Syllabus subtopic:

- Science and Technology- Developments and their Applications and Effects in Everyday Life.
- Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment.

Prelims and Mains focus: about the prohibition and its significance; about BIS; NGT; CPCB; water filtration technology

News: The Union Environment Ministry has published a draft notification that effectively prohibits users from installing membrane-based water purification, mainly reverse osmosis, systems in their homes if the water has been sourced from a supply that meets the Bureau of Indian Standards’ drinking water norms.

Why?

The Ministry has issued this order to comply with an order of the National Green Tribunal (NGT), which has prohibited the use of reverse osmosis (RO) purifiers in places where total dissolved solids (TDS) in the supplied water are below 500 mg per litre.

Background

- The Water Quality Association of India, which represents companies that make RO systems, had moved the Supreme Court for a stay of the NGT’s order.

- The SC declined to intervene and the NGT had directed the Environment Ministry to issue a notification that restricted the use of water filters.

Why did NGT ordered a ban on RO filters?

The NGT had ordered a ban on RO filters on the grounds that they wasted water and that, in the process of removing salts, they often deprived drinking water of essential salts. RO while useful in reducing salts does not tackle bacterial
agents or trace chemicals and manufacturers often claim that additional filtration is required to deliver potable water.

**What are BIS regulations on drinking water?**

- Current BIS regulations consider **500 mg/litre—1,200 mg/l of total dissolved solids**, which consists of salts and some organic matter, as acceptable though there is no lower limit.

- The regulations also put the onus on commercial bottlers, who make RO water, to ensure that **water that is lost in the RO production process is stored in “safe, hygienic” conditions** and that a record of such water “wasted” is maintained. Makers of such systems have to register with the **Central Pollution Control Board**.

- By June 5, 2022, RO manufacturers can only supply home purification systems that waste no more than 25% of the water and these systems must be able to inform consumers of the TDS levels at the inlet and water outlet, the Ministry adds.

- The Delhi Jal Board, among others, claims that the water it supplies meets BIS norms.

**How Does Reverse Osmosis Work?**

Reverse Osmosis water purification process is accomplished by water pressure pushing tap water through a **semi-permeable membrane** to remove impurities from water. This is a process in which dissolved inorganic solids (such as salts) are removed from a solution (such as water).