT services
- B. To quickly deliver results for IT customers
- C. To set goals for the teams within IT
- D. To ensure shareholders get the value they expect

**39 / 40**

What is input of the improvement board and output of the day board?

- A. Performance & progress
- B. Team KPIs
- C. Objectives for the week
- D. Problems

**40 / 40**

When work is **NOT** done efficiently, what is **MOST** likely the cause?

- A. IT
- B. Lack of leadership
- C. Poor designed processes
- D. Lack of information

## Answer key

1 / 40

Which tool is used in the Measure phase of DMAIC?

- A. SIPOC
- B. Standard Operating Procedure
- C. Ishikawa Diagram
- D. Value Stream Map

- A. Incorrect. SIPOC is used in the Define phase.
- B. Incorrect. A Standard Operating Procedure is used in the Control phase.
- C. Incorrect. The Ishikawa diagram is used in Improve phase for root cause analysis.
- D. Correct. The value Stream Map is used in the Measure phase as a baseline measures on time, quality, and cost.

2 / 40

Why is empowering the frontline employees essential in a Lean IT organization?

- A. Because the frontline is part of the primary process
  - B. To make use of the frontline employees professional knowledge
  - C. To ensure that the frontline employees have knowledge of the customer needs
  - D. Because the frontline has its own autonomy
- 
- A. Incorrect. This is true but not relevant. The reason for empowering the frontline employees is so they know what the customer wants and can deliver the value required without having to gain permission from management.
  - B. Incorrect. Whilst professional knowledge may be important, knowledge of customer needs is more important for Lean IT.
  - C. Correct. The key to an effective frontline is that the frontline employees know what the customer wants and can deliver the value required without having to gain permission from management.
  - D. Incorrect. This is not always true. The reason for an effective frontline is that the frontline employees know what the customer wants and can deliver the value required without having to gain permission from management.

3 / 40

Why should a Kanban system be introduced?

- A. To control the initiation of new work
  - B. To visualize what has been developed
  - C. To manage the inventory of incidents
  - D. To ensure that no units of work are forgotten
- 
- A. Correct. The Kanban system ensures that work can be scheduled and new work can be initiated when the Kanban triggers it.
  - B. Incorrect. A pull system like Kanban do not specifically support development.
  - C. Incorrect. Kanban is not an inventory control system
  - D. Incorrect. This can be a side effect of using Kanban

4 / 40

What does a Pareto chart display?

- A. An analysis of value stream flow
  - B. The distribution of product quality
  - C. The percentages of the various types of waste in a process
  - D. The causes of a problem or condition from large to small contribution
- 
- A. Incorrect. The Pareto chart shows the causes of problem or condition order from large to small contribution.
  - B. Incorrect. The Pareto chart shows the causes of problem or condition order from large to small contribution.
  - C. Incorrect. The Pareto chart shows the causes of problem or condition order from large to small contribution.
  - D. Correct. The Pareto chart shows the causes of problem or condition order from large to small contribution.

5 / 40

Which activity should be described as Necessary Non-Value-Added (NNVA)?

- A. Rework
  - B. Finance
  - C. Overproduction
  - D. Waiting time
- 
- A. Incorrect. Rework does not add value.
  - B. Correct. Finance is an NNVA activity.
  - C. Incorrect. Over production does not add value.
  - D. Incorrect. Waiting time does not add value.

6 / 40

What tool is used in the Analyze phase of DMAIC?

- A. SIPOC
- B. Ishikawa Diagram
- C. Value Stream Map
- D. Critical to Quality

- A. Incorrect. SIPOC is used in the Define phase.
- B. Correct. An Ishikawa diagram is a root cause analysis tool and a primary deliverable in the Analyze phase is the identification of the problems root causes and their priority.
- C. Incorrect. The VSM is used in the Measure phase.
- D. Incorrect. CtQ is used in the Define phase.

7 / 40

What is an important objective of a Skills & Knowledge analysis?

- A. Personal development
- B. Balance demand and supply
- C. Improve skills and knowledge
- D. Increase flexibility

- A. Incorrect. S&K analysis can contribute to personal development plans but is not the primary purpose.
- B. Correct. Goal is to ensure the S&K available match what is needed to deliver the required value to customers.
- C. Incorrect. This may be a result of the analysis but is not the primary purpose.
- D. Incorrect. This may be a result of improving skills and knowledge but is not the primary purpose.



