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Current Affairs - 26 March 2025

PARKER SOLAR PROBE



- On March 22, 2025, NASA's Parker Solar Probe approached the Sun more closely, reaching 6 million km from its surface.
- The probe, launched in 2018, has set the record for being the closest spacecraft to the Sun and will continue making 24 close approaches to study solar activity.

About the Parker Solar Probe

- Launched by NASA on August 12, 2018, from Cape Canaveral, Florida.
- Designed to study the Sun's corona, solar wind, and magnetic field to understand space weather and its effects on Earth.
- Moves in a highly elliptical orbit, using Venus' gravity assist to spiral gradually closer to the Sun.
- **Speed**: The fastest human-made object, reaching **692,000 km/hr**.
- Closest approach: It will come as close as 83 million miles (6.16 million km) from the Sun's surface, about 7 times closer than any previous spacecraft.

Scientific Breakthroughs from Parker Solar Probe

- Discovery of "Magnetic Switchbacks": The probe found sudden reversals in the solar wind's magnetic field, which might help explain how the solar wind accelerates.
- **Detection of Dust-Free Zones**: Contrary to earlier beliefs, the probe found **dust-free pockets near the Sun**, altering our understanding of **solar system dust distribution**.
- First 'Touch' of the Sun (2021): In April 2021, the probe entered the Sun's corona, crossing the Alfvén surface—a boundary beyond which solar wind escapes into space.

Comparison: Parker Solar Probe vs. Aditya-L1 (India's Solar Mission)

| Feature | Parker Solar Probe | Aditya-L1 (ISRO) | |
|---------|--------------------|------------------|--|
| | | | |





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| Launched by | NASA (2018) | ISRO (2023) | |
|---------------------|--|--|--|
| Mission type | In-situ study (flies into the corona) | Remote observation (placed at Lagrange Point L1) | |
| Closest approach | 6.1 million km from the Sun | 1.5 million km from Earth | |
| Main objective | Study coronal heating, solar wind, and magnetic fields | Study solar flares, CMEs, and magnetic storms | |
| Scientific payloads | 4 major instruments | 7 instruments including coronagraph | |

GOLD MONETISATION SCHEME



- Launched: November 2015, as an improved version of the existing Gold Deposit Scheme (GDS) and Gold Metal Loan (GML) Scheme.
- Allows individuals, institutions, and even government entities to deposit idle gold in banks and earn interest instead of storing it in lockers.
- Depositors can redeem the gold deposit in cash, gold bars, or coins upon maturity, but not in the same form (jewellery, bars, or coins).

Objective:

- o To **mobilize idle gold** held by households and institutions.
- To bring gold into the formal economy and reduce gold imports, thereby helping reduce the Current Account Deficit (CAD).





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Types of Gold Deposits under GMS

| Type of Deposit | Tenure | Purpose & Redemption |
|---------------------------------|---------------|--|
| Short-Term Gold Deposit (STGD) | 1-3 years | Banks use these deposits for domestic needs and lending. Redemption can be in gold or cash . |
| Medium-Term Gold Deposit (MTGD) | 5-7 years | Utilised by the government and RBI for gold reserves . Redemption only in cash . |
| Long-Term Gold Deposit (LTGD) | 7-12 years | Used for monetary policy and reserves . Redemption only in cash . |

Other Gold-Related Schemes

- Sovereign Gold Bond (SGB) Scheme: Discontinued recently along with medium- and long-term GMS deposits.
 - o Gold bonds were issued in denominations of 5g, 10g, 50g, and 100g.
 - Aimed to reduce demand for physical gold.
- Indian Gold Coin Initiative: Launched alongside GMS and SGB in 2015.
 - o First-ever national gold coin with Ashoka Chakra emblem.

NATIONAL E-VIDHAN APPLICATION (NEVA)



- It is an online platform designed to **digitize the legislative processes** of all state and union territory assemblies.
- It is a **device-neutral** and **member-centric application** created to equip them to **handle diverse House Business smartly** by putting entire information regarding member contact





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details, rules of procedure, list of business, notices, bulletins, bills, starred/unstarred questions and answers, papers laid, committee reports, etc.

