FORTUNE
Prelims Precise

September 2024

FORTUNE IAS
Toppers in Top 100

Rank 4
P K Sidharth Ramkumar
2024

Rank 6
Meera K
2021

Rank 15
Sidharth B
2017

Rank 16
Ayan Jain
2024

Rank 21
Dilip K Kainikkara
2022

Rank 28
Hamna Mariyam
2017

Rank 29
Sreelakshmi Ram
2019

Rank 31
Vishnu Sasikumar
2024

Rank 33
Anand
2016

Rank 36
Arya V M
2023

Rank 40
Archana P P
2024

Rank 45
Safna Nazarudeen
2020

Rank 49
Renjina Mary V
2019

Rank 55
Dr. Arun S Nair
2020

Rank 57
Alfred O V
2022

Rank 58
Hari Kallikkat
2018

Rank 59
Benjo P Jose
2024

Rank 62
Aparna M B
2021

Rank 63
Dheenah Dastageer
2021
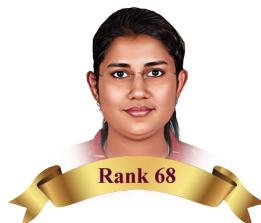
Rank 66
Akhil V Menon
2022

Rank 66
Arjun Mohan
2019

Rank 68
Kasturi Sha
2024

Rank 71
Fabi Rasheed
2024

Rank 81
Malini S
2023

Rank 92
Devi Nandana
2020

Rank 93
Annie George
2024

Rank 100
Kiran P B
2022

Preface

Fortune IAS Academy presents **'Prelims   Precise'** , a monthly current affairs magazine through which we make prelims current affairs revision precise and effective.

This magazine is a comprehensive resource that condenses the significant news of each month into distinct sections such as polity and governance, economic development, science & technology, among others.

Each content is organised with the why in news context followed by its explanation.

Fortune Prelims Precise is available to all Prelims cum Mains batch students (2024) as part of the course study material. **It can be purchased from Fortune IAS Academy for Rs. 50 per issue**.

Soft copies of Prelims Precise, FWD (Fortune Weekly Digest for mains) and FINDER (Fortune IAS News Daily Explainer) is available on our telegram channel for free. Please scan QR code below to join our telegram channel.

Scan Here

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History & Culture

- The initiative focuses on creating **new tourism products** like heritage walks, food tours, craft tours, nature treks, and homestays.

- It aims to showcase **"Incredible India" through "Incredible Indians."**

Mahakaleshwar Temple

- The Mahakaleshwar Temple in **Ujjain, Madhya Pradesh**, is one of the 12 Jyotirlingas, with its Swayambhu (self-born) Shiva Lingam.

- According to the Puranas, the temple was first **established by Brahma** but faced destruction during **Iltutmish's** raid in the 13th century.

- The temple was restored in the 18th century by **Maratha General Ranoji Shinde.**

- Architecturally, it combines **Maratha, Chalukya, and Bhumija styles**, with the five-story structure supported by massive walls near **Rudra Sagar Lake.**

- The south-facing Shivling is unique, earning it the title **Dakshinmukhi.**

- **Jyotirlingas** are considered as places where Shiva appeared as a divine pillar of light, revealing his infinite nature

Paryatan Mitra And Paryatan Didi Initiative

- The **Union Ministry of Tourism** launched the "Paryatan Mitra and Paryatan Didi" initiative on **September 27, World Tourism Day**.

- Its goal is to enhance tourist experiences by **training local youth and women** as **ambassadors and storytellers** for their destinations.

Poumai Naga Tribe

- The Poumai Naga tribe in Manipur has **banned hunting and enacted strict rules to protect wildlife and the environment**, including prohibiting forest fires.

- As one of the oldest and largest Naga tribes, 95.7% of the Poumai population resides in Manipur Senapati district.

- Historically, their **pottery and salt production were well-known in tribal areas.**

- Among the 33 tribes in Manipur hills, the major ones include the Poumai Naga, Tangkhul, Thadou, Kabuis, Paite, and Hmar.

- The Poumai community follows a **patriarchal system and does not observe caste distinctions.**

Delhi–Delaware silver train model & Pashmina Shawl
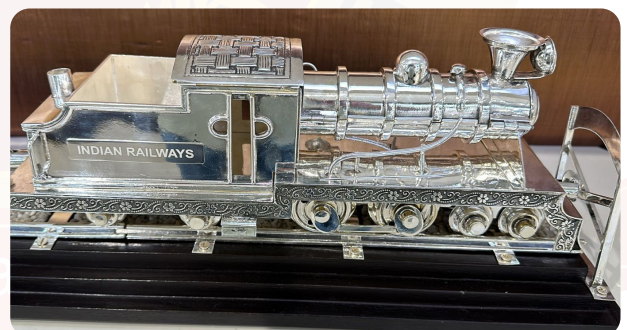
- PM Modi gifted a silver **'Delhi-Delaware' train** to US President Biden and a Pashmina shawl to the First Lady.

- The silver train, handcrafted in Maharashtra with **92.5% silver,** features the inscription **"DELHI - DELAWARE,"** honouring Biden's hometown of Wilmington.

- It does not currently have a GI tag.

- The **Pashmina shawl** is made from the fleece of the **Changthangi goat**, found only in **Ladakh and Jammu & Kashmir at 15,000 feet**.

- It has a GI tag.

- The **Changpa nomads,** who herd these goats, supply the Kashmir shawl industry.

- Despite being grouped under "Changpa," they are not a single homogenous community.

The Battle of Saragarhi

- September 12 marks the 127th anniversary of the Battle of Saragarhi, one of the greatest last stands in military history.

- On this day in 1897, **21 soldiers of the 36th Sikhs regiment, led by Havildar Ishar Singh**, defended Fort Saragarhi against over 8,000 Afridi and Orakzai militants for seven hours.

- Despite being heavily outnumbered, they killed 200 militants and injured 600.

- **Saragarhi served as a communication tower between Fort Lockhart and Fort Gulista**n in the North West Frontier Province (now Pakistan).

- In a break from tradition, Queen Victoria posthumously awarded the soldiers the **Indian Order of Merit,** along with land and a cash reward.

Polity & Governance

The Urban Governance Index (UGI)

- Kerala has secured first rank in the Urban Governance Index (UGI).

- It is a study conducted across several cities in India by **the Praja Foundation.**

- **Praja is a non-partisan organisation** working towards enabling **accountable governance since 1997.**

- UGI is a measure of the **extent of structural empowerment** of the city governments, as enabled by the State Government.

- It is a mapping that **stretches across states**, on indicative themes of democratic empowerment and accountability pertaining to **urban governance.**

Findings:

✓ **Overall score: Kerala scored 59.31** out of a possible score of 100 in various metrics, while **Odisha came second** with 55.10.

✓ **Fiscal empowerment:** Kerala managed to have a high score of **23.22 out of 30**, with **Maharashtra coming second** with 21.15.

✓ **Nagaland** has been ranked at the bottom of the UGI with a score of **19.57 out of 100.**

PRAJA'S URBAN GOVERNANCE INDEX			
Empowered Elected Representatives and Legislative Structure	30	9	Empowered Mayor
		4.50	Empowered Councillor
		7.50	Empowered Council
		9	Constitution of Deliberative Committees
Empowered City Administration	15	6	Control and Training of Human Resources for Functions under City Government
		9	Devolution and Control of 18 functions mentioned in the Twelfth Schedule
Empowered Citizens	25	8.75	Accessible Open Data Portal
		5	Right to Elect Mayor and Recall Elected City Representatives
		5	Formal and Active Citizen Consultative mechanism
		6.25	Active Grievance Redressal Mechanism
Fiscal Empowerment	30	12	Devolution of Financial Power
		9	Systemic Fiscal Transfers
		9	Financial Accountability
	100	100	

4 Themes	→	13 Sub-themes	→	42 Indicators

10th Commonwealth Parliamentary Association (CPA)

- The 10th Commonwealth Parliamentary Association (CPA) India Regional Conference was held in New Delhi.

- The Chairperson of the CPA India Region is **Lok Sabha Speaker Om Birla**.

- India region **includes the Lok Sabha, Rajya Sabha (India's Federal Parliament), and 31 state legislatures**, making it one of the nine CPA regions.

About CPA

- The **Commonwealth Parliamentary Association (CPA), founded in 1911**, is one of the oldest organisations in the Commonwealth, which consists of 56 member countries that cooperate on various issues, promoting democracy, development, and peace.

- The CPA is a membership association that **includes over 180 legislatures (national and provincial/state level)** across nine geographic regions.

- It facilitates collaboration among parliamentarians on mutual interests and the sharing of best practices in parliamentary democracy.

Gram Nyayalayas Act, 2008

- The Supreme Court has called for better access to justice by advocating for the **establishment of Gram Nyayalayas (village courts),** which were recommended by the 114th Law Commission in 1986.

- The **Gram Nyayalayas Act, passed in 2008**, enables these village courts to operate at intermediate panchayat headquarters, however many states are yet to establish them.

- Intermediate panchayat is a second tier of 3-tier panchayat system in various states in India that lies between gram panchayat and district panchayat.

- They can handle **civil and criminal cases** and reduce the burden on higher courts.

- **Judges (Nyayadhikaris)** can conduct hearings in villages.

- Gram Nyayalayas follow **natural justice principles,** subject to High Court rules.

23rd Law Commission of India

- The Union government has **notified the constitution of the 23rd Law Commission** of India, a non-statutory body formed by the Ministry of Law and Justice.

- Its role includes **reviewing laws, suggesting repeals of obsolete legislation, and making recommendations** on government matters.

- The commission will have a **full-time chairperson, four full-time members, and up to five part-time members**, with legal scholars and possibly serving judges included.

- The commission is **usually chaired by a retired judge** of the Supreme Court or a High Court.

- **22nd Law commission** which was appointed in 2020 and came to an end in August was headed by Justice Ritu Raj Awasthi

Doctrine of 'Constructive Possession' & of 'Inchoate Crime'

- The Supreme Court ruled that merely watching child pornography online, without downloading, **constitutes "possession" under Section 15 of the POCSO Act**

- Section 15 addresses storage or possession of child pornographic material with intent to transmit.

- This **overturned a January 2024 Madras HC ruling** that quashed charges against a man for storing such material.

- The Court invoked the **Doctrine of "Constructive Possession" and "Inchoate Crime"** to extend liability, clarifying that those who unintentionally open links must report them to avoid culpability.

- It also urged Parliament to amend POCSO, replacing "child pornography" with **"child sexual exploitation and abuse material" (CSEAM).**

  - ➡ **The Doctrine of "Constructive possession"** extends the concept of **possession beyond physical control** to situations where an individual has **the power and intention to control the material/contraband,** even if it is not in their immediate physical possession.

➔ **The Doctrine of "Inchoate Crime"** underscores the principle that law does **not merely respond to offences already committed**, but also intervenes when a crime is in the process of being committed, thus thereby protecting public order and safety.

Advocate-on-Record (AoR)

- The Supreme Court directed **Advocates-on-Record (AoRs)** to streamline the appearance of advocates arguing on their behalf to ensure quicker proceedings.

- The AoR system, based on the British model of barristers and solicitors, distinguishes between advocates who argue cases and those who handle client cases.

- According to the **Supreme Court Rules, 2013**, only AoRs are eligible to file cases in the Supreme Court, not a complainant themselves..

- To qualify, an advocate needs **four years of legal practice, one year of training** under an AoR, and must pass the AoR exam.

- The AoR acts as the **official link between clients and the Supreme Court**, handling all paperwork and procedural requirements.

- AOR can engage other lawyers, including senior advocates, to argue in court on behalf of their client.

