

CURRENT AFFAIRS

WEEKLY

WEEK

3

AUGUST, 2024

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- INDIA-RUSSIA TRADE GAP
- REGULATION OF BALLAST WATER
- ILO'S INITIATIVE TO END CHILD LABOUR
- INDIA'S IP MANAGEMENT SYSTEM
- WAQF (AMENDMENT) BILL, 2024

GS-III

- ADANI-HINDENBURG DISPUTE
- CENTRE TIGHTENS DISCLOSURE NORMS FOR DOMESTIC SOLAR MANUFACTURERS
- ANTARCTICA'S DEEP-WINTER HEATWAVE
- COLLISION AVOIDANCE SYSTEM (CAS)

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- Geographical Structures in the Indian Ocean Named by India
- Mullaperiyar Dam Safety
- Nankai Trough

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- 78th Independence Day
- Delhi University's Role in the Quit India Movement

INTERNATIONAL RELATIONS

- Tarang Shakti

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- Jiyo Parsi Scheme Portal
- No-confidence motion against Vice-President
- Clean Plant Programme (CPP)
- NIRF Rankings 2024
- Proposal to rework Manipur's district boundaries
- AYUSH under PM-JAY

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- 109 high-yielding, climate-resilient, and biofortified seed varieties
- Nitrogen-use efficiency in Indian rice varieties

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- Silicosis
- M-pox Outbreak
- India's New BPAL Regimen for Drug-Resistant Tuberculosis
- Perseid Meteor Shower
- Long Range Glide Bomb (LRGB) GAURAV
- India at the Paris Olympics

ENVIRONMENT

- Guru Ghasidas-Tamor Pingla Tiger Reserve
- World Elephant Day 2024

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The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

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AISHWARYAM PRAJAPATI (AIR-10, CSE 2023)



I am truly grateful to GS SCORE for their guidance. They offered genuine mentorship.

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SECTION -A

MAINS ISSUES

INDIA-RUSSIA TRADE GAP

CONTEXT

India is aiming to balance its bilateral trade with Russia, which is currently skewed heavily in Russia's favor. During Prime Minister Narendra Modi's recent visit to Russia, both nations set an ambitious trade target of **\$100 billion by 2030, up from the current \$65 billion.**

Current Gaps

- **Trade Deficit:** India has a significant **trade deficit** with Russia, with Russia's exports to India estimated at \$61 billion in 2023-24, while India's exports were only about \$4 billion. The trade imbalance is largely due to **India's high imports of discounted Russian oil.**
- **Export Barriers:** Non-tariff barriers are impeding the growth of Indian exports to Russia. These barriers affect products such as **marine goods, pharmaceuticals, and consumer goods.**

Reasons Behind the Trade Imbalance Between India and Russia

- **High Energy Imports:** India imports a significant amount of crude oil, petroleum products, and coal from Russia. These energy imports make up a major portion of India's total imports from Russia, heavily skewing the trade balance. The surge in oil and fertilizer imports, particularly from early 2022, has been a key driver of this imbalance. Petroleum products alone account for 84% of India's imports from Russia.
- **Limited Indian Exports:** While Indian exports to Russia include pharmaceuticals, agricultural products, machinery, and textiles, their volume and value are not sufficient to balance the high imports of energy products.

This disparity in trade volumes contributes significantly to the trade imbalance.

- **Impact of Western Sanctions:** Western sanctions have limited Russia's ability to export certain high-value goods, impacting the trade balance between the two countries.
- **Logistical Challenges:** Geographical distance and logistical issues contribute to higher trade costs between India and Russia. Poor transport infrastructure, long transit times, and limited direct shipping routes or air links increase the overall cost and complexity of trade, affecting the competitiveness of Indian goods in the Russian market.

Solutions to Rectify the Trade Imbalance Between India and Russia

- **Increasing Indian Exports:** India must aim to boost exports to Russia across various sectors including **agriculture, technology, pharmaceuticals, and services.** Additionally, promoting **textiles, gems, jewellery, and increasing tourism** through targeted marketing and easier visa processes can further enhance trade.
- **Advancing Free Trade Agreement (FTA) Negotiations:** An FTA could facilitate greater market access and reduce trade barriers, helping to create a more balanced trade relationship.
- **Enhancing Use of Local Currencies:** The rise in using local currencies for trade has helped reduce dependence on the US dollar and lower transaction costs.
- **Improving Transport Infrastructure**
 - ▶ **International North-South Transport Corridor (INSTC):** This 7,200-km network of ship, rail, and road routes is designed to enhance trade connectivity between India, Iran, and Russia. It aims to provide a shorter transportation route linking the Indian Ocean to the Caspian Sea and beyond to North Europe.

- ▶ **Chabahar Port in Iran:** This port offers a strategic route for Indian goods to Central Asia and Afghanistan, bypassing Pakistan. It provides India with access to new markets and a foothold in the region.
- ▶ **Eastern Maritime Corridor:** This emerging route between Chennai and Vladivostok significantly reduces travel distance and logistics costs compared to the current route via the Suez Canal. The shorter distance improves efficiency and reduces transportation expenses.



FACT BOX

Trade Deficit

- A trade deficit occurs when a country's imports exceed its exports. A trade deficit is also referred to as a **negative balance of trade (BOT)**.
- If a country imports \$100 billion worth of goods but only exports \$80 billion, it has a trade deficit of \$20 billion.

Positive vs. Negative Effects of Trade Deficit

Aspect	Positive Effects	Negative Effects
Consumer Choice	Enhanced variety and lower prices for consumers.	Dependence on foreign goods may lead to vulnerability.
Investment and Growth	Attracts foreign investment; supports economic growth.	Can lead to higher national debt and financial instability.
Economic Specialization	Promotes specialization and efficient resource allocation.	Increased competition may harm domestic industries.
Currency Impact	Can potentially stimulate economic activities.	May lead to currency depreciation and inflation.
Domestic Industries	Access to capital goods and technology.	Domestic industries may suffer from increased competition.
Debt Levels	Foreign investment can finance the deficit.	Persistent deficits may result in significant debt.

REGULATION OF BALLAST WATER

CONTEXT

Tamil Nadu's Water Resources Department (WRD) is seeking ₹160 crore from Kamarajar Port in Ennore, Tamil Nadu, to remove invasive **charru mussels (*Mytella strigata*)** that have proliferated near the port from ship ballast water. These mussels are damaging marine ecosystems and disrupting fishing activities.

What is Ballast Water?

- Ships use ballast water to maintain stability by adjusting their immersion levels when cargo is added or removed. This water is taken in and pumped out at ports or during voyages.
- Historically, there were no controls on ballast water discharge, but it can carry harmful invasive species. Consequently, global regulations were established to control this practice.

- **Invasive Species Problem:** In India, scientists have recorded nearly 30 invasive species coming from ship ballast water. Among the most harmful in recent times is the **charru mussel, *Mytella Rigata***.

- ▶ It outcompetes native species in areas like Pulicat Lake in Tamil Nadu and Ashtamudi Lake in Kerala.

Global Regulations

- **Ballast Water Management (BWM) Convention:** The BWM Convention of the International Maritime Organization (IMO) came into force in 2017 to help prevent the spread of potentially harmful aquatic organisms and pathogens in ships' ballast water.
 - ▶ **Requirements:** Ships must treat ballast water to remove or neutralize harmful organisms before discharging it.
 - ▶ 97 countries have signed on to the BWM as contracting states.
- **Countries Leading in Regulation:** Australia and New Zealand enforce strict checks on ballast water due to their ecologically sensitive environments (such as the

Great Barrier Reef).

India’s Position

- India has not signed the BWM Convention, so there are no mandatory regulations for ballast water discharge at Indian ports.
- While other rules such as relating to discharge of oil apply in Indian ports, the discharge of ballast water brought in from other countries is not subject to checks or regulation.

ILO’S INITIATIVE TO END CHILD LABOUR

CONTEXT

Cotton and hybrid cotton seeds from India are listed by the U.S. Labor Department as **products made using child or forced labor**. To address this issue, the Confederation of Indian Textile Industry (CITI) and the International Labour Organisation (ILO) have launched a new project to end child labour.

About the new initiative

- The joint project, **Promoting Fundamental Principles and Rights at Work (FPRW)**, aims to improve labor conditions among cotton farmers by promoting fundamental labor rights.
- Focus Areas:** The project will focus on freedom of association, collective bargaining, elimination of child and forced labor, abolition of discrimination, and ensuring a safe working environment.
- Scope:** The initiative will impact around 6.5 million cotton farmers across 11 states in India.
- By upholding FPRW, cotton-growing communities can foster a more equitable, sustainable, and prosperous environment for all workers, leading to long-term benefits for individuals and families.
- The project also aims to promote social finance and financial inclusion/bank linkage for the farmers and agriculture workers and enhance their access to digital literacy programs of the government.

What is Child Labour?

- The International Labour Organization (ILO) defines child labour as work that deprives children of their childhood, potential, and dignity, and is harmful to their physical and mental development.
- Sustainable Development Goal 8.7 aims to end child labour by 2025.
- Where are these Child Labourers Deployed?**
 - Bonded Labour:** Including child soldiers and trafficking.
 - Industrial Labour:** Brick kilns, carpet weaving, garment making, domestic service, food and refreshment services, agriculture, fisheries, and

mining.

- **Sexual Exploitation, Production of Child Pornography**

Factors Responsible for Child Labour	Consequences Associated with Child Labour
<ul style="list-style-type: none"> Poverty, Migration and Emergencies Social Norms: Acceptance of child labour in certain communities. Lack of Decent Work Opportunities: For adults and adolescents. 	<ul style="list-style-type: none"> Health Risks: Occupational diseases like skin diseases, lung diseases, weak eyesight, TB, etc. Sexual Exploitation: Vulnerability at the workplace. Education Deprivation: Lack of access to schooling. Economic Threat: Threat to national economy and informal sector issues. Cycle of Poverty: Child labour perpetuates poverty through reduced human capital accumulation.

How Child Labour Becomes a ‘Roadblock’ to India’s Human Capital Accumulation

- Deprivation of Rights:** Robs children of their potential and dignity.
- Opportunity Costs:** Impacts human capital development and the ability to develop resources.
- Vicious Cycle:** Short-term income benefits lead to long-term poverty due to reduced human capital.
- Health Issues:** Physical and psychological impacts from unsafe working conditions.
- Lack of Education and Skills:** Results in poor-paying jobs and perpetuates poverty.
- Micro Level Impact:** Poor health and education lead to low-paying jobs and a cycle of child labour in future generations.
- Macro Level Impact:** Skills gap increases youth unemployment, affecting long-term economic growth.

Policy Interventions Against Child Labour in India

- **Child Labour Act (Prohibition and Regulation) 1986:** Prohibits children under 14 years from working in hazardous industries.
- **Child Labour (Prohibition & Regulation) Amendment Act 2016:** Prohibits employment of children below 14 years in all work and adolescents (14-18 years) in hazardous occupations.
- **Child Labour (Prohibition & Regulation) Amendment Rules 2017:** Provides a framework for prevention, prohibition, rescue, and rehabilitation. Clarifies issues related to family work and definitions.
- **Additional Policies:** MGNREGA 2005, Right to Education Act 2009, and Mid-Day Meal Scheme promote education and wage employment for rural families.

Constitutional Provisions for Child Upliftment

- **Article 21 A:** Right to Education: Provides free and compulsory education to children aged 6 to 14 years.
- **Article 24:** Prohibits employment of children below 14 years in factories and hazardous work.
- **Article 39:** Ensures that children's health and strength are not abused and that economic necessity does not force children into unsuitable work.

INDIA'S IP MANAGEMENT SYSTEM

CONTEXT:

The Calcutta High Court has recently ruled that employing contractual workers for **quasi-judicial** functions at the **Office of the Controller General of Patents, Designs, and Trade Marks (CGPDTM)** is unlawful. This ruling could potentially undermine the validity of numerous patents and trademarks issued in the last two years. This issue arose because the **Quality Council of India (QCI)**, an independent non-profit, had hired contractual staff for these roles, which are typically reserved for government or statutory officers.

Key-highlights of High Court Ruling

- The court reviewed a trademark opposition order issued by a contractual Associate Manager of Trademarks. The court found that this order was invalid as the contractual worker did not have the authority to issue quasi-judicial decisions. The position was only meant for administrative roles.
- **Implications:** Orders issued by these contractual staff are considered "legally unenforceable," potentially affecting the legitimacy of patents and trademarks granted during their tenure.

