UPSC Daily Current Affairs | Prelim Bits 21-04-2020

Indian Strategic Petroleum Reserve (ISPRL)

- Indian Strategic Petroleum Reserves Limited (ISPRL) is an Indian company responsible for maintaining the country's strategic petroleum reserves.
- ISPRL is a wholly owned subsidiary of the Oil Industry Development Board (OIDB), which functions under the administrative control of the Ministry of Petroleum and Natural Gas.
- ISPRL maintains an emergency fuel store of strategic crude oil enough to provide 10 days of consumption Strategic crude oil storages are at three underground locations in Mangalore, Visakhapatnam and Padur (Udupi, Karnataka).
- All these are located on the east and west coasts of India which are readily accessible to the refineries.
- These strategic storages are in addition to the existing storages of crude oil and petroleum products with the oil companies and serve in response to external supply disruptions.
- Indian refiners maintain 65 days of crude storage, so India has overall reserve oil storage of 87 days.
- ISPRL have been filling ISPRL’s caverns at Mangaluru and Udupi with crude oil to make the best use of the low international crude prices.

World Wide Help (WWH)

- IIT Bombay has developed a software that can greatly help with the demands of physical distancing necessitated by the coronavirus (COVID-19) pandemic.
- The software is named World Wide Help (WWH) which can be used to connect people seeking medical help with helpers, such as doctors.
- The other is a system to generate e-tokens that can be deployed by local markets and small vendors to ensure physical distancing.
- The WWH platform can be used with an app or a phone.
- The user simply calls a dedicated number and can input basic data such as the age of the person in need of help and whom they wish to solicit help from.

- This is registered as a task in the app and assigned to a primary helper who is a junior doctor or Medicare professional.
- Further, the task may be re-designated by the primary helper to a senior doctor, who is the second level of helper, or the primary helper may settle the issue through a phone call.
- Ma and Shishu Poshan, a helpline that provides nutrition and breast-feeding support for mothers and infants has been using this platform already.

Ionosphere

- The ionosphere is the ionized part of Earth's upper atmosphere, from about 60 km (37 mi) to 1,000 km (620 mi) altitude.
- It is a region that includes the thermosphere and parts of the mesosphere and exosphere.
- The ionosphere is ionized by solar radiation.
- It plays an important role in atmospheric electricity and forms the inner edge of the magnetosphere.
- It has practical importance because, among other functions, it influences radio propagation to distant places on the Earth.
- The region below the ionosphere is called neutral atmosphere, or neutrosphere.

Artificial Neural Networks based global Ionospheric Model

- Researchers from Indian Institute of Geomagnetism (IIG) have developed a global model to predict the Ionospheric electron density with larger data coverage, a crucial need for communication and navigation.
- Tracking the variability of the Ionosphere is important for communication and navigation.
- The Ionospheric variability is greatly influenced by both solar originated processes and the neutral atmosphere origin, therefore, difficult to model.
- IIG developed new Artificial Neural Networks based global Ionospheric Model (ANNIM) using long-term Ionospheric observations to predict the Ionospheric electron density and the peak parameters.
- ANNs replicate the processes in the human brain (or biological neurons) to solve problems such as pattern recognition, classification, clustering, generalization, linear and nonlinear data fitting, and time series prediction, and very few attempts have been made to model the global

ionosphere variability using ANNs.

- The researchers developed a neural network-based global Ionospheric model by using an extensive database consisting of nearly two decades of global Digisonde (an instrument that measures real-time on-site electron density of the ionosphere by sending the radiofrequency pulses), Global Navigation Satellite System (GNSS) radio occultation and topside sounders observations.
- The model developed by IIG researchers may be utilized as a reference model in the Ionospheric predictions and has potential applications in calculating the Global Navigation Satellite System (GNSS) positioning errors.

Indian Institute of Geomagnetism (IIG)

- The Indian Institute of Geomagnetism is an autonomous research institution established by the Government of India's Department of Science and Technology.
- The facility is engaged in basic and applied research in geomagnetism, as well as allied areas of geophysics, atmospheric physics and space physics, as well as plasma physics.
- The Institute currently operates 12 magnetic observatories and actively participates in the Indian Antarctic Program.

Common Bio-Medical Waste Treatment Facilities

- Central Pollution Control Board (CPCB) has marked Common Bio-Medical Waste Treatment Facilities (CBWTFs) as a key factor in the race to contain the coronavirus outbreak.
- But the last available countrywide update on these facilities from 10 months ago presents a grim picture.
- Currently, in India, there are around 200 Common Bio-Medical Waste Treatment Facilities (CBMWTFs) in operation which is inadequate for health facilities in 750 districts of the country.
- There is a great need for rapid development of more CBMWTFs to fulfill the need of treatment and disposal of all BMW generated in India.
- CPCB’s order mandates that Isolation wards, sample collection centers, and laboratories are all mandated to keep a separate ‘COVID-19’ waste collection bin in a temporary storage room.
- CBWTFs are to identify this separately-labeled waste for priority treatment and disposal.
- According to NGT even though 20 years had passed since the Supreme

Court issued directions on dealing with solid waste management, no progress was made by states and that timelines set under the Municipal Solid Waste Rules, 2016, had expired.

Source: PIB, Indian Express, the Hindu