- On the other hand, in High Courts, any **advocate** enrolled with the Bar Council is eligible to file cases, argue, and represent clients

Parliamentary Committee on Official Language

- Union Home Minister Amit Shah was re-elected as the Chairperson of the Parliamentary Committee on Official Language.

- The formation of the Committee was established under the **Official Languages Act, 1963,** in 1976.

- The Committee consists of 30 members: **20 from the Lok Sabha** and **10 from the Rajya Sabha.**

- It is responsible to review the **progress made in the use of Hindi for the official purpose** of the Union and submit a report to the **President** while making recommendations on it.

- The President will subsequently get the report laid before each house of the parliament and thereafter forward it to the state governments.

Enemy Property in India

- A parcel of land in Uttar Pradesh, formerly owned by the family of ex-Pakistan President Pervez Musharraf, is set for auction under the **Enemy Property Act 1968.**

- The Act defines enemy property as properties that are held by or for the benefit of an enemy, meaning persons who have taken the nationality of an enemy country, like Pakistan or China following conflicts.

- Under the **Defence of India Act, 1962**, the Indian government seized properties of those who acquired Pakistani nationality.

- Later a more comprehensive **Enemy Property Act was passed** to ensure the continuous control of enemy property by the central government.

- The properties were vested with the **Custodian of Enemy Property for India**, an official appointed by the Ministry of Finance.

- The **Tashkent Declaration of 1966** included provisions for discussing the return of such properties and assets taken during conflicts. However, Pakistan disposed of these assets in 1971 effectively nullifying it.

Review Petition

- A group of medical students has filed a review petition challenging the Supreme Court's dismissal of their plea to cancel the NEET UG 2024 exam due to alleged malpractices.

- Under **Article 137**, the Supreme Court can review its judgments or orders.

- Supreme Court rules state that review has to be **filed within 30 days of judgement** and is heard by the same bench that gave the verdict.

- A review petition aims to **correct an apparent error or grave injustice** caused by the Court's decision, without rearguing the entire case like in an appeal.

- In **Northern India Caterers case (1979)**, the Court had clarified that the power to review is not inherent but a limited tool to safeguard justice.

> A **curative petition**, however, is a last resort after both the original judgement and review petition have failed. It addresses **gross injustice** like **bias** or **violation of natural justice**, and requires special permission from the Court. The scope of a curative petition is narrower and only for exceptional cases. It is considered as part of the complete justice aspect under Article 142.

Governance of Commons

- The **first Commons Convening 2024**, a platform bringing together over 500 participants from more than 20 states across India was held in New Delhi.

- It explored the significance of commons, commoning, and collective action in the management and sustainability of our shared resources.

- **Commons** is a term used to refer to resources that are **not owned by any individual or group or the government,** but belong to, and are shared by, the community as a whole.

  - Forests, local ponds, grazing lands, rivers, and sacred sites are all Commons.

  - In the urban setting, parks and lakes are Commons.

- Commons could **be intangible too.**

  - Language, folk art or dance, local customs, and traditional knowledge are all shared resources, and thus are Commons.

- **At the international level,** the polar regions, the Arctic and Antarctica, are considered global Commons.

- **Outer space**, the Moon, and other planetary bodies are also global Commons.

Black Coat Syndrome

- **The President of India, Draupadi Murmu** recently addressed a conference organised by the **Supreme Court to mark the 75th year of its establishment**.

- The president termed the word Black coat syndrome and compared it with White coat syndrome.

- **"White coat" syndrome**, is a syndrome where the **patient's anxiety and fear increases in the presence of doctors.**

- The common people face similar plight in courts where they go **with the hope to seek justice but are only given further dates**.

  - Therefore, it was termed as the **'blackcoat syndrome'** by Murmu.

  - It is the anxiety experienced by ordinary citizens in court settings.

- For instance, the victims of sexual offences like rape go to the court after a considerable period of time, they feel that the justice system **is not sensitive towards them**.

Economy

Asia Power Index

- **India surpasses Japan, ranks third** on the annual Asia Power Index of **Lowy Institute, an** Australian think tank.

- The Asia Power Index measures the relative power of countries in the Asia-Pacific region.

- Launched in 2018, the index evaluates 27 countries based on various indicators like military, economic, diplomatic, cultural, environmental capabilities in the region.

- It has put the U.S. at the top with a score of 81.7, followed by China with a score of 72.7, **India (39.1)** and Japan (38.9).

- The index has cited **economic growth, future potential, and diplomatic influence** as key factors for India's rise.

  - India's **non-aligned strategic posture** has allowed it to navigate complex international waters effectively.

India Overtakes Japan, 3rd in Asia Power Index

India's score surged by 2.8 points in 2024

Country	Power score 2024	Change from 2023
U.S. 🇺🇸	81.7	1.0
China 🇨🇳	72.7	0.2
India 🇮🇳	39.1	2.8
Japan 🇯🇵	38.9	1.7
Australia 🇦🇺	31.9	1.0
Russia 🇷🇺	31.1	-0.5
South Korea 🇰🇷	31.0	1.5
Singapore 🇸🇬	26.4	1.3
Indonesia 🇮🇩	22.3	2.9
Thailand 🇹🇭	19.8	1.1

Source: Lowy Institute's Asia Power Index 2024
Graphic: Samrat Sharma, Jaipal Sharma

Asian Organisation of Supreme Audit Institutions (ASOSAI)

- The **Comptroller and Auditor General (CAG) of India has taken over as chair** of the Asian Organization of Supreme Audit Institutions (ASOSAI) for the term 2024-2027.

- **Established in 1979 with 11 founding members**, ASOSAI now includes 48 Supreme Audit Institutions (SAIs) following its recent 16th Assembly.

- The organisation focuses on **training government auditors and serves as a regional hub** for information and collaboration in public audit, with its Assembly convening every three years, the first of which was held in New Delhi.

- It is one of the Regional Groups of the Vienna based **International Organization of Supreme Audit Institutions (INTOSAI).**

"White Revolution 2.0"

- The Union Home and Cooperation Minister has announced the launch of **"White Revolution 2.0,"** focusing on enhancing cooperative societies similar to those that supported Operation Flood 50 years ago.

- The initiative will be primarily funded through the **National Programme for Dairy Development (NPDD) 2.0**, a new scheme by the Department of Animal Husbandry and Dairying.

- It aims to establish village-level milk procurement systems, chilling facilities, and provide training, with financial assistance of ₹40,000 per Multipurpose Primary Agricultural Credit Cooperative Society (MPACS).

- The goal is to boost daily milk procurement from 660 lakh kg in 2023-24 to 1,007 lakh kg by 2028-29.

- India is the **world's largest milk producer, contributing 24.64%** of the world's milk production.

Southern States Lead in GDP Contribution

- A working paper from the **Economic Advisory Council to the Prime Minister (EAC-PM)** has revealed significant disparities in the economic performance of Indian states.

- **Major contributors to India's GDP:** The southern states — Karnataka, Andhra Pradesh, Telangana, Kerala, and Tamil Nadu.

  - ✵ Southern states make up **30% of India's GDP.**

- **Karnataka**, with its booming **tech sector**, and **Tamil Nadu, with its industrial hubs**, have been pivotal in this growth.

- **West Bengal**, once economically strong, have witnessed a puzzling decline.

  - ✵ It had a share of 10.5% in 1960-61, but now accounts for **only 5.6%.**

- **Maharashtra remains India's largest contributor** to GDP, though its share has declined from over 15% to 13.3% in recent years.

- **Uttar Pradesh's** share dropped from 14% in 1960-61 to 9.5%, **while Bihar**, despite being the third-most populous state, **only contributes 4.3%.**

Economic Advisory Council to the Prime Minister (EAC-PM)

- ✅ It's an **independent body** constituted to **give advice on economic and related issues.**

- ✅ It provides advice to the Government of India, **specifically to the Prime Minister.**

- ✅ The Terms of Reference of EAC-PM include analysing any issue, economic or otherwise **either suo-motu or on reference** from the Prime Minister or anyone else.

- ✅ It is headed by the Chairman and there is no fixed definition of the exact number of members and staff of the EAC-PM.

NPS Vatsalya Scheme

- The NPS Vatsalya scheme, unveiled by the Finance Minister in the Union Budget 2024-25, is a pension initiative tailored for minors, **regulated by the Pension Fund Regulatory Authority of India (PFRDA).**

- Parents or guardians of **Indian, Non-Resident Indian, and Overseas Citizen** of India minors can open an NPS account for their children.

- Contributions start at a **minimum of ₹1,000 per year until the child turns 18.**

- After that, the account transitions into a **standard NPS citizen account upon KYC verification.**

- Additionally, the **scheme offers** life insurance to protect the child's family financially if something happens to the guardian during the contribution period.

AgriSURE Scheme

- The **Union Agriculture Ministry** launched a Rs **750-crore fund - 'AgriSure'.**

- It aims to provide **financial support to agritech startups** addressing the need for increasing public as well as private investments in the farm sector.

- AgriSURE stands for Agri Fund for Startups & Rural Enterprises.

- The fund will be established as a Rs 750 crore **Category-II Alternative Investment Fund (AIF)**, offering both equity and debt support.

- **Contributions to the fund:** The **Government of India - ₹250 crore, NABARD - ₹250 crore,** and ₹250 crore is being mobilised from banks, insurance companies, and private investors.

- As part of the event, the **AgriSure Greenathon Awards were presented** for innovative start-ups

Navratna Status

- The Indian government granted **'Navratna' status** to the state-owned companies - Railtel Corporation of India, Solar Energy Corporation of India (SECI) among others.

- This brings the overall number of Navratna CPSEs in India to 25.

What are Navratna companies?

- PSUs are classified into **Maharatna, Navratna, and Miniratna firms.**

- Navratna classification is granted to government-owned enterprises that **were previously categorised as 'miniratna' category I.**

- This is in recognition of their **outstanding financial and market performance.**

- In 1997, the government launched the **Navratna plan to select CPSEs** with comparative advantages and to help them become global giants.

- Navratna status empowers companies with faster decision-making, **the autonomy to establish joint ventures overseas**, access new markets, and leverage local expertise.

- These companies are allowed to **invest up to ₹1,000 crore or 15% of their net worth** in a single project without government approval.

- They will also be eligible **to invest up to 30% of their net worth in a year**, as long as it does not cross ₹1,000 crore.

GST Compensation Cess

- The GST Council has formed a 10-member **Group of Ministers (GoM) to decide on extending the GST compensation cess.**

- The GST Act **guarantees states a 14% annual revenue growth from July 2017 to June 2022,** with the Centre compensating any shortfall through a **compensation cess** on luxury and sin goods, such as tobacco and pan masala in addition to their GST payable.

- However, due to the **economic downturn and the COVID-19 pandemic,** states experienced significant tax shortfalls and cess funds were insufficient.

- To address this, the **Centre borrowed market loans** to cover losses for FY 2021 and FY 2022, with the GST cess extended till March 2026 to repay these loans.

- The GoM must decide whether the GST compensation levy **should continue as a cess or an additional tax.**

- If it remains a cess, the collection would go to the Centre.

- If it shifts to an additional tax, the GoM would need to suggest new rates, possible new slabs, and necessary legislative changes.

- Currently, **GST has four tax slabs at 5%, 12%, 18%, and 28%,** but the GST law allows taxes of up to 40% on goods and services

SPICED Scheme

- The **Union Ministry of Commerce and Industry** has approved a Spices Board scheme.

- SPICED stands for **'Sustainability in the spice sector through Progressive, Innovative and Collaborative interventions for Export Development'**.

- The Scheme will be implemented during the remaining term of the 15th Finance Commission, up to 2025-26.

- It is meant **to expand the area under spices, especially cardamom,** generating surplus for export of quality spices through post-harvest improvement.

- The other goals are **to increase the share of value-added spices in the export basket**, **evaluating compliance** with export consignments with applicable standards of quality and safety, capacity building, and skill development of stakeholders.

