1. Sustainable Management and Preservation Of Oceans : India's ambitions for a blue economy, alongside the forthcoming UN Ocean Conference (UNOC3) and global efforts like the **Biodiversity of Areas Beyond National Jurisdiction (BBNJ) agreement,** focus on ensuring the sustainable management and preservation of ocean resources."

- **About UNOC3 -** Scheduled for June 9–13, 2025, in Nice, France, co-hosted by France and Costa Rica.
  - **Participants:** Around 100 heads of state, along with thousands of scientists, researchers, and activists.
  - **Goals:** Focused on operational, action-driven discussions addressing key areas such as governance, financing, and knowledge sharing.
  - **Significance:** Similar to the Paris Agreement, this conference could lead to an international pact aligned with the UN's Sustainable Development Goals (SDGs), particularly SDG 14 (Life Below Water).
- **About BBNJ Agreement:** Also known as the 'High Seas Treaty', is an international treaty under the United Nations Convention on the Law of the Sea (UNCLOS).
  - **Aim:** To manage and protect the high seas, which cover over 60% of the ocean, addressing issues like hydrocarbon pollution, illegal fishing, and the protection of endangered species.
  - **Agreement:** Agreed upon in March 2023 and is open for signature for two years starting September 2023.
  - **Features:** It would define and demarcate marine protected areas in biodiversity-rich zones of oceans that are under stress.
  - **Enforcement:** It will be an international legally binding treaty after it enters force 120 days after the 60th ratification, acceptance, approval or accession.
    - ✓Parties cannot exercise sovereign rights over marine resources derived from high seas.
  - **Significance:** Enhance India's strategic presence in areas beyond EEZ.
    - ✓ Contribute to achieving several SDGs, particularly SDG14 (Life Below Water);
    - ✓ Strengthen India's marine conservation efforts, open new avenues for scientific research and development etc.
    - ✓ Promotes using traditional knowledge and best available scientific knowledge.

2. RNA Silencing: According to the U.N. Food and Agriculture Organization (FAO) plant diseases and pests are responsible for nearly 40% of global crop losses, costing over $220 billion annually, with plant viruses contributing more than $30 billion to these losses. Among the most destructive of these viruses is the **Cucumber Mosaic Virus (CMV).**

- **About CMV:** Primarily spread by sap-sucking aphids, with nearly 90 species responsible for its transmission.
  - Infected plants show mosaic discoloration, stunted growth, malformed fruits, and severe yield loss.
  - CMV affects over 1,200 plant species, including key food and medicinal crops.
  - CMV causes 25-30% crop loss in bananas and up to 70% yield loss in pumpkins, melons, and cucumbers.
- **RNA Silencing in Plant Defense Against CMV:** It is a natural immune response in plants where double-stranded RNA (dsRNA) triggers small interfering RNAs (siRNA) to degrade viral RNA. When a virus infects a plant, dsRNA is detected, and Dicer-like enzymes cut it into siRNA, which helps identify and destroy the viral RNA.
- **Protection Techniques:**
  - **Host-Induced Gene Silencing (HIGS):** Genetically modified plants produce virus-specific dsRNA, in their own cells offering long-term immunity but facing regulatory and cost challenges.
  - **Spray-Induced Gene Silencing (SIGS):** External application of dsRNA, providing an eco-friendly, cost-effective solution without genetic modification.

3. Indian Cyber Crime Coordination Centre (I4C): Recently, the Indian Cyber Crime Coordination Centre (I4C) was brought under the Prevention of Money Laundering Act (PMLA).

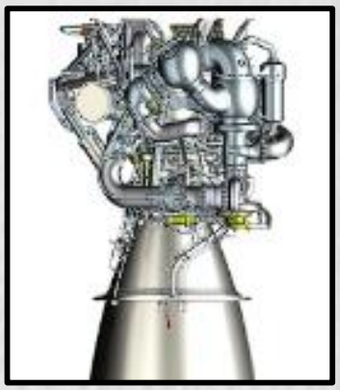
- A notification from the Revenue Department empowers I4C to share and receive vital information with the Enforcement Directorate (ED) and other law enforcement agencies under **Section 66 of PMLA**.
- **About I4C:** Established under the Ministry of Home Affairs (MHA) as a national focal point in the fight against cybercrime.
  - Provides a structured framework and ecosystem for law enforcement agencies (LEAs) to address cybercrime in a coordinated manner.

- Facilitates collaboration between academia, industry, the public, and government in preventing, detecting, investigating, and prosecuting cybercrimes.
- **Headquarters:** New Delhi.

4. World Bank Report On Poverty: The World Bank's Spring 2025 Poverty and Equity Brief recently acknowledged India's remarkable achievement in combating extreme poverty, highlighting that the country has lifted 171 million people out of it.

