UPSC Daily Current Affairs | Prelim Bits 05-02-2020

Draft on Reverse Osmosis (RO) Systems

- Reverse osmosis is a water purification process that uses a partially permeable membrane to remove ions, unwanted molecules and larger particles from drinking water.
- Environment ministry issued a draft notification to prohibit use of reverse osmosis (RO) purifiers where total dissolved solids (TDS) in water are below 500 milligrams per liter.
- The draft is based on NGT's to ban RO purifiers in areas, which get potable drinking water.
- It also said water from RO purification system for domestic use would be "used only for drinking purpose".
- Once the rules are finalized, RO machine manufacturers will have to tweak their designs to meet the new parameters so that the system does not discharge water beyond the prescribed limit during the purification process.
- BIS will develop a system to monitor, assess and certify in consultation with the Central Pollution Control Board (CPCB) within six months of final notification.
- Enforcement will largely be the responsibility of CPCB and State Pollution Control Boards (SPCBs).
- Final notification on banning RO purifiers and parameters on design of such machines will be issued after examining the views of all stakeholders, including manufacturers.

BIS

- The Bureau of Indian Standards is the national Standards Body of India working under the aegis of Ministry of Consumer Affairs, Food & Public Distribution, and Government of India.
- The Bureau of Indian Standards Act, 1986, establishes it.

Public Health Emergency of International Concern

- A Public Health Emergency of International Concern (PHEIC) is a formal declaration by the World Health Organization (WHO).

- It is declared during an extraordinary event which is determined to constitute a public health risk to other States through the international spread of disease and to potentially require a coordinated international response.
- It is formulated when a situation arises that is "serious, sudden, unusual or unexpected", which "carries implications for public health beyond the affected State's national border" and "may require immediate international action".
- Under the 2005 International Health Regulations (IHR), states have a legal duty to respond promptly to a PHEIC.
- Since 2009, there have been six PHEIC declarations:

1. In 2009 H1N1 (or swine flu) pandemic,
2. In 2014 polio declaration,
3. In 2014 outbreak of Ebola in Western Africa,
4. In 2015–16 Zika virus epidemic,
5. In 2015-16 Kivu Ebola epidemic,
6. In 2020 novel coronavirus outbreak.

- The recommendations are temporary and require reviews every three months.
- SARS, smallpox, wild type poliomyelitis, and any new subtype of human influenza are automatically PHEICs and therefore do not require an IHR decision to declare them as such.
- PHEIC is not only confined to infectious diseases, and may cover an emergency caused by a chemical agent or a radio nuclear material.
- It is a "call to action" and "last resort" measure.
- Most epidemics and emergencies do not gain public attention or fulfil the criteria to be a PHEIC.

SARS vs CORANA

- SARS was also caused by a type of coronavirus (SARS-CoV) and is believed to be an animal virus, possibly transmitted from bats to civet cats to human beings.
- This virus first infected human beings in the Guangdong province of Southern China in 2002 and the region is still considered a potential zone of the re-emergence of the SARS CoV.
- The epidemic affected 26 countries and resulted in more than 8,000 cases in 2003.
- SARS is transmitted from person to person, and the symptoms include fever, malaise, headache, myalgia, diarrhea and shivering.

- According to the WHO, fever is the most frequently reported symptom, and cough, shortness of breath and diarrhea follow in the first or second week of illness.
- Other countries where the SARS CoV spread during the epidemic include Hong Kong, Canada, Chinese Taipei, Singapore and Vietnam.

Purifies Terephthalic Acid (PTA)

- Union government recently removed the antidumping duty on Purified Terephthalic Acid.
- Purified Terephthalic Acid (PTA) is a crucial raw material used to make various products, including polyester fabrics.
- PTA makes up for around 70-80% of a polyester product and is, therefore, important to those involved in the manufacture of man-made fabrics or their components, according to industry executives.
- This includes products like polyester staple fiber and spun yarn.
- The duty had meant importers were paying an extra $27-$160 for every 1,000 kg of PTA that they wanted to import from countries like China, Taiwan, Malaysia, Indonesia, Iran, Korea and Thailand.
- Removing the duty will allow PTA users to source from international markets and may make it as much as $30 per 1,000 kg cheaper than now, according to industry executives.
- Mono Ethylene Glycol (MEG), another raw material used in the manufacturing of polyester, is currently the subject of another anti-dumping duty investigation initiated by Director General Of Trade Remedies (DGTR) recently.

Space Debris

- Space debris is a term for defunct human-made objects in space principally in Earth orbit, which no longer serve a useful function.
- This can include nonfunctional spacecraft, abandoned launch vehicle stages, mission-related debris and fragmentation debris
- The Space debris make future space missions more difficult and more dangerous to get launched into space.

Terminator Tape

- To tackle the problem of space debris, a company called Tethers Unlimited has demonstrated an easy solution to get rid of satellites once they are of no use.

- The Terminator Tape is a small module about the size of a notebook.
- It weighs less than two pounds that will be attached to the exterior of a satellite that deploys the 230-feet long conductive tape through an electric signal from either the satellite or an independent timer unit.
- This tape interacts with the space environment to create a drag force on the satellite that lowers its orbit.
- The company calls the Terminator Tape "an affordable, lightweight solution for removing space debris from an orbit".
- Tethers Unlimited is currently collaborating with Millennium Space Systems, TriSept, and RocketLab to prepare a scientific method-based low-Earth orbit flight experiment called "DRAGRACER".
- It will compare deorbit of two identical satellites– one with a Terminator Tape and another without one.
- The experiment will compare the falling speed of the two satellites to analyze the tape's performance.

CHEPOS

- European Space Agency (ESA) had launched the CHaracterizing ExOPlanet Satellite (CHEOPS) in 2019 that focuses on exoplanets, in particular, to search for habitable planets
- Ever since its launch CHEOPS satellite has been orbiting the Earth at an altitude of 700 kilometers (435 miles).

Source: The Hindu, Indian Express

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