- The Spice board will invite applications from exporters, farmers, farmer-producer companies, and other stakeholders in the spices sector.

Vertical Fiscal Imbalance (VFI)

- Experts opined that the role of the **16th Finance Commission should be to eliminate vertical fiscal imbalance** in federal relations.

- An imbalance generally occurs when a **government's spending (and resulting debt) outstrips its long-term ability to raise revenue** to finance its spending and debt.

- A vertical fiscal imbalance occurs when **revenues do not match expenditures** for different levels of government.

- The problem of VFI falls under **the purview of the Finance Commission**, and it deals with broadly two questions.

  - The first question is **how to distribute the taxes collected by the Union government** to the States as a whole.

  - These transfers are made as a prescribed share of the "Net Proceeds" (Gross Tax Revenue of the Union less surcharges, cesses and costs of collection).

  - The second question is **how to distribute taxes across States**.

  - The matter of VFI arises as part of the first question.

Estimation of VFI after devolution of taxes

The 15th Finance Commission had noted that India has had a larger, and rising, vertical fiscal imbalance (VFI) than most other federations

Year	VFI after tax devolution (as a ratio)	The desired share of tax devolution to eliminate VFI (%)
2015-16	0.12	47.82
2016-17	0.13	48.24
2017-18	0.12	47.59
2018-19	0.11	47.38
2019-20	0.18	51.17
2020-21	0.28	56.87
2021-22	0.14	47.90
2022-23 (RE)	0.20	51.42
Average (excluding 2020-21 and 2021-22)		48.94

SOURCE: COMPUTED FROM UNION BUDGET DOCUMENTS, AND STATE FINANCES: A STUDY OF THE BUDGETS, RBI.

International Relations

Minerals Security Finance Network (MSFN)

- India has **formally joined the Minerals Security Finance Network (MSFN)**, a US-led initiative involving 14 countries and the European Union.

- **Members**: USA, Australia, Canada, Estonia, Finland, France, Germany, India, Italy, Japan, the Republic of Korea, Norway, Sweden, the United Kingdom, and the European Union.

- This **network strengthens cooperation to secure supply chains for critical minerals l**ike cobalt, nickel, lithium, and rare earth elements (REE).

- The MSFN evolved from the Minerals Security Partnership (MSP), which the US established in 2022.

- India was inducted into the MSP in June 2023.

- The partnership is vital as the world heavily depends on China, which produces 70% of REE.

- India has some REEs like lanthanum and neodymium but lacks heavy REEs such as dysprosium and terbium.

- The **MSFN focuses on coordinating development finance institutions** and **export credit agencies** among members to enhance supply chain resilience.

79th United Nations General Assembly

- The **annual** UNGA session was held at the **UN Headquarters in New York.**

- The summit reaffirmed commitments to the Sustainable Development Goals (SDGs) and adopted the 2024 theme: "Leaving no one behind: acting together for the advancement of peace, sustainable development and human dignity for present and future generations."

Outcomes:

- ☞ **Summit of the Future:** an action-oriented document aimed **to bolster global cooperation** and **adapt to current challenges** effectively for the benefit of all and for future generations.

- ☞ It includes a **Global Digital Compact** - aimed at establishing shared principles for a secure and inclusive digital future and the ethical use of technology

- ☞ **Declaration on Future Generations** - aimed at prioritising the needs and rights of future generations in global governance like climate action, human rights etc.

- **International Day for the Total Elimination of Nuclear Weapons: 26th September.**

- **The High-Level Meeting on Sea-Level Rise -** the objective of "addressing the threats posed by sea-level rise".

- **High-level Meeting on Antimicrobial Resistance (AMR) -** enhancing international cooperation, promoting the responsible use of antimicrobials, and advancing the development of new treatments to safeguard global health.


Indian International Maritime Dispute Resolution Centre (IIMDRC)

- IIMDRC was launched at the **20th Maritime State Development Council (MSDC)** meeting held in **Goa.**

- A MoU was signed between the **Ministry of Ports, Shipping & Waterways and the India International Arbitration Centre (IIAC)** for launching IIMDRC**.**

- **IIMDRC is to be set up in Mumbai.**

- The IIMDRC offers a specialised platform for resolving maritime disputes, which can often be complex due to the technical and legal nuances involved.

- There are similar centres in **Singapore, Dubai, London etc**

- **IIAC is a statutory body established in 2020** under the India International Arbitration Centre Act, 2019 under the Ministry of Law and Justice.

The Pacific Island Forum (PIF)

- **The annual meeting** of the Pacific Islands Forum (PIF) was held in **Nuku'alofa, the capital of Tonga.**

- The Forum was founded in November 1971, with Australia, Cook Islands, Fiji, Nauru, New Zealand, Tonga and Western Samoa as the founding members.

- PIF is an **intergovernmental organisation** which consists of 18 member states located in the Pacific region.

  - ✓ Australia, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Kiribati, Nauru, New Caledonia, New Zealand, Niue, Palau, Papua New Guinea, Republic of Marshall Islands, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu.

- **Vision: A resilient Pacific region** of peace, harmony, security, social inclusion and prosperity.

- **The "Pacific way":** A method of **dispute resolution** central to the Forum.

  - ✓ It seeks to build **consensus** and places relationships between the countries of the **"Blue Pacific Family"** at the centre.

  - ✓ The Blue Pacific Family members are linked by **common culture and heritage, and distinguish themselves** from the broader Indo-Pacific region.
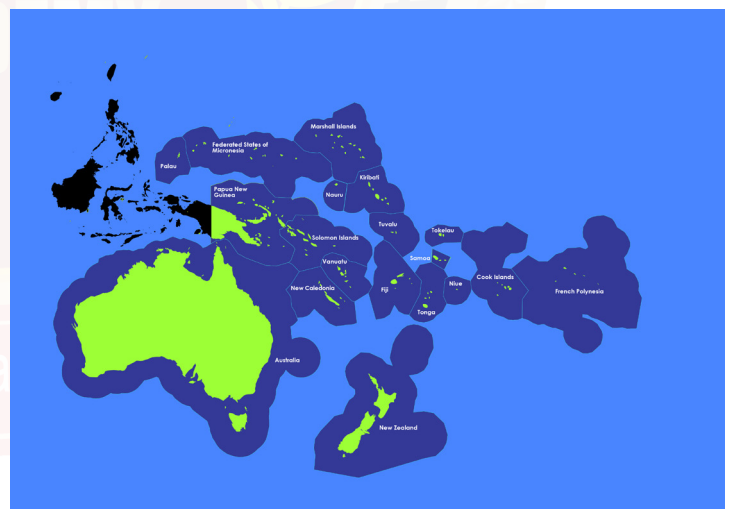
Central Emergency Response Fund (CERF)

- The United Nations has recently allocated **$100 million** from its Central Emergency Response Fund (CERF).

  - ☛ The allocation was to address **critical underfunding of humanitarian emergencies across 10 countries in Africa, the Americas, Asia and the Middle East.**

- It was established by the **United Nations General Assembly (UNGA) in 2005** and launched next year.

- It enables **humanitarian actors to deliver life-saving assistance to the most vulnerable people,** when and where needed the most.

- The fund is replenished annually through **contributions from governments, the private sector, foundations and individuals.**

- Operates under the principle of **"funds for all, by all,"** with contributions from both donor and recipient countries.

GlobE Network

- India was elected to the **15-member GloBE Network Steering Committee for the first time** during a plenary session in Beijing.

- The Global Operational Network of Anti-Corruption Law Enforcement Authorities (GloBE Network), **initiated by the G-20 and officially launched in 2021 during a UN General Assembly** session on corruption.

- It now has **121 member countries and 219 member authorities.**

- It allows anti-corruption agencies from all UN member states (maximum 3 per member) and parties to the UN Convention against Corruption (UNCAC).

- The United Nations Office on Drugs and Crime (UNODC) provides **secretariat** support for the network.

- The **Ministry of Home Affairs** acts as India's central authority, with the **CBI** and **Enforcement Directorate** as its members.

- Steering committee members serve a **three-year term** and meet twice a year to make decisions by **consensus**.

Environment & Ecology

World Gorilla Day

- World Gorilla Day is an annual event held on September 24

- They are the **largest of the great apes** (there are 5 species of great ape, including, gorilla, orangutan, chimpanzee, bonobo, and human) and are primarily herbivores

- They inhabit the **forests of central Africa** and are divided into two species **Western Gorilla and Eastern Gorilla,** both are critically endangered.

- Gorillas **share 98 to 99% of their DNA with humans** and are the closest relatives of humans after chimpanzees.

- Gorillas are **not found in India.**

- The only ape found in India is the **hoolock gibbon.**

The Nagar Van Yojana (NVY)

- 111 Nagar Vans approved against the target of 100 Nagar Vans in 100 Days Action Plan.

- **The Ministry of Environment, Forest and Climate Change** launched revised Nagar Van Yojana (NVY) in **2020 to enhance the urban greenery** and make **the cities climate resilient.**

- Presently, the Nagar Van Yojana **aims to develop 1000 Nagar Vans by the year 2027**

- The financial support is provided by the National Fund of **National Compensatory Afforestation Management and Planning Authority (National CAMPA).**

Carbon Credit Trading Scheme (CCTS)

- India is to launch the **Carbon Credit Trading Scheme.**

- Carbon credit trading is a system where countries or organisations can buy or sell emission permits to emit greenhouse gases.

- CCTS will **set emissions targets for emitters** and allow **overachievers to sell their excess emission cuts**, while **underachievers will have to purchase** them to meet their goals.

- It will be implemented by the **Bureau of Energy Efficiency (BEE)**. a government agency.

- Its genesis lies in India's commitment to meet its **Nationally Determined Contributions**— emissions reduction target for 2030 committed under the **Paris Agreement of 2016.**
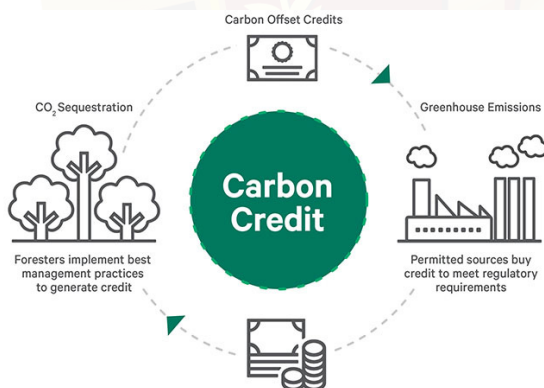

World's Top Plastic Polluter

- The study published in Nature has reported **India as the world's largest plastic emitter.**

- This is primarily due to a **lack of access to waste collection facilities**.

- India is responsible for **around one-fifth of global plastic emissions**, with around 5.8 Mt of plastic solid waste openly burned each year.

- **Plastic emissions** refer to materials that escape from controlled waste systems into the environment, where they are no longer under any form of control.

- The data used in the study indicates a **collection average of 81% for India.**
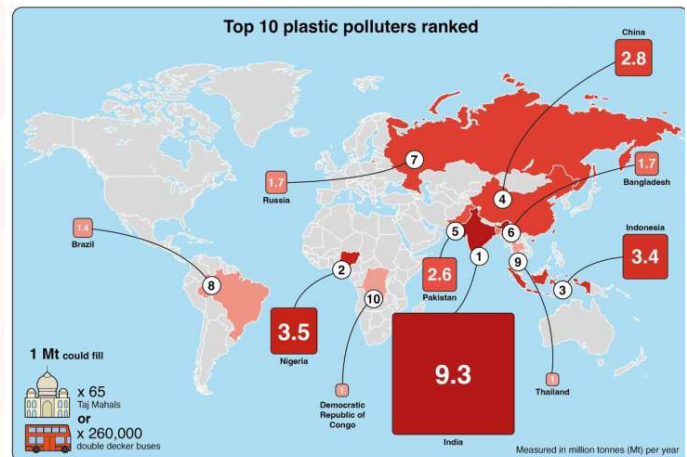
State of Global Air Report 2024

- State of Global Air Report 2024 is a collaboration between USA based NGOs - the Health Effects Institute and the Institute for Health Metrics and Evaluation.