8 / 40

When does the 'Valley of Despair' occur?

- A. The moment when management decide to stop the project
  - B. When it is clear that the changes will not achieve the lean principle of perfection
  - C. When people understand the changes to the way they work due to Lean
  - D. When people become despondent with the lack of success regarding the change
- 
- A. Incorrect. It is the moment that people become disillusioned with a change in reaction to not realising the expectations.
  - B. Incorrect. Perfection will never be achieved. It is the moment that people become disillusioned with a change in reaction to not realising the expectations.
  - C. Incorrect. It is the moment that people become disillusioned with a change in reaction to not realising the expectations.
  - D. Correct. It is the moment that people become disillusioned with a change in reaction to not realising the expectations.

9 / 40

In a Pull system, what does an empty slot mean?

- A. It means that Kanban doesn't work
  - B. It means there is a problem down the production line
  - C. It is a replenishment signal
  - D. It is the same as Andon
- 
- A. Incorrect. There may be any number of reasons that a slot is empty, the Kanban system may be working perfectly
  - B. Incorrect. There may be any number of reasons that a slot is empty, a possible reason is a problem in the production line
  - C. Correct. An empty slot is always a sign that replenishment is required
  - D. Incorrect. Andon is a signal related to stopping errors from being passed.

10 / 40

Which topics should **NOT** be covered by the manager during a performance dialogue with an employee?

- A. Discussing new and ongoing objectives for the employee
  - B. Offering support to the employee for the achievement of their objectives
  - C. Discussing solutions with the employee to enable them to meet their objectives
  - D. Giving feedback on how the employee performed or behaved
- 
- A. Incorrect. This is the first step in a performance dialogue.
  - B. Incorrect. This is the second step in a performance dialogue.
  - C. Correct. The performance dialogue is about discussing the achievement of agreed objectives, not to discuss content such as solutions.
  - D. Incorrect. This is the third step in a performance dialogue.

11 / 40

What is a Lean tool to investigate the root cause of problems?

- A. 3 Whys
  - B. 4 Whys
  - C. 5 Whys
  - D. 6 Whys
- 
- A. Incorrect. The tool is called 5 Whys.
  - B. Incorrect. The tool is called 5 Whys.
  - C. Correct. The tool is called 5 Whys.
  - D. Incorrect. The tool is called 5 Whys.

12 / 40

Chairman Cho of Toyota had a key message regarding Lean Leadership.

What was this key message?

- A. Define strategic goals
  - B. Go see, ask why, show respect
  - C. Ensure active participation of everyone in the organization
  - D. Support employees to develop problem-solving skills
- 
- A. Incorrect. This is an executive leadership responsibility. It was not the Toyota Chairman's key message.
  - B. Correct. This is the key message from the Toyota Chairman regarding Lean Leadership.
  - C. Incorrect. This is a requirement of lean transformation. It was not the Toyota Chairman's key message.
  - D. Incorrect. This is a management responsibility. It was not the Toyota Chairman's key message.

13 / 40

What is an objective of the Improve phase?

- A. Develop Process Control Plans
  - B. Make quick-hit improvements
  - C. Implement solutions
  - D. Create high-level process map
- 
- A. Incorrect. Process Control Plans are developed in the Control phase.
  - B. Incorrect. Quick-hit improvements are made in the Measure phase.
  - C. Correct. Solutions are implemented in the Improve phase.
  - D. Incorrect. High-level process maps are created in the Define phase.

14 / 40

What is **NOT** a form of waste?

- A. Passing on work to the next-in-line without explanation
  - B. Solving an incident
  - C. Implementing unauthorized changes
  - D. Training end-users
- 
- A. Incorrect. This activity will lead to waste at the next-in-line station, since work will need to be done to correct the problem(s).
  - B. Incorrect. Solving an incident is waste; it should not have been there in the first place.
  - C. Incorrect. Implementing unauthorized changes is not a Value-Add activity.
  - D. Correct. Giving knowledge and skills to end-users is a Value-Add activity.

15 / 40

What is the **MOST** important behavior within Lean?

