

Current Affairs Update (Feb 2-9)

National

Visakhapatnam to be Andhra Pradesh's new capital

Andhra Pradesh government has announced that **Visakhapatnam** would become the capital of the state soon, even as the **matter of developing Amaravati** as the capital of Andhra Pradesh lies pending in the Supreme Court.

The Andhra Pradesh Reorganisation Act of 2014 (Telangana Act, on 2nd June 2014) bifurcated the state of Andhra Pradesh into Telangana and the residuary Andhra Pradesh state, as an outcome of the Telangana movement.

The background of the issue:

In 2019, Jagan Mohan Reddy first proposed the idea of “**decentralized development**” and advocated for the establishment of three capitals in the state- **Amaravati** (Legislative capital); **Visakhapatnam** (Executive Capital), and **Kurnool** (Judicial Capital). However, the state government later changed its views in 2021.

In March 2022, Andhra Pradesh High Court directed the state government to develop the proposed capital **Amaravati**. Andhra Pradesh government challenged the High Court's order in the Supreme Court. The SC stayed the HC order and the matter is in SC currently.

Remission

Remission is **releasing a convicted prisoner before the expiry of their sentence**. The concept of remission was introduced through the Prisons Act, 1894.

Constitutional:

- **Article 72:** The President of India has the power to grant pardons, reprieves, respites or remissions of punishment.
- **Article 161:** It empowers the Governor of the state to grant remission
- **Prisons Act:** Under this act, only state governments can frame rules for granting remission.

What is judicial majoritarianism?

- The requirement for a majority consensus **flows from Article 145(5)** of the Constitution, which states that **no judgment in such cases can be delivered except with the concurrence of a majority of the judges** but that judges are free to deliver dissenting judgments or opinions.
- Numerical majorities are of particular importance to cases, which involve a **substantial interpretation of constitutional provisions**. In such cases, **Constitutional Benches, consisting of five or more judges, are set up in consonance with Article 145(3) of the Constitution**.
- Such Benches usually consist of **five, seven, nine, 11 or even 13 judges**.

An issue with Judicial Majoritarianism: Issue of why numerical majorities of judicial bodies are accepted without any debate, while numerical majorities in representative bodies such as the Lok Sabha are often looked at with suspicion.

Puisne Judge

- The term puisne judge is used in common law countries to **refer to judges who are ranked lower in seniority, i.e., any judge other than the Chief Justice of that court**.
- **Common law** is the body of law that is **created by judges through their written opinions, rather than through statutes or constitutions (statutory law)**. Common law, which is used interchangeably with 'case law', is based on judicial precedent. The United Kingdom (UK) and the Commonwealth countries, **including India, are common law countries**.

Puisne Judge in India:

- In India, **all judges have the same judicial powers**. As the seniormost judge of a court, **the Chief Justice has an additional administrative role**.
- In India, there is a **reference to a puisne judge only while considering the order of seniority for appointments, elevations to High Courts, etc.**, but it does not have a bearing on the exercise of a judge's judicial power.

No bar on contesting two seats in one poll

The Supreme Court has **refused to set aside a provision in the election law** which allows candidates to contest polls from two constituencies simultaneously. Previously, a petition had sought the court to declare **Section 33(7) of the Representation of People Act invalid and ultra vires**.

The SC said that **this is a policy matter and an issue concerning political democracy**. It is for the Parliament to take a call (thus maintaining the Separation of Power Doctrine).

Legal Provisions: As per **Section 33(7) of the RPA (Representation of the People Act), 1951**, one candidate can contest from a **maximum of two constituencies**. More than two constituencies were allowed until 1996 when the RPA was amended to set the cap at two constituencies.

Issues with contesting from two seats:

- **Conflicts in the RPA laws:** While **33(7)** allows candidates to contest from two seats, **Section 70** bars candidates from representing two constituencies in the Lok Sabha/state assembly.
- **The strain on public finances:** Lakhs of taxpayer rupees need to be shelled out because of a by-election that could have been easily avoided.
- **Loss of electoral interest of voters:** Repeated elections and a by-election would see fewer voters turn out to vote when compared to the first election.

