

DAILY CURRENT AFFAIRS (DCA)

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SC BANS MANUAL SCAVENGING IN SIX METROPOLITAN CITIES

In News

- The Supreme Court passed directions banning manual scavenging and manual sewer cleaning in six metropolitan cities in a writ petition seeking the **eradication of manual scavenging in India**.

What is Manual Scavenging?

- Manual scavenging refers to the practice of manually cleaning, carrying, and disposing of human excreta from dry latrines, open drains, sewers, and septic tanks. It is a **hazardous and degrading occupation** that primarily affects marginalized communities.

Status of Manual Scavenging in India

- 443 deaths due to manual scavenging were reported between 2018 and 2023, according to the **Ministry of Social Justice and Empowerment**.
- In Delhi alone, an RTI response revealed 94 deaths over the past 15 years, with only one conviction.
- As of 2024, 97% of manual scavengers belong to Scheduled Castes (SCs):
 - 42,594 SCs
 - 421 Scheduled Tribes (STs)
 - 431 Other Backward Classes (OBCs)

Issues and Challenges

- Despite the **legal ban**, manual scavenging persists, often **disguised under informal employment arrangements**.
- Many workers are hired on a contractual basis, **bypassing legal protections**.
- Rehabilitation efforts under the 2013 Act have **been poorly implemented**.
- Many sanitation workers continue to die due to **exposure to toxic gases** in sewers and septic tanks.
- Mechanization of sewer cleaning is slow**, forcing laborers to continue dangerous manual work.
- The practice remains deeply linked to **caste discrimination**, as it primarily affects Dalit communities.

Laws and Regulations Against Manual Scavenging

- Prohibition of Employment as Manual Scavengers and Their Rehabilitation Act, 2013:** Prohibits manual scavenging in all forms.

- Criminalizes the employment of manual scavengers.
- Mandates the mechanization of sewer cleaning.
- Supreme Court Interventions:** In **Safai Karamchari Andolan v. Union of India (2014)**, the SC directed the government to provide compensation of ten lakh rupees to the families of deceased manual scavengers.
- In 2020, the Court ordered stricter implementation of mechanized sewer cleaning to prevent further deaths.
- Constitutional Provisions:** **Article 17** (abolishes untouchability), **Article 21** (guarantees the right to life and dignity), **Article 23** (prohibits forced labor), and **Article 42** (Humane working conditions for all workers).

Government Initiatives and Policies

- NAMASTE Scheme (2023):** Focuses on the mechanization of sewer cleaning.
 - Provides skill training and alternative employment opportunities for sanitation workers.
- Swachh Bharat Abhiyan:** Aims to replace dry latrines with modern sanitation facilities.
 - Encourages the use of mechanized cleaning equipment.
- Self-Employment Scheme for Rehabilitation of Manual Scavengers (SRMS):** Provides financial assistance of forty thousand rupees along with skill training.

Way Forward

- Full enforcement of the 2013 Act with strict penalties for violations.
- Faster adoption of mechanized cleaning methods (using robots and machines) to eliminate the need for manual labor.

Source: TH

CREDIT GUARANTEE SCHEME FOR MSMEs

In News

- The Government of India has introduced the **Mutual Credit Guarantee Scheme for MSMEs (MCGS-MSME)**, aiming to ease credit constraints and propel growth in the manufacturing sector.

About

- The **Micro, Small, and Medium Enterprise (MSME) sector** forms the backbone of the Indian economy, contributing significantly to **employment, innovation, and economic growth**.
- Within the MSME landscape, the **manufacturing sector** plays a crucial role, accounting providing jobs to **27.3 million workers** and providing jobs to **27.3 million workers**.
- However, access to finance remains a major hurdle for MSME manufacturers, hindering their ability to modernize, expand, and compete effectively.

Existing and Revised Definition of MSMEs

Existing MSME Classification			
Criteria : Investment in Plant & Machinery or Equipment			
Classification	Micro	Small	Medium
Mfg. Enterprises	Investment < Rs. 25 lac	Investment < Rs. 5 cr.	Investment < Rs. 10 cr.
Services Enterprise	Investment < Rs. 10 lac	Investment < Rs. 2 cr.	Investment < Rs. 5 cr.

Revised MSME Classification			
Composite Criteria : Investment And Annual Turnover			
Classification	Micro	Small	Medium
Manufacturing & Services	Investment < Rs. 1 cr. and Turnover < Rs. 5 cr.	Investment < Rs. 10 cr. and Turnover < Rs. 50 cr.	Investment < Rs. 20 cr. and Turnover < Rs. 100 cr.

