

## President flags Supreme Court overreach, seeks clarity on assent timelines

Invoking **Article 143**, President Murmu has sent a **Presidential Reference to the SC** to clarify if it can set timelines for President and Governors to grant assent to bills amid row over **Article 142** powers.

- Previously, Supreme Court in '**State of Tamil Nadu vs Governor of Tamil Nadu**' case, set time limits for -
  - The Governors** under **Article 200** on the bills sent to them by the State Legislative Assemblies.
  - The President** under **Article 201** on the Bills which the Governor has reserved for the President's assent.
- In the **14-point reference**, the President invoked multiple articles seeking clarifications regarding -
  - the **three-month timeline** for the President under **Article 201**.
  - Whether Governors are bound by the **Council of Ministers' advice** under **Article 200**, etc.

### Different articles invoked in the Presidential Reference

- Article 143**: Allows the **President to seek the SC's opinion** in matters of legal and public importance.
- Article 200**: Outlines **Governor's power regarding bills** passed by the state legislature.
- Article 201**: Outlines **President's power on Bills** reserved by Governor.
- Article 361**: Protection of **President and Governors and Rajpramukhs** to be answerable to any court for the exercise of powers and duties of their office.
- Article 142**: Grants the SC the power to pass any order necessary **to secure complete justice**.
- Article 145(3)**: Mandates **minimum 5 Judges** for the purpose of deciding any case involving a substantial question of law as to the **interpretation of this Constitution** or to hear **any reference under Article 143**.
- Article 131**: Related to the **Original jurisdiction of the SC**.

## Minister of Defence Urged International Atomic Energy Agency (IAEA) Oversight of Pakistan's Nuclear Arsenal





### About IAEA

- Headquarters: Vienna, Austria**
- Genesis**: Established in 1957 as an autonomous international organisation within the UN.
- Motto**: Atoms for Peace and Development
- Members: 180** (India is a member)
  - North Korea**: Joined in 1974, withdrew in 1994
- General Conference**: All member states meet annually in Vienna.
- Recognition**: Awarded the **Nobel Peace Prize in 2005** for promoting peaceful nuclear use and global safety
- IAEA and NPT**: The **IAEA is not a member** of the Non-Proliferation of Nuclear Weapons (NPT) but plays a **key verification** responsibilities under the Treaty.
  - Each **non-nuclear-weapon State** party is required under NPT to conclude a **comprehensive safeguards agreement (CSA)** with the **IAEA** to enable the **IAEA** to verify the fulfilment of their obligation.

### About NPT

- The **NPT is a binding international treaty** whose objective is to **prevent the spread of nuclear weapons and weapons technology**.
- It **came into force in 1970** and was extended indefinitely in 1995.
- So far, **191 countries have joined**, including all **five recognized nuclear-weapon states** (China, France, Russia, the UK, and the US).
  - India, Israel, and Pakistan** have never joined, while **North Korea withdrew in 2003**.

### THE ROLE OF IAEA

 <p><b>Global Focal Point</b> Serves as the global focal point for nuclear cooperation</p>	 <p><b>Peaceful Applications</b> Assists Member States in using nuclear science for peaceful purposes</p>	 <p><b>Safety Standards</b> Develops nuclear safety standards and promotes maintenance of high safety levels</p>	 <p><b>Verification &amp; Compliance</b> Verifies that States comply with commitments to use nuclear facilities only for peaceful purposes</p>
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### Other Treaties to Prevent Nuclear Proliferation

- Partial Test Ban Treaty 1963**: Treaty banning nuclear weapon tests in the atmosphere, in outer space and underwater (India has signed and ratified).
- Comprehensive Nuclear Test Ban Treaty (CTBT), 1996**: CTBT bans all nuclear explosions, whether for military or peaceful purposes (India did not sign).
- Prohibition of Nuclear Weapons (TPNW) 2017**: includes a comprehensive set of prohibitions on participating in any nuclear weapon activities (India did not sign).