- It offers a global analysis of air quality and health impacts.

- It highlights that **air pollution caused 8.1 million deaths globally in 2021**, with noncommunicable diseases accounting for 90% of this burden.

- Over **700,000 deaths in children under 5 were linked to air pollution**.

- Additionally, **99% of the global population lives in areas with unsafe PM2.5 levels**, and 34% live in regions exceeding the least stringent WHO air quality targets.
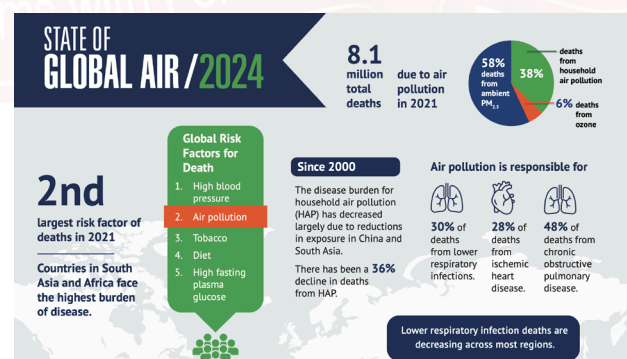
National Board for Wildlife (NBWL)

- **The standing committee of the National Board for Wildlife (SC-NBWL)** recently cleared projects such as a **transmission line in Little Rann of Kutch** among others.

- The SC-NBWL is headed by **the Union Environment Minister.**

- The NBWL is primarily responsible for **promotion and conservation of wildlife.**

- It also appraises and approves development projects that **fall within and outside protected areas such as sanctuaries,** national parks and tiger reserves.

- The National Board for Wildlife came into existence with the Gazette Notification in 2003. Members:

- **The Chairperson:** The National Board for Wildlife has **47 members with the Prime Minister in the Chair.**

- **Vice-Chairperson:** The Minister in charge of the Ministry of Environment & Forests.

- **Member-Secretary:** The Additional Director General of Forests (WL) & Director, Wildlife Preservation.
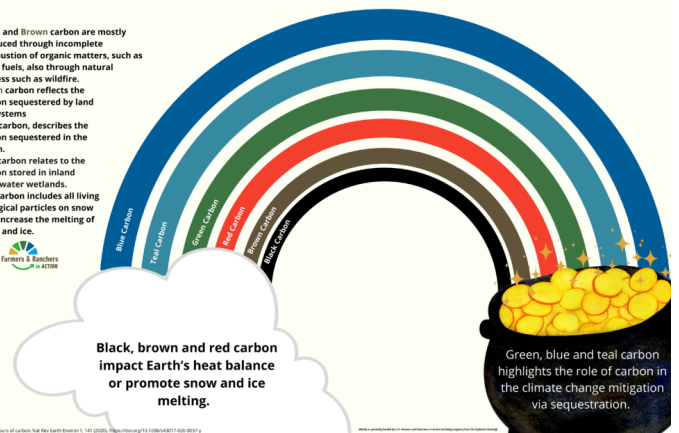
Teal Carbon

- India's first study on **teal carbon,** conducted at **Keoladeo National Park,** Rajasthan highlights the importance of conserving wetlands to combat climate change.

- Teal carbon refers to **carbon stored in non-tidal freshwater wetlands** in vegetation, microbial biomass, and organic matter.

- **Non-tidal freshwater wetlands** are areas that are saturated with water for most of the year but are not influenced by tides

- Teal carbon plays a **vital role in regulating greenhouse gases** by sequestering (removing) carbon from the atmosphere, thus contributing to climate change mitigation.

Different Colors of Carbon

Carbon that impacts the Earth's heat balance and climate change.

- Black and Brown carbon are mostly produced through incomplete combustion of organic matters, such as fossil fuels, also through natural process such as wildfire.
- Green carbon reflects the carbon sequestered by land ecosystems
- Blue carbon, describes the carbon sequestered in the ocean.
- Teal carbon relates to the carbon stored in inland freshwater wetlands.
- Red carbon includes all living biological particles on snow that increase the melting of snow and ice.

U.S. Farmers & Ranchers in ACTION

Black, brown and red carbon impact Earth's heat balance or promote snow and ice melting.

Green, blue and teal carbon highlights the role of carbon in the climate change mitigation via sequestration.

Legacy waste

- Only 16% of land has been reclaimed under the legacy waste management project of **Swachh Bharat Mission 2.0,** a report claims.

- Swachh Bharat Mission 2.0 launched in 2021 aimed to make cities "Garbage-Free" by converting these legacy waste sites into green zones by 2026.

- Out of 2,424 dumpsites with over 1,000 tonnes of **legacy waste,** remediation is completed at only 470 sites.

- Legacy wastes are dump sites that contain solid waste that has been collected and stored for years in an unscientific and uncontrolled manner.

- These dumpsites originally developed on the outskirts of the cities, often now found within city limits due to urban expansion.

- **Remediation** refers to the process of cleaning up, managing, or restoring a polluted or contaminated site to reduce environmental hazards and make it safe for use.

Bio-decomposer

- The **Government of Delhi** has taken steps to spray bio-decomposer solution over the city's farmlands.

- The Pusa bio-decomposer is a liquid microbial solution **developed by the Indian Council of Agricultural Research (ICAR).**

- It contains **fungi** that break down cellulose, lignin, and pectin in paddy straw.

- It **helps farmers convert stubble or parali (leftover crop stalks and roots after harvest) into manure** instead of burning it, thus prevents stubble burning

- The bio-decomposer softens stubble so it can be mixed into the **soil as compost.**

- It decomposes paddy residue in 15–20 days.

- The **program helps** reduce pollution and increase soil fertility. It also improves seed germination, wheat productivity, and reduces the need for fertilisers like urea and DAP

- The government has been spraying the bio-decomposer **solution free of cost since 2020** over farmlands in outer Delhi.

India becomes 3rd Largest Ethanol Producer

- India is now the third-largest producer and consumer of ethanol globally.

- Farmers are **shifting from "Anna Dattas" (food providers) to "Urja Dattas" (energy providers)** through renewable energy production.

- Over the past decade, sugarcane cultivation grew by 18%, with a 40% increase in production.

- Ethanol is made from sugarcane by **fermenting the extracted juice or molasses with yeast,** which converts the sugars into ethanol.

- The ethanol is then purified through **distillation and dehydration** for use as biofuel.

- **Ethanol Blended Petrol Programme (EBP),** launched in 2003, seeks to blend ethanol (currently targeted at 20% by 2025) with petrol to create a more sustainable fuel alternative.

- The USA, primarily from corn, Brazil (sugarcane) and India (sugarcane and molasses) are the **top three producers of ethanol.**

Geography

Mission Mausam Initiative

- The Union Cabinet approved **'Mission Mausam'** with an outlay of **Rs.2,000 crore over two years.**

- It aims to create **a more weather-ready and climate-smart Bharat.**

- It will be implemented by **the Ministry of Earth Sciences.**

- It will be a multi-faceted and transformative initiative to tremendously boost India's weather and climate-related science, research, and services.

- **Critical elements of the Mission:** Next-generation radars and satellite systems with advanced sensors and high-performance supercomputers, improved Earth system models and a GIS-based automated Decision Support System for real-time data dissemination.

- **Benefits:** Agriculture, disaster management, defence, environment, aviation, water resources, power, tourism, shipping, transport, energy, and health

Three Gorges Dam
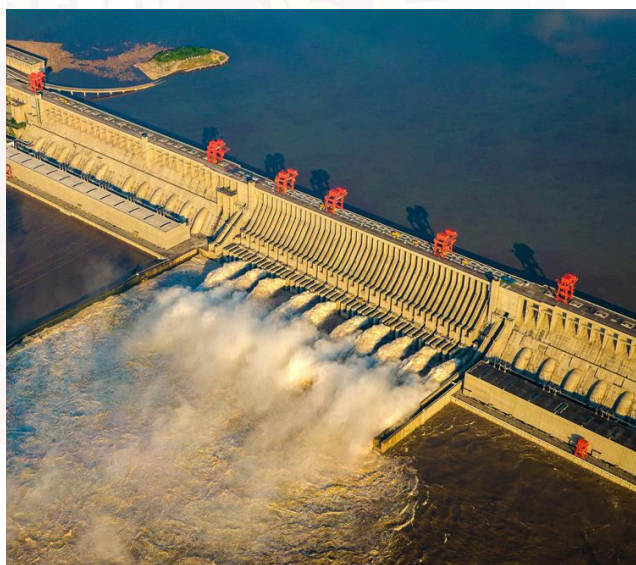
- NASA scientists suggest that **China's largest hydroelectric dam is affecting Earth's rotation.**

- The dam's reservoir holds **40 cubic kilometres of water**, potentially increasing the length of a day by 0.06 microseconds and shifting Earth's axis by 2 centimetres.

- This mass redistribution **impacts the moment of inertia,** slowing Earth's spin.

- **Other factors**, such as rising temperatures, melting polar ice, and natural disasters, can also alter the planet's rotation.

- For example, the **2004 Indian Ocean earthquake** shortened a day by 2.68 microseconds.

Salt Pan Lands

SALT PANS IN MUMBAI
5,400 acres
Area of all salt pans in Mumbai
East | Largely spread over Ghatkopar, Chembur, Trombay, Mandale, Turbhe, Anik, Wadala, Kanjurmarg, Bhandup, Nahur and Mulund
West | Malvani, Dahisar, Mira-Bhayander and Virar
➤ Salt production stopped at most places decades ago
3rd India's salt-production rank after China and the US

GOVT HAS BEEN EYEING LAND FOR 'AFFORDABLE HOUSING'

IMPORTANCE OF SALT PANS
➤ Some of the last remaining open spaces in the city
➤ They are rainwater sinks and are thus safeguards against flooding
➤ They harbour migratory birds and other animal life

- The Centre approved the transfer of **256 acres of salt pan land in Mumbai** to the Dharavi Redevelopment Project Pvt Ltd (DRPPL).

  ➡ DRPPL is a joint venture between **Adani Realty Group and the Maharashtra government**, for building **rental housing for slum dwellers.**

- Salt pan lands are **coastal areas where seawater flows in,** evaporates, and leaves behind salt and minerals.

- They serve as **natural flood defences, absorbing rainwater** and supporting diverse ecosystems

- According to the **Coastal Regulation Zone (CRZ) notification of 2011**, the ecologically sensitive salt pans fall under the **CRZ-1B category.**

  ➡ **1B: No economic activity is allowed** with the exception of salt extraction and natural gas exploration.

Typhoon Yagi

- Typhoon Yagi, originating from **Palau** (an island country in the Pacific Ocean), impacted the **Philippines, China, Laos, Myanmar, and Thailand, and Vietnam.**

- A typhoon is **a type of tropical cyclone that occurs in the Northwest Pacific Ocean.**

- Yagi was the strongest tropical cyclone Asia has seen this year and the second most powerful storm in the world so far this year after **Hurricane Beryl (Atlantic Ocean)**.

- It is a **Category 5 typhoon** with peak maximum sustained winds of 260 kmph.

- The category of a tropical cyclone is determined by its sustained wind speed, as measured by the **Saffir-Simpson Hurricane Wind Scale.**

- It is classified into five categories — Category 1 to Category 5 (5 being strongest).

Science & Technology

PARAM Rudra Supercomputers

- PM Modi launched **three PARAM Rudra supercomputers**, along with High-Performance Computing (HPC) systems **Arka and Arunika** for weather and climate research.