Legal Opinion

- **Union Law Ministry:** In June 2024, the Union Law Ministry condemned this practice, declaring such orders "legally unenforceable" as they were made by "outsourced employees" in violation of the **Trade Marks Act, 1999 (1999 Act)**.
- **Government Action:** The DPIIT has been instructed to end its MoU with the QCI and form a committee to review and revalidate decisions made by the contractual staff.
- **Past Judicial Criticisms:** Previous judgments criticized the Patent and Trademark Office for issuing poorly reasoned or "mechanical" orders. Criticism included the use of "cut-and-paste" orders and lack of thoughtful consideration in patent and trademark decisions.
- **Corruption and Procedural Issues:**
 - **Corruption Allegations:** Reports of bribery and compromised officials handling intellectual property cases have emerged.
 - **Congress MP's Allegations:** Claims were made about the disruptive effects of employing contractual staff and the need for an independent inquiry into the handling of IP rights.
- **Impact on Intellectual Property (IP) Management:**
 - **Backlog and Strain:** Validating past orders will likely increase the backlog of cases and put additional pressure on the IP system.
 - **Economic Impact:** IP is crucial for a knowledge-based economy. The mishandling of IP cases could have significant negative effects on the country's economic growth.



FACT BOX

India's IP management system

Intellectual property rights (IPR)

Intellectual property rights (IPR) are territorial rights that can be registered with a legal authority in some presentable or tangible form which can be sold or bought or licensed, similar to physical property.

Classification of Intellectual Property Rights:

- **Patents:** An exclusive right granted for a new invention—either a product or a process—that provides a new technical solution to a problem.
- **Trademarks:** A distinctive sign used to identify goods or services from a particular source. It can include words, letters, numerals, or a combination of these.
- **Copyright and Related Rights:** Rights granted to creators for their original literary, artistic, and musical works. These rights allow creators to control how their works are used and to receive payment (royalties) for their use.

- **Geographical Indications (GIs):** Signs used on goods that have a specific geographical origin and possess qualities or reputation attributable to that origin.
- **Industrial Designs:** The ornamental or formal appearance of a product resulting from creative activity. This includes shapes, patterns, and colors applied to products.
- **Trade Secrets:** Confidential business information that provides a competitive edge, such as manufacturing processes or marketing strategies.
- **Semiconductor Integrated Circuit Layout Designs (SICLD):** Designs of integrated circuits used in electronic gadgets.
- **Protection of Plant Varieties & Farmers' Rights:** Recognizes and rewards the role of farmers and traditional communities in developing and conserving plant varieties.
- **Protection of Biological Diversity:** Covers traditional knowledge related to biological resources.

Key Institutions:

- **Office of the Controller General of Patents, Designs, and Trade Marks (CGPDTM):** The central authority responsible for granting and managing patents, designs, and trademarks in India. It operates under the Department for Promotion of Industry and Internal Trade (DPIIT).
- **Department for Promotion of Industry and Internal Trade (DPIIT):** The government department overseeing the CGPDTM and overall IP policy.
- **Intellectual Property Appellate Board (IPAB):** A quasi-judicial body that handles appeals against decisions made by the CGPDTM.
 - ▶ **Functions:** Adjudicating disputes related to patents, trademarks, and designs.
- **Patent Offices:** Regional offices based in major cities like Mumbai, Delhi, Chennai, and Kolkata.

Key Laws and Regulations:

- **Patents Act, 1970:** It governs the granting and protection of patents in India.
- **Trade Marks Act, 1999:** It regulates the registration, protection, and enforcement of trademarks.
- **Designs Act, 2000:** It covers the protection of industrial designs.
- **Copyright Act, 1957:** It protects literary, dramatic, musical, and artistic works.
 - ▶ **Features:** Provides rights to authors and creators, including moral rights and economic rights, and outlines the process for copyright registration.
- **Geographical Indications of Goods (Registration and Protection) Act, 1999:** It protects geographical indications (GIs) which identify goods as originating from a specific place.

- **Biological Diversity Act, 2002:** It regulates access to biological resources and associated traditional knowledge.

International Compliance:

- India aligns its patent laws with international standards.
- It joined the **World Trade Organization** in 1995, leading to compliance with the TRIPS Agreement.
- Amendments in 2005 introduced pharmaceutical product patents in line with TRIPS.
- India is also part of various intellectual property conventions, including the-
 - ▶ Berne Convention for copyright
 - ▶ Budapest Treaty/Paris Convention for Industrial Property protection
 - ▶ Patent Cooperation Treaty for patent matters

WAQF (AMENDMENT) BILL, 2024

CONTEXT

The Indian government referred the **Waqf (Amendment) Bill, 2024**, to a Joint Committee of Parliament. The Bill aims to amend the existing Waqf Act, 1995, which governs the administration and regulation of Waqf properties in India. The Bill has faced strong opposition from various parties, who argue that the proposed changes are unconstitutional and anti-minority.

What is Waqf?

- A Waqf is property given by Muslims for religious, charitable, or private purposes. The ownership is considered to be with God, and the property is used for the designated purpose indefinitely.
- **Formation:** A Waqf can be created through a deed, orally, or by long-term use for religious or charitable purposes.
- **Governance:** Waqf properties are governed by the **Waqf Act, 1995**, which replaced earlier laws including the Muslim Waqf Validating Act, 1913, and the Central Waqf Act, 1954.
- **Current Governance of Waqf Properties**
 - ▶ **Management:** Managed by a mutawalli (caretaker) and regulated by state Waqf Boards, Waqf Councils, and Tribunals.
 - ▶ **Dispute Resolution:** Disputes are resolved by Waqf Tribunals, which are state-appointed bodies including a judicial officer, a civil services officer, and an expert in Muslim law.
 - ▶ **Function of Waqf Boards:** These boards oversee the administration and recovery of Waqf properties and are composed of members from the Muslim community and state government representatives.

Proposed Changes in the Waqf (Amendment) Bill, 2024

- **Renaming of the Act:** The Bill proposes renaming the Waqf Act, 1995, to the Unified Waqf Management, Empowerment, Efficiency, and Development Act, 1995.
- **New Provisions:**
 - ▶ **Section 3A:** Specifies that only lawful owners can create Waqf. This aims to clarify the ownership of property designated as Waqf.
 - ▶ **Section 3C(1):** States that government property declared as Waqf before or after the Act's commencement will not be considered Waqf property.
 - ▶ **Section 3C(2):** Empowers the government to determine if a property is government land. A Collector will make this determination, delaying Waqf management until the report is submitted.
- **Audit and Oversight:** The central government will have the authority to direct audits of Waqf properties by auditors appointed by the Comptroller and Auditor-General of India.
- **Removal of "Waqf by User":** The Bill proposes removing the concept of "Waqf by user," which previously allowed properties used for religious purposes to be deemed Waqf. This change will require a formal Waqfnama (declaration) for properties to be recognized as Waqf.
- **Composition of Waqf Boards:** The Bill suggests altering the composition of Waqf Boards to include at least two non-Muslim members and potentially a non-Muslim CEO, increasing state government control over Waqf properties.

Significance of the Amendments

- **Increased Government Control:** The proposed amendments shift significant powers from Waqf Boards and Tribunals to state governments, potentially altering how Waqf properties are managed and regulated.
- **Legal Clarifications:** Changes aim to address issues regarding the ownership and classification of properties as Waqf, and improve transparency and accountability.
- **Controversy:** The Opposition argues that these changes may undermine the autonomy of the Waqf institutions and negatively impact the management of Waqf properties.

ADANI-HINDENBURG DISPUTE

CONTEXT

The ongoing conflict between Hindenburg Research and the Adani Group has escalated with new allegations. This dispute has significant implications for market regulation and corporate governance in India.

Who is Adani and Hindenburg?

- **Adani Group:** Founded by Gautam Adani, who began as a commodities trader and grew to become Asia's richest person. The Adani Group has businesses in ports, power, airports, mining, and more.

- **Hindenburg Research:** A U.S.-based forensic financial research firm founded by Nathan Anderson in 2017. Known for investigating corporate misconduct and short-selling. One of their key practices is short selling, wherein their reports on certain companies inform their position in predicting whether the market prices of certain companies will fall.

What has happened?

- **Hindenburg Report:** In January 2023, Hindenburg Research accused Adani Group of using **tax havens** and having **high debt levels**. This led to a massive \$150 billion drop in Adani's stock prices.
 - ▶ SEBI is investigating the Adani Group as a result of the Hindenburg report. Hindenburg continues to push for scrutiny of both Adani and the regulators involved.
 - ▶ Notably, in January 2023 and in a review in July 2024, the Supreme Court ruled that they could not interfere in the **SEBI's jurisdiction to investigate claims** against Adani made in the Hindenburg report.
- **Adani's Response:** Adani Group dismissed the allegations as baseless and speculative.

What are Hindenburg's latest accusations?

- **Conflict of Interest:** Hindenburg has recently alleged that Madhabi Puri Buch, the chairperson of India's market regulator **SEBI**, and her husband had investments in offshore funds linked to Adani Group.
- **Specifics:** Hindenburg claims that the Buchs invested in a **Bermuda-based fund** that was connected to Adani Group. They are accusing Buch of having a **potential conflict of interest** due to this past investment, which they argue may explain the slow regulatory response to the Adani allegations.
- The allegations add pressure on SEBI and raise questions about its impartiality in regulating the Adani Group. It highlights the complex interplay between corporate accountability, market regulation, and the potential conflicts of interest that can affect oversight.



FACT BOX

What is short-selling?

- Short selling is a **trading strategy** where investors bet that the price of a stock will decrease.
- Unlike the traditional method of buying a stock with the hope that its price will rise (going long), short selling involves borrowing shares of a stock and selling them at the current market price, to buy them back later at a lower price.
- The difference between the **selling price and the buying price is the profit for the short seller.**
- In India, short selling is recognised as a **legitimate trading strategy** and is allowed for all categories of investors, including retail and institutional investors, under a framework by Sebi.

- **How does short selling work?** Short-selling can be broken down into four steps, which are:
 - **Borrowing shares:** The short seller borrows shares of a stock from a broker.
 - **Selling shares:** The borrowed shares are sold in the open market at the current price.
 - **Buying back (covering):** The short seller later buys back the same number of shares, ideally at a lower price.
 - **Returning shares:** The purchased shares are returned to the broker, and the short seller pockets the difference between the selling and buying prices.

REITs (Real Estate Investment Trusts)

- The report also criticized recent changes to REIT regulations, suggesting these changes benefited certain entities, including Blackstone.
- REITs (Real Estate Investment Trusts) are trusts registered with **SEBI (Securities and Exchange Board of India) under the SEBI (Real Estate Investment Trusts) Regulations, 2014.**
- REITs raise funds by issuing units to investors. These funds are invested primarily in real estate assets.
- **Investment Structure:** Investments can be made through **Special Purpose Vehicles (SPVs)** or Holding Companies.
- **Unit Holders:** Investors who purchase units of a REIT are known as unit holders.
- **Income Distribution:** The income generated from the REIT's assets is distributed to unit holders regularly.
- **Trading:** REITs are listed on stock exchanges and traded like securities. Investors can buy and sell REIT units on primary and secondary markets, similar to shares or mutual funds.
- **India's First REIT:** The first REIT in India was the Embassy REIT, sponsored by Blackstone, which received SEBI approval in April 2019.

CENTRE TIGHTENS DISCLOSURE NORMS FOR DOMESTIC SOLAR MANUFACTURERS

CONTEXT:

In a move to tighten scrutiny of **domestic Indian solar cell and module-manufacturing companies**, the Centre has ordered them to upload details of their annual imports and exports and the location of their manufacturing facilities on two online portals.

About the news:

- The government has ordered solar cell manufacturers to upload details of their annual imports and exports, as

well as the location of their manufacturing facilities on two online portals

- The move by MNRE comes in the backdrop of allegations by some manufacturers that imported solar cell are being passed off as domestic cells by some in the industry to claim DCR status.
- The **Ministry of New and Renewable Energy (MNRE)** recently amended a provision under the "Approved Modules and Manufacturers of Solar Photovoltaic Modules (Requirement for Compulsory Registration) Order, 2019."
- MNRE's latest provision establishes an online portal operated by NISE.
- This portal collects data on production, sales, and exports from solar PV manufacturers. Manufacturers enlisted in the Approved list of Models and Manufacturers (ALMM) must enter data on this portal regarding their solar PV manufacturing facilities starting from April 2023.

Objective of the reform:

- The new clause aims to improve the verification process for domestically manufactured content.
- The provision mandates that NISE's portal will ensure traceability of domestically manufactured solar PV cells and modules.
- It will also assist in verifying Domestic Content Requirements (DCR) for solar PV modules deployed in the country.

