Science & Technology · GS - III

Evaluate the role of food safety regulation and quality certification in protecting public health in India's packaged drinking water sector.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 24/11/2026	GS - III	Science & Technology

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Food Safety and Standards Act, FSSAI, BIS standards, water contamination, risk-based surveillance, consumer protection, regulatory accountability

Model Answer

Introduction

Packaged drinking water is an important source of drinking water for millions of consumers. However, contamination by chemical and microbial pollutants can create serious public-health risks, making effective regulation and quality assurance essential.

Role of Regulatory Institutions

1. **FSSAI:** Established under the Food Safety and Standards Act, 2006, it regulates food safety, prescribes standards and monitors compliance.
2. **BIS:** Prescribes technical standards for packaged drinking water, including quality parameters and testing requirements.
3. **Testing and surveillance:** Periodic sampling and laboratory analysis help identify contaminants such as bromate, heavy metals and harmful organic compounds.

4. **Enforcement:** Prosecution, penalties and corrective measures deter non-compliance and protect consumers.

Major Regulatory Challenges

1. **Testing gaps:** Inadequate sampling and inconsistent laboratory capacity may allow contaminated products to enter the market.
2. **Supply-chain risks:** Contamination can occur during treatment, bottling, storage and transportation.
3. **Information asymmetry:** Consumers generally lack the technical knowledge to independently assess water quality.
4. **Regulatory coordination:** Effective enforcement requires coordination among food-safety authorities, standards institutions and state agencies.

Way Forward

1. Strengthen independent and risk-based surveillance across manufacturing units.
2. Ensure transparent disclosure of testing results and prompt product recalls.
3. Improve laboratory infrastructure and traceability systems.
4. Enforce penalties consistently while providing manufacturers due process.

Conclusion

Public confidence in packaged drinking water depends on credible testing, transparent regulation and accountability. A preventive, science-based regulatory system is essential to safeguard public health.

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