Key Features of MCGS-MSME

- **Guarantee Coverage:** The scheme offers 60% guarantee coverage to Member Lending Institutions (MLIs) on loans up to ₹100 crore sanctioned to eligible MSMEs for the purchase of plant and machinery.
- **Eligibility:** MSMEs with a valid Udyam Registration Number.
- **Loan Amount and Usage:** A minimum of 75% of the project cost must be utilized for the acquisition of equipment and machinery, directly supporting manufacturing capacity expansion.
- **Repayment Terms (Up to ₹50 crore)** Maximum 8-year repayment, with a 2-year principal moratorium.
 - ♦ **Above ₹50 crore:** Longer repayment and moratorium periods may be considered.
- **Guarantee Fees:** No guarantee fee is charged in the first year. For the subsequent three years, the fee is 1.5% per annum of the outstanding loan amount as of March 31st of the previous year.
- **Scheme Duration:** The MCGS-MSME will be in effect for four years from the date of the issuance of operational guidelines or until cumulative

guarantees of ₹7 lakh crore are issued, whichever comes earlier.

- **Participating Lenders:** All Scheduled Commercial Banks (SCBs), NBFCs registered with the National Credit Guarantee Trustee Company Limited (NCGTC).

Impact on MSME & Manufacturing

- Supports 'Make in India, Make for the World' by increasing manufacturing output.
- Helps MSMEs scale up with **easier access to large credit for expansion**.
- Strengthens India's position as a **global alternative in supply chains**.
- Aims to increase manufacturing's share in **GDP from 17% to 25%**.
- Expanded MSMEs generate **more employment opportunities**.

Other Key MSME Financial Support Schemes in India

- **CGTMSE (Credit Guarantee Fund Trust for MSEs):** Offers collateral-free loans up to ₹2 crore. Provides up to 85% guarantee coverage to reduce lender risk.
- **TReDS (Trade Receivables Discounting System):** Online platform for MSMEs to get payments faster from large companies.
- **Emergency Credit Line Guarantee Scheme (ECLGS):** ₹3 lakh crore relief package during COVID-19. 100% government-backed guarantee for loans.
- **RBI Measures to Boost MSME Lending: Priority Sector Lending (PSL):** Banks mandated to allocate a portion of their loans to MSMEs.
 - ♦ **Restructuring of MSME Loans:** RBI allowed one-time loan restructuring for stressed MSMEs to prevent defaults.

Note: For Detailed Analysis about this you can refer our Daily News Decoded Video on [NEXTIAS Youtube Channel](#)

Source: ET

NATIONAL CRITICAL MINERAL MISSION (NCMM)**Context**

- The Union Cabinet has approved the launch of the **National Critical Mineral Mission (NCMM)** with an expenditure of Rs.16,300 crore.

About

- **Aim:** To create a fast track regulatory approval process for critical mineral mining projects.
- The NCMM will encompass **all stages of the value chain**, including mineral exploration, mining, beneficiation, processing, and recovery from end-of-life products.
- **Features:**
 - ♦ Setting up mineral processing parks and supporting the recycling of critical minerals.
 - ♦ Promote research in critical mineral technologies and proposes setting up Centre of Excellence on Critical Minerals.
 - ♦ It also proposes development of a stockpile of critical minerals within the country.
 - ♦ It encourages **Indian PSUs and private sector** companies to acquire critical mineral assets abroad and enhance trade with resource-rich countries.

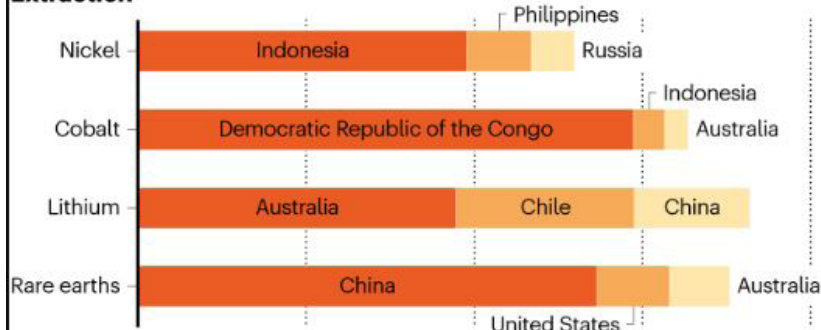
What are Critical Minerals?