- The app allows all parliamentary members to access all house business information on their phones and tablets, enabling better handling of legislative tasks.
- The app allows Ministers and Members to manage all the parliamentary work, like access to house proceedings, replies to questions, etc, through the App.
- NeVA helps the government departments to manage operations by creating an inclusive digital department.
- Additionally, NeVA assists the Chair of the House in conducting proceedings smoothly while enabling members to fulfill their responsibilities efficiently.
- It is being **hosted by Meghraj National Cloud**, ensuring a secure, disaster-proof, reliable functioning for all legislatures.
- The **following stakeholders can use** the application for different purposes:
 - The members of the Houses across the country
 - The **Ministers** of the concerned Government Ministries/Departments
 - o The Assembly/House Secretariat Staff
 - The Government department staff
 - o The **reporters**/media
 - o The **citizens**/public at large for accessing information, etc.
- The **following services are provided** through NeVA platform to cater to the requirements of the various users:-
 - List of Business
 - Bills: for Introduction, Consideration & Passing
 - Questions and Answers
 - Bulletins Part: I & II
 - Synopsis of Proceedings
 - Digital Library
 - Notices





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THE 'GREAT ABANDONMENT' OF AFGHANISTAN

- The political turmoil in Afghanistan following the withdrawal of U.S. forces and the subsequent rise of the Taliban has sparked global debates on foreign policy and international responsibility.
- While some argue that engaging with the Taliban is a pragmatic move, others warn against the potential risks of legitimising a radical regime.
- Therefore, it is important to discuss the parallels between past and present U.S.
 actions in Afghanistan and highlights India's shifting stance toward the Taliban
 regime.

U.S. Involvement and Its Consequences

- The U.S. intervention in Afghanistan, particularly under Presidents Donald Trump and Joe Biden, played a crucial role in shaping the country's political landscape.
- Trump's negotiations with the Taliban, which culminated in the **2020 Doha Accords**, effectively **sidelined the elected Afghan government** and paved the way for the Taliban's return to power.
- This **agreement lacked provisions for a sustainable political framework**, protections for women and minorities, or guarantees against terrorism.
- The result was a rapid collapse of the Afghan Republic and the establishment of Taliban rule in 2021.
- For Afghans, particularly those in exile, the U.S. withdrawal is seen as a "Great Abandonment," leaving the country in a worse state than before.
- Despite the Taliban's lack of international recognition, it has consolidated power, enforcing strict laws that have reversed two decades of progress, particularly regarding women's rights.
- The **global community's response has been divided,** with the U.S. and Europe largely disengaged, while Russia, China, Pakistan, and Central Asian nations have extended varying degrees of support to the regime.





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India's Changing Approach

- India initially distanced itself from the Taliban following their takeover, closing its embassy in Kabul in 2021.
- However, it has since reopened a 'technical mission' and engaged Taliban leaders at official levels.
- Reports suggest that India is considering expanding its presence in Kabul and possibly accepting a Taliban-appointed ambassador in New Delhi.
- This **shift marks a significant departure from India's previous policies** of supporting democratic Afghan governments and opposing Taliban rule.
- The Indian government justifies this engagement on the grounds of **pragmatism** and **realpolitik**.
- Proponents argue that the Taliban is an undeniable reality in Afghanistan, and engaging with them is necessary for maintaining influence and protecting Indian interests.
- They also claim that diplomatic ties are essential for **humanitarian aid and development projects** in the country. However, these justifications are met with scepticism.

BOILERS BILL, 2024



- The Boilers Act of 1923 was enacted to regulate the manufacturing, installation, operation, alteration, and repair of steam boilers to ensure safety.
- The Act was **last amended in 2007** to allow **independent third-party inspections**, but further reforms were needed.
- The Boilers Bill, 2024, aligns with the Jan Vishwas (Amendment of Provisions) Act,
 2023, which focuses on decriminalization and ease of doing business (EoDB).
- The Bill is redrafted with modern drafting practices to improve clarity and efficiency.