- A. Learning
- B. Talking
- C. Listening
- D. Seeing

- A. Correct. Lean is about continual improvement and the only way to do improve is to keep learning.
- B. Incorrect. It is important to explain goals, intentions, etc. but talking itself is not the most important Lean behaviour.
- C. Incorrect. It is important to listen to what is going on but listening itself is not the most important Lean behaviour.
- D. Incorrect. It is important to see what is happening but seeing itself is not the most important Lean behaviour.

16 / 40

What is a form of waste?

- A. Programming software
- B. Creating and managing a project plan
- C. Defining system specifications
- D. Managing the list of inventory changes

- A. Incorrect. Programming software is an act of value creation.
- B. Incorrect. Creating a plan for delivering value to the customer is not a form of waste.
- C. Incorrect. Defining the right specifications adds value to the customer.
- D. Correct. This is an activity, the management of inventory, which in itself is waste.

17 / 40

What board contains all necessary KPIs needed to steer the organization?

- A. Day board
- B. Week board
- C. Month board
- D. Improvement board

- A. Incorrect. The day board is for steering the work on a daily basis.
- B. Correct. KPIs are one of the things that are recorded on the week board.
- C. Incorrect. There is no such thing. A month is too long for effective steering.
- D. Incorrect. Improvement board is about monitoring the progress of improvements not KPIs.

18 / 40

What tool would be used to understand how much time is spent on value-added activities?

- A. DMAIC
- B. SIPOC
- C. PCE
- D. Critical to Quality

- A. Incorrect. DMAIC is used to solve problems.
- B. Incorrect. SIPOC is used to scope a process.
- C. Correct. PCE is used to measure time usage.
- D. Incorrect. CtQ is used to define the customer's requirements.

19 / 40

What is a principle of Lean?

- A. The organization should be profitable
  - B. Value is defined by the customer
  - C. Employees are satisfied
  - D. Customers are satisfied
- 
- A. Incorrect. This is not a principle of Lean.
  - B. Correct. This is a principle of Lean.
  - C. Incorrect. This is not a principle of Lean.
  - D. Incorrect. This is not a principle of Lean.

20 / 40

What is **NOT** a requirement for a KPI?

- A. Supports execution of the strategy
  - B. Consistent across the organization
  - C. Should be owned by the manager
  - D. Controllable by the team
- 
- A. Incorrect. A KPI should be related to the strategy.
  - B. Incorrect. Everyone using a KPI should use the same definition.
  - C. Correct. KPIs are owned by teams not the team manager.
  - D. Incorrect. A team should not be measured on a KPI it cannot influence.

21 / 40

What is the key production factor within IT?

- A. Quality
- B. Time
- C. Money
- D. Services

- A. Incorrect. Quality is not a production factor.
- B. Correct. Time represents the amount of skills working within IT.
- C. Incorrect. Money is a production factor but not the key factor for IT.
- D. Incorrect. Services are not a production factor.

22 / 40

In a Lean transformation, how can IT serve as a major catalyst for change?

- A. Everyone needs computers
- B. Information enables all Value Streams
- C. Access to the Internet is vital
- D. IT touches everyone

- A. Incorrect. This is not true in all cases
- B. Correct. IT is vital for efficient information flows and information is necessary for change to happen
- C. Incorrect. This is not true in all cases
- D. Incorrect. Although this may be true, this does not mean that IT is a major catalyst

23 / 40

What is the purpose of a Skills & Knowledge (S&K) analysis?

- A. Produce Personal Development Plans aligned to S&K
- B. Enable segregation of duties according to customer demands and S&K
- C. Develop S&K in line with employee preferences
- D. Develop the right amount of S&K to provide the value that customers expect from IT.

- A. Incorrect. This not a purpose of a S&K analysis. It is possibly the NNVA that results from a S&K matrix.
- B. Incorrect. This is the opposite of what the S&K matrix is trying to achieve.
- C. Incorrect. This is not the direct effect sought by a S&K analysis.
- D. Correct. A S&K analysis should lead to the development of teams of multi-skilled people who can deliver the value to the customer.

24 / 40

What is **NOT** a Value-Added activity?

- A. Coordinating an incident resolution
- B. Carrying out an impact analysis
- C. Creating a project plan
- D. Programming software

- A. Correct. NVA activity.
- B. Incorrect. VA activity.
- C. Incorrect. VA activity.
- D. Incorrect. VA activity.

25 / 40

Which is **NOT** a goal of Lean?

