

# Lean Management -

## Simplilearn Lean Management Exam Paper 2

Sr No	Topics	No of Question
1	Lean Tools	18
2	Lean Metrics	4
3	Lean Principles	10
4	Other Methodologies	6
5	Lean Maturity Matrix	1
6	Types of waste	11
	<b>Total</b>	<b>50</b>

Q1.'Kaizen' is a Japanese term meaning

SELECT THE CORRECT ANSWER

- A. Foolproof mechanism
- B. Continuous small improvement
- C. Fishbone diagram

### EXPLANATION

**Answer: (B) Kaizen is a Japanese term used for small gradual continuous improvement. Kaizen refers to activities that continually improve all functions, and involves all employees from the CEO to the assembly line workers.**

Q2.ABC Pvt. Ltd. is into production of motorbikes. The production plant runs 2 shifts of 9 hours each on all work days. There are 3 breaks given in each shift. 2 tea breaks of 15 minutes each and 1 lunch break of 30 minutes. There are 26 work days each month. The company fulfils the demand for 15,000 units every month. Calculate the TAKT time.

SELECT THE CORRECT ANSWER

- A. 0.66 minutes
- B. 1.66 seconds
- C. 1.66 minutes

### EXPLANATION

**Answer: (C) Total time available for production per day =  $8 \times 2 \times 60 - (30 \times 2 + 10 \times 4) = 860$  minutes**  
**Total work days in a month = 20 Total time available for production in a month =  $20 \times 860 = 17200$  minutes**  
**Total demand per month = 34,400 parts Takt time =  $17200/34400 = 1/2 = 0.5$  minutes per part = 30 seconds per part.**

Q3.A system of cascading production in which nothing is done by the upstream process until the downstream process signals the need is called

SELECT THE CORRECT ANSWER

- A. Pull
- B. Value Stream
- C. Flow

#### EXPLANATION

**Answer: (A) Pull is a system where each process step takes product or knowledge it needs from the proceeding process when needed, in the proper amount.**

Q4.Ideally transportation waste should be minimized as

SELECT THE CORRECT ANSWER

- A. It adds time to the process during which no value-added activity is being performed.
- B. It leads to handling damages
- C. Both the above

#### EXPLANATION

**Answer: (C) Transportation type of waste is unnecessary motion or movement of materials, such as work-in-process (WIP) being transported from one operation to another leading to additional processing time and handling damages.**

Q5.Which of the following statements substantiate that 'Lean increases capacity'?

SELECT THE CORRECT ANSWER

- A. Your process can produce more with the same number of people
- B. Your process can produce the same amount with fewer people
- C. Both the above

#### EXPLANATION

**Answer: (C) Lean increases the capacity for increased revenue as your process can produce more with the same number of people or can produce the same amount with fewer people.**

Q6.Six Sigma improvement methodology can be used by

SELECT THE CORRECT ANSWER

- A. Only manufacturing Industry
- B. Only service Industry
- C. Both manufacturing and service industry

#### EXPLANATION

**Answer: (C) Six Sigma is a set of tools and strategies for process improvement which can be used in different sectors of industry.**

Q7.A technique which allows machines and softwares to stop automatically when an abnormal conditions occur is called

SELECT THE CORRECT ANSWER

- A. Jidoka
- B. Ishikawa
- C. Heijunka

**EXPLANATION**

**Answer: (A) The term Jidoka used in the TPS (Toyota Production System) can be defined as 'automation with a human touch.' This usually means that if an abnormal situation arises the machine stops and the worker will stop the production line.**

Q8.The Japanese term for Waste is

SELECT THE CORRECT ANSWER

- A. Muri
- B. Muda
- C. Mura

**EXPLANATION**

**Answer: (B) Muda is the Japanese term used for waste.**

Q9.The products or services that do not conform to the specification or customer's expectation, thus causing Customer dissatisfaction are known as

SELECT THE CORRECT ANSWER

- A. Defects
- B. Scrap
- C. None of the above

**EXPLANATION**

**Answer: (A) Defects are the products or services that do not conform to the specification or Customer's expectation, thus causing Customer dissatisfaction.**

Q10.Keeping the workplace neat and clean is addressed by which one of the 5S

SELECT THE CORRECT ANSWER

- A. Sort
- B. Shine
- C. Standardize

**EXPLANATION**

**Answer: (B) Shine (Seiso) addresses the need to keep the workplace neat and clean.**

Q11.Which waste type leads to poor ergonomics and reduced labour efficiency?

