

ENVIRONMENT**Carbon Capture and Storage (CCS)****Why in News?**

Germany recently announced that it would allow carbon capture and offshore storage for certain industrial sectors.

About

- CCS refers to a host of different technologies that capture CO₂ emissions from large point sources like refineries or power plants and trap them beneath the Earth.
- Notably, CCS is different from carbon dioxide removal (CDR), where CO₂ is removed from the atmosphere.
- It's a three-step process, involving: capturing the carbon dioxide produced by power generation or industrial activity, such as steel or cement making; transporting it; and then storing it deep underground.
- CCS involves three different techniques of capturing carbon, including post-combustion, pre-combustion, and oxyfuel combustion.
 - In post-combustion, CO₂ is removed after the fossil fuel has been burnt. By using a chemical solvent, CO₂ is separated from the exhaust or 'flue' gases and then captured.
 - Pre-combustion involves removing CO₂ before burning the fossil fuel. "First, the fossil fuel is partially burned in a 'gasifier' to form synthetic gas. CO₂ can be captured from this relatively pure exhaust stream. The method also generates hydrogen, which is separated and can be used as fuel.
 - In oxyfuel combustion, the fossil fuel is burnt with almost pure oxygen, which produces CO₂ and water vapour. The water is condensed through cooling and CO₂ is separated and captured.
 - Out of the three methods, oxyfuel combustion is the most efficient, but the oxygen burning process needs a lot of energy.
 - After capture, CO₂ is compressed into a liquid state and transported to suitable storage sites.

POLITY, CONSTITUTION**SC ends immunity for legislators taking bribe****Why in News?**

- A seven-judge Constitution Bench of the Supreme Court said that Members of Parliament and state legislatures who take bribes to vote or speak in a certain manner in the House are not immune from prosecution.
- With this judgement, the apex court has overruled its 1998 judgment (JMM bribery case) which granted immunity to such lawmakers.

Privileges and Immunities to the MPs and MLAs:

- Privileges are special rights, immunities and exemptions enjoyed by the two Houses of Parliament and legislature of States, and their committees and their members.
- The Constitution has also extended these privileges to those persons who are entitled to speak and take part in the proceedings of a House or any of its committees.
 - For example, the Attorney General of India.

Constitutional provisions:

- Article 105 and Article 194 to the Constitution of India grant privileges or advantages to the MPs (Article 105) and to the MLAs (Article 194) of every State.
- These powers, privileges and immunities should be defined by the law from time-to time.
- These privileges are considered as special provisions and have an overriding effect in conflict.
- It must be clarified here that these privileges do not extend to the President (or Governor) who is also an integral part of the Parliament (or state legislature).

Privileges mentioned in the Constitution:

- It gives the MPs freedom of speech [Article 115 (1)].
- It provides that no MP will be liable to any proceedings before any Court for anything said or any vote given by him/her in the Parliament or any committee thereof [Article 105(2)].
- Also, no person will be held liable for any publication of any report, paper, votes or proceedings if the publication is made by the parliament or any authority under it.
- The same provisions are stated under Article 194, where MLA of a state are referred instead of MPs.

Purpose:

- These privileges and immunities are granted so that MPs/MLAs can perform their duties or can function properly without any hindrances - essential for democratic functioning of the legislatures.
- Without these privileges,
 - The Houses can neither maintain their authority, dignity and honour.
 - Nor can protect their members from any obstruction in the discharge of their parliamentary responsibilities.

Difference between Article 19 and Article 105:

- Both the Articles, (Article 19(1)(a) and Article 105) of the Constitution talks about freedom of speech.

- Article 105 applies to the members of parliament not subjected to any reasonable restriction. But, Article 19(1)(a) applies to citizens and is subject to reasonable restrictions.
- This means, Article 105 is an absolute privilege given to the members of the parliament but this privilege can be used in the premises of the parliament and not outside the parliament.

PRELIM FACTS

1. Risa

- Tripura's traditional tribal attire 'risa' received the Geographical Indication (GI) tag recently.

About Risa:

- It is a hand woven cloth used as a female upper garment and also as headgear, a stole, or a present to express respect.
- It is woven in colourful designs and has a crucial social and religious significance.
- Adolescent Tripuri girls are first given a risa to wear in an event called Risa Sormani, around age 12 to 14.
- The risa is used in religious festivals such as Garia Puja by tribal communities, a turban by men during weddings and festivals, a cummerbund over the dhoti, a head scarf by young girls and boys and a muffler during winters.
- It is presented as a mark of honour to distinguished recipients.
- Risa is common in almost all 19 indigenous tribal communities of Tripura.

2. Project Seabird

The Defence Minister will inaugurate two big piers and seven towers with 320 homes for Navy officers and Defence civilians as part of Project Seabird at Naval Base Karwar in Karnataka.

