

Task 1. Read the text and answer the questions.

A significant disruption occurred at the Greenfield Auto Parts factory yesterday, halting production on one of its main assembly lines. The issue arose when a robotic arm, used for welding, experienced a malfunction that led to overheating and subsequent damage to the machinery. The automated system suddenly stopped, causing a backlog of unfinished components along the production line.

Preliminary investigations point to a possible software glitch in the control system that caused improper coordination between the robotic arm's movements and the cooling system. Additionally, signs of mechanical wear on the arm's components suggest that maintenance might not have been performed at the recommended intervals.

The incident is expected to impact the factory's output by at least 30% over the next week as repairs and recalibrations are completed. Engineers are working around the clock to resolve the issue, using replacement parts and software updates to bring the line back online.

Experts in the industry are highlighting the need for enhanced predictive maintenance practices, such as implementing real-time monitoring systems that can detect early signs of equipment stress. This event has raised concerns about the resilience of automated manufacturing processes and the importance of having contingency plans in place.

The factory is exploring temporary solutions, including manual assembly and outsourcing some tasks, to minimize delays in fulfilling customer orders. An official investigation report detailing the cause of the malfunction and suggested improvements is expected to be released soon.

1. What caused the disruption at the Greenfield Auto Parts factory?

- A. A power outage
- B. A malfunctioning robotic arm
- C. A supply chain issue
- D. A fire in the factory

2. How did the malfunction affect the factory's production?

- A. It increased production output
- B. It caused a complete halt in production
- C. It slowed down the production line
- D. It improved efficiency

3. What was initially identified as a possible factor in the robotic arm malfunction?

- A. A software update
- B. Overheating due to mechanical wear
- C. A new maintenance schedule
- D. Employee error

4. **What is one of the temporary measures the factory is considering to minimize delays?**
 - A. Outsourcing production tasks
 - B. Increasing the maintenance team size
 - C. Automating more processes
 - D. Shutting down for repairs
5. **Why is the maintenance schedule being questioned?**
 - A. It was recently changed
 - B. It had not been followed correctly
 - C. It was considered too frequent
 - D. It was designed for a different type of machinery
6. **How could real-time monitoring systems help prevent similar incidents in the future?**
 - A. By increasing the production speed
 - B. By quickly detecting any equipment issues
 - C. By training staff automatically
 - D. By shutting down the entire system when a fault occurs
7. **What role did software glitches play in the incident?**
 - A. They were the main cause of the robotic arm malfunction
 - B. They had no impact on the issue
 - C. They might have contributed to the problem
 - D. They were ruled out as a cause
8. **What steps are being taken while the robotic arm is being repaired?**
 - A. Manual assembly has been implemented
 - B. The factory has been completely shut down
 - C. Production tasks are being outsourced
 - D. Other robots are being used as replacements
9. **When is the official investigation report expected to be released?**
 - A. By the end of the week
 - B. In a month
 - C. Within the next few days
 - D. After repairs are completed

Task 2. Fill in the gaps with the appropriate verb.

conduct, measure, examine, check, detect, verify, assess

1. **Visual Inspection:** _____ machinery for visible damage or wear.
2. **Component Testing:** _____ each component to verify it operates as intended.
3. **Thermal Imaging:** _____ overheating that may signal mechanical or electrical problems.
4. **Vibration Analysis:** _____ vibrations to identify issues with rotating equipment.
5. **Electrical Testing:** _____ electrical systems for faults.

6. **Software Diagnostics:** _____ tests on control software for errors or bugs.
7. **System Calibration:** _____ that machinery meets manufacturer specifications.

Task 3. Match the parts of the sentences.

1. The maintenance team reviewed the machine's maintenance records	a) looking for fluctuations or irregular power usage that could indicate an underlying issue.
2. Specialized diagnostic tools were used to monitor the machine's electrical system,	b) to gather insights into any unusual behaviors or warning signs noticed before the failure.
3. Technicians disassembled key components of the machinery	c) to determine if there were any missed routine checks or overdue part replacements.
4. Employees who operated the machinery were interviewed	d) to ensure it was functioning correctly and preventing the machine from overheating.
5. The cooling system of the machinery was examined	e) to check for internal damage, such as worn-out gears or cracked seals.
6. Engineers conducted a load test on the machine,	f) running it under various conditions to replicate the issue and observe how it affected performance.

Task 4. Read the sentences and make up speculations about the past.

*For example. If the lubrication system had been serviced regularly, the friction causing overheating in the machinery **could / might HAVE BEEN MINIMIZED.** (MINIMIZE)*

1. If the conveyor belt had been monitored regularly, signs of wear and tear could _____ **IDENTIFY** before the system failed.
2. The assembly line issues might _____ **PREVENT** if a thorough inspection had been conducted after the last maintenance session.
3. If operators had received proper training earlier, they might _____ **AVOID** misusing the machinery, which could have led to malfunction.

4. If the air pressure in the pneumatic system had been checked routinely, fluctuations that caused inefficient operation could _____ **DETECT** earlier.
5. The problem with the hydraulic lift could _____ **AVOID** if the seals had been replaced on schedule, preventing leaks that led to loss of pressure.
6. If the production schedule had included time for routine checks, minor issues could _____ **RESOLVE** before escalating into major breakdowns.

Task 5. Rearrange the steps to reflect the logical flow for investigating the problem.

1. _____ Run diagnostic tests on the machine to detect any electrical or software issues.
2. _____ Inspect the machine visually to identify any obvious signs of damage or wear.
3. _____ Conduct a trial run of the machine after repairs or adjustments have been made.
4. _____ Analyze the data collected from the diagnostics and reports to determine potential causes.
5. _____ Test individual components to ensure they are functioning correctly.
6. _____ Gather reports from operators and maintenance staff about the issue's history and any unusual machine behavior.