

Coal Mine Pit Lakes

❖ Context

- The coal ministry has approached the environment ministry for inclusion of **five coal mine pit lakes** in Ramsar List.

❖ Key Highlights

- As per the guidance of MoEFCC, CIL has identified five pit lakes in the **States of West Bengal, Odisha, Jharkhand and Madhya Pradesh** for consideration of inclusion in Ramsar list.
- CIL is in process of preparing the **Ramsar Information Sheet (RIS)**.
- These mine pit water bodies are regularly visited by different species of birds and also have an avifauna population.
- The Ministry of coal is obtaining support and assistance from the **World Bank, GIZ and other global institutions** for repurposing abandoned mine sites to make them safe, environmentally stable and suitable for appropriate commercial usage.

❖ Ramsar Convention

- The **Convention on Wetlands of International Importance** is an international agreement promoting the conservation and wise use of wetlands. It is the **only global treaty to focus on a single ecosystem**.
- There are over **2,400 Ramsar sites** around the world with **most sites** being in the **United Kingdom and Mexico**.
- The **largest area** under the Convention protection is in **Bolivia** with 148,000 square km area designated.
- The **world's first site** was the **Cobourg Peninsula** in Australia, designated in 1974. The **largest site** is **Rio Negro in Brazil** (120,000 square kilometres).
- There are **49 sites** in India currently.

❖ Nine Criteria for Identifying a Wetland of International Importance

Group A of the Criteria.	Sites containing representative, rare or unique wetland types
Criterion 1:	A wetland should be considered internationally important if it contains a representative, rare, or unique example of a natural or near-natural wetland type found within the appropriate biogeographic region.
Group B of the Criteria.	Sites of international importance for conserving biological diversity
	Criteria based on species and ecological communities
Criterion 2:	A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.
Criterion 3:	A wetland should be considered internationally important if it supports populations of plant and/or animal species important for maintaining the biological diversity of a particular biogeographic region.
Criterion 4:	A wetland should be considered internationally important if it supports plant and/or animal species at a critical stage in their life cycles, or provides refuge during adverse conditions.
	Specific criteria based on waterbirds
Criterion 5:	A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.
Criterion 6:	A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.
	Specific criteria based on fish
Criterion 7:	A wetland should be considered internationally important if it supports a significant proportion of indigenous fish subspecies, species or families, life-history stages, species interactions and/or populations that are representative of wetland benefits and/or values and thereby contributes to global biological diversity.
Criterion 8:	A wetland should be considered internationally important if it is an important source of food for fishes, spawning ground, nursery and/or migration path on which fish stocks, either within the wetland or elsewhere, depend.
	Specific criteria based on other taxa
Criterion 9:	A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of wetland-dependent nonavian animal species.

Single Use Plastic Ban

❖ Context

- With the ban on **12 single-use plastic items** coming into force from **July 1 2022**, the government has adopted various measures to ensure its effective enforcement.



❖ Key Measures

- A **national dashboard** that will keep track of the implementation has been set up.
- Setting up **control rooms** at national and state levels, which will be supervised by the Central Pollution Control Board.
- **Special enforcement teams** will be formed to check illegal manufacture, import, stocking & distribution, sale & use.
- States & UTs have been asked to set up **border checks** to stop inter-state movement.
- A **grievance redressal app** has been launched for the citizens to act as watchdogs.

❖ About the Ban

- The items had been chosen on the basis of three criteria - **low utility, high littering potential & availability of alternative materials**.
- The **use of these items by consumers is also banned**.

❖ Extent of Pollution in India

- According to CPCB, plastic waste generation in 2020-21 was **41.27 lakh tonnes**.
- The **per capita waste generation was 3 kg per annum**.
- There are **683 units** manufacturing single-use plastics with a cumulative capacity of **2.44 lakh tonne per annum**.
- **Single use accounts for 10-35% of the total plastic waste**.
- ❖ **Biodegradable and Compostable Plastics**
 - Government is encouraging industry to come up with **alternatives** to single use in the form of biodegradable and compostable plastics.
 - However, experts have expressed concern that biodegradable plastic would still be **hazardous** due to following reasons : In order to make plastic biodegradable, **additives** are added.
 - These additives fragments plastic into **micro-plastics** which are very difficult to deal with.

