Science & Technology · GS - III

How can regulatory enforcement and scientific testing strengthen food safety in India's packaged drinking water industry? Discuss with reference to the role of FSSAI.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 28/11/2026	GS - III	Science & Technology

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Food safety standards, microbial contamination, FSSAI, laboratory testing, consumer protection, regulatory compliance, accountability

Model Answer

Safe drinking water is essential for public health. Microbial contamination of packaged drinking water can expose consumers to waterborne diseases, highlighting the importance of effective regulation and scientific monitoring.

The Food Safety and Standards Authority of India (FSSAI), established under the Food Safety and Standards Act, 2006, is the principal statutory authority responsible for regulating food safety in India.

Key regulatory mechanisms include:

1. **Scientific standards:** Prescribing microbiological and quality requirements for packaged drinking water.
2. **Laboratory surveillance:** Testing samples through recognised laboratories to identify contaminants and verify compliance.
3. **Enforcement action:** Initiating prosecution, imposing penalties and restricting unsafe products in accordance with applicable laws.

4. **Traceability:** Using batch identification and recall mechanisms to prevent contaminated products from reaching consumers.
5. **Consumer awareness:** Promoting awareness about safe drinking water, product labelling and reporting violations.

The reported detection of coliform bacteria in a packaged water sample from a manufacturing facility in West Bengal illustrates the significance of laboratory-based monitoring and regulatory accountability.

However, enforcement faces challenges such as uneven inspection capacity, inadequate laboratory infrastructure, complex supply chains and inconsistent compliance among manufacturers.

Strengthening independent testing, risk-based inspections, transparent disclosure of violations and coordination with State food safety authorities can improve regulatory effectiveness.

Ultimately, food safety regulation must move beyond periodic inspections towards continuous quality assurance, ensuring that commercial interests do not compromise public health.

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