

## Today's Prelims Topics

### Digital access part of Fundamental Right – SC

#### Context

In a recent judgement the Supreme Court of India has said Digital access is an intrinsic part of the Right to Life and Liberty under Article 21 of the Constitution.

#### Key Directives by the Supreme Court

- **Digital Accessibility as a Right:**
  - **Digital services are essential** for accessing welfare schemes, financial services, healthcare and education.
  - Therefore, accessibility is no longer optional but a **constitutional obligation**.
  - Digital transformation must be **both inclusive and equitable**.
- **Revision of KYC Rules:** RBI and other financial regulators must:
  - Provide **alternatives to facial recognition and blinking** & Allow **OTP-based** or **video-based** verification methods.
  - To enable persons with **facial disfiguration (due to acid attacks)** or **visual impairment** to **access banking and e-governance services**.
- **Involvement of Persons with Disabilities in Testing:**
  - All regulated digital entities (apps, websites) must:
  - Conduct **pre-launch testing** with **blind users**.
  - Certify apps as accessible before public rollout.
- **Mandatory Accessibility Standards:** Websites, mobile apps, and citizen platforms must:
  - Follow **Bureau of Indian Standards (BIS)** accessibility norms & Comply with **Section 46 of the RPwD Act, 2016**.
- **Appointment of Nodal Accessibility Officers:** All regulated entities (govt & private) must
  - Appoint **dedicated nodal officers** for digital accessibility.
  - Create **grievance redressal mechanisms** specific to accessibility concerns.

#### Legal Basis and Constitutional Articles Invoked

- **Article 21:** Right to Life and Liberty now includes **digital accessibility**.
- **Article 14 & 15:** Right to equality and non-discrimination.
- **Article 38:** Directive for promoting welfare of the people, including digital inclusion.
- **Right of Persons with Disabilities (RPwD) Act, 2016:**
  - **Section 46:** Mandates accessibility in both electronic and print media.

#### Source:

- [The Hindu - Digital access FR](#)

## Project SeaCURE

### Context

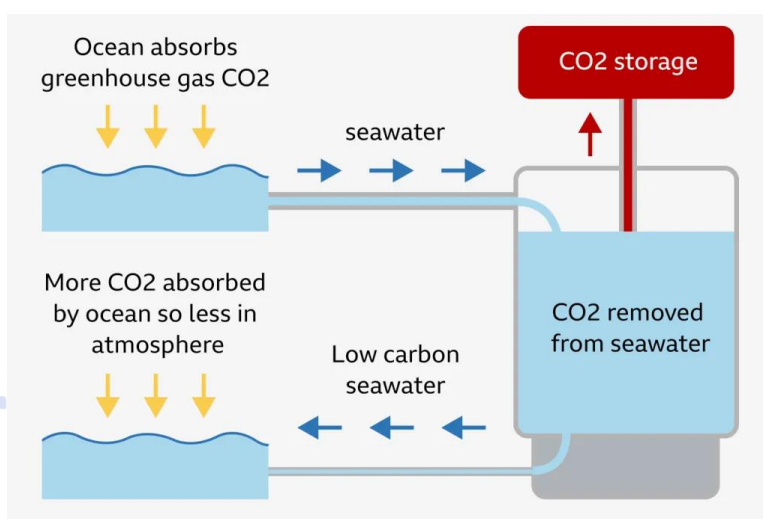
The UK government has recently launched a pilot project on England's south coast to extract carbon from seawater.

### About Project SeaCURE

- It is a pilot project to extract carbon directly from seawater that could offer a cost-effective and scalable solution to reducing atmospheric CO<sub>2</sub> levels.
- Unlike conventional carbon capture techniques that focus on capturing emissions at their source or from the air, SeaCURE targets the ocean, which holds up to 150 times more carbon than the atmosphere.