- It was developed by the **Centre for Development of Advanced Computing (C-DAC)** under the National Supercomputing Mission (2015) to build a strong national supercomputing capability.

- C-DAC is a research and training institution under the **Ministry of Electronics and Information Technology.**

- Param Rudra will support studies in areas like Fast Radio Bursts at GMRT (Pune), material science at IUAC (Delhi), and cosmology at S N Bose Centre (Kolkata).

- **Fast radio bursts (FRBs)** are brief, intense bursts of radio waves that come from distant galaxies.

- These systems will also aid climate modelling, AI, genomics, and aerospace simulations.

First CO2-to-Methanol Pilot Plant

- The foundation stone for I**ndia's first CO2-to-Methanol pilot plant,** with a capacity of 1.4 Tons Per Day (TPD), was laid in **Pune, Maharashtra**.

- It is supported by the **Department of Science and Technology** and implemented in collaboration with **IIT Delhi and Thermax Limited.**

- This Public-Private Partnership project will demonstrate and advance indigenous **Carbon Capture and Utilisation (CCU) technologies**.

- The Plant will capture CO2 from **two key sources:**

  1. **syngas** produced during coal gasification, and

  2. **flue gas** from the combustion of carbonaceous fuels, and subsequently convert it to methanol.

Next Generation Launch Vehicle (NGLV)

- The **Next Generation Launch Vehicle (NGLV)** is an advanced rocket system approved by the Indian government to enhance India's space capabilities.

- NGLV will have **reusable components and modular green propulsion** systems.

- **Only 1.5 times more expensive** than current vehicles and is designed to transport up to 30 tonnes to Low Earth Orbit (LEO).

- **That is 3 times the capacity of Launch Vehicle Mark-3 (GSLV Mk III)**

- It has a completion target of 8 years.

## Nanomaterial to Clean Chromium from Groundwater

- Researchers at the **Indian Institute of Science (IISc)** have developed a nanomaterial solution to reduce h**eavy metals like chromium in groundwater** by injecting iron nanoparticles.

- This method uses **nano zero-valent iron (nZVI)** coated with **carboxymethyl cellulose (CMC)** to immobilise the highly soluble and toxic chromium ($Cr6+$) and convert it into a less harmful form ($Cr3+$).

- The CMC coating prevents clumping and oxidation of the iron, while sulphidation creates a protective layer, achieving nearly **99%** efficiency in removing $Cr6+$ under various conditions.

- Chromium groundwater contamination happens due to **industrial discharges from tanneries, mines, as well as waste water and landfills.**

- Exposure can cause skin irritation, respiratory problems, and is linked to cancer.

'Mini-Moon' 2024

- Earth got a temporary mini moon named **2024 PT5**, a small asteroid about **10 metres** in size, resembling a bus.

- This asteroid orbits Earth in a **horseshoe shape** for approximately **55 days** before escaping its gravitational pull.

- Although it mimics a moon, it **won't complete a full revolution and is not visible to the naked eye**; it requires special telescopes for observation.

- The last known mini moon was detected in **2020**.

- It is a ₹10,900 crore initiative aimed at **providing subsidies for electric vehicle chargers** for two- and three-wheelers.

- It aims to establish 72,300 public charging stations, prioritise solar charging, and ensure 50% domestic value addition in chargers by December 2024.

- The scheme includes **demand incentives** like rebates for electric vehicles and **grants for electric buses and charging infrastructure**
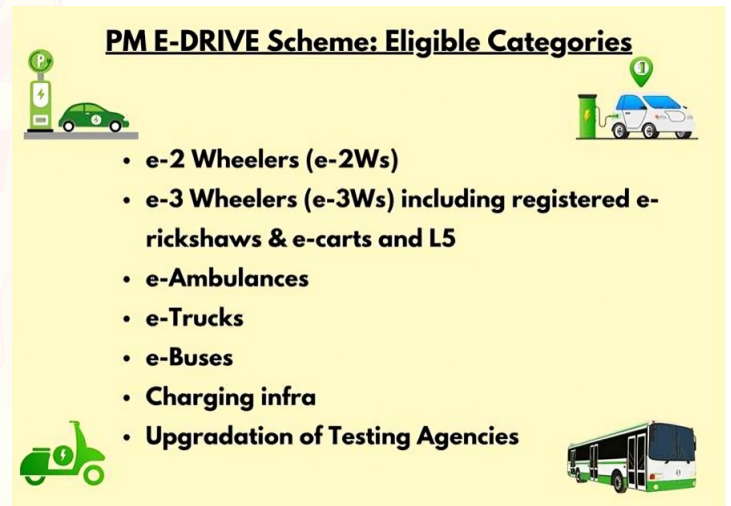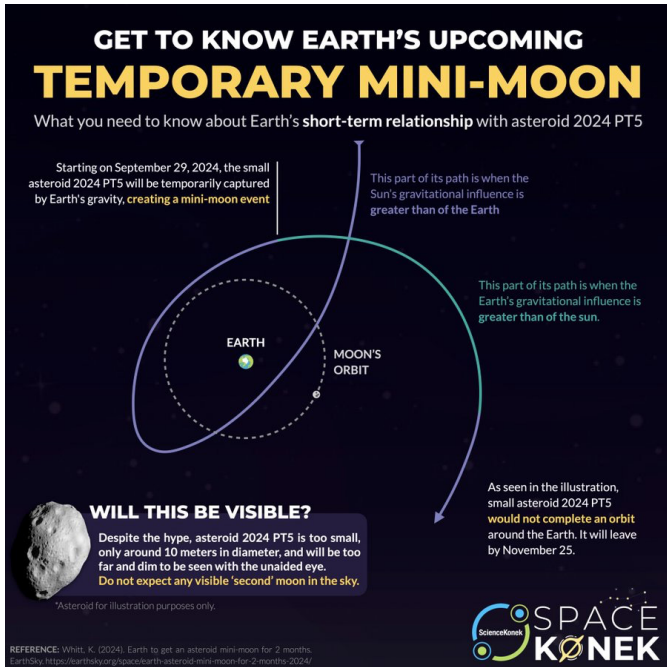
BHASKAR

- The Indian government is launching a digital platform called BHASKAR under the **Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry** to enhance the startup ecosystem.

- It falls under the**The Bharat Startup Knowledge Access Registry (BHASKAR) initiative and is under** the Startup India program.

- This initiative aims to create the **world's largest digital registry,** facilitating collaboration among startups, investors, mentors, service providers, and government bodies.

PM E–Drive Scheme for Electric Vehicles

- The **Ministry of Heavy Industry** has launched the **PM Electric Drive Revolution in Innovative Vehicle Enhancement (PM E-DRIVE) Scheme.**

Seismic Signatures on Moon

- **Chandrayaan-3** has successfully detected over **250 seismic signatures** from the Moon's south pole, including 50 unique signals likely associated with moonquakes.

- **Seismic signatures** are distinct patterns or signals generated by seismic waves as they travel through a medium, such as the Earth's crust or the lunar surface.

- About 200 signals resulted from mission activities, such as the **Pragyan rover's movements and instruments like the ChaSTE thermal probe and Alpha Particle X-ray Spectrometer (APXS).**

- This marks the **first seismic data collection from the Moon's south pole** and the first such activity recorded since the Apollo missions, with signatures **detected by the Instrument for Lunar Seismic Activity (ILSA) aboard the Vikram Lander.**

Silicon Carbide Facility

- **India's 1st** Silicon Carbide manufacturing facility to be set up **in Odisha** at an investment of Rs 620 crore.

- **Silicon carbide, also known as SiC,** is a semiconductor base material that consists of **pure silicon and pure carbon.**

- Its primary application is as an **abrasive because of its high hardness**, which is surpassed **only by diamond, cubic boron nitride, and boron carbide.**

- The simplest **silicon carbide manufacturing method** involves **melting silica sand and carbon**, such as coal, at high temperatures - **up to 2500 degrees Celsius.**

First Bio-Hydrogen Project

- Gensol Engineering Limited, has secured a contract **to develop India's first bio-hydrogen prtoject.**

- Biohydrogen is a type of renewable **hydrogen fuel produced from biological processes.**

- The project will **convert 25 tons of bio-waste into 1 ton of hydrogen per day.**

- Biohydrogen is generated **naturally** through the **breakdown of organic materials** (biomass) by microorganisms or through **photosynthesis in certain algae and bacteria.**

- As a **sustainable energy source**, biohydrogen can be produced using methods like

  - **Dark fermentation**: Bacteria break down organic matter without light, producing hydrogen.

  - **Photofermentation**: Certain bacteria use sunlight to convert organic acids into hydrogen.

  - **Biophotolysis**: Algae split water molecules into oxygen and hydrogen using sunlight.

World's First Nuclear Clock

- A team of physicists has successfully **demonstrated the core technology to develop a nuclear clock.**

- A nuclear clock is an ultra-precise timekeeping device that measures time based on the vibrations of atomic nuclei, **as opposed to atomic clocks**, which rely on the vibrations of electrons around an atom.

- The vibrations of atomic nuclei are **much less affected by external factor**s (like temperature or electromagnetic fields) compared to electron-based atomic clocks.

- The team coupled a **strontium atomic clock with small calcium fluoride crystal containing thorium nuclei**, the energy states of which are switched using vacuum ultraviolet light.

How a Nuclear Clock Works
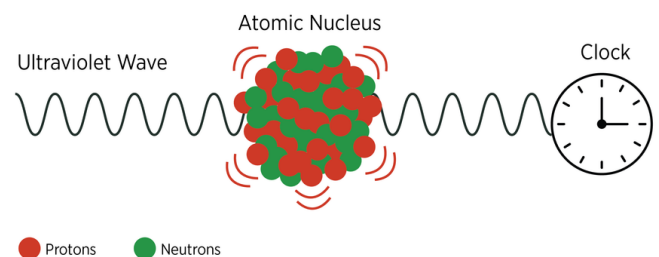
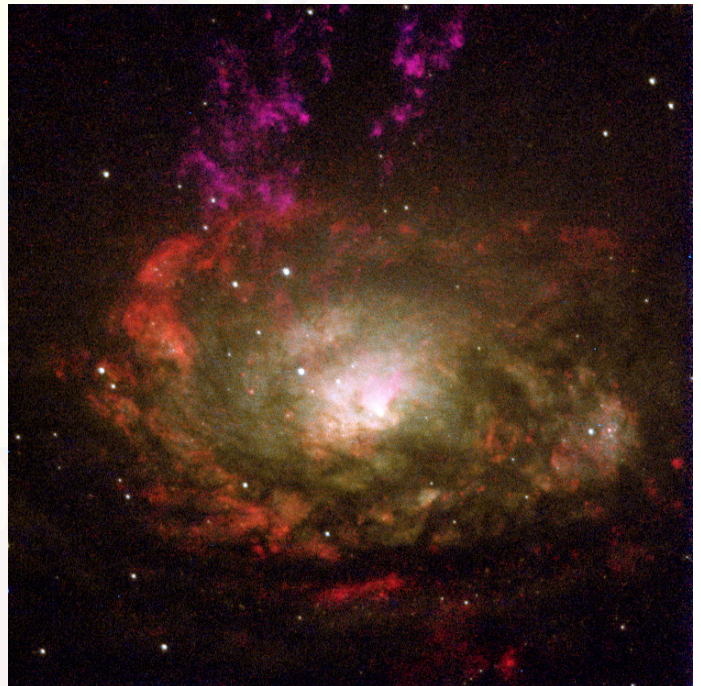## Vishvasya-Blockchain Technology Stack

- The **Ministry of Electronics and Information Technology (MeitY)** has launched the Vishvasya-Blockchain Technology Stack, a **Blockchain-as-a-Service (BaaS) system** aimed at enhancing e-governance through blockchain technology.