- **Critical minerals** are those minerals that are **essential for economic development and national security**.
 - ♦ The future global economy will be underpinned by technologies that depend on minerals such as lithium, graphite, cobalt, titanium, and rare earth elements.
 - ♦ These are essential for the advancement of many sectors, including **hightech electronics, telecommunications, transport, and defence**.
- **Supply Chain Vulnerability:** Due to the **lack of availability** of these minerals and concentration of extraction or processing in a few geographical locations.
 - ♦ Hence, it has become imperative to identify and develop value chains for the minerals which are critical to country.

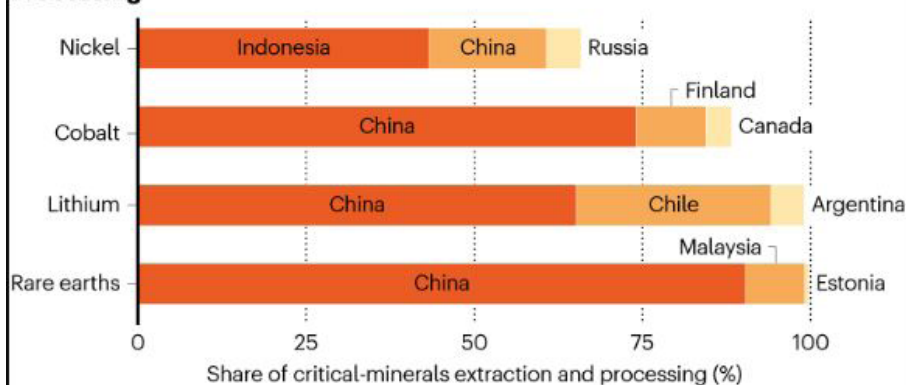
RARE SOURCES

The top three extractors and processors of various critical minerals by country in 2022. According to the International Energy Agency, there has been limited progress in diversifying these sources since 2019.

Extraction



Processing



Applications of Critical Minerals

- **Clean technologies initiatives** such as zero-emission vehicles, wind turbines, solar panels etc.
 - ♦ Critical minerals such as Cadmium, Cobalt, Gallium, Indium, Selenium and Vanadium and have uses in **batteries, semiconductors, solar panels**, etc.

- **Advanced manufacturing inputs and materials** such as defense applications, permanent magnets, ceramics.
 - ♦ Minerals like Beryllium, Titanium, Tungsten, Tantalum, etc. have usage in new technologies, electronics and defense equipment.
- **Platinum Group Metals (PGMs)** are used in medical devices, cancer treatment drugs, and dental materials.

List of Critical Minerals

- **Different countries have their own unique lists** of critical minerals based on their specific circumstances and priorities.
- **A total of 30 minerals were found to be most critical for India:** Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.

Minerals Security Partnership (MSP)

- **The MSP currently consists of 23 partners**, including Argentina, Australia, Canada, Estonia, Finland, France, Germany, Greenland, India, Italy, Japan, Kazakhstan, Mexico, Namibia, Norway, Peru, the Republic of Korea, Sweden, Ukraine, the UK, the US, Uzbekistan, and the EU (represented by the European Commission).
- It aims to **catalyse public and private investment** in critical mineral supply chains globally.
- India is already a member of the **Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development**, which supports the advancement of good mining governance.

Initiatives by India to Secure Critical Mineral Supplies

- **Mines and Minerals (Development and Regulation) Act, 1957**, has been amended in 2023 to increase exploration and mining of critical minerals.
- **Exploration Projects by GSI:** Geological Survey of India (GSI) has undertaken 368 exploration projects for critical minerals over the past three

years, with 195 projects currently underway in FY 2024-25.

- ♦ For FY 2025-26, GSI is going to take up 227 projects for various critical minerals.
- **KABIL:** It is a joint venture of the Ministry of Mines, it has acquired an area of about 15703 Hectare in the Catamarca province of Argentina, for exploration and mining of Lithium.
- **Custom Duty:** Government has already eliminated customs duties on the majority of critical minerals in the Union budget 2024-25.
 - ♦ This will increase the availability of critical minerals in the country and will encourage the industry to set up processing facilities in India.

Way Ahead

- India is collaborating with countries **such as Africa, Argentina, Australia and Mongolia** to secure its energy requirements.
 - ♦ In Tanzania, India is pitching for access to resources such as niobium and graphite; in Zimbabwe for lithium, and for copper and cobalt in Congo and Zambia.
- Critical minerals have become essential for economic development and national security in the country.
- Minerals such as Lithium, Cobalt etc. have gained significance in view of India's commitment towards energy transition and achieving net-zero emission by 2070.