SELECT THE CORRECT ANSWER

- A. Transportation
- B. Over processing
- C. Motion

**EXPLANATION**

**Answer: (C) Any movement of people, resources or machines which does not contribute/add value to the product or service leading to poor ergonomics and reduced labour efficiency is classified at Motion type of waste.**

Q12.What is an advantage of holding inventory?

SELECT THE CORRECT ANSWER

- A. Greater availability
- B. Improved quality
- C. Reduced material handling

**EXPLANATION**

**Answer: (A) The advantage of holding inventory is greater availability of parts as and when needed.**

Q13.Which of the following is NOT a JIT inventory management approach?

SELECT THE CORRECT ANSWER

- A. Reduce lot size
- B. Consistently receive and store deliveries in the warehouse irrespective of the production demand pattern
- C. Reduce setup time

**EXPLANATION**

**Answer: (B) Consistently receive and store deliveries in the warehouse irrespective of the production demand pattern is NOT a JIT inventory management approach.**

Q14.What type of waste is 'Creating reports that no one needs or reads' ?

SELECT THE CORRECT ANSWER

- A. Overproduction
- B. Inventory
- C. Defects

**EXPLANATION**

**Answer: (A) Creating reports that no one needs or reads is Overproduction type of waste.**

Q15.Which of the following techniques carry a statistical significance?

SELECT THE CORRECT ANSWER

- A. Kanban
- B. Kaizen
- C. Six Sigma

**EXPLANATION**

**Answer: (C) Six Sigma seeks to improve the quality of process outputs by identifying and removing the causes of defects (errors) and minimizing variability in manufacturing and business processes. It uses a set of quality management methods, including statistical methods and statistical modelling.**

Q16.Primary focus of Lean approach is to

SELECT THE CORRECT ANSWER

- A. Reduce costs
- B. Create value through elimination of waste
- C. Improve quality

**EXPLANATION**

**Answer: (B) Creating value through elimination of waste is the primary focus of lean approach.**

Q17.At which level in Lean Maturity Matrix do you expect the Infrastructure is in place for consistent Lean usage

SELECT THE CORRECT ANSWER

- A. Level 1
- B. Level 2
- C. Level 3

**EXPLANATION**

**Answer: (C) An organization which has Infrastructure in place for the consistent Lean usage is considered to be at Lean Maturity Level 3.**

Q18.Anything that prevents the system from achieving one or more of its goals is called

SELECT THE CORRECT ANSWER

- A. A constraint
- B. A conspiracy
- C. None of the above

**EXPLANATION**

**Answer: (A) Constraint is the element factor or a subsystem that works as a bottleneck. It restricts an entity, project, or system (such as a manufacturing or decision making process) from achieving its potential (or higher level of output) with reference to its goal.**

Q19. Any supply in excess to process requirements necessary to produce goods or services just in time is identified as which waste type

SELECT THE CORRECT ANSWER

- A. Inventory
- B. Overprocessing
- C. Overproduction

**EXPLANATION**

**Answer: (A) Any supply in excess to process requirements necessary to produce goods or services just in time is identified as Inventory type of waste.**

Q20. The fourth step in Theory of constraint analysis is

SELECT THE CORRECT ANSWER

- A. Decide how to exploit the constraint
- B. Evaluate and elevate performance of the constraint
- C. Identify the constraint

**EXPLANATION**

**Answer: (B) The fourth step in Theory of Constraints is to Evaluate and elevate the system's constraint(s) i.e. make other major changes needed to increase the constraint's capacity.**

Q21. Value of product or service is defined by the

SELECT THE CORRECT ANSWER

- A. Supplier
- B. Senior Management
- C. Customer

**EXPLANATION**

**Answer: (C) Customer determines the value of a product or service.**

Q22. When the system can produce more than the market will bear, it is called

SELECT THE CORRECT ANSWER

- A. Internal constraint
- B. External constraint
- C. Economical constraint

**EXPLANATION**

**Answer: (B) An external constraint exists when the system can produce more than the market will bear. If this is the case, then the organization should focus on mechanisms to create more demand for its products or services.**

Q23. The methodology which focuses on reduction in internal and external lead times for competitive advantage is

SELECT THE CORRECT ANSWER

- A. Six Sigma
- B. Just-in-time
- C. Quick Response Manufacturing (QRM)

**EXPLANATION**

**Answer: (C) QRM emphasizes the beneficial effect of reducing internal and external lead times. Shorter lead times improve quality, reduce cost and eliminate non-value-added waste within the organization while simultaneously increasing the organization's competitiveness and market share by serving customers better and faster.**

Q24. An activity that consumes resources and time without returning some form of value is