- **Blockchain** is a secure, transparent **data management method** that allows multiple parties to record and share data without a central authority.

- Transactions are grouped into **blocks, linked chronologically, and protected by cryptographic algorithms**, ensuring the integrity of past records.

- The Vishvasya stack features **geographically distributed data centres** and supports various applications, including e-Stamps, judiciary management, IPS officer training records, forensic applications, and mobile app verification.

Blast Furnace
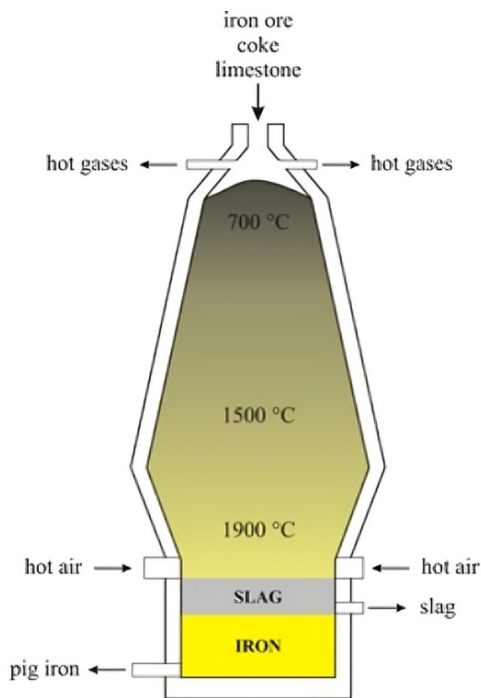
- Tata Steel Ltd. has commissioned India's largest blast furnace at its Kalinganagar facility in Odisha,

- **Blast furnaces** are used to produce **pig iron from iron ore** for subsequent **processing into steel,** and they are also employed in processing **lead, copper, and other metals.**

- **Pig iron** is raw iron with 3-4% carbon and impurities which will be later refined to wrought iron having lesser carbon.

- A **blast furnace operates** by continuously feeding layers of iron ore, coke, and limestone into the top while hot air is introduced from the bottom.

- This creates a high-temperature environment that drives chemical reactions, **extracting molten iron from the ore while impurities form slag,** which can be removed.

Active Galactic Nucleus (AGN)

- Researchers from the I**ndian Institute of Astrophysics (IIA), Bengaluru,** have found evidence of Active Galactic Nuclei (AGN) in a dwarf galaxy.

- Previously, only larger galaxies that have hundreds of billions of stars compared to dwarf galaxies comprising only a few million to a few billion stars were thought to have AGNs.

- **AGN is the bright and energetic central region of a galaxy,** powered by a supermassive black hole.

- Surrounding the black hole is an **accretion disk** composed of gas and dust, which heats up and emits vast amounts of energy as it spirals inward.

- This energy is radiated **across the entire electromagnetic spectrum.**

- An accretion disk is a rotating structure of gas and dust that forms around a massive object, like a star or black hole, as material falls inward and flattens due to gravity.

- **Different types of AGNs,** such as quasars, blazars, and Seyfert galaxies, are classified based on their characteristics and the angle from which they are observed.

- While the Milky Way has a supermassive black hole called **Sagittarius A* at its centre**, it is not currently accreting material and thus is not classified as an AGN.

Defence

ABHED

- **DRDO and IIT Delhi** have developed lightweight **bulletproof jackets named ABHED** (Advanced Ballistics for High Energy Defeat).

- Made from **polymers and boron carbide ceramics,** these 8.2 kg modular-design jackets offer 360° protection.

- They **defend against bullets** from AK-47s, Hard Steel Core (HSC), Mild Steel Core (MSC), and Self Loading Rifle (semi-automatic guns) bullets.

India-Oman military exercises

- **The 7th edition of Exercise Eastern Bridge** bilateral air exercise was held between the **IAF and the Royal Air Force of Oman** (RAFO) at the **RAFO airbase in Masirah, Oman.**

- The IAF deployed **MiG-29, Jaguar, and C-17** aircraft while the RAFO deployed **F-16 jets.**

- **The 5th edition of biennial India-Oman Joint Military Exercise** AL NAJAH was held at Rabkoot Training Area in **Salalah, Oman**

- Indian Army's Mechanised Infantry Regiment and the Royal Army of Oman participated.

VL-SRSAM Missile

- **DRDO & Indian Navy** successfully flight tested **Vertical Launch Short Range Surface-to-Air Missile (VL-SRSAM)** off Odisha coast.

- **Vertical Launch Capability** allows missiles to be launched in rapid succession in any direction, increasing the system's ability to respond to multiple threats coming from various angles.

- It uses a **two-way data link and active radar homing seeker** for precision targeting.

- It has a **length of about 3.8 m**, while its estimated **top speed is Mach 4** and its maximum **range is believed to be between 40 and 50 km.**

Malpe and Mulki
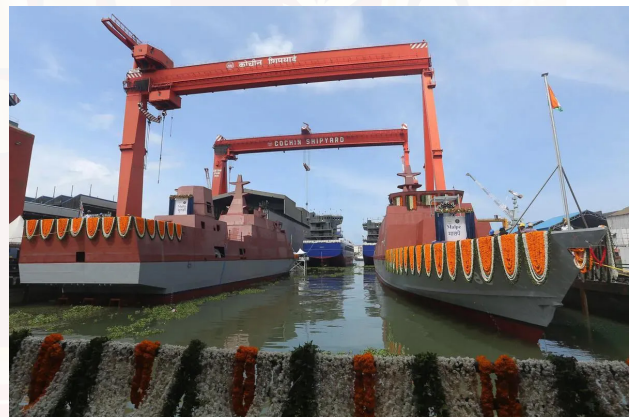
- **Malpe and Mulki**, fourth and fifth ships of the **Eight Anti-Submarine Warfare Shallow Water Craft project** were launched.

- Built by **Cochin Shipyard Ltd.**, these vessels are equipped with advanced indigenous sensors and are capable of **speeds up to 25 knots.**

- The project is part of India's **'Aatmanirbhar Bharat' initiative,** with over **80% indigenous content**.

- The vessels are capable of conducting **anti-submarine warfare in shallow waters, low-intensity maritime operations**, and **mine-laying** activities.

- The ships are named after the ports of Malpe and Mulki in Karnataka.

Yudh Abhyas-2024

- The **20th edition of the joint military exercise between India and USA** was conducted at the Mahajan Field Firing Ranges in **Rajasthan**.

- **Held annually since 2004**, alternating between India and the USA, this year's exercise saw a significant increase in complexity, with 600 personnel from the Indian Army's RAJPUT Regiment participating.

FORTUNE IAS ACADEMY

OUR
14 TOPPERS FROM PRELIMS CUM MAINS BATCH
5 TOPPERS IN FIRST ATTEMPT

KASTURI SHA AIR 68 | FABI RASHEED AIR 71 | SIDDHANT KUMAR AIR 114 | MANJIMA P AIR 235

PARVATHY GOPAKUMAR AIR 282 | SWATHI S BABU AIR 522 | DEVIKRISHNA P AIR 559 | OORMILA J S AIR 561 | MRIDUL DARSAN AIR 630

SAYANTH K AIR 701 | ANUSHA R CHANDRAN AIR 791 | SWATHY S AIR 827 | SACHIN ANAND AIR 855 | RAVEEN K MANOHARAN AIR 888

BEST RESULTS FROM CLASSROOM PROGRAM
(PCM BATCH) IN KERALA

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Miscellaneous

Global Innovation Index 2024

- India has made a notable leap in the Global Innovation Index (GII), moving from 81st place in 2015 to **39th in 2024**, as reported by the **World Intellectual Property Organization (WIPO)**.

- The GII evaluates economies based on innovation capabilities **using 80 indicators**, with **Switzerland leading for the 14th consecutive year**.

- India ranks **first among lower middle-income countries** and leads in the Central and Southern Asia region in several categories, including knowledge and technology outputs (22nd), creative outputs (43rd), institutions (54th), and business sophistication (54th).

- **Key strengths** include ICT services exports (1st), venture capital (6th), intangible asset intensity (7th), and unicorn companies (8th).

State Food Safety Index (SFSI) 2024

- Kerala has once again topped the 6th annual SFSI released by the **Food Safety and Standards Authority of India (FSSAI)**.

- **Tamil Nadu came in the second position**, followed by **Jammu & Kashmir**.

- **Nagaland** received a special acknowledgement among North Eastern States for their improvement.

- Food is in the **concurrent list of the 7th Schedule of Indian constitution**.

- FSSAI, a statutory body under FSSAI Act, 2006, is under **the Ministry of Health and Family Welfare**.

- FSSAI shall consist of a **Chairperson and twenty-two members** out of which one-third shall be women.

- The index is **made from 6 parameters as shown:**
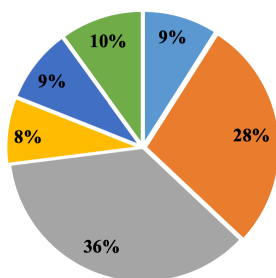
- **Human Resources and Institutional Data**
- **Compliance**
- **Food Testing- Infrastructure and Survilance**
- **Training and Capacity Building**
- **Consumer Empowerment and FSSAI Initiatives**
- **Improvement in Rank of States/UTs from State Food Safety 2022-2023**

PM Vishwakarma Scheme

- The PM Vishwakarma 1st Anniversary Programme was celebrated today at **Wardha, Maharashtra.**

- It is a **Central Sector Scheme** to provide **end-to-end support to artisans and craftspeople who work with their hands and tools.**

- The Scheme covers artisans and craftspeople engaged in **18 trades.**

- Example: **Garland maker** (Malakaar), **Washerman** (Dhobi), **Tailor** (Darzi) and **Fishing Net Maker, Boat Maker, Armourer, Blacksmith** (Lohar) among others.

Benefits to the Artisans:

- ☞ **Recognition:** Through PM Vishwakarma **certificate and ID card.**

- ☞ **Skill Upgradation:** Basic Training of 5-7 days and Advanced Training of 15 days or more, with a **stipend of Rs. 500 per day.**

- ☞ **Toolkit Incentive:** A toolkit incentive of up to Rs. 15,000 in the form of **e-vouchers at the beginning of Basic Skill Training.**

- ☞ **Credit Support:** Collateral free **'Enterprise Development Loans'** of up to Rs. 3 lakh in two tranches at a concessional rate of **interest fixed at 5%,** with **Government of India subvention to the extent of 8%.**

Jordan eliminates Leprosy

- Jordan has become the **first country in the world to be WHO verified** as having eliminated leprosy.

- Jordan has **not reported any** autochthonous **cases** (i.e., locally transmitted cases) of leprosy for over two decades,

- Any new cases of the disease **have either been imported from other countries or are residual cases** from before the elimination of the disease in Jordan.

- **Leprosy, or Hansen's disease**, is a chronic infection caused by Mycobacterium leprae, transmitted through respiratory droplets during close contact with untreated individuals.

- It mainly **affects the skin, peripheral nerves, respiratory tract, and eyes.**

- Leprosy is still **present in over 120 countries and is classified as a neglected tropical disease.**

- **India had officially achieved the elimination of leprosy as a public health problem in 2005,** which means the prevalence rate dropped below one case per 10,000 people.

- However, **India accounts for about 60% of global leprosy cases,**

- The **BCG vaccine**, originally developed for tuberculosis, is currently used for leprosy prevention.

Cyber Slavery

- Recent reports indicate that over 5,000 **Indians may be trapped in Cambodia, allegedly forced to engage in cyber fraud.**

- This modern form of exploitation, known as cyber slavery, involves **luring individuals with false promises of high-paying data entry jobs.**

- Upon arrival, their passports are confiscated, and they are **coerced into creating fake social media profiles featuring women to deceive others into investing in fraudulent cryptocurrency schemes.**

- Once victims invest, communication is cut off.