- A. Improving customer value
- B. Continual improvement
- C. Reducing waste
- D. Increasing profits

- A. Incorrect. This is a reason of doing Lean.
- B. Incorrect. This is a reason of doing Lean.
- C. Incorrect. This is a reason of doing Lean.
- D. Correct. Profit may be (is hopefully) a result of Lean but not the reason for doing Lean.

26 / 40

How does Flow simplify demand planning?

- A. By freezing the planning horizon
- B. By meeting customer needs
- C. By shortening the planning horizon
- D. By removing wasted effort

- A. Incorrect. This would cause overburden (Muri)
- B. Incorrect. This is a goal of Lean
- C. Correct. Flow means working with single piece flow. The amount of planning needed is much lower.
- D. Incorrect. This is a general aim of Lean

27 / 40

What is the purpose of a Kanban card?

- A. To communicate the status of the product or service to the customer
  - B. To inform the process about the progress of the product or service
  - C. To visualize the loop holes in the process
  - D. A manual back-up system for if the computer system fails
- 
- A. Incorrect. The status of the product is not communicated to the customer throughout the process.
  - B. Correct. During the production process, information is added to the Kanban card, accurately showing the status of the product.
  - C. Incorrect. Loop holes are found in mapping value streams.
  - D. Incorrect. Kanban ensures that the status of a product is visible

28 / 40

What is **MOST** likely to be a customer requirement for a specified product?

- A. The product is built in an efficient way
  - B. The product is cheap to build
  - C. The product meets expectations
  - D. The product is reliable in service
- 
- A. Incorrect. The customer generally does not care how a product is built.
  - B. Incorrect. Not always true.
  - C. Correct. This is the definition of providing values to a customer.
  - D. Incorrect. Probably true but not the most important requirement.

29 / 40

What is a definition of overburden (Muri)?

- A. Managers are not able to plan correctly
  - B. Inability to meet customer demand due unrealistic workloads on people
  - C. Employees are uncertain what to do next
  - D. Long system upgrade cycles encouraging user workarounds
- 
- A. Incorrect. Not overburden - managers are unable to plan accurately due to lack of transactional data.
  - B. Correct. Overburden means not having the right resources available at the right place or time.
  - C. Incorrect. Not overburden but a lack of knowledge.
  - D. Incorrect. Not overburden, a cause of waste.



30 / 40

Which list contains examples of what a customer values in a service?

- A. Pricing, Reliability and Timeliness
- B. Design, Features and Availability
- C. Innovation, Completeness and Operation
- D. Model, Achievement and Accuracy

- A. Correct. See list of customer values.
- B. Incorrect. See list of customer values.
- C. Incorrect. See list of customer values.
- D. Incorrect. See list of customer values.

31 / 40

In which DMAIC phase would a Root Cause Analysis be carried out?

- A. Define
- B. Measure
- C. Analyze
- D. Improve

- A. Incorrect. It is not possible to analyse what has not been defined.
- B. Incorrect. It is not possible to analyse data that has not yet been measured.
- C. Correct. The Analysis phase is meant to understand root causes of a problem.
- D. Incorrect. In the Improve phase we know the root cause.

32 / 40

Learning from mistakes is one of the ways an IT organization can make progress.

Which of the following statements represents the Lean way of dealing with mistakes?

- A. In IT, we are only human, we all make mistakes
- B. IT management must focus on ensuring that improvement work is done
- C. It is more important to know WHO made a mistake than WHY it occurred
- D. Mistakes are an inevitable part of work, but must be taken seriously

- A. Incorrect. Lean IT does not see being human as a reason to make mistakes
- B. Correct. Lean IT sees a central role for management in institutionalising improvement activities
- C. Incorrect. Why a mistake occurred is always more important within Lean IT
- D. Incorrect. Lean IT does not see mistakes as inevitable

**33 / 40**

What is a major possible barrier for the value flow?

- A. Muri
- B. Poka-yoke
- C. Kanban
- D. Jidoka

- A. Correct. Muri or overburden (in working procedures and work hours) is, together with Mura or inconsistency and variation, a major barrier that can lead to Muda and the production of defective products.
- B. Incorrect. Poka-yoke is a Lean tool that can be used to help eliminate waste.
- C. Incorrect. Kanban is signal or sign board used for conveying information about picking up or receiving the production order.
- D. Incorrect. "Jidoka" or "Autonomation" means automation with a human touch.