Source: TH

PM SURYA GHAR SCHEME

Context

- Recently, the Union Minister for New and Renewable Energy announced that the **PM Surya Ghar scheme** has achieved a milestone with **8.5 lakh households (about 8.5%)** installing rooftop solar connections.

About the PM Surya Ghar: Muft Bijli Yojana

- **About:** It is a centrally sponsored scheme aimed at providing free electricity to households by subsidizing the installation of rooftop solar panels.
- **Launch & Ministry:** February 15, 2024 by the Ministry for New and Renewable Energy (MNRE).

Projected Growth in Installations under PM Surya Char: Muft Bijli Yojana



- **Aim:** Provide up to 300 units of free electricity per month to one crore households.
 - ♦ Lower electricity expenses for both households and the government.
 - ♦ Increase the share of renewable energy in India's energy mix.
 - ♦ Reduce carbon emissions and promote sustainable development.
- **Key Features:**
 - ♦ **Subsidies and Incentives:** The scheme provides for a subsidy of 60% of the solar unit cost for systems up to 2kW capacity and 40 percent of additional system cost for systems between 2 to 3kW capacity. The subsidy has been capped at 3kW capacity. At current benchmark prices, this will mean Rs 30,000 subsidy for 1kW system, Rs 60,000 for 2kW systems and Rs 78,000 for 3kW systems or higher.
 - ♦ **Target:** By March 2025: To exceed 10 lakh,
 - By October 2025: Doubling reaching 20 lakh,
 - March 2027: 1 crore households.
 - ♦ **Eligibility:** The household must:
 - be an Indian citizen;
 - own a house with a roof that is suitable for installing solar panels;
 - have a valid electricity connection;
 - not have availed any other subsidy for solar panels.
 - ♦ **Financial Outlay:** 75,021 crore, with 65,700 crore allocated for **Central Financial Assistance (CFA)** to residential consumers.
 - ♦ **DISCOMs Incentive:** DISCOMs, designated as State Implementation Agencies (SIAs),

are rewarded with incentives based on their performance in surpassing the baseline level of rooftop solar capacity installation.

- ♦ **Expected Savings:** Estimated to save the government ₹75,000 crore annually in electricity costs.
- **Other features of the scheme:**
 - ♦ **Model Solar Village:** It will be developed in each district of the country to act as a role model for adoption of rooftop solar in rural areas.

Potential Benefits

- **Energy Independence:** By enabling households to generate their own electricity, the scheme reduces dependence on the national grid.
- **Cost Savings for Consumers:** With savings of up to ₹18,000 annually, the scheme directly benefits middle and lower-income households.
- **Reduction in Peak Load Demand:** With more households using solar energy, electricity demand during peak hours can be reduced, easing the burden on DISCOMs.
- **Boost to Solar Industry:** The scheme will drive demand for solar panels, benefiting manufacturers and installers.
- **Strengthens India's Energy Independence:** Supports India's vision of achieving self-reliance in the energy sector.

Challenges

- **Slow Installations:** Only 8.5 lakh of 1 crore target met so far.
- **Infrastructure Issues:** Efficient grid integration is required for solar adoption.
- **Financial Accessibility:** Upfront costs remain a barrier despite subsidies.
- **DISCOM Support:** Distribution companies play a vital role in execution, but delays persist.
- **Public Awareness:** Wider outreach is needed for rural and urban adoption.

Future Outlook

- MNRE aims **to cover 12 lakh households in the financial year 2024-2025.**
- Additionally, India is set to **add 50 GW of new renewable capacity annually** in the coming years, with the tariff for grid-connected solar power plants decreasing significantly over the past decade.