About Seabird:

- The largest naval infrastructure project for India, it involves creation of a naval base at Karwar, Karnataka, on the west coast of India.
- This is a massive project with the first sealift facility in the country and a transfer system for docking and undocking ships and submarines.
- Its first phase, which included the construction of a deep-sea harbour, breakwaters dredging, a township, a naval hospital, a dockyard uplift centre and a ship lift, was commissioned in 2005.
- The development of phase 2 of INS Kadamba commenced in 2011.
- This phase is further divided into 2A and 2B. It was planned to expand the facilities to dock additional warships and a new Naval Air Station, among other projects.
- Once completed, it will be the largest naval base in the Eastern Hemisphere. It will be able to accommodate around 32 warships, 23 submarines and hangers for several aircraft.

History:

- In the post-Indo-Pak War of 1971 scenario, India learned that the Indian Navy needs an additional naval base since Mumbai Harbour faced congestion, which led to security issues for its Western Fleet.
- It was initially sanctioned in 1985, and the foundation stone was laid on October 24, 1986, by Rajiv Gandhi.

3. Women, Business and Law Index

India's ranked improved to 113 out of 190 countries in the World Bank's Women, Business and Law index.

About the Index:

- It is an orthopox virus that was first discovered in Alaska, USA, in 2015.
- It is a World Bank index to measure how laws and regulations affect women's economic opportunity on a scale from 0 to 100, where 100 means equal legal rights for men and women.
- The report covers eight related areas: Mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets and pension.
- The data offer objective and measurable benchmarks for evaluating global progress toward legal gender equality.

Highlights of 2024 index:

- It is the 10th edition of the report.
- Globally, none of the countries has a full score in the new index, indicating that women did not enjoy equal rights in any of the countries.
- India's ranking improved to 113 out of 190 countries.
- Indian women enjoyed 60% of the legal rights given to men as per the new report, lower than the global average of 64.2%.

4. ADITI Scheme

Recently, the Union Minister of Defence launched the ADITI scheme during DefConnect 2024.

About:

- Acing Development of Innovative Technologies with iDEX (ADITI) is a scheme to promote innovations in critical and strategic defence technologies.
- It aims to develop about 30 deeptech critical and strategic technologies in the proposed timeframe.
- Under this scheme start-ups are eligible to receive grant-in-aid of up to Rs 25 crore for their research, development and innovation endeavours in defence technology.
- This scheme worth Rs 750 crore for the period 2023-24 to 2025-26.

- It falls under the iDEX (Innovations for Defence Excellence) framework of Department of Defence Production, Ministry of Defence.
- It also envisages to create a 'Technology Watch Tool' to bridge
- the gap between the expectations and requirements of the modern Armed Forces and the capabilities of the defence innovation ecosystem.

5. OPEC+

- The OPEC+ members recently agreed to extend voluntary oil output cuts to boost prices following economic uncertainty.

About:

- It is a group of oil-exporting countries which meets regularly to decide how much crude oil to sell on the world market.
- These nations came to an accord towards the end of 2016 "to institutionalize a framework for cooperation between OPEC and non-OPEC producing countries on a regular and sustainable basis.
- These nations aim to work together on adjusting crude oil production to bring stability to the oil market.
- OPEC+ controls about 40% of global oil supplies and more than 80% of proven oil reserves.
- At the core of this group are the members of OPEC (the Organization of the Oil Exporting Countries), which are mainly Middle Eastern and African countries.
- It comprises OPEC countries plus Azerbaijan, Bahrain, Brunei, Kazakhstan, Russia, Mexico, Malaysia, South Sudan, Sudan, and Oman.

6. Yars Missile

Russia recently announced a successful test fire of Yars intercontinental ballistic nuclear missile.

About:

- The Yars (also known as RS-24 or SS-29) is a Russian-made intercontinental ballistic missile (ICBM) with multiple independently targetable warheads, each capable of targeting different objectives.

Features:

- It is a three-stage, solid propellant, MIRV-capable (Multiple Independently Targetable Reentry Vehicles) ICBM.
- The Yars is a modified version of the Topol-M missile system.
- The missile can be launched from a silo or mobile launcher.
- It has a range of 10,500 km.
- The missile can be armed with up to 10 MIRVs, each containing a thermonuclear warhead weighing 300 kilotons

Intercontinental ballistic missile (ICBM)

- An ICBM is a guided missile that is designed to deliver nuclear warheads, although it could also deliver other payloads.
- According to the Federation of American Scientists, ICBMs have a minimum range of 5,500 kilometres (3,400 miles), with maximum ranges varying from 7,000 to 16,000 kilometres.
- ICBMs are much faster and have a greater range than other types of ballistic missiles.
- Agni-V is an Indian ICBM with a range of over 5,000 km.

ANSWER WRITING

Q. Bringing out the various functions of money, mention its advantages over other types of assets.

Money is an economic unit that functions as a generally recognized medium of exchange for transactional purposes in an economy. Economically, each government has its own money system.