## India plans to Study sustainability of Human Life in Space under BioE3 Policy

Recently, Union Minister of State for Science & Technology announced that India is set to conduct its **first-ever biological experiments aboard the International Space Station (ISS)** to study the **sustainability of Human life in Space**.

### About the Experiments

- Experiments, **spearheaded by the ISRO** in collaboration with the Department of Biotechnology (DBT), will be carried out as **part of the upcoming ISS mission AXIOM-4**.
- It shall include two experiments:
  - Microalgae experiment:** Examining impact of microgravity and space radiation on the growth of edible microalgae
    - Microalgae, **nutrient-rich potential food source**, are promising for safe and sustainable space-based nutrition for **long-duration space missions**.
  - Cyanobacteria experiment:** To study the growth and proteomic responses of cyanobacteria, such as Spirulina and Synechococcus, under microgravity conditions using urea- and nitrate-based media.
- Experiment also aim to explore **Spirulina as a "superfood"** (foods that have a very high nutritional density) due to its high protein and vitamin content, compare growth of cyanobacterial cells in urea versus nitrate environments.

### About BioE3 (Biotechnology for Economy, Environment and Employment) Policy

- Objective:** To set forth a framework that ensures the adoption of cutting-edge advanced technologies, align innovative research aimed at revolutionizing biomanufacturing processes.
- Implemented by:** Department of Biotechnology, Union Ministry of Science and Technology.

### Strategic Implications of India's Space Biotech

Positioning India as a Global Leader in Space Life Sciences



#### SPACE BIOTECH LEADERSHIP

Positions India as a leader in space biotechnology

- Advanced R&D hub
- Microgravity research
- Sustainable tech
- Space medicine



#### BIOTECH ASPIRATIONS

Builds on India's aspiration for biotech leadership

- Knowledge economy
- Innovation pipeline
- Tech sovereignty
- Global competitiveness



#### INTERNATIONAL PARTNERSHIPS

Leverages global partnerships

- NASA
- AXIOM Space
- ESA collaborations
- Industry partnerships

ADVANCING INDIA'S POSITION IN GLOBAL SPACE LIFE SCIENCES

## 'Samudrayaan Mission' to be launched by 2026 end: NIOT

'Samudrayaan Mission, a component of **Deep Ocean Mission (DOM)**, will explore the ocean at **6,000-metre depth** using **manned submersible vehicle 'Matsya'**.

- This mission is expected to open new **opportunities for** :
  - India's **deep-sea research**,
  - The **assessment of both living and non-living resources** in the deep ocean
  - Comprehensive ocean observation, and the **potential for deep-sea tourism**.
- So far, **only the U.S., Russia, China, France and Japan** have carried out successful deep-ocean crewed missions.

### About Matsya-6000

- MATSYA 6000 is India's **4<sup>th</sup> Generation self-propelled** deep-ocean human scientific submersible vehicle.
- It is being **developed by National Institute of Ocean Technology (Chennai)**.
- It has successfully completed Wet Testing.
- It has an **endurance of 12 hours** under normal operation and **96 hours in case of emergency**.

### About DOM

- Nodal Ministry:** Ministry of Earth Sciences
- Tenure:** Launched in 2021, to be completed in 5 years.
- Purpose:** to explore deep ocean for resources and develop deep sea technologies for sustainable use of ocean resources, thus supporting India's **Blue Economy** initiatives.
  - Blue Economy is **sustainable use of ocean resources for economic growth, improved livelihoods etc**. Its size in India is about **4% of the GDP**.

### Major Components of DOM



**Development of Technologies for Deep Sea Mining, and Manned Submersible**



**Development of Ocean Climate Change Advisory Services**



**Technological innovations for exploration and conservation of deep-sea biodiversity**



**Deep Ocean Survey and Exploration**



**Energy and freshwater from Ocean**



**Advanced Marine Station for Ocean Biology**

## Himalayan Yala Glacier declared dead in Langtang, Nepal

Glaciologists and local communities mourned the loss of Nepal's Yala glacier after it has **shrunk by 66%** since the 1970s, making it among Nepal's first likely to be declared dead.