### How the SeaCURE Technology Works

- **Seawater Intake:** A pipe under the English Channel draws seawater into the facility.
- **Acidification Process:** Seawater is treated to become **more acidic**.
  - This causes **dissolved inorganic carbon** to **convert into gaseous CO<sub>2</sub>**, similar to how a fizzy drink releases gas when opened.
- **CO<sub>2</sub> Stripping:** The acidified water is passed through a **large stainless-steel tank** (called a "seawater stripper") which maximizes air contact.
  - CO<sub>2</sub> is released into the air and then **sucked out and captured**.
- **CO<sub>2</sub> Capture:** The released CO<sub>2</sub> is absorbed using **charred coconut husks** (a natural sorbent), then **concentrated and stored**.
- **Water Neutralization & Return:** **Alkali is added** to neutralize the water's acidity.
  - The **low-carbon water** is pumped into a **stream** flowing into the sea.
  - Once back in the ocean, this water **reabsorbs more CO<sub>2</sub>** from the atmosphere.



### Potential Environmental Impacts

- Marine organisms like **phytoplankton** and **mussels** depend on **carbon**.
- Mussels use it to build shells; phytoplankton for photosynthesis.
- Altering carbon levels in seawater could affect marine ecosystems.

### Source:

- [BBC - SeaCURE](#)

## Green Hydrogen Certification Scheme

### Context

Recently the Union Ministry of New and Renewable Energy has launched Green Hydrogen Certification Scheme of India (GHCI).

### About Green Hydrogen (GH) Certification Scheme

- The scheme is aimed at establishing a framework to certify green hydrogen production and ensure transparency, traceability and market credibility.
- It is launched to certify that the hydrogen produced is *truly green*, i.e., produced from **renewable sources** with **low emissions**.
- It will prevent **greenwashing** (false claims of green production) and build **global trust** in India's green hydrogen exports.
- **Nodal agency:** Bureau of Energy Efficiency (BEE)
- Two Types of certificates will be issued for GH production facilities:
  - Concept certificate (voluntary)
  - Facility level certificate (mandatory).
- Calculation of GHG emissions intensity for GH production shall follow the **MNRE Green Hydrogen Emission Calculation Methodology**.
- The certificate is **non-transferable or tradeable and cannot be claimed for any emission reduction credits**.

### Definition of Green Hydrogen (as per Indian standard)

- According to the Ministry of New and Renewable Energy (MNRE):
  - Green hydrogen must emit **less than 2 kg of CO<sub>2</sub> per kg of hydrogen** produced.
  - It should be generated using:
    - **Electrolysis powered by renewable energy** (solar, wind, hydro).
    - **Biomass-based methods** (non-fossil).

### Green Hydrogen Mission

- It was approved by the Union Cabinet in 2023.
- **Nodal Ministry:** Ministry of New and Renewable Energy (MNRE)
- **Scheme Implementation agency (SIA):** National Institute of Solar Energy (NISE).
- **Key Objectives:**
  - Develop a green hydrogen production capacity of **5 million metric tonnes (MMT) per year by 2030**.
  - Reduce dependency on fossil fuel imports.
  - Promote export of green hydrogen and its derivatives (e.g. green ammonia).
  - **Decarbonise** sectors such as steel, fertilizers, refining, shipping, and heavy-duty transport.
- **Major Components:**
  - **SIGHT Programme:** Under this, two distinct financial incentive mechanisms will be provided targeting domestic manufacturing of electrolyzers and production of Green Hydrogen.
  - **Strategic Hydrogen Innovation Partnership (SHIP):** A public-private partnership framework for R&D will be facilitated under the Mission.

#### GREEN

Hydrogen produced by electrolysis of water, using electricity from renewable sources like hydropower, wind, and solar. Zero carbon emissions are produced.

#### PINK/PURPLE/RED

Hydrogen produced by electrolysis using nuclear power.

#### TURQUOISE

Hydrogen produced by the thermal splitting of methane (methane pyrolysis). Instead of CO<sub>2</sub>, solid carbon is produced.

#### BLACK/GRAY

Hydrogen extracted from natural gas using steam-methane reforming.

#### BLUE

Grey or brown hydrogen with its CO<sub>2</sub> sequestered or repurposed.

#### BROWN

Hydrogen extracted from fossil fuels, usually coal, using gasification.

- **Export Hubs:** To facilitate exports, three **international ports** have been chosen as green hydrogen hubs:
  - Kandla (Gujarat), Paradip (Odisha) & Tuticorin (Tamil Nadu).

Source:

- [Indian Express - Green Hydrogen](#)



## News in Shorts

### Lakkundi temples

- Lakkundi temples of Karnataka are set to be finalised for **UNESCO tentative listing as World Heritage Sites**.

