

Practice Test #1 for Lean Bronze Certification – Student Version

- For most unimproved processes, the amount of value-added work relative to incidental work and waste is approximately:
 - 5%
 - 20%
 - 50%
 - 80%
- Which of the following is considered value-added work?
 - Changing the shape or character of a product or assembly.
 - Eliminating all defects and the need for rework.
 - Empowering employees to establish their own work standards.
 - Activities that must be performed under present work conditions
- The greatest waste of all is the waste of:
 - overproduction.
 - mistakes.
 - inventory.
 - Overtime
- The basis of the Toyota Production System is:
 - the monitoring of time vs. order and delivery.
 - the complete elimination of waste.
 - five S, 5 whys and the 7 wastes.
 - standardized work and visual factory.
- A commonality between sports and work is the continuing need for:
 - skill and maturity.
 - strength and endurance.
 - practice and training.
 - emotion and dedication.
- A _____ is all the actions (both value added and non-value added) currently required to bring a product through the main flows essential to every product.
 - lean experience
 - customer demand
 - product launch
 - value stream
- A Value Stream Map is a tool to:
 - enable managers to better understand their backlog.
 - assist you in identifying and eliminating all forms of waste.
 - assist managers to better understand their on time delivery.
 - help you identify which workers are poor performers.
- In a 5S program, the purpose of red tagging is to:
 - identify material for potential removal.
 - provide visual management of WIP.
 - identify broken equipment for repair.
 - highlight processes for continuous improvement.
- The greatest contribution of the 5-why analytical tool is that it helps the lean practitioner to identify the:
 - person who caused the problem.
 - solution to the problem.
 - root cause of the problem.
 - number of occurrences of the problem.
- In a process with a takt time of 3 minutes and a pack-out quantity of 35 parts, the pitch is:
 - 35 minutes.
 - 90 minutes.
 - 105 minutes.
 - 11.66 minutes.
- The takt time number means:
 - cycle assembly time must be greater than or equal to takt, never less.
 - the pace of manufacturing less downtime and scrap rate.
 - a product must be produced every 'X' seconds to meet customer demand.
 - the time to make a product less lead time, available working time and line changeover.

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12. For a production facility working five days per week (one 8 hour shift with three ten minute breaks), the customer demand is 2700 units per week. What is the takt time this facility should produce to?
- One unit every 54 seconds
 - One unit every 50 seconds
 - One unit every 57 seconds
 - One unit every 10 seconds
13. The purpose of takt time is to:
- obtain the fastest possible production speed.
 - coordinate with MRP scheduling.
 - set production to match the rate of customer demand.
 - ensure maximum machine efficiencies.
14. The takt time for a single 8-hour shift operation (less 20 minutes for employee breaks per shift) with a daily demand of 230 units per shift is:
- 2.09 minutes
 - 4 minutes
 - 2 minutes
 - 1/2 minute
15. Kanban is a tool to support:
- error- proofing.
 - 5 S.
 - Six Sigma.
 - just-in-time.
16. Kanban (pull signal) that specifies the kind and quantity of product that the downstream process may pull out is known as:
- production kanban.
 - withdrawal kanban.
 - downstream kanban.
 - customer kanban.
17. The concept of the downstream process going to the upstream process to pick up product is called:
- just-in-time.
 - pull system.
 - just-in-time.
 - visual factory.
18. In its purest form, when items are processed and moved directly from one process to the next one piece at a time, it is known as:
- value stream mapping.
 - continuous flow.
 - low volume production.
 - a "supermarket" pull system.
19. A multistep manufacturing process' capacity is limited by one of its workstations. To increase the process' capacity, the factory must:
- increase production starts (work put into the first operation).
 - decrease the utilization of all workstations in the process.
 - decrease the utilization of the constraining workstation.
 - increase the capacity of the constraining workstation.
20. What is the first step to cellularizing a production line?
- Identify potential bottlenecks.
 - Select a product family.
 - Perform process quality–function–deployment (QFD).
 - Identify and label product and processes for group technology.
21. The optimal number of workers may be determined by:
- standard cost data.
 - Line balancing.
 - labor and overhead.
 - industry standard.

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22. In a lean factory, who is responsible for developing work standards?
- Upper level management
 - Team members
 - Industrial engineer
 - Process engineer
23. Standardizing and stabilizing the process are necessary steps:
- for reducing headcount.
 - to empower employee creativity.
 - before continuous improvement can be made.
 - before maximizing individual cell performance.
24. The amount of stock kept on hand to compensate for variation in supplier lead time and upstream processes is known as:
- safety stock.
 - cycle time stock.
 - strategic stock.
 - lead time stock.
25. Which one of the following is a true statement about takt time?
- Takt time is calculated after standardized work has been established.
 - Takt time is the available work time divided by customer demand.
 - Takt time includes lunch and break times for an operator.
 - Takt time is customer demand divided by available work time.