Significance:

- The order was introduced to address India's heavy reliance on imported solar modules, especially from China, and to promote the local manufacturing of high-quality solar panels.
- It also aims to protect the domestic solar industry from the influx of low-quality imports and to encourage the production of solar modules within the country.
- Foreign companies can participate if they establish manufacturing facilities in India and pass the inspection to be listed as approved manufacturers. This promotes foreign investment in India's solar sector while ensuring technology transfer and quality production.
- By promoting domestic manufacturing, the order supports India's ambitious solar energy targets, including sourcing 280 GW from solar power by 2030. Increased local production is crucial for meeting these targets by ensuring a steady supply of solar panels and components.

Challenges:

- One concern is whether India's existing manufacturing capacity can meet the surge in demand driven by government projects and incentives. Additionally, there's uncertainty about the global solar market dynamics, especially with potential changes in trade policies affecting imports and exports of solar components.

ANTARCTICA'S DEEP-WINTER HEATWAVE

CONTEXT

For the second time in two years, a record-breaking heatwave is sweeping through Antarctica at the height of its winter season. Ground temperatures have been **10 degrees Celsius** higher than normal on average since mid-July, and up to **28 degrees higher on certain days**.

About 'Antarctica' Heatwave:

- In June, the extent of Antarctic Sea ice was the second-lowest ever for that time of year — a little more than the extent recorded in June 2023, the lowest ever.
- The 2024 Antarctica heat wave refers to a **prolonged and significant mid-winter increase in Antarctic temperatures compared to prior winters**, causing several regions of Antarctica to reach temperatures 10 °C (18.0 °F) above normal in July 2024, up to a 28 °C (50.4 °F) increase above average.



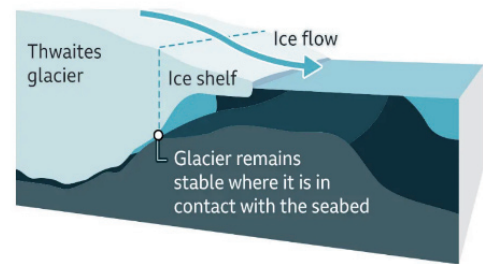
FACT BOX

- The Antarctic Ice Sheet, a glacier covering 98% of the Antarctic continent, holds more than 60% of the world's total freshwater.

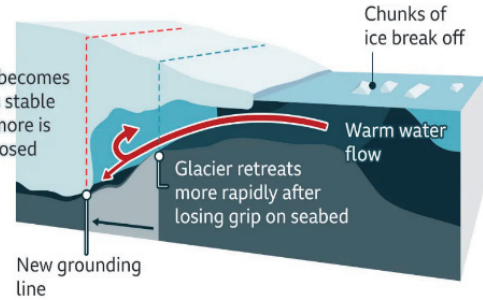
Why Antarctica Heatwave is dangerous?

- **Due to the presence of ice caps:** In parts of East Antarctica, the relatively higher-elevation swathe that makes up two-thirds of the world's coldest continent, temperatures are currently in the range of **minus 25 degrees to minus 30 degrees Celsius**.
- Deep-winter temperatures here usually vary between minus 50 degrees and minus 60 degrees Celsius.
- **Melting of Ice:** Sea ice plays a crucial role in keeping temperatures down in the polar regions, as its bright, white surface reflects more sunlight (solar energy) to space than liquid water.
- Sea ice also ensures that the air remains cool by acting as a barrier between the cold air and the relatively warmer water below.
- **Rising sea level:** A sea level rise of only a few feet will displace the roughly 230 million people who live within about 3 feet of the high tide line today, according to a report by the environmental organization Antarctic and Southern Ocean Coalition.
 - ▶ **Disturbance in global ocean circulation:** Rising temperatures will also impact the global ocean circulation system, which regulates climate by storing and transporting heat, carbon, nutrients, and freshwater around the world.

How Thwaites glacier is melting



Melting under the ice shelf by warmer water can accelerate the retreat of the glacier behind



Source: International Thwaites Glacier Collaboration

BBC

What are the reasons for these heat waves?

- **Weakening of Polar vortex:** Scientists believe that the higher temperatures are mainly a consequence of the weakening of the polar vortex, the band of cold air and low-pressure systems that spins around the poles of the Earth in the stratosphere.
 - ▶ The vortex usually remains strong and stable during winter in the southern hemisphere — keeping cold air trapped over Antarctica and not letting hot air come in — but it has been disturbed this year by large-scale atmospheric waves (periodic disturbances in the fields of atmospheric variables).
- **Warmer air travel from other continents:** Due to this, the vortex released trapped cold air, and opened the door for warmer air to enter the region. As this warmer air travelled downwards from the upper atmosphere, it caused an increase in temperatures.

COLLISION AVOIDANCE SYSTEM (CAS)

CONTEXT

As modern transportation grows more complex and widespread, ensuring safety through collision avoidance systems (CAS) becomes increasingly crucial. This technology helps prevent accidents by providing real-time data to vehicles, ships, and aircraft to avoid collisions.

What is a Collision Avoidance System (CAS)?

- A Collision Avoidance System (CAS) is a set of technologies designed to help vehicles, trains, ships, or aircraft avoid accidents with other vehicles or obstacles.
- These systems gather and process real-time data about the vehicle's surroundings to make navigation safer. CAS can be used in both human-driven and autonomous vehicles.

How CAS Helps Different Modes of Transport?

▣ Land-Based Vehicles

- ▶ **Example:** Two cars, one in front and one behind, both equipped with CAS. The system tracks the speed and distance between them.
- ▶ **Function:** If the distance between the cars is predicted to become dangerously small, the CAS can automatically apply the brakes to prevent a collision. It connects to the vehicle's braking system and speedometer and uses radar, lidar, or cameras for tracking.

▣ Trains

- ▶ **System:** Kavach. The KAVACH is an indigenously developed Automatic Train Protection (ATP) system by the Research Design and Standards Organisation (RDSO) in collaboration with the Indian industry.

▣ Components:

- ▶ **Computers:**
 - ◆ Onboard train computer
 - ◆ Station master computers (one master computer and one remote interface unit)
 - ◆ RFID readers on trains to track location
- ▶ **Communication:**
 - ◆ Data transmission through fiber-optic cables and ultra-high frequency radio
 - ◆ GSM-Railway for network communication

▶ Control:

- ◆ The onboard computer manages braking systems and alarms
- ◆ Station masters have interfaces to send SOS messages

▶ Aircraft

- ▶ **System:** Traffic Collision Avoidance System (TCAS)

▶ Components:

- ◆ **Transponders:** Devices on aircraft that respond to radio-frequency pings to help build a 3D view of nearby traffic.
- ◆ **Alerts:** Notifications to pilots if another aircraft is on a collision course, with actions to either maneuver or report to air traffic control.
- ◆ **Radar Altimeters:** Measure altitude to avoid obstacles.

▣ Ships

▶ Systems:

- ◆ **AIS (Automatic Identification System):** Tracks ships using transceivers and base stations on land to monitor their location and speed.
- ◆ **LRIT (Long Range Identification and Tracking):** Requires ships to report their position and equipment every six hours to international authorities for tracking and search-and-rescue operations.

Role of Satellites in CAS

- **GPS:** The Global Positioning System helps with navigation and collision avoidance by providing accurate location data. In road traffic, GPS data can enhance CAS by identifying traffic signals and stop signs.
- **Satellite Assistance:**
 - ▶ **ADS-B (Automatic Dependent Surveillance-Broadcast):** Aircraft share their location and speed via satellites, improving collision avoidance.
- **S-AIS (Satellite AIS):** Used for tracking ships that are out of range of traditional AIS stations on



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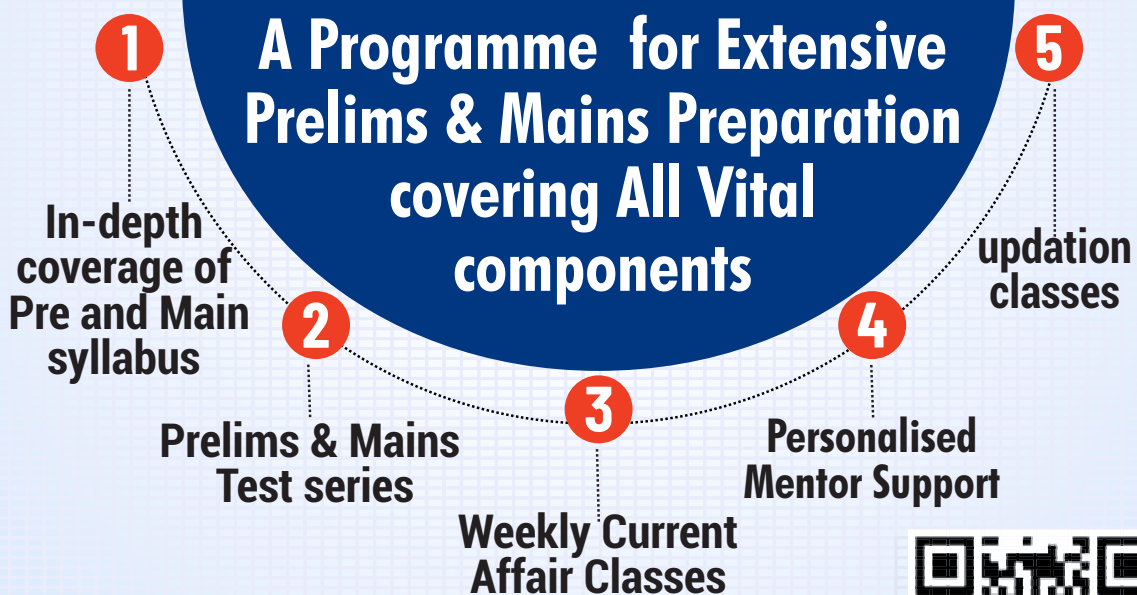
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SECTION - B

QUICK BYTES

GEOGRAPHICAL STRUCTURES
IN THE INDIAN OCEAN NAMED
BY INDIA

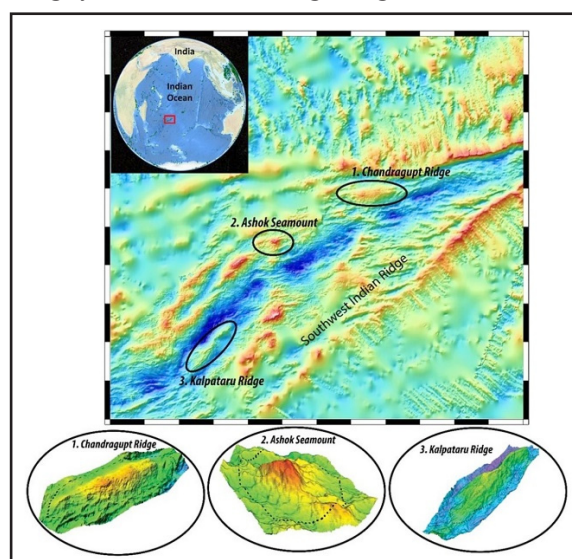
CONTEXT

India has recently named three underwater geographical structures in the Indian Ocean. These names were proposed by India and approved by the **International Hydrographic Organization (IHO)** and UNESCO's Intergovernmental Oceanographic Commission (IOC).

About the structures

- These structures are named:
 - ▶ **Ashoka Seamount:** This was discovered in 2012. This oval-shaped seamount spans approximately 180 sq km and was identified using the Russian vessel Akademik Nikolay Strakhov.
 - ▶ **Chandragupta Ridge:** This was also discovered in 2012, this elongated ridge covers 430 sq km. It may play a significant role in supporting marine biodiversity by providing essential habitat and food sources for various species.
 - ▶ **Kalpataru Ridge:** This was identified in 2020 by the Indian research vessel MGS Sagar. This elongated ridge spans 675 sq km.
- They were discovered by oceanographers from the **National Centre for Polar and Ocean Research (NCPOR) based in Goa.**
- These newly named structures are located along the **Southwest Indian Ridge area of the Indian Ocean.** Their discovery was part of an international survey exploration program.

- With these additions, there are now **seven underwater structures in the Indian Ocean** that have been named after Indian scientists or proposed by India.
- **Previously Named Structures**
 - ▶ **Raman Ridge (1992):** Discovered in 1951 by a US oil vessel, this ridge is named after physicist and Nobel Laureate Sir CV Raman.
 - ▶ **Panikkar Seamount (1993):** Discovered in 1992 by the Indian research vessel Sagar Kanya, this seamount is named after renowned oceanographer NK Panikkar.
 - ▶ **Sagar Kanya Seamount (1991):** Named after the research vessel Sagar Kanya, which discovered it during its 22nd cruise in 1986.
 - ▶ **DN Wadia Guyot (1993):** Discovered in 1992 by Sagar Kanya, this underwater volcanic mountain (guyot) is named after geologist DN Wadia.