### Glacier Funeral

- It is a symbolic ceremony held to mark **rapid disappearance of glaciers due to climate change**.
- Other major glaciers declared dead:** Pizol Glacier, Switzerland (2019); Clark Glacier, US (2020); Ayoloco glacier, Mexico (2021); etc.
  - The **world's first funeral** was held for **Okjokull glacier** in **Iceland** in 2019.

### Consequences of Glacial Loss

- Accelerates global warming:** Reduced Glaciers will have **less albedo effect** and therefore will increase heat absorption.
- Accelerates sea level rise:** According to a **Nature study**, melting glaciers have caused nearly **2 cm** to **global sea level rise** since 2001.
- Disrupted water cycles:** Nearly **three-quarters of Earth's freshwater** is stored in glaciers. Their rapid melting **threatens water security** and endangers **biodiversity**.
- Natural disasters:** It increases risks of **Glacial Lake Outburst Floods (GLOFs)** and **avalanches**.

### Initiatives for conservation of Glaciers

#### Global

- UN Initiatives**
  - 2025 designated as the **International Year of Glaciers' Preservation**.
  - March 21** to be observed annually as **World Day for Glaciers**.
- UNESCO Intergovernmental Hydrological Programme**
- Himalayan Adaptation Network by IUCN**
- Living Himalayas Initiative** by World Wide Fund for Nature.

#### India's Initiatives

- National Mission for Sustaining the Himalayan Ecosystem.**
- Network Programme on the Himalayan Cryosphere**
- Indian National Centre for Ocean Information Services (INCOIS):** It monitors glacier-related events and issues GLOF alerts.
- Himansh Research Station** studies the dynamics and the rate of change of Himalayan glaciers.
- Missions to Arctic & Antarctic e.g., IndARC (2014).**

## DTAB Approves Sub-Committee Report Suggesting Prohibition Of 16 FDCs

The Drugs Technical Advisory Board (DTAB) has approved a **sub-committee report recommending a ban on 16 Fixed-Dose Combinations (FDCs)**, citing serious health risks.

- The DTAB is set up by the Union Government under the **Drugs and Cosmetics Act, 1940** to advise the Central/ State Government.

### What Are FDCs?

- FDCs are medicines that have **more than one active ingredient** (chemical compounds in medicines that have an effect on the body) in a **single pill, capsule, or shot**.
- They are meant for patients with **conditions such as tuberculosis and diabetes** for which they need to take **multiple medicines regularly**.
- They **reduce the number of pills the patient needs to take each day, and help improve adherence to the treatment**.

### Why are FDCs being Banned?

- Lack of Proper Trials:** Many banned FDCs were approved **without proper clinical trials**, as individual ingredients were already approved.
  - According to the **new drugs and clinical trial rules of 2019**, **FDCs must be treated as new drugs** and approved by the central drug regulator.
- Irrational intake:** Some FDCs contain **drugs that are unnecessary for all patients**.
- Antibiotic Resistance:** Overuse of antibiotic FDCs can cause **antibiotic resistance**, making infections harder to treat.
  - Despite previous bans, a 2023 study found that **antibiotic FDC sales in India increased from 32.9% (2008) to 37.3% (2020)**.
- Price Control Evasion:** Drug companies often use FDCs to **avoid government price controls** on essential medicines by marketing them as new combinations.



## Also In News



### POCSO Court

Supreme Court directs Centre to set up **Special POCSO Courts** on priority, to exclusively deal with cases of sexual offenses against children.

#### About POCSO Court

- Protection of Children from Sexual Offences (POCSO) Act, 2012 provides for the establishment of Special Courts for the purpose of **ensuring speedy trial**.
- These courts shall be **Court of Session, notified in Official Gazette by State Governments in consultation with the Chief Justice of the High Courts**.
- Features**
  - Child's evidence to be recorded **within 30 days** of court taking cognizance.
  - Special Court to complete the trial, **as far as possible, within 1 year**.