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Key Features of the Boilers Bill, 2024

- Replacement of Boilers Act, 1923: The new Bill repeals the century-old Boilers Act,
 1923, aligning regulations with modern safety standards.
- Ease of Doing Business (EoDB): The Bill enhances business operations by decriminalizing 3 out of 7 offences, reducing legal hurdles.
- Categorisation of Offences: 4 major offences (risking life and property): Criminal penalties retained.
 - o **Other offences:** These are converted into **fiscal penalties**, handled by an **executive mechanism** instead of courts.
- **Modern drafting practices:** The Bill is simplified and structured into six chapters, consolidating similar provisions for clarity and accessibility.
- **Enhanced safety measures:** Ensure worker safety inside boilers. Mandates boiler repairs by qualified and competent persons.
- **Redundant provisions:** Outdated sections from pre-constitutional times omitted. New definitions and amendments were added for better clarity.
- **Jan Vishwas Act, 2023 alignment:** Follows the decriminalisation reforms under the Jan Vishwas (Amendment of Provisions) Act, 2023.
- **Central & State Government roles:** Clearly define powers and functions of the Central Government, State Governments, and Central Boilers Board to avoid confusion.

About Boilers

- A boiler is a vessel where steam is generated under pressure.
- As of 2024, India has around 40 lakh steam boilers used in industries like power, manufacturing, and chemicals.
- Boilers fall under the Concurrent List of the Constitution of India, meaning both the Centre and States can legislate on them.





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EUCLID SPACE TELESCOPE



- Named After: Euclid of Alexandria, an ancient Greek mathematician known for his contributions to geometry.
- Part of ESA's Cosmic Vision Programme, which aims to explore the origin, components, and fundamental laws governing the universe.
- Launch Vehicle: SpaceX Falcon 9 rocket.
- Operational Lifespan: Minimum 6 years.
- Orbit: 5 million km above Earth, at the Lagrange Point 2 (L2), a stable gravitational point in space.
- Size: 7 meters tall and 3.7 meters in diameter.
- **Image Quality**: Four times **sharper** than ground-based telescopes.

Scientific Objectives

- Investigate why the universe is expanding at an accelerating rate (a phenomenon attributed to dark energy).
- Study the **distribution of dark matter** by observing how galaxies and cosmic structures have evolved over billions of years.
- Map the large-scale structure of the universe in 3D to understand the effects of gravity and cosmic expansion.

Key Observations and Data Release

- The **Deep Field South region**, observed for one week, contains **26 million galaxies**, some over **5 billion light-years away**.
- The telescope aims to survey 5 billion galaxies over its six-year mission, covering a third of the sky.
- The first **cosmology data release** is scheduled for **October 2026**.





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BHADRA WILDLIFE SANCTUARY



• Location: Spread across the Chikkamagaluru and Shivamogga districts of Karnataka. Named after the Bhadra River, which flows

through the sanctuary.

• Designation:

- Declared a Wildlife Sanctuary in 1951.
- Became a Project Tiger Reserve in 1998.
- o First tiger reserve in India to complete a village relocation program by 2002.

Size & Terrain:

- o Core area: 16 sq. km.
- o Buffer zone: **84 sq. km**.

Flora

- Types of Forests:
 - Southern Moist Mixed Deciduous Forests: Dominated by Teak, Terminalia, and Lagerstroemia species.
 - Dry Deciduous Forests: Includes Pterocarpus (Honne), Grewia (Tadasalu), and Bamboo species.
 - Shola Forests: Home to Cinnamon, Mimusops, and Strobilanthes species (Neelakurinji).

Fauna

- **Mammals**: Tigers, leopards, dholes (wild dogs), gaurs, sambar deer, barking deer, elephants.
- Birds: Over 250 species, including Grey Junglefowl, Malabar Parakeet, Hill Myna, Malabar Trogon, and Hornbills.
- Reptiles: King Cobra, Russell's Viper, Indian Monitor Lizard, and Marsh Crocodiles.
- Butterflies: Yamfly, Baronet, Crimson Rose, Southern Birdwing, and Great Orange Tip.