FACT BOX

International Hydrographic Organization

- **Established in:** 1921
- IHO is an intergovernmental organization that works to ensure all the world’s seas, oceans and navigable waters are surveyed and charted.
- It coordinates the activities of national hydrographic offices and promotes uniformity in nautical charts and documents.
- India has been an **active and influential member** of the IHO since 1955.

Intergovernmental Oceanographic Commission

- **Founded:** 1960
- The Intergovernmental Oceanographic Commission of UNESCO (IOC/UNESCO) promotes international cooperation in marine sciences to improve management of the ocean, coasts and marine resources.

Underwater geographical structures

Underwater geographical structures are significant features found on the ocean floor, shaping the seafloor’s topography and influencing marine ecosystems. These structures include:

- **Seamounts:** Underwater mountains that rise from the ocean floor but do not reach the surface. They are often formed by volcanic activity. **Examples** include the Ashoka Seamount in the Indian Ocean.
- **Ridges:** Extensive underwater mountain ranges formed by tectonic plate movements. They often feature a central valley or rift. The **Southwest Indian Ridge** is an example.

- **RGuyots:** Flat-topped underwater volcanic mountains, also known as tablemounts. They were once above sea level but have been eroded and submerged. An example is the **DN Wadia Guyot**.
- **Abyssal Plains:** Flat, deep-sea plains found at the ocean’s greatest depths, covering large areas of the ocean floor.
- **Trenches:** Deep, narrow depressions in the ocean floor formed by tectonic plate subduction. The **Mariana Trench** is the deepest known oceanic trench.

MULLAPERIYAR DAM SAFETY

CONTEXT

There are concerns that the Mullaperiyar Dam might be on the verge of collapse, prompting discussions about its safety and management.

About

- The Mullaperiyar Dam was built across the **River Periyar** by the **British Corps of Royal Engineers**.
- **Purpose:** Its main purpose is to divert water from the **west-flowing River Periyar** to the arid regions of Tamil Nadu, including **Theni, Madurai, Sivaganga, and Ramanathapuram districts**.
- **Lease Agreement:** A 999-year lease agreement from the British era gave Tamil Nadu operational rights over the dam, despite it being located in Kerala.
- **Benefits**
 - ▶ **Flood Control:** The dam helped prevent floods in the Travancore region and transformed barren land in Tamil Nadu into fertile agricultural areas.
 - ▶ **Water Distribution:** Water from the dam reaches Tamil Nadu through tunnels that cross the Western Ghats.
- **The Mullaperiyar Dam dispute** between the Indian states of Kerala and Tamil Nadu is a long-standing conflict. Kerala raises concerns about the dam’s safety, while Tamil Nadu insists on its rights to the dam’s water for irrigation purposes

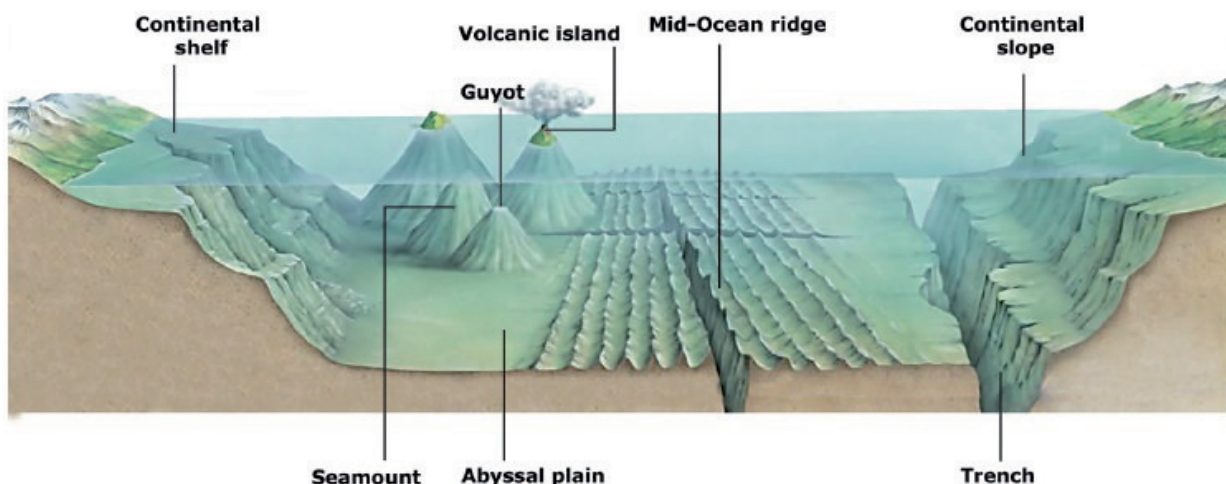


FIGURE: 01

- **Challenges:** The Mullaperiyar Dam is a composite gravity dam and **seismic forces** were not given consideration while building the dam which, despite strengthening measures having been undertaken taken twice, is in a deteriorating condition due to its age.
 - The dam has a **large catchment area** but **only limited storage capacity** which further increases its vulnerability.
 - The consequences of any failure of this dam could be extremely catastrophic and beyond human imagination.



FACT BOX

About Periyar River

- The Periyar River originates from the **Sivagiri Hills of Sundaramala** in Tamil Nadu, which is part of the Western Ghats mountain range.
- The Periyar River emerges from the **Western Ghats** and enters Kerala after a short distance in the hilly forests. It then traverses a winding course through Kerala through **Idukki, Ernakulam, and Thrissur districts**, to finally empty into the **Arabian Sea at Kochi**.
- **Main tributaries:** Cheruthoni, Mullaayar, Perinjankutti, Muthirapuzha, Edamala
- The Periyar is the **longest river** in Kerala. The Idukki Dam on the Periyar is the largest dam and hydroelectric project in Kerala. It is also one of the highest arch dams in Asia.

NANKAI TROUGH

CONTEXT

Japan has issued its first-ever advisory on the heightened risk of a **"megaquake"** following a strong magnitude 7.1 earthquake along the **Pacific coast's Nankai Trough**. This advisory highlights the potential for a much larger and more destructive earthquake in the near future.

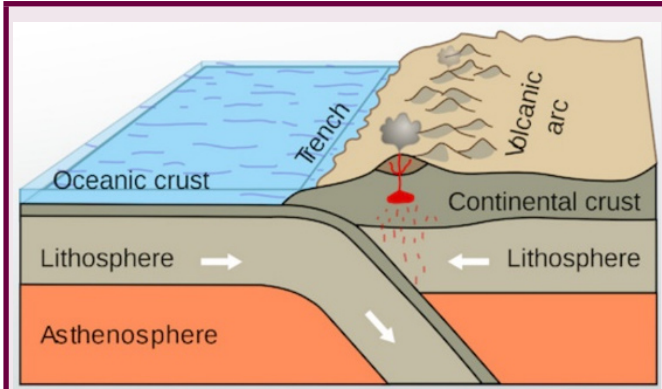
What is the Nankai Trough?

- Nankai Trough is a seismic zone off **Japan's southwest Pacific coast**, extending approximately 900 km (600 miles).
- It is where the **Philippine Sea Plate** is subducting beneath the **Eurasian Plate**, leading to significant **tectonic strain**.
- Simply put, it is an **underwater subduction zone** where the Eurasian Plate collides with the Philippine Sea Plate, forcing the latter under the former and into the Earth's mantle.
- Megaquakes in the Nankai Trough are expected **roughly once every 100 to 150 years**.



Key-Concepts

- **Megaquake:** The term "megaquake" refers to exceptionally large earthquakes, often with magnitudes of eight or higher. Historical examples include the 1707 quake, the eruption of Mount Fuji in 1854, and subsequent significant quakes in 1944 and 1946.
- **Subduction Zone:** A subduction zone is a collision between two of Earth's tectonic plates, where one plate sinks into the mantle underneath the other plate. **Subduction zone** faults build stress, and a so-called megathrust earthquake takes place when a locked fault slips and releases that stress. "Megaquake" is a shortened version of the name.



- ▶ Subduction zones occur in a horseshoe shape around the edge of the Pacific Ocean, offshore of Washington state, Canada, Alaska, Russia, Japan and Indonesia and down to New Zealand and the southern edge of South America
- ▶ Called the **"Ring of Fire,"** these subduction zones comprise "the most seismically and volcanically active zone in the world. The **Pacific "Ring of Fire"** is a collection of subduction zones.
 - ◆ In the U.S., the **Cascadia subduction zone** off the West Coast runs from Vancouver Island, Canada, to Cape Mendocino, California.

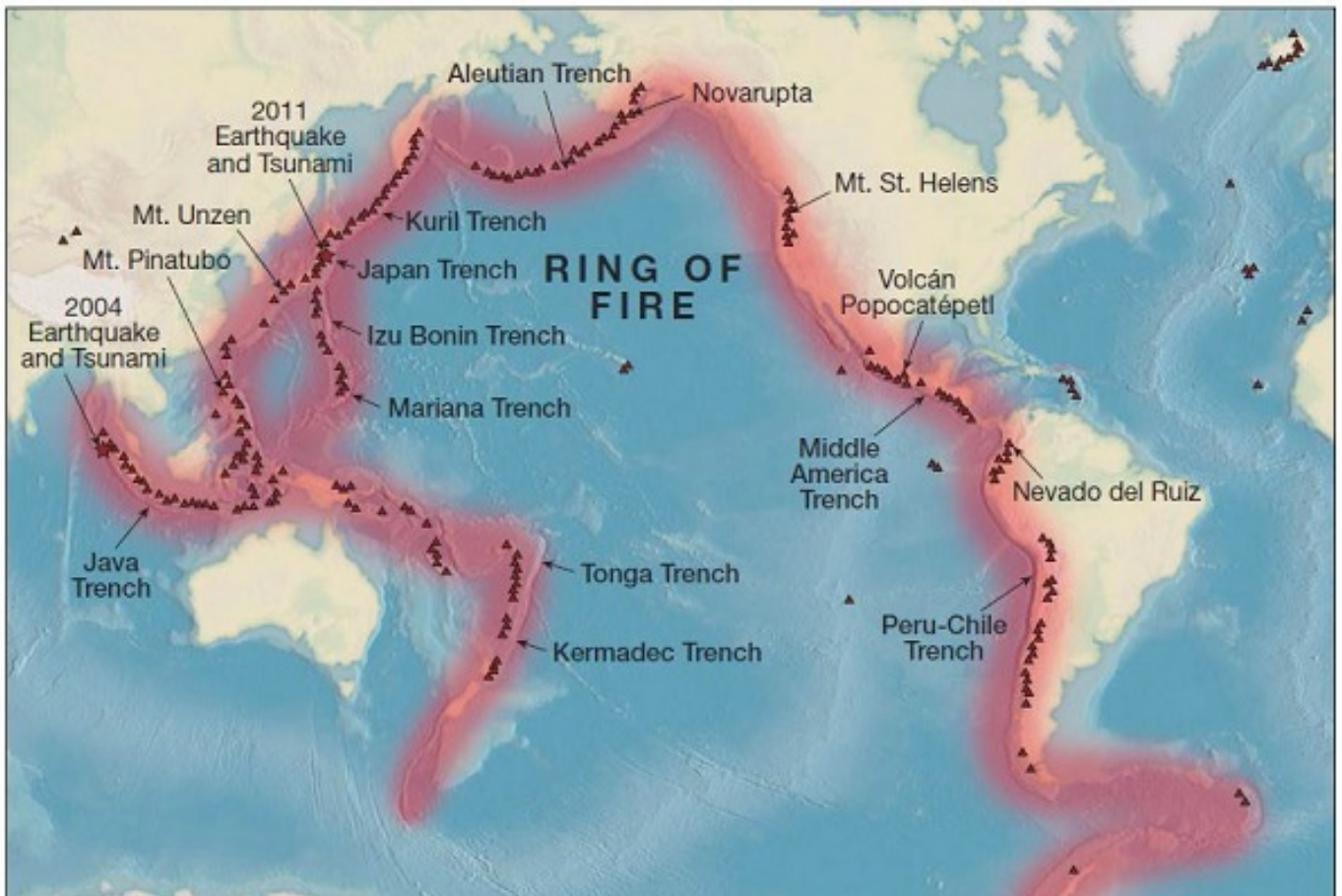
78TH INDEPENDENCE DAY

CONTEXT

India is preparing to celebrate its **78th Independence Day** on August 15, 2024. This milestone commemorates the **end of British colonial rule in 1947** and the beginning of India's journey as an independent nation. This year's theme, **"Viksit Bharat" or "Developed India,"** reflects the government's goal of transforming India into a developed nation by 2047, aligning with the centenary (100 years) of independence.