SELECT THE CORRECT ANSWER

- A. Non value adding activity
- B. Enabling activity
- C. Value adding activity

**EXPLANATION**

**Answer: (A) An activity that consumes resources and time without returning some form of value is known as Non Value adding activity.**

Q25. Continuous movement of products, services and information through the various transformations and transactions from end to end in the process is called

SELECT THE CORRECT ANSWER

- A. Pull
- B. Flow
- C. Push

**EXPLANATION**

**Answer: (B) Flow establishes a continuous movement of products, services and information through the various transformations and transactions from end to end in the process.**

Q26. Machine set-up time is typically classified under two categories as

SELECT THE CORRECT ANSWER

- A. High cost or low cost
- B. Internal or external
- C. Value added or non value added

**EXPLANATION**

**Answer: (C) Machine set-up time is typically classified under Value added and Non value added activities.**

Q27. Choose the best description about 5S

SELECT THE CORRECT ANSWER

- A. 5S is about standardizing the way we do things
- B. 5S is the key to reduce inventory to reduce lead times
- C. 5S can not be used in offices or service industry

**EXPLANATION**

**Answer: (A) 5S is about standardizing the way we do things.**

Q28.What is the Japanese term that can be translated as 'signal, 'card'?

SELECT THE CORRECT ANSWER

- A. or 'sign",Kaizen,0,Answer: (C) Kanban is the Japanese term for 'signal
- B. Jidoka
- C. Kanban

**EXPLANATION**

**Answer: (A) 5S is about standardizing the way we do things.**

Q29.Lean Philosophy is focused on

SELECT THE CORRECT ANSWER

- A. Logistics
- B. Supplier relationships
- C. Customers

**EXPLANATION**

**Answer: (C) Lean Philosophy begins with an external focus on customers with the aim to provide perfect value to the customer through a perfect value creation process that has zero waste.**

Q30.This Lean technique saves warehouse space, inventory cost and prevents obsolete inventory, resulting in higher ROI

SELECT THE CORRECT ANSWER

- A. Factory physics
- B. Just-in-time
- C. Kaizen

**EXPLANATION**

**Answer: (B) Just-in-time is lean technique saves warehouse space, inventory cost and prevents obsolete inventory, resulting in higher ROI.**

Q31.Nurses transporting patients to X-ray' is what type of waste

SELECT THE CORRECT ANSWER

- A. Transportation
- B. Underutilization



C. Overprocessing

**EXPLANATION**

**Answer: (B) Any skill that is not utilized to its full potential leading to customer value is identified as Underutilization type of waste.**

Q32.A goal to reduce the time required to fulfil a customer's order is addressed by which metric?

SELECT THE CORRECT ANSWER

- A. Accuracy
- B. Cycle time
- C. Flexibility

**EXPLANATION**

**Answer: (B) Cycle time metric addresses the goal to reduce the time required to fulfil customer's order from order to cash.**

Q33.Another name a for cause-and-effect analysis is

SELECT THE CORRECT ANSWER

- A. Histogram
- B. Run chart
- C. Ishikawa

**EXPLANATION**

**Answer: (C) Ishikawa is another name for cause and effect analysis for identifying possible causes to an effect.**

Q34.Lean is not a tactic or a cost reduction program, but a way of optimizing end to end processes

SELECT THE CORRECT ANSWER

- A. True
- B. False
- C. Not sufficient information

**EXPLANATION**

**Answer: (A) True. Lean is not a tactic or a cost reduction program, but a way of optimizing end to end process.**

Q35.The second principle of Lean is

SELECT THE CORRECT ANSWER

- A. Indentify value
- B. Establish pull
- C. Map value stream

### **EXPLANATION**

**Answer: (C) Map value stream is the second principle of Lean.**

Q36.The types of waste in Lean are categorized broadly under \_\_\_\_\_ categories

SELECT THE CORRECT ANSWER

- A. Seven
- B. Five
- C. Eight

### **EXPLANATION**

**Answer: (A) The types of waste in Lean are categorized broadly under Seven categories.**

Q37.Key elements of any successful Business model are

SELECT THE CORRECT ANSWER

- A. Suppliers-Customers-Revenue
- B. Employees-Customers-Profits
- C. Policies-Procedures-Profits

### **EXPLANATION**

**Answer: (B) Employees-Customers-Profits are the key elements of any successful business model.**

Q38.A supermarket branch manager complained to the management about the long periods of inactivity for the sales agents due to frequent downtimes of the ERP used for order processing. Which type of waste is this?