Following are the various functions of money:

- Medium of exchange: It means the money acts as an intermediary between the buyer and the seller.
- A convenient unit of account: The value of almost all goods and services can be expressed in monetary units.
- Acts as a store of value for individuals: Wealth can be stored in the form of money for future use. However, to perform this function well, the value of money must be sufficiently stable. A rising price level may erode the purchasing power of money.
- Standard of deferred payment: This means that if money is usable today to make purchases, it must also be acceptable to make purchases today that will be paid in the future.

Advantages of money over other types of assets:

- Liquidity: Money is considered the most liquid form of asset which can be readily exchanged for other types of assets. Other assets like gold, landed property, houses or even bonds may not be easily convertible to other commodities and do not have universal acceptability.
- Acceptability: Money is acceptable to anyone at any point of time because of being a legal tender. For instance, in the barter system, there used to be issues of the double coincidence of wants.
- Durability: Unlike the perishable items (food grains, fruits, etc.) in the case of barter, money is relatively more durable. However, there are soil rates in the case of the currency notes too.
- Portability: It means that the money can be conveniently carried from one place to another. This was not in the case of other assets in the barter system. For instance, to carry out a transaction in the barter system, one has to take a bullock cart (to carry the food grains) along with him/her.

- **Stability:** Money is relatively stable when compared with, say, cryptocurrencies. For example, the volatility associated with cryptocurrencies brings additional risks for the end-users.
- **Uniformity:** In barter exchange, the assets for exchange are not uniform. However, the currency of a particular denomination (for e.g. Rs. 10) is all of the same size, shape, and value.
- **Fungibility:** A 20-rupee note can be easily exchanged for other denominations, say - 10, 5 etc. However, an animal for exchange in the case of a barter system, on the other hand, cannot be considered fungible.

The presence of money in the market is a determinant of the economic condition of a country and it is regulated by the concerned Central Bank.

MCQs

- Consider the following statements regarding Ribosomes:
 - Ribosomes are non-membrane-bound cell organelles made of RNA and proteins.
 - They are found in both prokaryotic and eukaryotic cells.
 - They are complex molecular machines that make proteins from amino acids in a process called translation.
 How many of the above statements are correct?
 (a) Only one (b) Only two
(c) All three (d) None
- Consider the following statements with reference to Loss and damage fund:
 - It is a global financial package to ensure the rescue and rehabilitation of countries facing the cascading effects of war.
 - Recently UNGA adopted a resolution 78/240 to establish Loss and Damage Fund to which secretariat is provided by UNDP.
 Which of the statements given above is/are correct?
 (a) 1 only (b) 2 only
 (c) Both 1 and 2 **(d) Neither 1 nor 2**
- Consider the following statements about SAMAR Assessment Certificates:
 - SAMAR is a benchmark to measure the competency of defence manufacturing enterprises.
 - It is collaboration between DRDO and Quality Council of India (QCI) to strengthen the defence manufacturing ecosystem.
 - The certificate is valid for a period of 10 years from the date of issuance.
 How many of the above statements are correct?
 (a) Only one **(b) Only two**
 (c) All three (d) None
- With reference to Energy Charter Treaty, consider the following statements:
 - It is an international agreement that establishes a framework for cross-border cooperation in the energy industry.
 - Unlike in case of fossil fuels it allows companies to sue governments in case of Green energy over policies affecting their investments.
 Which of the statements given above is/are not correct?
 (a) 1 only **(b) 2 only**
 (c) Both 1 and 2 (d) Neither 1 nor 2
- Exercise Dharma Guardian, recently seen in news is joint military exercise between the Indian Army and which of the following country?
(a) Japan (b) Vietnam
 (c) Nepal (d) France
- The Yars missile was recently tested by which country?
 (a) India **(b) Russia**
 (c) France (d) Germany
- Which country recently recognized ecoside as both national and international crime?
(a) Belgium (b) France
 (c) Spain (d) Portugal
- Consider the following statements with respect to International Big Cat Alliance:
 - It is an initiative launched by the India commemorating the 50th anniversary of Project Tiger.
 - The objective of the IBCA is to ensure cooperation for the conservation of all 7 big cats found in the world
 - The initiative has secured Government of India's initial support of Rs. 150 crore for five years.
 How many of the above statements are correct?
 (a) Only one (b) Only two
(c) All three (d) None
- Consider the following statements with respect to Juice Jacking:
 - Juice jacking is a form of cyber attack where a public USB charging port is tampered with and infected to steal data or install malware on devices connected to it.
 - Spoofing is a technique through which a cybercriminal disguises themselves as a known source and engage with the target to access their systems with the goal of stealing information.
 Which of the statements given above is/are not correct?
 (a) 1 only (b) 2 only
 (c) Both 1 and 2 **(d) Neither 1 nor 2**
- Consider the following statements about Financial Intelligence Unit
 - It is an independent body reporting directly to the Economic Intelligence Council (EIC) headed by the Prime Minister.
 - It is also responsible for strengthening efforts of national intelligence agencies in pursuing the global efforts against money laundering and financing of terrorism.
 Which of the statements given above is/are not correct?
 (a) 1 only **(b) 2 only**
 (c) Both 1 and 2 (d) Neither 1 nor 2