### Mahadei River

A protest erupted in **Goa** after a report by **CSIR-National Institute of Oceanography, Goa**, claimed that **Karnataka's diversion of Mahadei river water** would have "less impact" on Goa.

- Goa and Karnataka are in a dispute over the **Kalasa-Banduri Project**, aimed at diverting water from **Mahadei's tributaries (Kalasa and Banduri)** to the **Malaprabha river** to supply drinking water to drought-hit northern Karnataka.

#### About Mahadei River

- Also called the **Mandovi River**.
- Origin:** Bhimgad Wildlife Sanctuary, **Belagavi, Karnataka**.
- Flows westward into Goa** and drains into the **Arabian Sea at Panaji**.
- River basin:**
  - 2/3<sup>rd</sup> in Goa**, rest in **Karnataka and Maharashtra**.
- Dudhsagar Falls** is on the Mahadei River.





### Sikkim Statehood

Sikkim celebrates **50<sup>th</sup> anniversary of its Statehood**.

#### About Sikkim Statehood

- Sikkim was made a **full-fledged State of the Union of India** under the **Constitution (36<sup>th</sup> Amendment) Act, 1975**.
  - ⊕ Earlier, **Constitution (35<sup>th</sup> Amendment) Act, 1974** granted Sikkim the status of an **"Associate State"** of the Union of India under **Article 2A**.
    - ◆ **Article 2A was repealed** by the **Constitution (36<sup>th</sup> Amendment) Act, 1975**.
- It became **22<sup>nd</sup> State of India**.
- **Article 371F** grants certain **special provisions** to the state of Sikkim.



### Pushkar Kumbh and Saraswati Pushkaralu

Once-in-a-year festivals **Pushkar Kumbh** and **Saraswati Pushkaralu** are being celebrated in **Uttarakhand** and **Telangana**, respectively.

#### About Pushkar Kumbh

- Occurs every **12 years** when **Jupiter enters the Gemini zodiac sign**.
- Held at **Keshav Prayag** (confluence of **Alaknanda** and **Saraswati rivers**) in **Mana village, Uttarakhand**.
- **Religious Significance**:
  - ⊕ Sacred site where **Ved Vyas composed Mahabharata**.
  - ⊕ **Vaishnav pilgrimage**: As saints **Ramanujacharya** and **Madhvacharya** attained divine knowledge from Goddess **Saraswati** here.

#### About Saraswati Pushkaralu

- Dedicated to **worshipping the subterranean Saraswati River**, which converges with **Godavari** and **Pranahita** at confluence point called **Triveni Sangamam** in **Kaleshwaram**.
- Held at the temple town **Kaleshwaram**, the abode of **Sri Kaleshwara Sri Mukteshwara Swamy** temple, **Telangana**.



### Monoliths of Willong Khullen

Concerns have been raised over the **lack of research and promotion** of the ancient **monoliths in Willong Khullen, Senapati district (Manipur)**.

#### About the Monoliths

- Believed to date back to the **Megalithic period**.
- Known as the **"Stonehenge of Manipur"** due to its resemblance to the famous British monument (believed to be constructed about **4,500 years ago**).
  - ⊕ Unlike Britain's Stonehenge, these stones **lack symmetry** and appear **randomly arranged**, possibly for **ritual or symbolic purposes**.
- It features a **mysterious set of large stone structures of unknown origins**.
  - ⊕ However, they are believed to be part of **ancient traditions of the Maram tribe**.

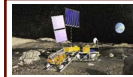


### Kaziranga National Park and Tiger Reserve

Officials of the **UNESCO World Heritage Site** documented various species across **36 genera** during a rapid survey conducted in the **Kaziranga Tiger Reserve**.