- Data from the Indian Cyber Crime Coordination Centre (I4C) reveals that about 45% of cyber crimes targeting Indians originate from Southeast Asia.

PM–AASHA Scheme

- The Union Cabinet has approved the continuation of the **Pradhan Mantri Annadata Aay SanraksHan Abhiyan (PM-AASHA)** under the **Ministry of Agriculture and Farmer Welfare**.

- It aims to provide **remunerative prices to farmers and to control price volatility** of essential commodities for consumers.

Features of the scheme:

- 👉 **Integration of Multiple Schemes**: Combines various existing schemes like the Price Support Scheme (PSS), Pilot Price Deficiency Payment Scheme (PDPS), and e-NAM for comprehensive coverage.

- 👉 **Enhanced Implementation Period**: The scheme has been extended to continue until 2025-26, ensuring ongoing support.

- 👉 The procurement of **notified pulses, oilseeds & copra at MSP under Price Support Scheme will be on 25% of national Production** of these notified crops from 2024-25 season onwards.

- 👉 This would **enable States to procure more of these crops at MSP from farmers** for ensuring remunerative prices and preventing distress sale.

Global Cybersecurity Index (GCI) 2024

- India has achieved **Tier 1 status in the 6th Global Cybersecurity Index (GCI)** 2024 with a score of 98.49.

- The Index is released by the **International Telecommunication Union (ITU)**, a Geneva, Switzerland based UN-specialised agency founded in 1865.

- Countries are categorised into five tiers based on their cybersecurity efforts.

  - ➡ Tier 1- Role-modelling (score of 95–100)

  - ➡ Tier 2- Advancing (score of 85–95)

  - ➡ Tier 3- Establishing (score of 55–85)

  - ➡ Tier 4- Evolving (score of 20–55)

  - ➡ Tier 5- Building (score of 0–20).

- The **Department of Telecommunications (DoT)** is the nodal agency representing India.

Global Cybersecurity Index 2024
5 pillars for measuring the commitment of countries to cybersecurity

Legal	Technical	Organizational	Capacity Development	Cooperation
Measuring the existence of legal laws and regulations dealing with cybersecurity and cybercrime	Measuring the existence of technical institutions and frameworks dealing with cybersecurity endorsed or created by the country	Measuring the existence of institutions and strategies organizing cybersecurity development at the national level	Measuring the existence of cyber awareness efforts, schooling, trainings, and support for a cybersecurity industry	Measuring partnerships between agencies, firms and countries

Source: ITU, *Global Cybersecurity Index 2024*

Places in News

Kaziranga National Park

ASSAM (ASOM) WILDLIFE SANCTUARIES AND NATIONAL PARKS

- Kaziranga National Park, located on the Brahmaputra River, has seen an **86% drop in rhino poaching since 2016**.

- Declared a National Park in 1974 and a **UNESCO World Heritage Site** in 1985, it is also an Important Bird Area (IBA), as declared by **BirdLife International**.

- Wildlife includes Bengal fox, golden jackal, Indian and Chinese pangolins, sloth bear, hoolock gibbon, and the endangered Ganges dolphin.

- Kaziranga is home to 80% of India's rhino population.

- **Great One-horned Rhino** is the only rhino species found in India

- **IUCN status: Vulnerable**

Scotland

- Scotland to host the **2026 Commonwealth Games** after Australia backed out.

- Scotland, **most northerly of the four parts of the United Kingdom**, occupying about **one-third of the island of Great Britain.**

- The name Caledonia has often been applied to Scotland.

- Scotland merged with England in 1707 to form the **United Kingdom of Great Britain.**

Angkor Wat

- Angkor Wat, near Siem Reap, Cambodia, has been named the most photogenic UNESCO World Heritage site in Asia by Times Travel.

- **Built in the 12th century by King Suryavarman II (reigned 1113–c. 1150)** of the Khmer empire, it is the world's **largest religious structure**, covering 400 acres.

- **Originally dedicated to Vishnu**, its five central towers represent Mount Meru from Hindu mythology.

- Later, **King Jayavarman VII (reigned 1181–c. 1220) dedicated it to Buddhism,** building the nearby capital, Angkor Thom.

Madeira River

- Brazilians near the Madeira River are witnessing **historic lows in water levels due to a drought.**

- The Madeira, **a major tributary of the Amazon**, runs through the rainforest and is formed by the junction of the Mamoré and Beni rivers in Bolivia.

- It flows northward along the **border between Bolivia and Brazil f**or about 60 miles (100 km) and is 2,082 miles (3,352 km) long, with an average width of about half a mile.


Great Nicobar Island
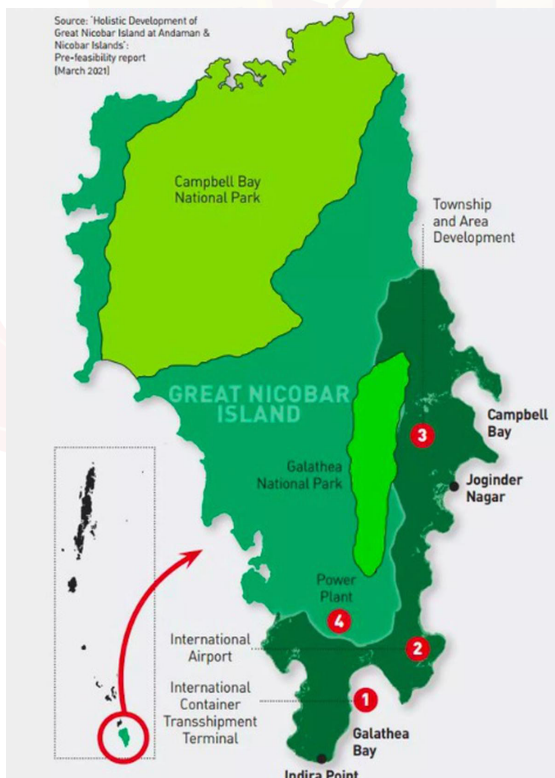
- The Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO) is the project proponent for the NITI Aayog-promoted ₹72,000 crore mega infrastructure project in Great Nicobar.

- The project entails the construction of **a trans-shipment port, a greenfield airport, a tourism and township projec**t and a solar and gas based power plant in Great Nicobar.

- The Andaman and Nicobar Islands are a cluster of 836 islands, split into two groups — the **Andaman Islands to the north and the Nicobar Islands to the south** — by the 150-km wide **Ten Degree Channel.**

- **Great Nicobar is the southernmost** and largest of the Nicobar Islands.

- It is a **sparsely inhabited 910-sq-km patch** of mainly tropical rainforest in southeastern Bay of Bengal.

- **Indira Point on the island**, India's southernmost point, is **only 90 nautical miles (less than 170 km) from Sabang at the northern tip of Sumatra**, the largest island of the Indonesian archipelago.

Guliya Glacier
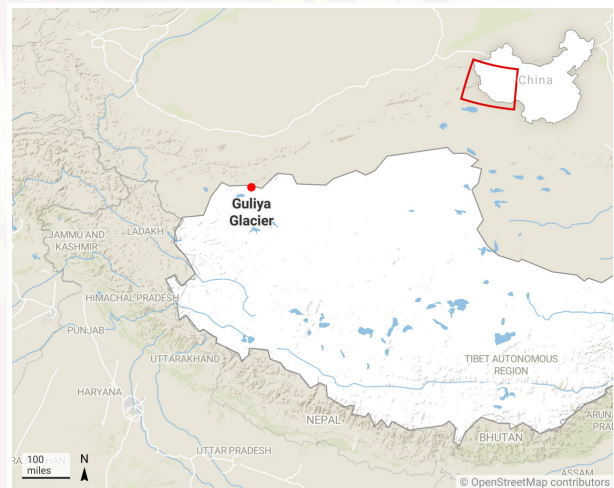
A map shows the location of the Guliya Glacier in the Tibet region of China. The DNA of nearly 1,700 viruses was found in ice core samples from the glacier.
Newsweek · Map: Ian Randall · Source: Zhong et al. / Nature Geoscience · Created with Datawrapper

- US scientists discover **1,700 ancient viruses in Guliya Tibetan glacier ice** with the oldest dating back 40,000 years.

- They used **DNA extraction and metagenomic** (study of genetic material derived from environmental samples) methods to sequence these from the **310-metre-long ice core**.

- Guliya is a polar-type ice cap in the **Kunlun Shan mountains of the Xinjiang province, China.**

- It is at an elevation of 6,200m and its Ice cores contain a record of **over 700,000 years of climate history.**
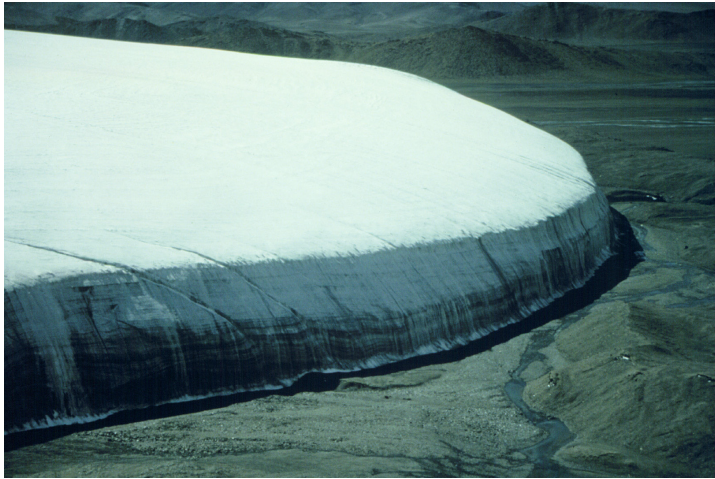

Philadelphi corridor

- Israel aims to take control of the **entire border area between Gaza and Egypt, known as the Philadelphi Corridor.**

- This **14 km (8.7-mile) strip** was established as a buffer zone controlled by Israeli forces as part of the **1979 peace treaty with Egypt,** which ended Israel's occupation of the Sinai Peninsula and reopened the Suez Canal.

- The corridor runs from the **Mediterranean Sea in the northwest to the Israeli-controlled Kerem Shalom crossing in the southeast.**

Barakah Nuclear Energy Plant

- **The United Arab Emirates** has launched operations at the **Arab world's first nuclear power plant,** on the **Gulf coast just east of Qatar.**

- Energy will be generated by 1,400-megawatt pressurised water reactors, designed in South Korea, called **APR-1400.**

- The United Arab Emirates (UAE) is a federation of seven states.

- Abu Dhabi, Dubai, Sharjah, Umm al-Qaiwain, Fujairah, Ajman and Ra's al-Khaimah.

- Four-fifths of the UAE is desert.

- Each emirate is governed by a ruler; together, they jointly form the **Federal Supreme Council.**

- One of the rulers serves as the President of the UAE.