#### About Lakkundi Temples

- They are located in the **Gadag district of Karnataka**.
- These temples were built during the **period of Western Chalukyas**.
- There are around **50 ancient temples** scattered throughout the village. Also there are **101 stepped wells**, which are called **Kalyani**.
  - Kasi Vishwanatha Temple is the most ornate and elaborately furnished.
- It is also an important **Jain center**.
  - It houses a significant Jain temple dedicated to Mahavira, which is among the largest and oldest Jain shrines at Lakkundi.
- Lakkundi is referred to as **'Lokki Gundi' in ancient inscriptions**.
- Lakkundi is considered as one of the important sites to understand **Vesara style of architecture — a combination of Nagara Style and Dravidian style of architecture**.



Source:

- [The Hindu - Lakkundi Temples](#)

### Stockholm Convention on Persistent Organic Pollutants (POPs)

- India has opposed the inclusion of a hazardous insecticide **Chlorpyrifos**, listed as POP for global phase out in 2021, under the Stockholm Convention.

#### About Stockholm Convention on Persistent Organic Pollutants

- It is an international environmental treaty that aims to protect human health and the environment from the harmful effects of POPs
- It was **adopted in 2001** and came into effect in **2004**.
- India ratified the Stockholm convention in **2006**.
- India has **banned the manufacture, use and import of most pesticides** that are listed as POPs in the convention.

- It lists chemicals in **3 annexes**.
  - **Annex A (for Elimination), Annex B and C (Restriction).**
- **Persistent organic pollutants (POPs):**
  - POPs are hazardous chemicals that threaten human health and the planet's ecosystems.
  - They remain intact for a long time, widely distributed throughout the environment.
  - They accumulate and magnify in living organisms through the food chain and are toxic to both humans and wildlife.

Source:

- [DTE - Stockholm on POPs](#)

### Indo-Pacific Maritime Domain Awareness (IPMDA)

- India to Acquire Maritime Surveillance Equipment under IPMDA.

#### What is IPMDA?

- It is a technology and training initiative to enhance maritime domain awareness in the Indo-Pacific region.
- **Objective:**
  - To develop and disseminate real-time information on activities like dark shipping in the Indian Ocean.
  - To integrate 3 critical regions in the Indo-Pacific — the Pacific Islands, Southeast Asia, and the Indian Ocean Region (IOR).
- **Launched:** During QUAD leaders summit in Tokyo (2022)
  - **QUAD members:** USA, India, Australia and Japan

#### Dark Shipping

- It is a term used to describe a vessel operating with its **Automatic Identification System (AIS) turned off** making it difficult to track for maritime authorities.
- It is associated with Illegal activities such as Smuggling, Trafficking, Illegal fishing etc.

Source:

- [The Hindu - IPMDA](#)

### Orange Economy

- It refers to economic activities that leverage creativity, culture and intellectual property to generate wealth and jobs. It is also known as **creative economy**.
- It is an internet-facilitated economy which allows content creators and influencers to earn revenue from their creations.
  - Examples of creator economy software platforms - YouTube, TikTok, Instagram, Facebook, Twitch, Spotify etc.
- **Initiatives Undertaken by India to Promote Creative Economy:**
  - **Creative Economy Fund:** The government has announced a **\$1 billion** creative economy fund.
  - **National Creators Award:** To recognize the work of digital content creators in India, promoting innovation and online creativity.

#### Waves Summit

- WAVES is a global summit for the media and entertainment industry, specifically focusing on the Indian media and entertainment Industry.

Source:

- [The Hindu - Orange Economy](#)



## Phthalates

- According to a recent study, daily exposure to phthalates is linked to 3.5 lakh deaths worldwide from heart disease.

### About Phthalates

- **Phthalates** are a group of **chemicals commonly used in manufacturing plastics** to make them **flexible, soft and durable**.
- These are colorless, odorless, oily liquids also referred to as **Plasticizers**.
- They do not permanently bind to plastic surfaces to which they are applied.
- They are found in many everyday items such as:
  - Food containers, Plastic packaging, Vinyl flooring, Personal care products, Household items etc.
- **India tops the list** in phthalate-related heart disease deaths due to **plastic overuse**.