#### About Kaziranga National Park and Tiger Reserve

- **Location**: Located in the **Brahmaputra floodplain**, at the **foothills of Karbi-Anglong**, spanning **Golaghat, Nagaon, and Sonitpur districts**.
- **Forest type and Biomes**: It includes **alluvial grasslands, semi-evergreen and moist deciduous forests, wetlands, and sandy chauras**.
- **Key Flora**: **Bombax ceiba, Albizzia procera, Careya arborea, Lagerstroemia** etc.
- **Key Fauna**: **Rhino, Tiger, Eastern swamp deer, Elephant, Buffalo, Hoolock gibbon, Capped langur and Gangetic river dolphin** etc.
- **River**: **River Diphalu, River Moradifalu**.
- Park was declared as a **World Heritage Site by UNESCO** in **1985**.



### Chandrayaan-5 mission/ LUPEX

India, Japan to enter design phase of **Chandrayaan-5/ LUPEX (Lunar Polar EXploration)** mission.

- The mission follows the legacy of
  - ⊕ **Chandrayaan-1** and **2** (orbiter-based lunar exploration),
  - ⊕ **Chandrayaan-3** (lander-rover based in-situ exploration)
  - ⊕ **Forthcoming Chandrayaan-4** (India's first lunar sample return mission)
- India aims to send **astronauts to the Moon by 2040**.

#### About Chandrayaan-5

- **Aim**: To study **lunar volatile materials, of the south pole**.
- **International collaboration**:
  - ⊕ **ISRO** will primarily build the **lander**, while **JAXA (Japan)** will provide the **rover**.
  - ⊕ **Observation Instruments** will also come from **NASA and ESA**.



### GRAIL (Gravity Recovery and Interior Laboratory) Mission

**NASA's GRAIL Mission** created the most detailed map of the Moon's gravity.

- GRAIL Mission was **launched in 2011** as a part of **NASA Discovery Program**.
- Map will contribute to establishing a **precise lunar reference frame and time system**, enabling safer navigation for future lunar missions.

#### Key findings of the mission

- **Uneven Moon Interior**: The Moon's **nearside** (facing Earth) is **warmer and more geologically active** than the **farside** (never visible from Earth).
- **Tidal Deformation**: Earth's gravity causes the **nearside to flex** more than the farside during the Moon's orbit. This flexing shows **structural differences** between the two sides of the Moon.
  - ⊕ **Nearside is covered by vast plains** (called mare), but farside has much more rugged terrain.

## Personality in News



### Sukhdev Thapar (1907 - 1931)

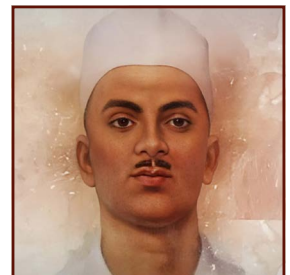
Eminent **revolutionary leader** in India's freedom struggle **Shaheed Sukhdev Thapar** was remembered on his birth anniversary (May 15).

#### About Sukhdev Thapar

- Born in **Ludhiana, Punjab**.
- He was a member of the **Hindustan Socialist Republican Association (HSRA)**.

#### Key Contributions

- Organized revolutionary cells in Punjab and other parts of Northern India.
- **Founded the Naujawan Bharat Sabha (1926, Lahore)** to mobilize youth for the independence struggle.
- Was at forefront of several revolutionary activities:
  - ⊕ **Prison Hunger Strike (1929)**: Protested against the inhuman treatment meted out to the inmates in jail.
  - ⊕ **Lahore Conspiracy Case (1928)**: Sukhdev and his accomplices **Shivaram Rajguru** and **Bhagat Singh** plotted to assassinate **James A Scott** (responsible for the death of **Lala Lajpat Rai**) but mistakenly shot **J P Saunders**, the Deputy Superintendent of Police.
- Later, **Hanged on March 23, 1931** in **Lahore Jail**, along with **Shaheed Bhagat Singh** and **Shivaram Rajguru**, observed as **Shaheed Diwas (Martyr's Day)**.



AHMEDABAD



BENGALURU



BHOPAL



CHANDIGARH



DELHI



GUWAHATI



HYDERABAD



JAIPUR



JODHPUR



LUCKNOW



PRAYAGRAJ



PUNE



RANCHI