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mRNA Vaccine

❖ Context

- Recently, the country's first home-grown mRNA Covid-19 vaccine **GEMCOVAC-19**, developed at Pune's Gennova Biopharmaceuticals has got a 'restricted emergency use' nod for the 18-and-above age group.

❖ Key Highlights

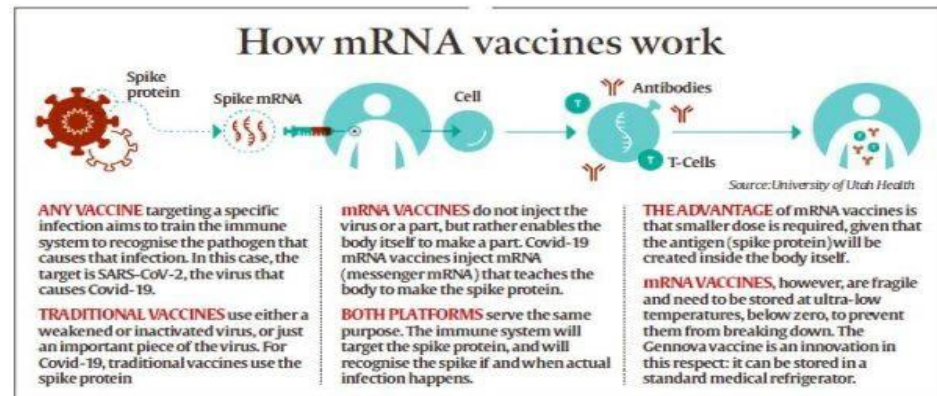
- mRNA vaccines are **required to be kept at sub-zero temperatures**.
- It was a mammoth task for Gennova scientists to develop a **thermostable mRNA Covid-19 vaccine**.
- Scientists had to innovate to suit local needs to make it affordable and deployable.
- The new vaccine **can now be stored** at the temperature of a **standard medical refrigerator**.

❖ mRNA Vaccine

- Conventional vaccines put a **weakened or inactivated virus** in the human body to activate an immune response.
- mRNA vaccine (Covid-19 vaccines -Pfizer-BioNTech and Moderna) **used messenger RNA or mRNA** to deliver a message to human immune system.
- Basically, the technology **uses genetically engineered mRNA** to instruct cells to make the **S-protein** found on the surface of the Covid-19 virus.
- After vaccination, the **muscle cells begin making S-protein pieces** and displaying them on cell surfaces.
- This causes the **body to create antibodies**.
- These vaccines **have to be stored at sub-zero temperatures** as mRNA is fragile and breaks down easily.

❖ Thermostable Vaccine

- The challenge in India was to be able to store the vaccine between 2-8 degree Celsius.
- This challenge was addressed by **Lyophilisation**.
- **Lyophilisation:**
 - The **conversion from liquid to powder** form of the vaccine takes place via Lyophilisation.
 - This is **freeze-drying**, a process where the water is removed from the product after it is frozen.
 - It is **placed under a vacuum** allowing the ice to change directly from **solid to vapor** without passing through a liquid phase.
 - The **surrounding pressure has to be tweaked** and then kept stable.
 - To ensure the characteristics of the vaccine are the same as before Lyophilisation.



Uranium Deposits

❖ Context

- Recently, **Rajasthan has come on the world map** with huge reserves of uranium.
- These deposits are found at **Rohil (Khandela Tehsil) in Sikar district**, which is over 120 km from state capital Jaipur.



❖ Key Highlights

- According to initial estimates, there may be around **12 million tonnes of uranium deposits**.
- The Rajasthan government has forayed into the field of uranium mining by issuing a letter of intent (LoI) to Uranium Corporation of India.
- The LoI is for excavation of ore of this rare mineral in the state.

❖ Uranium

About:

- Uranium is a **silvery-white metallic chemical element** in the periodic table, with atomic number 92.
- It is assigned the chemical **symbol U**.
- A uranium atom has **92 protons and 92 electrons**, of which 6 are valence electrons.
- Uranium has the **highest atomic weight of all naturally occurring elements**.