Important Facts about India's Independence Day

- **Date:** It was Lord Mountbatten, the last Viceroy and the first Governor-General of the country, who chose August 15 to declare India's independence. He was given the powers by the British Parliament to transfer the power to Indians by June 1948. However, he preponed it to August 15, 1947, to avoid bloodshed and riots, Business Insider India reported.
 - ▶ The date also commemorates the second anniversary of Japan surrendering to the Allied Forces.



MAP: 01

◦ Important Factors Leading to India's Freedom

- ▶ **Early Resistance and Reforms (Revolt of 1857):** The Revolt of 1857, also known as Sepoy Mutiny, was India's first major attempt to challenge British rule. It led to the dissolution of the East India Company's rule in India and shifted the powers of the Company to the British Crown, in 1858.
- ▶ **Indian National Congress:** The Indian National Congress was founded in 1885. It became the leading party alongside the Muslim League and led the nation in the Freedom
- ▶ **Mahatma Gandhi's Return in 1915** marked a new phase in the struggle with non-violent protests like the **Champaran Satyagraha** and **Non-Cooperation Movement** that galvanized nationwide support against British rule.
 - ◆ **Lucknow Pact of 1916** The Lucknow pact was an agreement between Congress and the Muslim League. Muhammed Ali Jinnah made both the parties agree that they would put more pressure on the British so that they adopt a more liberal approach to letting Indians run their country.
 - ◆ **Champaran Satyagraha (1917):** Gandhi led an uprising of the farmers of Champaran, who were being forced to grow Indigo and were not even being compensated enough for it.
- **Jallianwala Bagh Massacre of 1919 and the Non-Cooperation Movement of 1920** highlighted the brutal repression and united Indians against colonial rule.
 - ▶ **Non-Cooperation Movement** came to an end in 1922, when a protest at **Chauri Chaura police station** turned violent.
 - ▶ **Return of Subhash Chandra Bose:** In 1921, Subhash Chandra Bose quit his high-paying ICS job in England to join India's struggle for Independence. Shortly after his return, he joined the Congress. He started a newspaper titled '**Swaraj**'.
 - ▶ **The Purna Swaraj Declaration** on January 26, 1930, and the **Dandi March** in 1930 represented a clear demand for full independence and resistance against British policies.
 - ▶ **Government of India Act of 1935:** The Government of India Act and the creation of a new constitution laid the foundations for the events that would follow in the next decade and thereafter.
 - ▶ **Creation of the Indian National Army:** The Indian National Army was formed from among the Indian prisoners of war with the aim of liberating India from British rule. In 1943, **Subhash Chandra Bose** visited Japan, where he rebuilt the INA. In October 1943, Bose formed a provisional government that had been recognised by the Axis Powers during the Second World War
 - ▶ **Quit India Movement of 1942:** The All-India Congress Committee started this movement in their Bombay session on August 8, 1942. There was only one mission - to end British Rule in India. In addition, Gandhiji made a call to Do or Die in his Quit India speech that he delivered in Bombay.

- ▶ **Partition of India and the Independence:** In 1947, the Parliament of the UK passed the Indian Independence Act. As per the Act, British India would be divided into India and Pakistan. The Monarch gave its assent on July 18, 1947, and it came into effect on August 14-15 in Pakistan and India respectively.
 - ◆ On August 15, 1947, Jawaharlal Nehru, India's first Prime Minister, hoisted the national flag at the Red Fort in Delhi.
- The present Indian National Flag was designed by **Pingali Venkayya**, an educationist and freedom fighter from Andhra Pradesh. The flag was adopted on July 22, 1947, during a meeting of the Constituent Assembly.

DELHI UNIVERSITY'S ROLE IN THE QUIT INDIA MOVEMENT

CONTEXT

On August 8, 1942, Mahatma Gandhi delivered his famous 'Do or Die' speech in Bombay, marking the beginning of the Quit India Movement, a pivotal moment in India's struggle for independence. Delhi University (DU) played a significant role in this movement.

The Roots of Activism in DU

- **Early Activism at DU**
 - ▶ **University Relocation:** Delhi University moved to its current site in the 1930s, with notable faculty appointments like VKRV Rao and DS Kothari.
 - ▶ **Student Engagement:** The All India Students' Federation (AISF) and leaders like Subhas Chandra Bose significantly increased student activism at DU.
- **Student Protests**
 - ▶ **Major Strikes:** Following the arrest of Congress leaders, students from St. Stephen's and Hindu College organized a march. IP College students scaled gates to join the protests.
 - ▶ **Nationalist Campaigns:** Students participated in demonstrations, supported Khadi promotion, and helped distribute anti-British literature.



FACT BOX

Quit India Movement

- The Quit India Movement was initiated on August 8, 1942 during the All India Congress Committee session in Bombay (now Mumbai). The Quit India Resolution demanded the immediate end of British rule in India.
 - ▶ The movement was based on non-violent civil disobedience.
- **Backdrop:** The movement emerged after the failure of the Cripps Mission in March 1942, which sought Indian support during World War II.

- **Leadership**
 - ▶ **Key Leader:** Mahatma Gandhi led the movement with his famous call, "Do or Die."
 - ▶ **Key Figures Arrested:** Immediately following the movement's launch, Gandhi, Jawaharlal Nehru, Sardar Vallabhbhai Patel, and other leaders were arrested.
- The British government responded with severe measures including arrests, censorship, and the use of force against protesters.
- The movement led to widespread strikes, protests, and acts of civil disobedience across the country.

TARANG SHAKTI

CONTEXT

India is hosting its largest-ever multinational air exercise, **Tarang Shakti**. This exercise underscores India's growing role in global defense collaboration and its commitment to showcasing and enhancing its aerial capabilities on an international stage.

About the Exercise

- **Exercise Tarang Shakti** involves air forces from 10 countries, including Germany, France, and Spain, participating directly, while other nations observe.
- The first phase focuses on demonstrating aerial prowess with diverse fighter aircraft like **Eurofighter Typhoons, French Rafales, and India's LCA Tejas**.
- The second phase will feature additional participants such as **Australia, Bangladesh, the UAE, Singapore, the US, and Greece**.
- **Indian Air Force's aerial assets:** Rafale, Sukhoi, Mirage, Jaguar, Tejas, MiG-29, Prachand, Rudra attack helicopters, ALH Dhruv, C-130, IL-78, and AWACS systems.
- **Significance and Objectives**
 - ▶ **Tarang Shakti** aims to enhance communication and operational integration among participating air forces, improve individual and joint capabilities, and showcase India's indigenous defense technologies.
 - ▶ It emphasizes real-time simulation, airborne networking, and the integration of sensor data to bolster situational awareness and collective effectiveness in aerial operations.

Layers of India's Air Defence Capability

Currently, India's air defense arsenal includes the **S-400 air defence missile system** and **medium-range surface-to-air missile (MRSAM) systems**, developed in collaboration with Israel. The IAF also operates other air defense weapons, including the **Israeli SpyDer**, Soviet-origin systems such as **Pechora, OSA-AK, Tunguska, Strela, and Shilka**, along with **Zu-23-2B anti-aircraft guns**, upgraded L-70 anti-aircraft guns manufactured by **Bofors AB**, and the **Igla MANPADS (man-portable air defence system)**.

India's air defence is organized in layers, each with specific roles and equipment.

- **Long-Range Air Defence**
 - ▶ **S-400 System:** The primary long-range system with a range of 400 km, capable of targeting fighters and cruise missiles. Three squadrons are already operational, with two more expected by 2026.
 - ▶ **Project Kusha:** The Defence Research and Development Organisation (DRDO) is developing a long-range surface-to-air missile (LRSAM) under this project.
- **Medium-Range Air Defence**
 - ▶ **MRSAMs:** Medium-range surface-to-air missiles with a range of 70 km, used by both the Army and Air Force to intercept targets.
- **Short-Range Air Defence**
 - ▶ **Spyder System:** Israeli-made short-range air defence system.
 - ▶ **Akash System:** DRDO-developed short-range air defence system.
- **Terminal Air Defence**
 - ▶ **Anti-Aircraft Guns:** Close-in weapon systems with high rates of fire, including:
 - ◆ **Osa-AK-M:** Surface-to-air missile system.
 - ◆ **Tunguska:** Anti-aircraft gun and missile system.
 - ◆ **Shilka:** Radar-guided anti-aircraft weapon system.
 - ◆ **L70:** Anti-aircraft gun.
 - ◆ **ZU-23 MM:** Anti-aircraft gun.
 - ◆ **Strela-10M:** Anti-aircraft missile system.
 - ▶ **MANPADS:** Man-portable air defence systems like Igla-M and Igla-S, with ranges of 5 km and 6 km, respectively.
- **Naval Air Defence**
 - ▶ **Barak-8:** Long-range surface-to-air missile for area defence.
 - ▶ **Barak-1:** For point-defence.
 - ▶ **AK-630:** Close-in weapon system with a rate of fire of nearly 5,000 rounds per minute.
- **Battle Management and Command Control (BMC2)**
 - ▶ **Integrated Command and Control System (IACCS):** Managed by the IAF, this system provides a digitized, integrated view of India's airspace, improving detection and response times. It integrates information from all services to enhance the effectiveness of the air defence network.

PRADHAN MANTRI AWAS YOJANA-URBAN (PMAY-U) 2.0

CONTEXT

The Union Cabinet approved the **Pradhan Mantri Awas Yojana-Urban (PMAY-U) 2.0** to provide financial assistance to urban poor and middle-class families to construct, purchase, or rent affordable housing.

About PMAY-U 2.0

- The scheme aims to enable the construction, purchase, or rental of affordable houses in urban areas.
- The scheme is designed to support one crore families over the next five years, with an allocated budget of Rs 2.30 trillion.
- PMAY-U 2.0 will be implemented as **Centrally Sponsored Scheme (CSS)**, except for the **Interest Subsidy Scheme (ISS) component**, which will be implemented as **Central Sector Scheme**.
- **Beneficiaries:** Focus on families belonging to economically weaker sections (EWS), low-income groups (LIG), and middle-income groups (MIG) with no existing pucca house.
- **Funding and Implementation**
 - **Total Investment:** Rs 10 trillion, with Rs 2.30 trillion specifically allocated for financial assistance.
 - **Previous Achievements:** Under the first phase of PMAY-U 2.0, 1.18 crore houses were sanctioned, and over 85.5 lakh houses have been completed and delivered.
- **Eligibility Criteria**
 - **EWS (Economically Weaker Sections):** Families with an annual income up to Rs 3 lakh.
 - **LIG (Low Income Group):** Families with an annual income between Rs 3 lakh and Rs 6 lakh.
 - **MIG (Middle Income Group):** Families with an annual income between Rs 6 lakh and Rs 9 lakh.

JIYO PARSI SCHEME PORTAL

CONTEXT

The government has launched Jiyo Parsi scheme Portal.

About the Portal

- The Portal would enable Parsis to apply online, check the status of their application and to receive financial assistance online through Direct Benefit Transfer mode.
- Web Portal for this unique scheme would enable more Parsi Couples to take advantage.
- **Jiyo Parsi scheme**
 - The Jiyo Parsi scheme is a **Central Sector Scheme** implemented by the **Ministry of Minority Affairs**.
 - **Objective:** to reverse the declining trend of Parsi population by adopting a scientific protocol and structured interventions and to stabilize their population.

- The scheme provides financial assistance to the Parsi Couples for medical treatment under standard medical protocol and towards childcare and assistance to dependent elderly.

Who are Parsis?

- Parsis are a **Zoroastrian community** primarily residing in India and Pakistan. They are descendants of Persian Zoroastrians who migrated to the Indian subcontinent, particularly to Gujarat, during the 7th century to escape Islamic persecution in Persia.
- **Religious Beliefs:** Parsis follow **Zoroastrianism**, one of the world's oldest monotheistic religions founded by the prophet Zoroaster (Zarathustra) in ancient Persia. Their religious practices include the worship of Ahura Mazda, the supreme god, and they adhere to principles of truth, righteousness, and good thoughts.
- **Contributions:** Prominent figures include industrialists like J.R.D. Tata and social reformers such as Dadabhai Naoroji.
- **Declining Population:** According to the 2011 Census of India, there are 57,264 Parsis (0.06 percent of the population) in India.
 - For every 150 births in a year, there are 600 deaths

NO-CONFIDENCE MOTION AGAINST VICE-PRESIDENT

CONTEXT

Recently, 50 Opposition **Members of Parliament (MPs)** have initiated a move to bring a **no-confidence motion** against Vice-President Jagdeep Dhankhar. This development comes amidst rising tensions in Parliament and allegations of the Vice-President's perceived biases. The motion is being pursued under **Article 67(B)** of the Indian Constitution, which outlines the procedure for the removal of the Vice-President.

What is a No-Confidence Motion?