Note: For Detailed Analysis about this you can refer our Daily News Decoded Video on [NEXTIAS YouTube Channel](#)

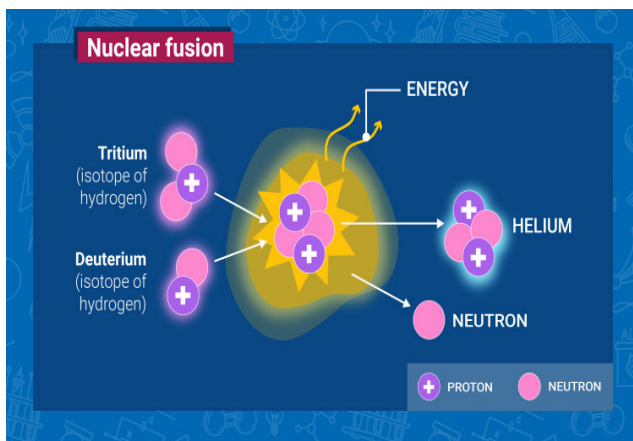
Source: TH

CHINA'S RECENT NUCLEAR FUSION BREAKTHROUGH

In News

- The Experimental Advanced Superconducting Tokamak (EAST) reactor in China maintained plasma in a steady state for over 1,000 seconds (17 minutes), setting a new record in fusion research.

About Nuclear Fusion



- Fusion is the process where two light atomic nuclei combine to form a heavier nucleus, releasing massive energy.
- It takes place in plasma (hot, charged gas of ions and electrons) with unique properties different from solids, liquids, or gases.
- It occurs in the Sun at temperatures of around 10 million degrees Celsius.
 - On the Sun, extremely **high temperatures and gravity create conditions** for fusion.

Potential and Importance

- Fuel sources** like deuterium (from seawater) and tritium (from lithium) are abundant and long-lasting.
- Fusion could provide limitless, **clean, safe, and affordable energy**.
- It generates **4 times more energy** per kilogram of fuel than fission and nearly 4 million times more energy than burning oil/coal.
- Fusion is **intrinsically safe**, with no risk of a runaway reaction or meltdown.

- Environmental Benefits:** Fusion does not emit carbon dioxide or other greenhouse gases, offering a potential low-carbon electricity source.

Challenges

- Conditions related:** Earth requires temperatures exceeding 100 million°C and intense pressure to achieve fusion.
 - Achieving and maintaining these extreme conditions for stable fusion is a challenge.
- Confining the plasma and maintaining** the fusion reaction long enough for a net power gain is a major challenge.
 - Current experiments have achieved conditions close to those required but need improved plasma confinement and stability.
- Technological and Financial Barriers:** Fusion reactors require complex and expensive technology.
 - Securing funding and overcoming regulatory hurdles are ongoing challenges.

Latest Developments in China

- China is building a large **laser-ignited fusion research center**, which may also have military applications for thermonuclear weapons.
- China's nuclear arsenal has grown significantly, from 410 warheads in January 2023 to an estimated 500 in January 2024. Projections suggest China may match the U.S. and Russia in intercontinental ballistic missiles (ICBMs) by the end of the decade.

Comparison with India

- India's nuclear arsenal is estimated at 172 warheads.
- India operates 23 nuclear power reactors, generating about 6% of its electricity.
- China has 55 operational reactors and is rapidly expanding its nuclear energy capacity, including the commercialisation of third-generation reactors and plans to build 6-8 new reactors annually.
- China is also leading in nuclear power generation, with advanced reactors like the Shidaowan-1, a fourth-generation gas-cooled reactor, as part of its strategy to shift to cleaner energy sources.

Implications

- Nuclear Weapons:** The technology could enhance China's nuclear weapons design capabilities without the need for traditional

nuclear tests, improving confidence in existing weapons designs while adhering to international testing bans.

- **Energy Production:** It could also contribute to clean fusion energy research, offering the potential for nearly limitless, environmentally friendly power.
- **Concerns for India:** The new fusion facility will significantly enhance China's capabilities in both nuclear weapons development and clean energy production, widening the gap between China and India's nuclear capabilities.

Conclusion and Way Forward

- Nuclear Fusion has the potential to meet humanity's energy needs for millions of years, making it a long-term, sustainable energy source.
- And China's recent breakthrough in nuclear fusion marks a major milestone in the global pursuit of sustainable energy.
- For India, it poses both a challenge and an opportunity, motivating the country to accelerate its fusion research and seek new partnerships to secure its position at the forefront of future energy advancements.

Source :IE

ISRO'S 100TH LAUNCH FROM SRIHARIKOTA

Context

- The Indian Space Research Organisation (ISRO) launched its historic **100th launch** from the Satish Dhawan Space Centre in Sriharikota.