- The UAE also has the distinction of **hosting the largest number of Indian migrants** at 3.31 million.
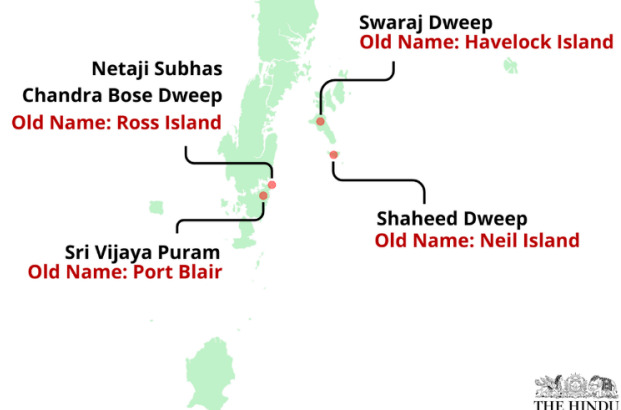
Eturnagaram Wildlife Sanctuary
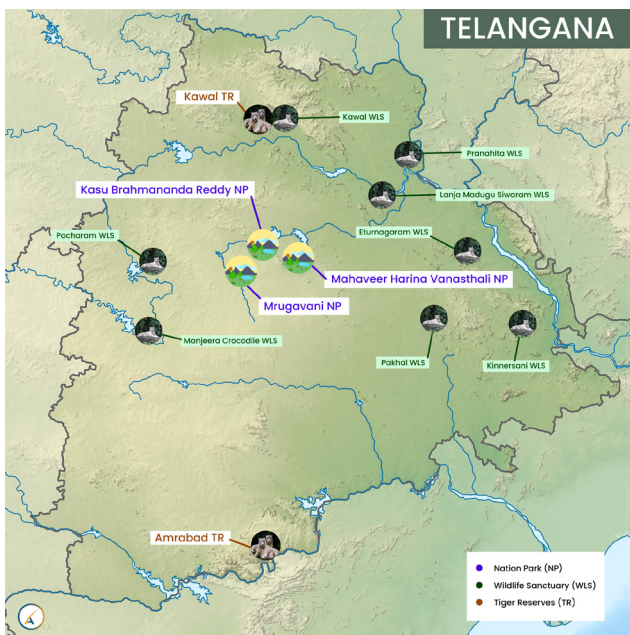
TELANGANA

- According to an analysis, approximately **50,000 trees were uprooted overnight** on September 1 at **Eturnagaram Wildlife Sanctuary, Telangana.**

- Residents report that a **sudigaali (tornado)** dark in appearance was witnessed rising in the forest on the day.

- The sanctuary features a **mix of forest types,** including dry deciduous forests, scrub forests, and open grasslands.

- **The Godavari River and the Dayyam Vagu River** passes through the sanctuary.

Sri Vijaya Puram

Renaming Islands in Andaman

In recent years, the Narendra Modi government has renamed several islands in the Andamans in an effort to "shed the colonial legacy" and honour Subhas Chandra Bose.

Swaraj Dweep
Old Name: Havelock Island

Netaji Subhas Chandra Bose Dweep
Old Name: Ross Island

Shaheed Dweep
Old Name: Neil Island

Sri Vijaya Puram
Old Name: Port Blair

THE HINDU

- Port Blair, the capital of the Andaman and Nicobar Islands, has been renamed Sri Vijaya Puram to **symbolise India's victory over British colonial rule** and highlight the influence of the ancient Chola Empire.

- This decision reflects a vision to eliminate colonial imprints, as Port Blair was named after British officer **Archibald Blair**, who surveyed the islands in the late 1770s.

- The **East India Company colonised the island** to protect its vessels from pirates, and it became a penal colony after the 1857 revolt, with the **Kalapani cellular jail** completed in 1906.

- Interestingly, the name "Sri Vijaya" references the ancient **Srivijaya Empire based in Sumatra**, influential in Southeast Asia and instrumental in the spread of Buddhism.

- This empire declined around the 11th century after Chola naval raids, during which the Andaman Islands served as a strategic base for **Chola emperor Rajendra I's attacks on Srivijaya**, who plundered its wealth.

Rapa Nui

- An analysis of ancient DNA from Rapa Nui islands provides new insights into the resilience and adaptability of the Rapa Nui people.

- **Rapa Nui** falls in the **southernmost point of the South Pacific's Polynesian Triangle.**

- It is **part of Chile** and is also called **Easter Island.**

- The **Rapa Nui people** of Easter Island created the **moai**, stone-carved heads, between the 13th and 16th centuries to represent ancestors or important figures.

- Easter Island was named by the Dutch explorer **Jacob Roggeveen**, who arrived there on **Easter Sunday in 1722**.

- It is a small, **triangular-shaped volcanic island** about 24 km in length and has a maximum width of about 12 km at its widest point.

Species in News

Cassowary

- **World Cassowary Day 2024** was recently celebrated on September 26th.

- It is dubbed as **the 'world's most dangerous bird'** and now is itself in danger.

- It is the world's largest frugivorous and omnivorous bird.

- Cassowaries are native to **Northern Australia, New Guinea, and surrounding islands.**

- These birds stand **five feet tall** and are flightless.

- They are functionally important as **dispersers of plant seeds.**

- **Three species**: Southern cassowary, Northern cassowary & Dwarf cassowary.

- **IUCN Status: Least Concern** (all three species)

Ghost shark

- New Zealand scientists have discovered a new species of "ghost shark," named **Harriotta avia**.

- This rare fish is **difficult to spot due to its deep-water habitat** in the Pacific Ocean, primarily found at depths of over 2.6 km (1.6 miles) off the **coasts of Australia and New Zealand.**

- **Ghost sharks, also known as chimaeras or spookfish,** are related to sharks and rays but have skeletons made entirely of cartilage.

- **Approximately 55 species of ghost sharks have been identified** worldwide.

- While none are considered endangered, several are classified as 'vulnerable' or 'near threatened' by the IUCN.

Exostoma sentiyonoae

- A new species of catfish discovered in the **Dzuleke River** in Nagaland.

- The Dzuleke River is a tributary of the **Barak River.**

- This marks the fourth species of **Exostoma** described from the Barak drainage, highlighting the **region's rich biodiversity.**

- The new species can be distinguished from congeners by **adipose fin attached to the upper procurrent caudal-fin rays,** tubercles on the dorsal-fin spine, a slender head, **a long distance between the dorsal and adipose fins,** small eyes, and **41 vertebrae.**

Nilgai

- The Bihar government has approved the culling of **Nilgai** (blue bulls) due to concerns from farmers about crop damage caused by these animals and wild boars.

- The **Nilgai (Boselaphus tragocamelus) is the largest Asian antelope**, native to the Indian subcontinent.

- They are **herbivores** and inhabit flat and rolling dry **savannas** with thin woodland and scrub, avoiding dense forests.

- **Males are usually a bluish-grey colour**, while **females and young are reddish-brown.** Males also have white markings on their face, legs, and tail.

- **IUCN status: Least Concern**

Southern Birdwing

- India's **second largest butterfly species**, the **Southern Birdwing (**Troides minos**),** has been found in the Madurai district of Tamil Nadu.

- With a wingspan of 190 mm, it was considered India's largest butterfly from 1932 until 2020, when it was **surpassed by the Golden Birdwing**, which has a wingspan of 194 mm.

- The Golden Birdwing is primarily found in the **Himalayan region,** while the Southern Birdwing inhabits the **Western and Eastern Ghats.**

- **IUCN status: Least Concern**

'Dancing Girls' Ginger Species
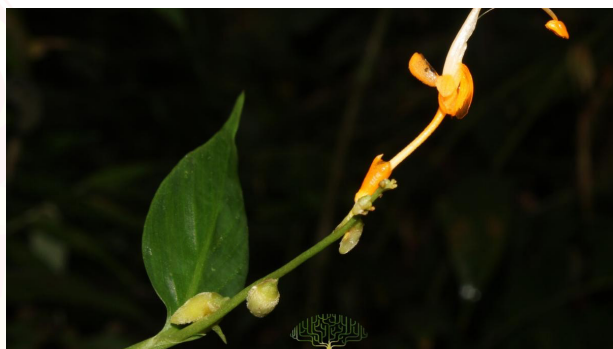
- Researchers have discovered **three new varieties of ginger** collectively known as "dancing girls" ginger species, also called **dancing lady ginger, found in Mizoram and Meghalaya.**

- These plants belong to the **Globba** genus, known for its ornamental appeal and delicate flowers.

- **Globba** is the fourth largest genus in the ginger family (**Zingiberaceae**), with around 136 species.

- The **unique names** of these species—dancing girls, weeping goldsmith, snowball, Singapore gold, white dragon, and ruby queen—reflect their striking floral features.

Jumping spider
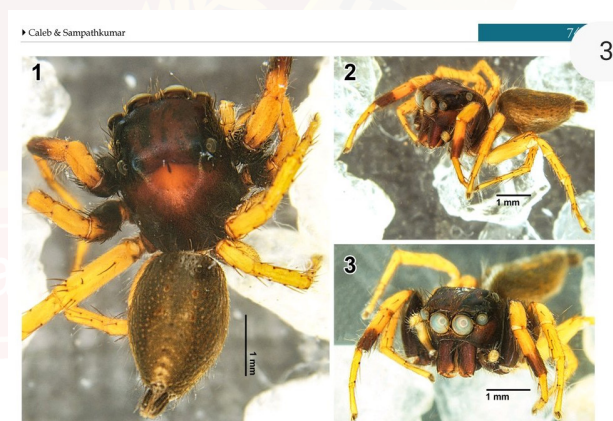
- A new species of jumping spider, **Carrhotus piperus,** has been identified in the lower **Palani Hills of Tamil Nadu.**

- This spider is distinguishable by its unique prolateral protrusion and beak-shaped embolus.

- It was found living on **Piper nigrum** (black pepper) plants, approximately two meters above ground.

- Jumping spiders belong to the **Salticidae** family, known for their excellent vision, ability to **see in colour, and motion detection.**

- They can **leap up to 50 times their body length** using a unique hydraulic system in their legs.

Keywords

- **Project Strawberry (formerly Project Q*):** It is OpenAI's (owners of ChatGPT) initiative aimed at developing Artificial General Intelligence (AGI).AGI is a form of AI that can understand, learn, and apply knowledge across diverse tasks, mimicking human cognitive abilities rather than being limited to specific functions.

- **AI tokens:** AI tokens are a type of **cryptocurrency** that integrates AI and blockchain technology to enhance the development and utilisation of AI applications and platforms. Token holders often have the ability to participate in decision-making processes related to the AI projects they are associated with, influencing project direction and governance.

- **Thermobaric Weapons:** Also known as **fuel-air explosive**, uses two charges: the first disperses a fuel cloud, while the second detonates it, creating a powerful blast wave and vacuum that depletes oxygen.

- **Infrasound:** It refers to **low-frequency sound waves** with a spectrum between **0.002 and 20 Hz** that are **below the range of human hearing.** These waves are produced by disturbances such as gas expansions, explosions, or the acceleration of moving objects.

- **Epigenetics:** It refers to how your environment and behaviours can affect your genes. It turns genes "on" and "off." Epigenetics change as you age and are influenced by environmental factors.

- **Kleptoparasitism:** It is a form of resource theft where one animal steals resources from another like food or nesting material. For instance, seagulls often steal fish from other birds, allowing them to benefit without hunting.

- **Co-location Trading:** The NSE in 2009 offered co-location services. This allowed brokers to place their servers directly in the exchange building, providing faster access to market data and reducing latency.

- **Last-chance tourism:** involves visiting at-risk destinations facing significant change or disappearance due to climate change or environmental degradation, focusing on fragile ecosystems and endangered wildlife. It emphasises experiencing these places before they are lost, highlighting their beauty and vulnerability.

- **Chamran-1 Satellite:** Iran successfully launched the Chamran-1 research satellite, weighing 60 kg, into orbit using the Ghaem-100 rocket, which is the country's first three-stage, solid-fuel satellite launcher, primarily to test hardware and software for orbital manoeuvring technology.

- **XEC:** new COVID variant detected in multiple countries, including Germany, the UK, and the US. It is a recombinant variant, formed when an individual is infected with two different COVID variants simultaneously

No:1
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Sreedhanya Suresh IAS
Inspector General of Registration

Meera K IAS
Sub Collector (SDM)
Ernakulam

Safna Nazarudeen IAS
Sub Collector (SDM)
Thiruvalla

Kiran P B IPS
Asst. Commissioner of Police
Malappuram

Ankit Asokan IPS
City Police Commissioner
Thrissur

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