Distribution:

- After Jharkhand and Andhra Pradesh, **Rajasthan is the third state where uranium has been found**.
- Currently, excavation of uranium is going on at Jadugoda in Jharkhand as well as Andhra Pradesh.
- The **largest producers of uranium in the world** are **Kazakhstan, Canada and Australia**.
- This mineral has also been found in **Niger, Russia, Namibia, Uzbekistan, the US and Ukraine**.
- **India also imports its rare mineral needs** from the world's largest uranium-producing nations like **Kazakhstan, Russia, Uzbekistan, and Canada**.

Application:

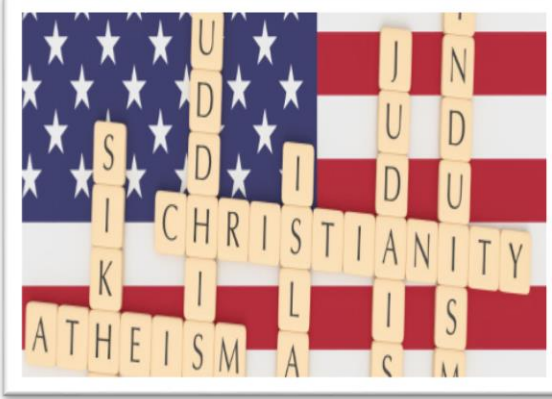
- Uranium is mainly used for **generating electricity** and also for nuclear energy, medicines, defense equipment and photography, among others.

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News in Between the Lines

Establishment Clause



❖ Context

➤ The **US Supreme Court's** decisions in recent three cases have set in debate over the **U.S. Constitution's First Amendment's Establishment Clause**.

❖ About the Clause

- The First Amendment's Establishment Clause prohibits the government from making any law "respecting an establishment of religion." It basically **separates religion from state**.
- This clause also **prohibits** government actions that unduly **favor one religion over another**. It also **prohibits** the government from unduly preferring **religion over non-religion, or non-religion over religion**.
- The government policies and actions in those cases were taken to avoid violating the clause.
- However, according to some legal experts, the SC decision does not undermine the clause as **it protects diverse religious expression also**.

Primary Agricultural Credit societies (PACS)



❖ Context

➤ The Cabinet Committee on Economic Affairs has approved **computerization** of Primary Agricultural Credit Societies (PACS).

❖ Key Highlights

- Computerization will be done in **5 years with total outlay of Rs. 2516 crores of which central share would be Rs. 1528 crores**.
- They will be brought on a common platform at national level and have a **Common Accounting System (CAS)** for their day to day business.
- The software will be in **vernacular language** having flexibility of customisation as per the needs of the states.
- Various **government schemes** in which credit and subsidy are involved can then also be implemented through PACS.

❖ About PACS

- PACS constitute the **lowest tier of the three-tier short-term cooperative credit (STCC) in the country**.
- It comprises **approx. 13 Cr. farmers** as its members.
- They account for **41 % (3.01 Cr. farmers) of the KCC loans given by all entities in the country**.
- **95 % of these KCC loans (2.95 Cr. farmers) through PACS are given to the Small and Marginal farmers**.
- The **other two tiers viz. State Cooperative Banks (StCBs) and District Central Cooperative Banks (DCCBs)** have already been automated by the **NABARD and brought on Common Banking Software (CBS)**.

Horn of Africa



❖ Context

➤ Recently, China held the first China-Horn of Africa Peace, Governance and Development Conference.

❖ Key Highlight

- China has been investing across the African continent throughout the last decade.
- The conference held in Ethiopia witnessed the participation of foreign ministries from the following countries of the Horn :
 - Kenya, Djibouti, Ethiopia, Sudan, Somalia, South Sudan, and Uganda.