About

- **GSLV F15 carried the NVS-02 navigation satellite** placing it into a Geosynchronous Transfer Orbit.
 - ♦ The NVS-02 is the **second satellite in the NVS series**, and **part of India's Navigation with Indian Constellation (NavIC)**.
 - ♦ It is designed to **provide accurate positioning services across India**.
- **GSLV-F15 is the 17th flight of India's Geosynchronous Satellite Launch Vehicle (GSLV) and 11th flight with Indigenous Cryo stage.**
- Over these **100 launches ISRO has lifted 548 satellites to orbit.**

Geosynchronous Transfer Orbit

- The GTO allows satellites to be positioned into **geostationary orbits**, where they can maintain a **fixed position relative to the Earth's surface**.
- This is crucial for **communication and weather satellites** that need to monitor specific areas continuously.

NVS Series

- These are **five second-generation NavIC satellites** — **NVS-01 to NVS-05** and are **planned to enhance the existing constellation**.
 - ♦ These satellites incorporate **L1 band communication**, which **broadens NavIC's compatibility and usability for diverse applications**.
- **NVS-01**, the first of the second-generation satellites, was launched in **2023**.
 - ♦ For the first time, an indigenous **atomic clock was flown in NVS-01**.
- **NVS-02** will help improve NavIC's services, which are used for navigation, precision agriculture, emergency services, fleet management, and even mobile device location services.
 - ♦ It also has a precise atomic clock called the **Rubidium Atomic Frequency Standard (RAFS)** for accurate timekeeping.
- It is a **regional navigation satellite system** established by **Indian Space Research Organisation (ISRO)**.
- NavIC was erstwhile known as **Indian Regional Navigation Satellite System (IRNSS)**.
- NavIC is designed with a constellation of **7 satellites** and a network of ground stations operating 24 x 7.
 - ♦ **Three satellites** of the constellation are placed in **geostationary orbit** and **four satellites** are placed in **inclined geosynchronous orbit**.



- The **ground network** consists of a control centre, precise timing facility, range and integrity monitoring stations, two-way ranging stations, etc.
- **NavIC offers two services:** Standard Position Service (SPS) for **civilian users** and Restricted Service (RS) for **strategic users**.
 - ♦ It provides location accuracy better than 20 meters and timing accuracy better than 40 nanoseconds across the core service area.
- The NavIC coverage area includes **India and a region up to 1,500 km beyond the Indian boundary**.
 - ♦ NavIC SPS signals are **interoperable with the other global navigation satellite system (GNSS)** signals namely GPS, Glonass, Galileo and BeiDou.

Significance

- The first batch of IRNSS satellites launched in the previous decades has been successful in establishing the **Personal Navigation Device (PND) services** in the country.
- The NVS series is the second generation of these satellites that are progressively being deployed to **further strengthen the PND ecosystem in the nation**.
- NVS supports various applications, including strategic uses, vessel tracking, time synchronization, train tracking, and life safety alerts.

Source: TH

NEWS IN SHORT

MUNDAKA UPANISHAD

Context

- The third section of the Mundaka Upanishad is important because the phrase **“Satyameva Jayate”**, **India’s national motto, occurs in verse 6**.

About

- It is one of the ten principle Upanishads on which Sri Shankaracharya wrote commentary and is a part of the **Atharvaveda**.
- The name Mundaka literally means **‘head’ of the body**.

- The text is structured in **three Mundakas or “chapters,”** and it consists of dialogues between the **sage Angiras and his disciple Shaunak**.
 - ♦ The philosophical text explores the **nature of ultimate reality (Brahman)** and the relationship between the **individual soul (Atman) and the universal soul (Brahman)**.
- **The central theme** of the Mundaka Upanishad revolves around the pursuit of knowledge that leads to liberation (moksha) and the distinction between higher and lower knowledge.

Upanishads

- The Upanishads are a collection of ancient Indian philosophical texts that form the final or concluding part of the Vedas.
- They are often called **vedanta** which means the end of the veda.
- The word Upanishad can be translated as **“sitting near” or “sitting down beside,”** which refers to the **tradition of students sitting near a teacher to learn spiritual wisdom**.

Source: TH

MAHATMA GANDHI MARTYR DAY

In News

- Prime Minister Narendra Modi paid homage to **Mahatma Gandhi** on his 77th death anniversary.

Martyr Day

- **Mahatma Gandhi** is revered as the **Father of the Nation** and he was the architect of **India’s freedom struggle**.
- He was the most prominent face of India’s freedom movement.
- He was assassinated on January 30, 1948 by Nathuram Godse.
- The day has been observed as **Martyrs’ Day**, also known as **‘Shaheed Diwas’ or ‘Sarvodaya Day,’** to honour him and countless others who sacrificed their lives for India’s freedom.
- **Legacy** : Mahatma Gandhi’s impact extended far beyond India’s independence struggle.
 - ♦ He advocated for justice, nonviolence, and peace globally, uniting millions through his leadership in movements like the **Khilafat Movement, Quit India Movement, Civil Disobedience Movement, Non-cooperation Movement**, and Champaran Satyagraha.

