(Medium)

- 65. Setups that can be performed in advance, while the machine is running, are known as
- a. internal setups
- b. external setups
- c. parallel setups
- d. unnecessary setups

(Easy)

66. A foolproof device or mechanism that prevents defects from occurring is known as a

- a. kaizen
- b. jidoka
- c. muda
- d. poka-yoke

(Medium)

- 67. The authority to stop the production line if quality problems are encountered is known as
 a. kaizen
 b. jidoka
 c. poka-yoke
 d. muda
 edium)
 60. The concept of allocaing exact time to a schedule for planning, problem solving, and maintenance is known as

- (Medium)

and maintenance is known as

- a. andon
- b. preventive maintenance
- c. kaizen
- d. undercapacity scheduling

(Medium)

- 69. The benefits that could be expected from effectively implementing a lean production process would include all of the following except
- a. reduced inventory
- b. reduced product variety
- c. reduced space requirements
- d. reduced lead times

(Easy)

- 70. All of the following would be benefits expected from implementing lean production except
- a. better quality
- b. shorter lead times

5. What are the benefits of small-lot production?

Small-lot production requires less space and capital investment than systems that incur large inventories. By producing small amounts at a time, processes can be moved physically closer together and transportation between stations can be simplified. In small-lot production, quality problems are easier to detect and employees show less tendency to let poor quality pass. Lower inventory levels make processes more dependent on each other. This is beneficial because it reveals errors and bottlenecks more quickly and gives workers an opportunity to solve them.

6. What is the goal of single-minute exchange of die (SMED) and what principles are used to achieve it?

SMED is designed to reduce setup times. By reducing setups, companies are able to reduce the lot size for production and move to small-lot production. The principles of SMED are: (a) separate internal setup from external setup; (b) convert internal setup to external setup; (c) streamline all aspects of setup; and (4) perform setup activities in parallel or eliminate them entirely.

7. Why is steady production important in lean production? The flow of production created by the pull system, kanbans, anallots, and quick setups can only be maintained if production is reacted y steady. Lean production systems attempt to maintain uniferent production levels by smoothing the production requirements on the interassembly line. Changes in final assembly often have dramatic effects on component production upstream. When this happens in a kanban system, namenas for certain parts will circulate very quickly is some times and 20 y slowly at others. Most kanban systems can handle adjustments of pustor minus 10%, but wider demand fluctuations cannot be handled without substantially increasing inventory levels or scheduling large amounts of overtime.

8. How does visual control improve quality?

Quality improves when problems are made visible and workers have clear expectations of performance. Production systems designed with quality in mind include visible instructions for worker or machine action, and direct feedback on the results of that action. This is known as visual control. Examples include kanbans, process control charts, actions sheets, and andons. A factory with visual control will look different from other factories. Material handling routes are clearly marked and machines and stock points in different sections may be painted different colors. The objective of visual control is to make problems evident and visible so they can be solved.

9. Why is total productive maintenance an important component of lean production? Machines cannot operate continuously without some attention. Preventive maintenance periodically inspects machines to keep them in operation as long as possible. But even with preventive maintenance breakdowns still occur. Lean production requires more than preventive maintenance—it requires total