- A no-confidence motion is a parliamentary tool used to test the support of the legislature (Lok Sabha) for the government in power.
- It assesses whether the government retains the confidence of the majority of MPs.
- **Outcome:** If a majority of MPs support a no-confidence motion, the government is deemed to have lost confidence and must resign. Conversely, if a confidence motion is rejected, it indicates a lack of support for the government.
- **Application to Vice-President: Article 75(3)** of the Constitution requires that the government must be collectively responsible to the Lok Sabha. This responsibility is tested through trust or no-confidence votes.
- The no-confidence motion against the Vice-President involves a **separate process compared to the government's trust votes**.

- **No-Confidence Motion Against the Vice-President**
 - **Constitutional Provision:** Article 67(B) article provides the procedure for the removal of the Vice-President. It states that the Vice-President can be removed by a resolution of the Rajya Sabha (Council of States) passed by a majority of all its members and agreed to by the Lok Sabha (House of the People).
 - **Notice Requirement:** At least 14 days' notice must be given before moving the resolution.

The Vice-President of India

- The Vice-President is the **ex-officio Chairman** of the Rajya Sabha. The Vice-President of India is the second highest constitutional office in the country.
- He serves for a five-year term.
- **Removal Procedure:** As per Article 67(B), the Vice-President can be removed from office by a **resolution of the Council of States (Rajya Sabha)**, passed by a majority of its members at that time and agreed to by the House of the People (Lok Sabha). A resolution for this purpose may be moved only after a notice of at least a minimum of 14 days has been given of such an intention.

CLEAN PLANT PROGRAMME (CPP)

CONTEXT

The Cabinet has approved the Clean Plant Programme (CPP) with a budget of ₹1,765.67 crore. This initiative is part of the Mission for Integrated Development of Horticulture (MIDH).

What is the Clean Plant Programme (CPP)

- CPP is designed to address critical issues in horticulture by providing **access to high-quality, virus-free planting material**.
- The programme is poised to deliver numerous benefits across various stakeholders, from farmers to consumers, and bolster India's position in the global fruit market.
- The program aims to improve the quality and production of horticultural plants through state-of-the-art facilities.
- Under the program, nine advanced Clean Plant Centers (CPCs) are to be established across India.
- **Centers and Their Focus:**
 - **Grapes:** NRC, Pune
 - **Temperate Fruits (e.g., Apple, Almond, Walnuts):** CITH, Srinagar & Mukteshwar
 - **Citrus Fruits:** CCRI, Nagpur & CIAH, Bikaner
 - **Mango/Guava/Avocado:** IHR, Bengaluru
 - **Mango/Guava/Litchi:** CISH, Lucknow
 - **Pomegranate:** NRC, Sholapur
 - **Tropical/Sub-Tropical Fruits in Eastern India:** Location to be determined

Key Benefits of the Clean Plant Programme (CPP)

- **Increased Crop Yields:** By providing virus-free, superior planting material, the CPP aims to boost crop yields.
- **Enhanced Income Opportunities:** Higher quality produce will lead to better market prices and income for farmers.
- **Propagation:** Streamlined certification processes and infrastructure support will help nurseries in efficiently producing clean planting material.
- **Sustainability:** Improved facilities will foster growth and sustainability in the nursery sector.
- **Superior Produce for consumers:** The initiative ensures that consumers receive fruits that are not only virus-free but also enhanced in taste, appearance, and nutritional value.
- **Global Market Strengthening:** With higher-quality, disease-free fruits, India will enhance its position as a leading global exporter, thereby expanding market opportunities and increasing its share in the international fruit trade.



FACT BOX

Horticulture schemes and initiatives

India is the **second largest producer of vegetables and fruits** in the world. Country ranks **first** in the production of number of crops like **Banana, Lime & Lemon, Papaya, Okra**. The Horticulture production in the country has been steadily increasing over the years due to the proactive policies and initiatives of the Government:

- **National Horticulture Mission (NHM):** It was launched in 2005 to enhance horticulture production and support farmers.
- **Enhanced Support under PMFBY:** It caps premiums for horticultural crops to protect farmers.
- **Horticulture Cluster Development Programme (HCDP):** It promotes specialized horticulture clusters to boost productivity and exports.
- **Post-Harvest Infrastructure Development Scheme:** It supports modern facilities to reduce post-harvest losses.
- **Soil Health Card Scheme:** The scheme provides soil test results and nutrient recommendations to improve crop yields.
- **Horticulture Mission for North East and Himalayan States (HMNEH):** It focuses on developing horticulture in these regions based on local conditions.

NIRF RANKINGS 2024

CONTEXT

The National Institutional Ranking Framework (NIRF) Rankings 2024 were recently released, highlighting the top institutions in India across various categories.

Key Findings

- **Top Colleges:** Hindu College, Delhi, leads the list of top colleges, followed by Miranda House, Delhi, and St. Stephen's College, Delhi. This marks a change from last year's rankings where Miranda House was at the top.
- **Overall Rankings:** IIT Madras retains its position as the top institution overall for the sixth consecutive year, while the Indian Institute of Science (IISc), Bengaluru, is ranked as the best university.
- **Category Expansion:** Along with the regular 13 categories, the NIRF 2024 rankings have also been introduced for
 - ▶ Open universities
 - ▶ Skill universities
 - ▶ State-funded government universities
- **Top Institutions by Category:**
 - ▶ **Engineering:** IIT Madras
 - ▶ **Management:** IIM-Ahmedabad, Bangalore, and Calcutta are in the top five.
 - ▶ **University:** Indian Institute of Science (IISc), Bengaluru.

About the Ranking

- The National Institutional Ranking Framework (NIRF) was approved by the MHRD and launched by the Minister of Human Resource Development in 2015. This framework outlines a methodology to rank institutions across the country.
- The NIRF Rankings assess institutions based on five broad parameters:
 - ▶ **Teaching, Learning, and Resources (TLR):** Evaluates the quality of education and resources available.
 - ▶ **Research and Professional Practice (RP):** Measures research output and professional practices.
 - ▶ **Graduation Outcomes (GO):** Assesses the success and employability of graduates.
 - ▶ **Outreach and Inclusivity (OI):** Looks at efforts to include diverse populations and outreach activities.
 - ▶ **Perception (PR):** Considers the reputation and perception of the institution among stakeholders.

PROPOSAL TO REWORK MANIPUR'S DISTRICT BOUNDARIES

CONTEXT

Manipur Chief Minister N Biren Singh has proposed to address the state's ongoing ethnic tensions by revisiting and potentially **redrawing district boundaries**. This initiative aims to address administrative and ethnic divisions that have exacerbated conflicts between the **Meitei community and the Kuki tribes**.

Reason Behind Division

- **Ethnic Tensions:** The state has experienced severe clashes between the valley-dominant Meitei community and the Kuki tribes who inhabit the hill areas. These clashes have led to over 220 deaths and displaced nearly 50,000 people.
- **Administrative Issues:** The creation and expansion of districts, such as **Kangpokpi**, have been viewed as politically motivated and based on ethnic lines, contributing to current conflicts. The Kangpokpi district, for instance, surrounds the Imphal valley and has created tensions with neighboring districts like Bishnupur and Churachandpur.

Constitutional provisions regarding the reorganisation of states in India

- The constitutional provisions regarding the reorganization of states in India primarily lie in Articles 1, 2, 3, and 4 of the Constitution. These provisions grant the Parliament the authority to admit new states, establish new states, and alter the boundaries, areas, or names of existing states.
- **Article 3 of the Indian Constitution** allows Parliament to reorganize states and territories within India through legislation.
 - ▶ **Create New States:** Form new states from existing ones or from territories.
 - ▶ **Combine States:** Merge two or more states or parts of states into a single state.
 - ▶ **Alter Boundaries:** Change the boundaries of existing states.
 - ▶ **Add or Remove Territory:** Add new territories to a state or remove parts from it.
 - ▶ **Rename States:** Change the name of a state.
- Parliament has the **exclusive and complete authority** to make these changes, reflecting the principle that "India is an indestructible Union of destructible units," meaning that while the Indian Union is permanent, the individual states can be reorganized.
- The President's recommendation is a prerequisite for introducing such bills, and the concerned **state legislature's views are considered**. However, **Parliament has the ultimate authority** to pass legislation related to state reorganization.

AYUSH UNDER PM-JAY

CONTEXT

The Union Government is working to expand the **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB PM-JAY)** by including **AYUSH (Ayurveda, Yoga & Naturopathy, Unani, Siddha, and Homeopathy) treatments**.

About AB PM-JAY

- **Ayushman Bharat Pradhan Mantri - Jan Arogya Yojana (AB PM-JAY)** aims to provide health cover of

Rs. 5 lakhs per family per year for secondary and tertiary care hospitalization to approximately 55 Cr beneficiaries corresponding to 12.34 Crore families constituting the bottom 40% of India's population.

- The scheme comes under the Ministry of Health and Family Welfare.
- The National Health Authority (NHA) is responsible for the implementation of the scheme at the Central level. At the state level, the State Health Authority (SHA) is responsible for its implementation. The programme also has District Implementation Units (DIU).
- There are 2 major components under the scheme:
 - AB-HWC (Ayushman Bharat-Health and Wellness Centre)
 - PM-JAY (Pradhan Mantri Jan Arogya Yojana)
- **AYUSH Package Integration:** Discussions are ongoing about including AYUSH treatments in AB PM-JAY and the following components are under review.
 - ◆ Package design and cost.
 - ◆ Onboarding of AYUSH hospitals.
 - ◆ Standard treatment guidelines.
 - ◆ Defined treatment outcomes.
 - ◆ Financial implications.

About the National Ayush Mission (NAM)

- AYUSH stands for **Ayurveda, Yoga, Unani, Siddha, and Homeopathy**, promoting healthcare through traditional and unconventional Indian practices.
- It is a **centrally sponsored scheme**.
- The mission aims to enhance public healthcare by providing cost-effective and equitable healthcare nationwide, bridging healthcare gaps, and supporting state/UT efforts to offer AYUSH services and education, particularly in underserved and remote areas.

INDIA'S RETAIL INFLATION

CONTEXT

India's retail inflation has recently hit a 59-month low of 3.54% in July 2024. This significant decrease comes after a high inflation rate of **7.44%** in July 2023. The decline in inflation is largely attributed to a **high base effect** from the previous year, which has also led to a drop in food inflation.

Key Factors Influencing Inflation:

- **High Base Effect:** The significant drop in inflation is partly due to comparing current prices with a high price level from last year.
- **Core Inflation:** This, which excludes volatile items like food and fuel, rose to 3.4% in July due to higher gold prices and telecom tariff increases.

Future Projections:

- **Short-Term:** Inflation for August is expected to remain around 3.5%, but may rise afterwards.
- **Food Prices:** Key issues remain high inflation in cereals and pulses, with prices for these items well above 6% for over a year.
- **RBI's Outlook:** The Reserve Bank of India (RBI) expects inflation to average 4.4% for Q2FY24, but actual rates may be closer to the previous forecast of 3.8%. Inflation in the second half of the year might be below the central bank's forecast of 4.5%.
- **Monetary Policy:** Despite the lower inflation, the RBI's current interest rate (repo rate) is 6.5%. Rate cuts are not expected soon due to strong economic growth.

Key Concepts and Terms

- **Consumer Price Index (CPI):** CPI is a metric used for measuring inflation in India. It measures changes over time in general level of prices of goods and services that households acquire for the purpose of consumption. The change in the price index over a period of time is referred to as **CPI-based inflation, or retail inflation**.
 - **CPI formula:** $(\text{Price of basket in current period} / \text{Price of basket in base period}) \times 100$
- **Repo Rate:** The rate at which the central bank (RBI) lends money to commercial banks, influencing overall interest rates and economic activity.
- **High Base Effect:** The high base effect refers to a statistical phenomenon where the comparison of current data with a high-value data point from a previous period distorts the perception of change. Specifically, if the previous period had unusually high values, the percentage change in the current period might appear more significant or more favorable than it actually is.

109 HIGH-YIELDING, CLIMATE-RESILIENT, AND BIOFORTIFIED SEED VARIETIES

CONTEXT

Prime Minister Narendra Modi recently released **109 new crop varieties** aimed at improving agricultural productivity and resilience. These varieties are designed to be high-yielding, climate-resilient, and biofortified to enhance nutrition and adapt to varying conditions.

About the Varieties:

- These seeds were developed by the Indian Council of Agricultural Research (ICAR) and state agriculture universities.
- The released varieties encompass 61 crops of 109 varieties, including 34 field crops and 27 horticultural varieties.