Source :TH

GREENLAND'S CRYSTAL BLUE LAKES TURNED BROWN

Context

- The study, 'Abrupt transformation of west Greenland lakes following compound climate extremes associated with atmospheric rivers' revealed that more than **7,500 lakes in western Greenland have turned brown**.

Major Findings

- West Greenland** is home to **tens of thousands of blue lakes** that provide residents drinking water and sequester carbon from the atmosphere.



- These lakes began emitting carbon, and suffered a drop in water quality due to **extreme weather events that took place in 2022**.
 - Such changes take place over centuries, but in this case, they happened within months.
- Reason:** Greenland usually experiences snowfall during the fall season, from late August to late September.
 - However, in 2022, **due to warmer temperatures**, the **snow turned into rain**.
 - The heat also **caused permafrost** — frozen ground that often contains a significant amount of organic carbon — to thaw, leading to the **release of carbon, iron, magnesium, and other elements**.
 - As the record level of rain poured on the region, these elements were **washed into the lakes, resulting in their transformation**.

- Impact:** Transformed the lakes from carbon sinks into significant sources of carbon dioxide, with emissions rising by 350%.

- Water quality of these lakes was adversely affected.
- The reduction in light decreased the biodiversity of plankton, which had significant ramifications for the region's carbon cycle.

Source: IE

DOMICILE-BASED RESERVATION FOR PG MEDICAL ADMISSIONS UNCONSTITUTIONAL: SC

Context

- The Supreme Court held that domicile-based reservation for admission to post-graduate medical courses **within the State quota** is **unconstitutional as it violates the Right to Equality under Article 14**.

Major Highlights

- Permitted in UG Courses:** The court acknowledged domicile-based reservations may be contemplated **only in undergraduate courses**.
 - Considering the importance of specialised doctors, reservation in higher levels would be violative of Article 14.
- Impact:** Ensures that admission to PG medical courses - under quotas allotted to various states - can only be on merit, i.e., on NEET, or National Eligibility/Entrance Test, scores.
 - The judgment would not affect domicile-based reservations already granted.

Constitutional Provisions for Domicile-Based Reservations

- Article 16(2)** prohibits discrimination based on residence, **Article 16(3)** provides an exception, allowing Parliament to enact laws prescribing residence-based conditions for government employment within a State or Union Territory.

Admission in PG Medical Seats

- For postgraduate medical seats, the **Centre conducts counselling for only 50%** of the total intake while the **rest is filled by state counseling bodies** as per their own rules.
 - Within this remaining 50%, states earmark a quota for 'domicile' candidates.

- ♦ The State quota seats, apart from a reasonable number of institution-based reservations, have to be filled strictly on the basis of merit in all-India examinations.

Source: IE

RETINAL DISEASES

In News

- Over 2.2 billion people worldwide experience vision impairment, with causes including inherited retinal diseases (IRDs).

About Inherited retinal diseases (IRDs)

- They are also known as **Retinal dystrophies**.
- They are the most genetically varied group of disorders in humans.
- They are **caused** by **abnormal development** or dysfunction of the **photoreceptors** or retinal pigment epithelium.
 - ♦ They result from mutations in over 300 genes responsible for retinal function.
- They can be **inherited in different patterns**, including autosomal recessive, autosomal dominant, X-linked, and less commonly, mitochondrial and digenic inheritance.
- **Effect:** IRDs are genetic conditions causing progressive vision loss, often leading to blindness.
 - ♦ Vision loss can occur rapidly after birth or gradually over time, and early intervention may slow or prevent blindness.
- **Prevalence :** They cause progressive vision loss, with more than 5.5 million people affected globally.
 - ♦ **In India:** The prevalence of IRDs is significantly higher in India compared to global averages.
 - One in 372 individuals in rural South India, one in 930 in urban South India, and one in 750 in rural Central India affected by these conditions.
- **Treatment and Developments :** RNA-based precision therapeutics are emerging as a game-changer for genetic disorders, including IRDs.
 - ♦ Unlike DNA or genome-editing therapies, RNA-based therapies offer a safer alternative as they make temporary changes that don't carry over to future generations, reducing the risk of unintended long-term effects.