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What is the CTQ tree used for?

- A. To describe the technical systems that are critical within IT for delivering services
- B. To translate the constraints in IT to customer value
- C. To translate customer expectations to measurable internal objectives and activities
- D. To describe critical KPIs necessary to meet customer value

- A. Incorrect. CTQ is related to customer value not technical systems that may be critical.
- B. Incorrect. It does exactly the opposite.
- C. Correct. This is the definition of a CTQ tree.
- D. Incorrect. KPIs result from the creation of a CTQ tree, but this is not where it is used for.

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What is the definition of overburden?

- A. Incapability to solve problems
- B. Inability to meet customer demand with a certain resource
- C. Inability to manage people based on situational leadership
- D. Lack of understanding of the challenges of the IT organisation

- A. Incorrect. Not the correct definition.
- B. Correct. Definition of overburden.
- C. Incorrect. Not the correct definition.
- D. Incorrect. Not the correct definition.

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What is **NOT** a specific objective of Six Sigma?

- A. Statistical analysis
  - B. Problem solving
  - C. Behavior and attitude change
  - D. Reduction of variation
- 
- A. Incorrect. Six Sigma is based on Statistical analysis.
  - B. Incorrect. Six Sigma uses root cause analysis.
  - C. Correct. Six Sigma does not focus on changing the attitude and Behavior of people.
  - D. Incorrect. Six Sigma aims to reduce variation in processes.

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What is a purpose of Voice of the Customer (VoC) tools?

- A. To set priorities and goals consistent with customer needs
  - B. To identify areas where work can be started on eliminating waste
  - C. To document and categorize the costs associated with waste
  - D. To facilitate the feedback of summary results to VoC contacts
- 
- A. Correct. This is a purpose of VoC tools.
  - B. Incorrect. This is not a purpose of VoC tools.
  - C. Incorrect. This is not a purpose of VoC tools.
  - D. Incorrect. This is not a purpose of VoC tools.

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Why is it important that IT management deeply understands the principles and methods of Lean?

- A. To create sustainable improvements in IT services
  - B. To quickly deliver results for IT customers
  - C. To set goals for the teams within IT
  - D. To ensure shareholders get the value they expect
- 
- A. Correct. When management understands Lean, it will not be a temporary 'thing' for the rest of the organization.
  - B. Incorrect. Although quickly delivering results is important, sustainability of improvements is much more important
  - C. Incorrect. Goal-setting is important, but sustainability of improvements is much more important
  - D. Incorrect. Shareholder value is a result of sustainably improving IT services and thus providing more value to customers

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What is input of the improvement board and output of the day board?

- A. Performance & progress
  - B. Team KPIs
  - C. Objectives for the week
  - D. Problems
- 
- A. Incorrect.. this answer may be correct but it is too generic
  - B. Incorrect. This is the specific output from the day board to the week board.
  - C. Incorrect. Objectives of the week are aspects on the week board.
  - D. Correct. Problems are identified during the day start and used as input for the improvement board.

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When work is **NOT** done efficiently, what is **MOST** likely the cause?

- A. IT
  - B. Lack of leadership
  - C. Poor designed processes
  - D. Lack of information
- 
- A. Incorrect. Poorly working IT may contribute to inefficiency but is not necessarily the cause
  - B. Incorrect. Poor leaderships may contribute to inefficiency, but is not necessarily the cause
  - C. Correct. Poor designed processes are one of the principal causes of inefficiency
  - D. Incorrect. Lack of information may be one of the symptoms within a process that causes inefficiency. It is not the most likely cause

# Evaluation

The table below shows the correct answers to the multiple-choice questions in this sample examination.

number	answer	points
1	D	1
2	C	1
3	A	1
4	D	1
5	B	1
6	B	1
7	B	1
8	D	1
9	C	1
10	C	1
11	C	1
12	B	1
13	C	1
14	D	1
15	A	1
16	D	1
17	B	1
18	C	1
19	B	1
20	C	1

number	answer	points
21	B	1
22	B	1
23	D	1
24	A	1
25	D	1
26	C	1
27	B	1
28	C	1
29	B	1
30	A	1
31	C	1
32	B	1
33	A	1
34	C	1
35	B	1
36	C	1
37	A	1
38	A	1
39	D	1
40	C	1

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