### Health Risks associated with Phthalates

- Cardiovascular disease (including heart attacks and strokes)
- Inflammation of heart arteries
- Obesity
- Infertility and reproductive issues
- Hormonal imbalances
- Cancer

### Source:

- [DTE - Phthalates](#)

## ALH Dhruv

- The Indian Army and Air Force versions of the Advanced Light Helicopter (ALH) Dhruv have been cleared for operations.
- They were earlier grounded due to a fatal crash during a training sortie.

### About Advanced Light Helicopters(ALH) Dhruv

- It is a multi-role and multi-mission light utility helicopter for both military and civil operators.
- It is developed **indigenously by Hindustan Aeronautics Limited (HAL)**.
- The ALH choppers are operated by all 3 Indian defense forces along with the Indian Coast Guard.
- It is certified by the **Directorate General of Civil Aviation (DGCA)**.
- It was designed to replace aging helicopters like **Chetak** and **Cheetah** in the Indian Armed Forces.



### Source:

- [The Hindu - Dhruv ALH](#)

## Editorial Summary

### Private Member's Bill

#### Context

The Private Member's Bill holds immense potential to significantly enrich India's legislative landscape.

#### What is a Private Member's Bill (PMB)?

- A **Private Member's Bill** is a legislative proposal introduced in Parliament by a **Member of Parliament (MP) who is not a Minister**.
- This includes MPs from both the ruling party (if not a minister) and the Opposition.

#### Significance of Private Member's Bills

- **Platform for Individual Expression:** PMBs allow MPs, especially those not in the executive, to raise issues, propose legislation, and represent the concerns of their constituents beyond party lines.
- **Democratic Deepening:** PMBs enhance deliberative democracy by encouraging debate on diverse social, economic, and political concerns often overlooked in official legislation.
- **Policy Innovation & Social Awareness:** PMBs bring forth **unconventional or emerging issues**—e.g., Right to Disconnect, Transgender Rights—initiating public and parliamentary discourse.
- **Cross-Party Collaboration:** PMBs foster bipartisan engagement and sometimes generate consensus on socially relevant matters (e.g., senior citizen healthcare proposals).
- **Check on Executive Dominance:** They help balance executive-legislative power, allowing Parliament to remain a forum for diverse voices and not just a rubber stamp for the Cabinet.
- **Legislative Incubation:** Even if not passed, PMBs often **influence government legislation** later (e.g., RTI Act, Transgender Act), acting as policy testbeds.

#### Challenges Faced by Private Member's Bills

- **Low Success Rate:** Since Independence, **only 14 PMBs** have become law. **None have passed both Houses since 1970.**
- **Inadequate Time Allocation:** Only **Fridays are reserved**, and even these are often overridden by government business, budget discussions, or disruptions.
- **Lack of Political Priority:** The ruling party may not support PMBs—even from its own MPs—due to fear of deviating from the official legislative agenda.
- **Disruptions and Adjournments:** Frequent House disruptions mean that **PMBs are often not taken up for discussion** at all, reducing them to symbolic exercises.
- **No Institutional Support:** PMBs often lack **research and drafting support**, leading to poorly framed proposals that cannot withstand constitutional or legal scrutiny.
- **Anti-Defection Constraints:** The **Tenth Schedule (Anti-Defection Law)** restricts MPs' independence, especially from the Treasury Bench, discouraging them from deviating from the party line.

#### Reforms to Strengthen the PMB Mechanism

- **Safeguard Time for PMBs:** Amend Rules of Procedure to **protect Fridays** for PMBs, ensuring they are not overridden except during national emergencies.
- **Set Up a PMB Review Committee:** A dedicated body could **screen PMBs for quality, constitutionality, and relevance**, and recommend a **priority list** for debate.
- **Fast-Track Mechanism for High-Impact Bills:** Allow Bills with **bipartisan support or wide public interest** to be taken up quickly, regardless of their origin.



- **Extend Working Hours of Parliament:** Instead of displacing PMB time, extend the sitting hours to accommodate both government and private members' business.
- **Introduce a 'Ten-Minute Rule' (U.K. Model):** Allow short speeches for PMBs at the time of introduction to ensure more ideas are at least **debated or recorded**, increasing visibility.
- **Boost Research Support for MPs:** Provide access to legal experts and policy researchers to **help MPs draft sound legislation**, improving the quality and seriousness of PMBs.