- ♦ A study by CSIR-Institute of Genomics and Integrative Biology and L.V. Prasad Eye Institute in 2024 developed a precision therapy for a specific form of IRD in India.

Do you know?

- In 2017, the U.S. Food and Drug Administration (FDA) made a historic move by approving the **first gene therapy for blindness caused by mutations in the RPE65 gene**.
- Currently, more than 50 clinical trials are exploring gene therapy as an option to treat various inherited eye disorders.

Source: TH

LOWER-SODIUM SALT SUBSTITUTES

In News

- WHO recommends replacing regular table salt (sodium chloride) with lower-sodium salt substitutes containing potassium chloride (KCl).

Why Reduce Sodium?

- **High Blood Pressure Risk:** High sodium intake raises blood pressure, increasing the risk of heart disease, stroke, and kidney disease.
- **NCD Prevention:** Lowering sodium helps prevent these non-communicable diseases.

Benefits of Substitutes

- **Maintains Taste:** Potassium chloride partially replaces sodium chloride without sacrificing flavor.
- **Blood Pressure Support:** Potassium helps counter sodium's effects and regulates blood pressure.

Do you Know?

- WHO recommends less than 2 grams of sodium per day (5 grams of salt).

Source: TH

SEBI'S "WHEN-LISTED" PLATFORM

In News

- The **"when-listed" platform** proposed by **SEBI** is a significant **regulatory initiative** aimed at **curbing grey market trading** and ensuring a transparent and structured mechanism for trading IPO shares before their official listing.

What is the Grey Market?

- The grey market refers to the **unofficial trading of securities**, particularly shares, before they are officially listed on stock exchanges.
- It operates **outside the regulatory framework**, relying on demand and supply dynamics.
- Here, the transactions are based on notional prices (prices agreed upon informally, without the actual transfer of shares until listing), and **no physical delivery of shares occurs here**.

Key Aspects of the "When-Listed" Platform

- **Regulated Pre-Listing Trading:** This platform will allow investors to trade IPO shares after allotment but before official listing, bridging the **gap between T+1 (allotment day) and T+3 (listing day)**.
- **Price Discovery Before Listing:** The "when-listed" price may serve as a pre-listing indicator of how the stock might perform on the listing day.
 - ♦ Helps in better investment decisions for both retail and institutional investors.
- **Shorter Settlement Periods (T+0, T+1):** This aligns with SEBI's broader push toward faster trade settlements, such as the recent introduction of the T+0 settlement cycle for select stocks.

Why Is SEBI Introducing This?

- **Reduction of Grey Market Activity:** Currently, grey market trading is unregulated and speculative, often causing price volatility.
- **Investor Benefits:** Investors who receive IPO allotments can sell their entitlement before the listing.
 - ♦ Buyers can acquire shares before listing, but within a formalized structure.
 - ♦ Eliminates counterparty risks and non-transparent price manipulations seen in the grey market.
- **Formal Settlement:** There is no formal settlement process, exposing investors to counterparty default risks.
 - ♦ By allowing a regulated, stock exchange-based platform, SEBI aims to increase market efficiency, protect investors, and reduce speculation.

Source: IE

BEATING RETREAT CEREMONY

In News

- The Beating Retreat 2025 ceremony concluded at Kartavya Path, New Delhi.

About Beating Retreat

- It is a ceremony that marks the **end of Republic Day festivities in India**.
- It is held on the evening of January 29, three days after Republic Day
- **Historical Linkages :** The beating retreat ceremony in India was first held in the 1950s, during the state visit of Queen Elizabeth and Prince Philip.
 - ♦ Since then, the ceremony has become an annual event to pay tribute to the valour and sacrifice of the Indian Armed Forces.
- **Features :** The ceremony features a musical performance by the bands of the **Indian Army, Navy, Air Force, Delhi Police, and the Central Armed Police Force (CAPF)**.
 - ♦ The ceremony is presided over by the President of India, who is the supreme commander of the Armed Forces.

Source :IE

TRUMP DISMISSED US GOVT INSPECTORS GENERAL

Context

- US President Donald Trump abruptly dismissed 17 independent inspectors general across multiple government agencies.

About

- Inspectors generally serve as **independent watchdogs** to investigate waste, fraud, and abuse of power.
 - ♦ They traditionally serve **beyond the tenure of a single administration**, providing continuity in government oversight.
- The move has raised concerns about the **erosion of oversight and accountability in the federal government**.

Source: IE