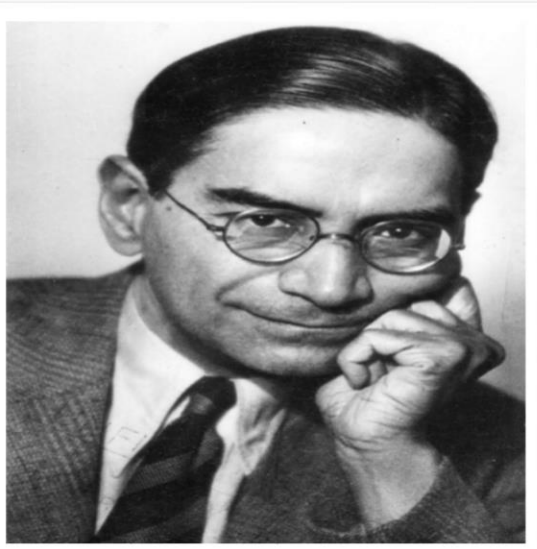
❖ About Horn of Africa

- The Horn of Africa includes the countries of **Djibouti, Ethiopia, Kenya, Sudan, South Sudan and Eritrea, Somalia**.
- It is a **peninsula** situated in the northeast of the African continent
- **Extends out into the Arabian Sea** for hundreds of kilometres and is located along the **south of the Gulf of Aden**.
- This region is the easternmost projection of Africa.

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Prasanta Chandra Mahalanobis



❖ Context

- National Statistics Day is celebrated every year on June 29 to mark the birth anniversary of Indian scientist and statistician Prasanta Chandra Mahalanobis.
- Incidentally, June 28 also marked 50 years since his passing.

❖ Key Highlights

- He was born on June 29, 1893, in Calcutta.
- He is best remembered for the **Mahalanobis distance**, a statistical measure.
 - The formula is used widely in the field of cluster analysis and classification.
- In 1950, he formed the **Indian Statistical Institute (ISI)** with a Statistical Laboratory set up. He contributed to the design of large-scale sample surveys. He was instrumental in designing the way we conduct surveys today. He also introduced a method for estimating crop yields using statistical sampling. He is also known for being one of the members of the first **Planning Commission of free India**.
- He was instrumental in formulating India's second five-year-plan (1956-1961), which laid the blueprint for industrialisation and development in India.
- In 1933 he started '**Sankhya: The Indian Journal of Statistics**'.

❖ About National Statistics Day

- The first National Statistics Day was observed in 2007.
- The day is marked for spreading awareness among the country's youth about the importance of Statistics in policy formulation and socio-economic planning.

Deregulation of Sale of Domestically Produced Crude Oil



❖ Context

- The **Cabinet Committee on Economic Affairs** has approved '**Deregulation of Sale of Domestically Produced Crude Oil**'.

❖ Key Highlights

- This means that the **government will cease allocation of crude oil and condensate**. It will be effective from **01.10.2022**.
- The condition in the **Production Sharing Contracts (PSCs)** to sell crude oil to government or its nominee or government companies will now be waived off.
- **All Exploration and Production (E&P) companies will now be free to sell crude oil from their fields in the domestic market.**
- However, **exports will still not be permissible.**

PM Gati Shakti Portal



❖ Context

- Recently, the **Ministry of Steel** has joined the **PM Gati Shakti Portal** and uploaded the **geo locations** of key projects with an aim of identifying and bridging missing **infrastructure connectivity gaps**.

❖ Key Highlights

- **Ministry of Steel**, in line with the goal of **PM GatiShakti** has identified **38 high impact projects to develop multimodal connectivity and bridge the missing infrastructure gaps**.
- It has created its first layer of data with uploading **Geo locations** of all the **steel plants of CPSEs** under the **administrative control of Ministry of Steel**.
- Planned expansion of **railway lines, creation of new Inland Waterways, roads, ports, gas pipeline connectivity and airports/airstrips** will result in creating much needed logistics solution, which will drive the steel sector towards achieving its **targeted goals by 2030-31** as delineated in **NSP (National Steel Policy) 2017**.
- **Gati Shakti** - National Master Plan for Infrastructure development was launched by Hon'ble Prime Minister in October 2021 with the objective to bring different Ministries together and for integrated planning and **coordinated implementation of infrastructure connectivity Projects**.
- It will incorporate the **infrastructure schemes of various Ministries and State Governments** and will also leverage technology extensively including **spatial planning tools**.

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