#### Significant Private Members Bills And Some Facts

S. No.	Name of the Bill	Year Introduced	Introduced By (MP)	Outcome/Impact
1	Hindu Marriage (Amendment) Bill	1952	Prabhakar Kunte	Contributed to the Hindu Marriage Act, 1955
2	Proceedings of Legislature (Protection of Publication) Bill	1956	Feroze Gandhi	Passed into law; protected publication of legislative proceedings
3	Supreme Court (Enlargement of Criminal Appellate Jurisdiction) Bill	1968	Anand Narain Mulla	Passed into law; expanded SC's criminal appellate jurisdiction
4	Indian Penal Code (Amendment) Bill	1967	Diwan Chaman Lall	Influenced later laws on dowry-related violence
5	Transgender Persons (Protection of Rights) Bill	2014	Tiruchi Siva	Passed by Rajya Sabha in 2015; influenced the 2019 Government legislation
6	Right to Information-related Bills	1990s (multiple)	Various MPs	Paved the way for the RTI Act, 2005
7	Women's Reservation Bills	Multiple Attempts	Various MPs (e.g., Geeta Mukherjee)	Though not passed, kept the issue in political spotlight

#### Facts

- ★ Since Independence, **only 14 PMBs have been passed** and received presidential assent and none has cleared both Houses since 1970.
- ★ In the **17th Lok Sabha (2019-24)**, **729 PMBs were introduced in the Lok Sabha and 705 in the Rajya Sabha**.
  - However, **only two in the Lok Sabha and 14 in the Rajya Sabha were ever discussed**.
- ★ In the **18th Lok Sabha**, **only 20 MPs have introduced PMBs so far**.
- ★ During the **inaugural and Budget Sessions of 2024**, **64 PMBs were introduced in the Lok Sabha**, but **not a single one was discussed**.

Source: [The Hindu: Reviving a far-sighted but forgotten Bill mechanism](#)

## China's strategic push — Asia ties amid tariff tensions

### Context

Chinese President Xi Jinping undertook a 3-nation visit to **Vietnam, Malaysia, and Cambodia** (April 14–18, 2025) amid escalating economic tensions with the U.S., particularly in light of **145% U.S. tariffs on Chinese exports**. The visit aims to reinforce China's strategic and economic leadership in Southeast Asia and the Indo-Pacific.

### Significance of the Visit

Dimension	Key Points
<b>Economic Recalibration</b>	The tour is part of China's strategy to counter U.S. trade restrictions by building <b>resilient trade ties and manufacturing alternatives</b> in Southeast Asia.
<b>Bilateral Agreements</b>	Over <b>75 agreements</b> signed across the three nations covering <b>AI, digital economy, agriculture, and infrastructure</b> (e.g., Funan Techo Canal in Cambodia).
<b>Soft Power Diplomacy</b>	Promotes a China-led model based on <b>non-interference and economic partnership</b> , contrasting U.S. "interventionism."
<b>Regional Leadership</b>	Reinforces China's role as a <b>rule-setter</b> in the region via initiatives like the <b>BRI</b> and push for a <b>South China Sea Code of Conduct</b> .
<b>Domestic Political Messaging</b>	Demonstrates that China is not isolated globally, despite Western pressure and domestic economic concerns.

### Strategic Implications

- **For ASEAN:** China offers **tangible deliverables** like infrastructure, trade facilitation, and security dialogues, which may appeal more than the **U.S.-led Indo-Pacific strategy**, often seen as security-heavy.
- **For the U.S.:** The visit complicates American attempts to **economically decouple** from China and forge a unified regional strategy.
- **Geopolitical Realignment:** Enhances China's **economic interdependence** with Southeast Asia, making it harder for regional states to align fully with the U.S.-led coalitions like **Quad and AUKUS**.

### Conclusion

Xi Jinping's Southeast Asia tour is a **strategic move to entrench China's influence** in the Indo-Pacific by leveraging **economic statecraft**, projecting **normative leadership**, and reinforcing its **centrality in regional integration** — posing a long-term challenge to U.S. primacy in the region.

Source: [The Hindu: China's strategic push — Asia ties amid tariff tensions](#)