SELECT THE CORRECT ANSWER

- A. Over processing
- B. Waiting
- C. Defects

### **EXPLANATION**

**Answer: (B) Long period of inactivity for people, machine, or material waiting for each other is 'Waiting' type of waste.**

Q39.Which type of waste is 'Rework needed to rectify the defect in product or service to fulfil customer requirements'?

SELECT THE CORRECT ANSWER

- A. Defect
- B. Over processing
- C. Underutilized skills

### **EXPLANATION**

**Answer: (A) Rework needed to rectify the defect in product or service to fulfil customer requirements is considered as 'Defect' type of waste.**

Q40. Which of the following is not JIT principle?

SELECT THE CORRECT ANSWER

- A. Close relationship with suppliers
- B. Production in large batches
- C. Production set up to minimize wasteful movements

**EXPLANATION**

**Answer: (B) Production in large quantities or batches irrespective of the demand pattern is not in line with Just-in-time principles.**

Q41. Which of the following is not a reason for variability?

SELECT THE CORRECT ANSWER

- A. Customer demand is unknown
- B. Employees, machines, and suppliers produce units as per the processes that conform to the standards
- C. Engineering designs are inaccurate

**EXPLANATION**

**Answer: (B) Employees, machines, and suppliers produce units that conform to standards reduces variability and brings in stability in the process.**

Q42. Which of the following illustrates an activity that does not add value?

SELECT THE CORRECT ANSWER

- A. Ordering raw material from a supplier
- B. Processing the raw material to make a part
- C. Accumulating raw material in front of the work center

**EXPLANATION**

**Answer: (C) Accumulating parts in front of the next work center does not add value to the process.**

Q43. Which is the primary tool used to drive Six Sigma projects?

SELECT THE CORRECT ANSWER

- A. JIT
- B. DMAIC
- C. Jidoka

**EXPLANATION**

**Answer: (B) DMAIC (define-measure-analyze-improve-control) is the primary tool used to drive the Six Sigma projects for process improvement.**

Q44.The number of Kanbans is

SELECT THE CORRECT ANSWER

- A. The ratio of the reorder point (ROP) to container size
- B. As determined by the Supplier
- C. None of the above

**EXPLANATION**

**Answer: (A) The number of kanban is the ratio of the reorder point (ROP) to container size.**

Q45.Lean tool used to analyze flow of inventory and information in production process for optimum value creation for customer is

SELECT THE CORRECT ANSWER

- A. 5S
- B. Value stream mapping
- C. Kaizen

**EXPLANATION**

**Answer: (B) Value stream mapping is the lean tool used to analyze flow of inventory and information in production process for optimum value creation for customer through identification of value adding and non value adding activities.**

Q46.The lean tool which provides competitive advantage to a manufacturer of multiple varieties of a product through quick changeover of production lines thus maintaining improved flow is

SELECT THE CORRECT ANSWER

- A. SMED (Single minute exchange of die)
- B. Kanban
- C. Value stream mapping

**EXPLANATION**

**Answer: (A) SMED (Single minute exchange of die) is the lean tool which provides competitive advantage to a manufacturer of multiple varieties of a product through quick changeover of production lines.**

Q47.Overall Equipment Effectiveness (OEE) breaks the performance of a manufacturing unit into three separate but measurable components. What are these?

SELECT THE CORRECT ANSWER

- A. Availability - Performance - Quality
- B. Availability - Maintainability - Serviceability
- C. Availability - Reliability - Quality

**EXPLANATION**

**Answer: (A) Availability - Performance - Quality are the three separate but measurable components for determining OEE of a manufacturing unit.**

Q48. Color coding office files is which technique of 5S tool

SELECT THE CORRECT ANSWER

- A. Sort
- B. Set-in-order
- C. Standardize

**EXPLANATION**

**Answer: (B) Set-in-order is one of the 5S used for color coding office files for easy identification.**

Q49. Identify the correct order of lean principles

SELECT THE CORRECT ANSWER

- A. Identify Value - Map Value Stream - Create Flow - Establish Pull - Seek Perfection
- B. Map Value Stream - Create Flow - Identify Value - Establish Pull - Seek Perfection
- C. Establish Pull - Seek Perfection - Identify Value - Map Value Stream - Create Flow

**EXPLANATION**

**Answer: (A) Identify Value - Map Value Stream - Create Flow - Establish Pull - Seek Perfection**

Q50. Single-piece flow, pull production' was achieved using which method

SELECT THE CORRECT ANSWER

- A. Six Sigma
- B. Quick response manufacturing
- C. Lean Manufacturing

**EXPLANATION**

**Answer: (C) Lean manufacturing as part of Toyota Production System achieved Single piece flow and pull production.**