- **Field Crops:**
 - ▶ **Cereals and Millets:** New varieties of rice, barley, maize, sorghum, pearl millet, and finger millet.
 - ▶ **Pulses:** New types of chickpea, pigeon pea, lentils, and mungbean.
 - ▶ **Oilseeds:** Varieties include safflower, soybean, groundnut, and sesame.
 - ▶ **Forage Crops:** Includes forage pearl millet, berseem, oats, forage maize, and forage sorghum.
 - ▶ **Sugarcane and Fibre Crops:** Four sugarcane varieties and six fibre crops, including cotton and jute.
 - ▶ **Potential Crops:** Includes buckwheat, amaranth, winged bean, adzuki bean, pillipesara, kalingda, and perilla.
- **Horticultural Crops:**
 - ▶ **Fruits, Vegetables, Tubers, Spices, and More:** Includes 40 new varieties covering a wide range of horticultural products.
- **Notable Varieties:**
 - ▶ **CR Dhan 416:** A rice variety suitable for coastal saline areas with a yield of 48.97 q/ha and resistance to multiple diseases and pests.
 - ▶ **Durum Wheat Variety:** Suitable for Maharashtra, Karnataka, and Tamil Nadu, with a yield of 30.2 q/ha, tolerance to heat, and biofortified with high levels of zinc and iron.



FACT BOX

About Biofortification

- Biofortification is a process of enhancing the nutritional quality of edible parts of the plants through genetic approach such as plant breeding.
- Biofortification is regarded as the most sustainable approach to alleviate malnutrition. It provides nutrients in natural form, thus nutrients enter the body as part of natural food matrix.
- 'Biofortified varieties' are as high yielding as 'traditional varieties', thus no loss is incurred to the farmers.
- They are also cost-efficient as they do not include any additional costs.

NITROGEN-USE EFFICIENCY IN INDIAN RICE VARIETIES

CONTEXT

Biotechnologists have discovered significant variations in **nitrogen use efficiency (NUE)** among popular rice varieties in India. This breakthrough could help develop new rice varieties that use less nitrogen, thereby reducing fertilizer costs and environmental pollution.

Key Findings:

- The study found a **five-fold variation in NUE** among different rice varieties, meaning some varieties are significantly better at using nitrogen efficiently.
- The findings suggest that there are many untapped varieties with potentially high NUE, which could be further explored.
 - ▶ **Nitrogen Use Efficiency (NUE)** measures the yield of a crop relative to the nitrogen available to it, including both natural and artificial sources.
- This research could lead to more efficient rice varieties that reduce fertilizer costs and environmental impact.
- **Current Challenges:** India uses a large portion of its urea on cereals, especially rice. Inefficient use of nitrogen fertilizers results in a waste of ₹1 trillion annually in India and over \$170 billion globally.
 - ▶ Nitrogen fertilizers contribute to nitrous oxide and ammonia pollution, affecting air quality, water sources, and climate change.
- **Potential Solutions:**
 - ▶ Improvements in fertilizer formulations and crop management practices can enhance NUE.
 - ▶ The study highlights the need for biotechnological advancements to develop rice varieties with higher NUE and better yields.
- **Global context:** India is the second-largest source of nitrous oxide emissions, mainly due to fertilizer use, contributing significantly to global greenhouse gas levels.



FACT BOX

Rice Cultivation in India

- India is the world's second-largest producer of rice, and the largest exporter of rice in the world.
- **Major rice producing states:** West Bengal, UP, Andhra Pradesh, Punjab and Tamil Nadu.
- **Rice Growing Regions in India**
 - ▶ **North-Eastern Region:** Assam and other northeastern states. Rice is grown in the Brahmaputra River Basin. The region experiences heavy rainfall and relies on rainfed cultivation.
 - ▶ **Eastern Region:** Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Eastern Uttar Pradesh, and West Bengal. Rice is cultivated in the Ganga and Mahanadi river basins. This region has the highest rice cultivation intensity in the country, with heavy rainfall and primarily rainfed cultivation.
 - ▶ **Northern Region:** Haryana, Punjab, Western Uttar Pradesh, Uttarakhand, Himachal Pradesh, and Jammu & Kashmir. Experiences low winter temperatures. Rice is grown as a single crop from May-July to September-December.

- ▶ **Western Region:** Gujarat, Maharashtra, and Rajasthan. Rice is grown under rainfed conditions from June-August to October-December.
- ▶ **Southern Region:** Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu. Rice is cultivated in the deltaic tracts of the Godavari, Krishna, and Cauvery rivers, as well as in the non-deltaic rainfed areas of Tamil Nadu and Andhra Pradesh. Irrigated cultivation is prominent in the deltaic tracts.
- Cultivation of the **carbohydrate-rich grain** is a **major contributor** to the emission of two greenhouse gases (GHG) - **methane and nitrous oxide**.

SILICOSIS

CONTEXT

Researchers in the UK have suggested stricter limits on daily exposure to silica dust. Implementing these limits could prevent approximately 13,000 deaths worldwide by reducing the risk of developing silicosis.

What is Silicosis?

- Silicosis is a serious respiratory disease caused by inhaling fine silica dust. This dust comes from materials like soil, sand, concrete, granite, and artificial stone.
- When silica dust is inhaled over many years, it leads to the hardening and scarring of the lungs.
- **How Does It Develop?** Silicosis develops over a long period, typically requiring 10 to 20 years of exposure to silica dust in the workplace. It is most commonly seen in industries such as construction, mining, and dentistry, where workers handle silica-containing materials.



FACT BOX

Related Disease

- **Asbestosis:** Asbestosis is a chronic lung disease caused by inhaling asbestos fibers. Asbestos is a mineral once commonly used in construction and manufacturing due to its fire-resistant properties.
- **Black Lung Disease (Coal Workers' Pneumoconiosis):** It is caused by long-term inhalation of coal dust in mining environments.
- **Lead Poisoning:** Lead poisoning occurs from exposure to lead, a toxic metal used in various industries, including construction, battery manufacturing, and plumbing.

M-POX OUTBREAK

CONTEXT

In the wake of the rapid spread of the mpox outbreak, the World Health Organization (WHO) has convened an emergency meeting.

- It is reported that considering the magnitude of the viral outbreak, the United Nations body could classify it as a global emergency.

About M-pox:

- It is a viral zoonotic disease caused by the monkeypox virus.
- The first human case of mpox was recorded in 1970 in the Democratic Republic of the Congo (DRC).
- There are two known types (clades) of mpox virus — one that originated in Central Africa (Clade I) and one that originated in West Africa (Clade II).
- **Symptoms:** Common symptoms of mpox are a skin rash or mucosal lesions, which can last 2–4 weeks accompanied by fever, headache, muscle aches, back pain, low energy, and swollen lymph nodes.
- **Transmission:** Human-to-human transmission of mpox occurs through direct contact with body fluids, lesions, prolonged face-to-face contact, including sexual contact, and indirect contact with contaminated clothing or bedding.
- **Treatment:** There are no specific treatments for monkeypox virus infection. Early and supportive care is important to help manage symptoms and avoid further problems.

INDIA'S NEW BPAL REGIMEN FOR DRUG-RESISTANT TUBERCULOSIS

CONTEXT

India is set to introduce the **BPAL (bedaquiline, pretomanid, and linezolid) regimen** for treating **multi-drug-resistant (MDR)** and **extensively drug-resistant (XDR) tuberculosis (TB) patients**.

What is the BPAL Regimen?

- The BPAL regimen consists of three drugs:
 - ▶ **Bedaquiline:** An anti-TB drug effective against drug-resistant strains.
 - ▶ **Pretomanid:** A newer drug with proven efficacy against resistant TB strains.
 - ▶ **Linezolid:** An antibiotic used in combination to enhance treatment effectiveness.
- The World Health Organization (WHO) recommended BPAL and similar regimens in 2022 for their efficacy and cost-effectiveness.
- **Benefits:**
 - ▶ **Reduced Duration:** BPAL shortens the treatment period from 18-24 months to about 6 months.
 - ▶ **Simplified Treatment:** Patients will take just three daily tablets compared to 14 different drugs in the older regimen.
 - ▶ **Improved Adherence:** Shorter and less complex treatment increases the likelihood of patients completing their therapy.

**FACT BOX****About Tuberculosis (TB)**

- Tuberculosis (TB) is an infectious disease that most often affects the lungs and is caused by a type of bacteria. It spreads through the air when infected people cough, sneeze or spit.
- Tuberculosis is preventable and curable.
- Those who are infected but not (yet) ill with the disease cannot transmit it. TB disease is usually treated with antibiotics and can be fatal without treatment.
- **Common symptoms of TB:** Prolonged cough (sometimes with blood), chest pain, weakness, fatigue, weight loss, fever, night sweats.
- **Multidrug-resistant tuberculosis (MDR-TB)** is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most effective first-line TB drugs.
- **Current Treatment Landscape in India**
 - ▶ India currently has a 56% treatment success rate for MDR/RR-TB cases and 48% for XDR-TB cases, with previous regimens being long and often toxic.
 - ▶ **Recent Progress:** The *WHO's Global TB Report 2023* highlighted India's progress in improving TB case detection and treatment coverage, which has increased to 80%. The number of drug-resistant TB cases has decreased from 140,000 in 2015 to 110,000 in 2022.

PERSEID METEOR SHOWER**CONTEXT**

The Perseid meteor shower is a popular phenomenon where meteors fall to Earth from space during a specific season. This year's peak is expected to occur on August 11th and 13th.

About

- The Perseid meteor shower, commonly known as the Perseids, is visible annually from mid-July to late August.
- The Perseid meteor shower is caused by the comet Swift-Tuttle.
- Swift-Tuttle was discovered independently by two astronomers, Lewis Swift and Horace Tuttle, in 1862.
- **Comet Swift-Tuttle** is the largest object known to repeatedly pass by Earth; its nucleus is about 16 miles (26 kilometers) wide.
- The shower is known for its fast and luminous movements across the night sky, with almost 100 meteors visible every hour.
- The Perseid meteor shower is not dangerous to Earth as most meteors disintegrate in the atmosphere, and some can produce minor fireballs.
- Perseids, typically fast and luminous, create a path of color and light as they move across the night sky.

**FACT BOX****What is a Meteor Shower?**

- A meteor shower occurs when Earth passes through the debris left by a comet. The particles that create these light streaks are called meteors.
- **How It Happens:** As a comet orbits the Sun, it heats up and releases small particles. Over time, these particles spread along the comet's orbit.
 - ▶ When Earth crosses this orbit, the particles enter our atmosphere and burn up, creating streaks of light.

LONG RANGE GLIDE BOMB (LRGB) GAURAV**CONTEXT**

The **Defence Research and Development Organisation (DRDO)** has recently conducted a successful maiden flight test of the **Long Range Glide Bomb (LRGB), named GAURAV**. This test was carried out from the **Su-30 MK-I aircraft** of the Indian Air Force (IAF) off the coast of Odisha.

Key Details:

- GAURAV is a 1,000 kg class air-launched glide bomb designed to strike targets at long distances.
- **Guidance System:** The bomb uses a highly accurate hybrid navigation system that integrates Inertial Navigation System (INS) and Global Positioning System (GPS) data to guide itself towards the target.
- **Development:** The LRGB GAURAV has been developed indigenously by the Research Centre Imarat (RCI) in Hyderabad.

GURU GHASIDAS-TAMOR PINGLA TIGER RESERVE**CONTEXT**

Chhattisgarh has approved the **Guru Ghasidas-Tamor Pingla Tiger Reserve** to combat the decline in its tiger population. Covering 2,829 sq km, this reserve merges **Guru Ghasidas National Park** and **Tamor Pingla Wildlife Sanctuary**.

About Guru Ghasidas-Tamor Pingla Tiger Reserve

- Spanning 2,829 sq km, it merges the Guru Ghasidas National Park and Tamor Pingla Wildlife Sanctuary.
- It is the third largest tiger reserve in India, located in four northern districts: **Manendragarh-Chirmiri-Bharatpur, Koriya, Surajpur, and Balrampur**.