- **Major Highlights of the World Bank Report:**
  - **Sharp Decline in Extreme Poverty:** The proportion of people living on less than $2.15/day fell from >16% in 2011-12 to less than 2.5% in 2022-23, reflecting India's focus on inclusive development through welfare programs and reforms.
  - **Extreme poverty:** Key states like Uttar Pradesh, Maharashtra, Bihar, West Bengal, and Madhya Pradesh, responsible for 65% of extreme poverty in 2011-12, contributed to two-thirds of poverty reduction by 2022-23.
  - **Rural and Urban Poverty Impact:** Rural poverty fell from >18% to less than 3%, urban poverty dropped from >10% to about 1%.
  - **India's Multidimensional Poverty Index (MPI)** dropped from about 54% in 2005-06 to 15.5% in 2022-23, reflecting gains in education, health, and living standards**.**
  - **Gini Index** for income inequality improved from 28.8 to 25.5.

5. Semicryogenic Engine : Recently, the Indian Space Research Organisation (ISRO) successfully conducted its second short duration hot test of the semicryogenic engine at the ISRO Propulsion Complex (IPRC) in Mahendragiri.



- **About SCE:** It is a liquid rocket engine that combines liquid oxygen (LOX) as an oxidizer and refined kerosene (RP-1) as fuel. ISRO is developing a semi-cryogenic engine with a thrust of 2000 kN to power the booster stages of future heavy-lift launch vehicles.
  - **Higher Density Impulse:** The LOX-kerosene combination offers a higher density impulse compared to LOX-liquid hydrogen, enhancing performance.
  - **Cost-Effectiveness:** Kerosene is more economical and easier to handle than liquid hydrogen, lowering overall mission costs.

- **Operational Efficiency:** Kerosene can be stored at ambient temperatures, making storage and handling simpler.

6. Tropical Forest Finance Facility (TFFF) : Recently, Global Forest Coalition (GFC) raised concerns over the proposed Tropical Forest Finance Facility (TFFF) aims to help developing countries conserve tropical forests.

- **About TFFF:** Aims to monetize forest ecosystem services by offering annual fixed payments per hectare for the preservation or restoration of tropical forests.
  - It is set to launch during COP30 in Belem, Brazil.
  - The initiative gained momentum after Brazil, Indonesia, and the Democratic Republic of the Congo agreed to collaborate in 2022, representing 52% of the world's rainforests.
- **About GFC:** An international coalition advocating for the rights of forest peoples, has raised concerns over the TFFF's impact on forests and communities. Key issues include:
  - **Commodification of Ecosystem Services:** TFFF risks turning forests into commercial assets, undermining their value for climate and biodiversity.
  - **Limited Indigenous Involvement:** Most funds will go to national governments, leaving indigenous communities with only 20%.
  - **Financial Instability:** Loan repayments starting 10 years after launch create uncertainty about the fund's long-term sustainability.

7. Raja Ravi Varma : On the occasion of the 177th birth anniversary of the legendary artist **Raja Ravi Varma**, a unique musical tribute titled **Pranamam** will be released at **Kilimanoor Palace**, the birthplace of the artist.



- **About Pranamam** : A musical tribute to Raja Ravi Varma, celebrating his childhood and later years at Kilimanoor Palace. It is the first such tribute created by his family.
- **About Raja Ravi Varma:** Born on April 29, 1848, in Kilimanoor Palace, Kerala, to an aristocratic family.
  - **Artistic Style:** Pioneered the fusion of European realism with Indian iconography, depicting mythological characters and royalty in a realistic style.

- **Contributions:** Introduced oil painting to India, mastered lithography, and revolutionized the portrayal of Indian mythology by humanizing divine figures. His works often had erotic undertones, especially in female portrayals.
- **Major Works:** Lady in the Moonlight, Stolen Interview, Shakuntala, Ahalya, Woman Holding a Fruit.
- **Legacy:** Created over 2,000 paintings, earning nationwide recognition, and was awarded the Kaiser-e-Hind title in 1904 for his contributions. Considered one of India's first modern artists.

8. 'Unopposed' Election Victories: Recently, the Supreme Court suggested that a lone candidate in an election should be required to secure a minimum vote share to be declared elected, rather than winning without an election being held.

- The case, filed by the Vidhi Centre for Legal Policy, challenges Section 53(2) of The RPA, 1951, which mandates automatic election declarations when candidates equal the seats.

- **Election Commission's Response:**
  - ECI stated uncontested elections are rare, with only 9 out of 20 Lok Sabha elections (1951-2024) having such instances.
  - ECI argued that None of the Above (NOTA) is not applicable in uncontested elections, as voters don't visit polling stations.
  - ECI noted that changing this would require a legislative amendment to the RPA, 1951.