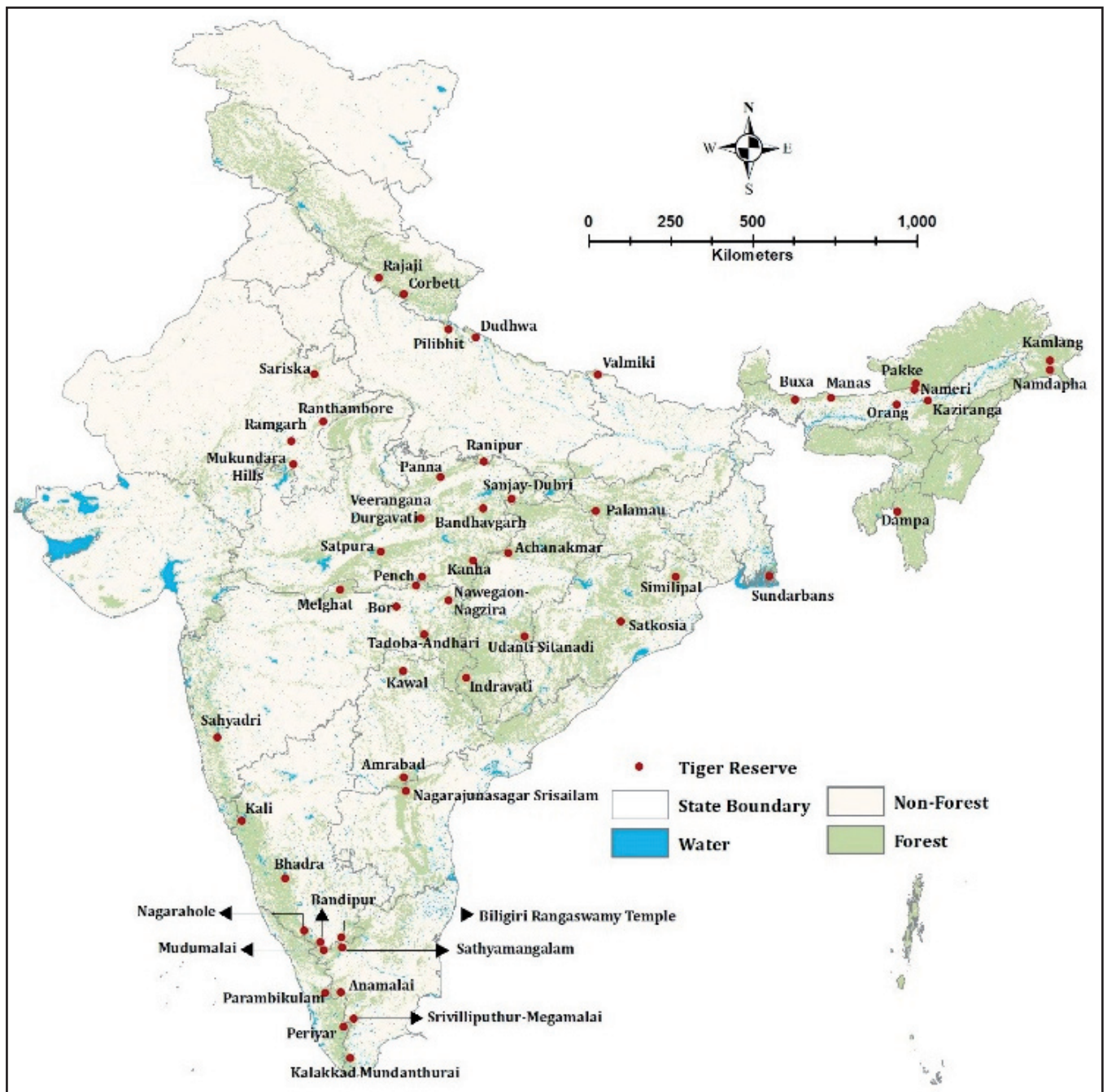
- This new reserve aims to enhance tiger conservation by providing a contiguous habitat to support the survival and growth of tiger populations.
- **Reason behind the move:** Chhattisgarh's tiger population fell from 46 in 2014 to 17 in 2022, prompting this initiative. Currently, Chhattisgarh has three tiger reserves —
 - ▶ **Indravati** in Bijapur district
 - ▶ **Udanti-Sitanadi** in Gariaband
 - ▶ **Achanakmar** in Mungeli
- **Comparison:**
 - ▶ **Largest:** Nagarjunasagar Srisaillam Tiger Reserve, Andhra Pradesh – 3,296.31 sq km
 - ▶ **Second Largest:** Manas Tiger Reserve, Assam – 2,837.1 sq km



FACT BOX

Tiger Population in India

- As per the **5th cycle of the All India Tiger Estimation 2022** (usually done in cycles of four years) summary report, India has a more than 3,500 **tigers** and is now home to more than **70%** of the world's wild tiger population.
- At present, there are **55 Tiger Reserves** in 18 States. In 2024, **Dholpur–Karauli Tiger Reserve in Rajasthan** has become the 55th Tiger Reserve in India.
- Every year on **July 29**, International Tiger Day is celebrated.



MAP: 02

WORLD ELEPHANT DAY 2024

CONTEXT

World Elephant Day is an annual international event held on August 12 to promote the conservation and protection of elephants worldwide. On August 12, 2012, Patricia Sims, a Canadian conservationist, and the Elephant Reintroduction Foundation of Thailand, created by HM Queen Sirikit, co-founded World Elephant Day.

Key-facts about Elephants

- Elephants are the largest land mammals on earth and have distinctly massive bodies, large ears, and long trunks.
- Elephants are keystone species as well as the **Natural Heritage Animal of India**.
- India has the largest number of wild Asian Elephants. The elephant population in the country is estimated to be over 30,000.
- Karnataka has the **highest elephant population** in India.
- **Conservation Status:**
 - **Convention of the Migratory Species (CMS):** Appendix I
 - **Wildlife (Protection) Act, 1972:** Schedule I
 - **International Union for Conservation of Nature (IUCN) Red List of threatened species:**
 - ◆ **Asian Elephant:** Endangered
 - ◆ **African Forest Elephant:** Critically Endangered
 - ◆ **African Savanna Elephant:** Endangered

INDIA AT THE PARIS OLYMPICS

CONTEXT

India's performance at the 2024 Paris Olympics saw a decline from its previous medal tally, finishing with six medals and dropping from 48th to 70th place in the overall standings. Notably, the absence of a gold medal and the narrow misses in various events highlighted the need for a thorough review and strategic overhaul in Indian sports management and athlete preparation.

Indian Winners

- **Neeraj Chopra** won the Silver medal at the Paris Olympics 2024 with a remarkable javelin throw of 89.45

m. This made him the first Indian to win Gold and Silver medals at the Olympics. Arshad Nadeem of Pakistan won the gold medal with an Olympic record throw of 92.97 m. He won Pakistan's first medal at the Olympics – of any colour, in any sport – since 1992.

Indian medal winners at Paris Olympics 2024

Indian athletes	Medal	Event
Manu Bhaker	Bronze	Women's 10m air pistol event
Manu Bhaker and Sarabjot Singh	Bronze	10m air pistol mixed team event
Swapnil Kusale	Bronze	Men's 50m rifle 3 positions
Indian Hockey Team	Bronze	Men's Hockey
Neeraj Chopra	Silver	Men's Javelin Throw
Aman Sehrawat	Bronze	Men's 57kg freestyle event

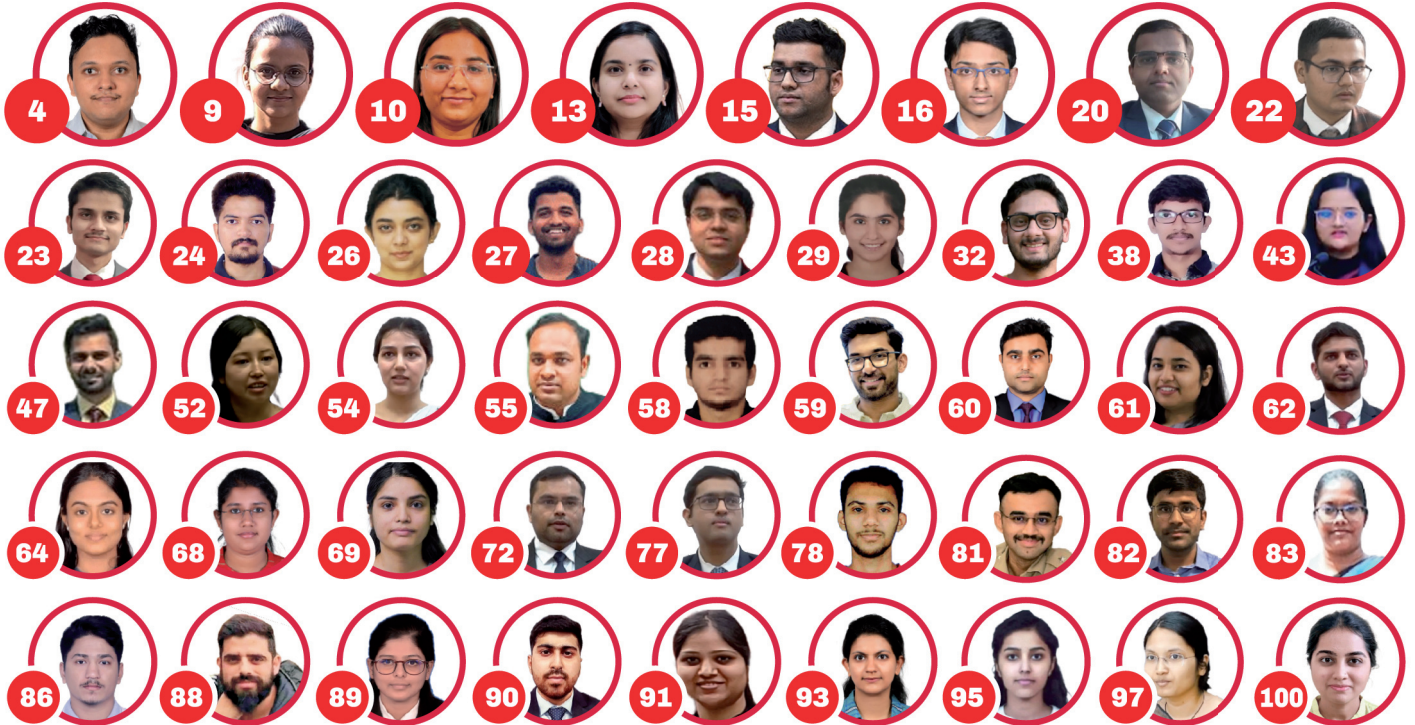
- **The Indian Hockey team** won the Bronze medal at the Paris Olympics defeating Spain with 2-1. The victory marks India's 13th Olympic medal in hockey, their fourth bronze and a second consecutive bronze after winning one at Tokyo 2020. It is also the first time since 1972 that the nation has won back-to-back medals in hockey.
- **Aman Sehrawat** won the bronze in the men's freestyle 57kg event at the Paris 2024 Olympics wrestling tournament. He became India's youngest medal winner at the Summer Games. This was India's first medal in wrestling at Paris 2024. In wrestling, this was India's eighth medal at the Olympics.
- **Manu Bhaker** secured a bronze medal in the women's 10m air pistol event in the 2024 Paris Olympics.
- **Shooter Swapnil Kusale** became the first Indian to win the bronze medal in the men's 50m rifle three-position event.



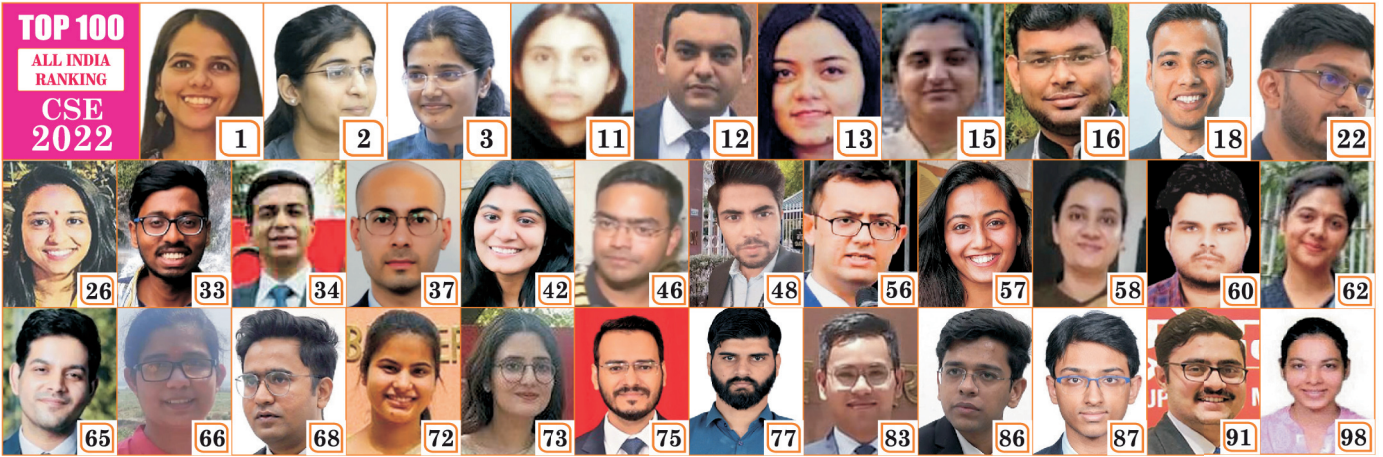


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