Project ELLORA

- It is an initiative to bring 'rare' Indian languages such as **Gondi, and Mundari online**. Under the project, researchers are **building digital resources** of the languages, so as to preserve them.
- Microsoft launched **Project ELLORA or Enabling Low Resource Languages** in 2015.
- Researchers are taking the **help of AI and the local community** in the data collection process, researchers hope to create a dataset that is both accurate and culturally relevant.

UNESCO to soon declare Visva-Bharati the world's first living heritage university

Founded by **Rabindranath Tagore in 1921**, Visva-Bharati University will soon get the '**heritage' tag from UNESCO to take the distinction of world's first living heritage university**. Normally heritage tag is given to a dead monument. For the first time in the world, **a living university, which is functioning, is going to get the heritage tag from UNESCO**.

About Visva Bharati University:

- When founded in 1921 it was named after **Nobel Laureate Rabindranath Tagore until the Visva-Bharati Society was registered as an organization in May 1922**.
- In 1922, Visva-Bharati was inaugurated as a **Centre for Culture with an exploration into the arts, language, humanities, and music** and these are reflected in diverse institutes that continue in their educational programmes.
- The structures in these institutes constitute a **myriad of architectural expressions:** the **Kalo Bari**, a mud structure with **coal tar finish and sculpture panels**; **Mastermoshai studio**, a single-storied structure built for the first principal of Kala Bhavan, **Nandalal Bose**; **murals and paintings on Cheena and Hindi Bhavan, created by the illustrious artists like Benodebehari Mukhopadhyay, Nandalal Bose, Surendranath Kar, Somnath Hore with the active involvement of students**.

Particularly Vulnerable Tribal Groups

The Particularly Vulnerable Tribal Groups (PVTGs) are a group of tribal community people in need of greater support and development. **Out of the 705 Scheduled Tribes in India, 75 have been identified as PVTGs and are spread across 17 states and one Union Territory.**

The government of India follows the **following criteria for the identification of PVTGs**

- Pre-agricultural level of technology
- Low level of literacy
- Economic backwardness
- A declining or stagnant population

NCST: NCST is a constitutional body set up by amending **Article 338** and by inserting a new article 338A in the Constitution (89th Constitution Amendment Act, 2003) in 2004.

Erstwhile **National Commission for Scheduled Castes and Scheduled Tribes** was replaced by **two separate Commissions namely:** The National Commission for Scheduled Castes (NCSC) & The National Commission for Scheduled Tribes (NCST)

Few Related Committees

- **Lokur Committee (1965):** It set the criteria for defining Schedule Tribes
- **Bhuria Commission (2002-2004):** It focused on issues such as the 5th Schedule to tribal land, forests, health and education, the working of Panchayats and the status of tribal women.
- **Xaxa Committee (2013):** To study 5 critical issues related to tribal communities: (1) livelihood and employment, (2) education, (3) health, (4) involuntary displacement and migration, (5) and legal and constitutional matters.

PM rolls out 20% ethanol-blended petrol in 11 States/UTs

Petrol blended with 20% ethanol was rolled out at select petrol pumps in 11 states and UTs as part of a programme to increase the use of biofuels to cut emissions as well as dependence on foreign exchange-draining imports.

Background:

- **At present, 10% ethanol** is blended in petrol (10% ethanol, 90% petrol) and the government is looking to **double this quantity by 2025** (advanced by 5 years).
- Ethanol blending in petrol increased from **5%** (in 2014) to 10% and is now progressing towards 20% blending.
- The PM launched the higher 20% ethanol-blended petrol (E20) at the **India Energy Week (IEW) 2023**, two months ahead of the planned rollout.

Significance of rolling out E20:

- India currently is **85%** (the world's third-largest oil consumer and importer) **dependent on imports** for meeting its oil needs.
- The use of ethanol will **cut its imports and save forex**. India spent USD 120.7 billion on the import of crude oil in the 2021-22 fiscal. In the current fiscal, USD 125 billion have been spent in the first nine months (April to December) alone.
- The use of ethanol, extracted from sugarcane as well as broken rice and other agri produce, will also be a boost
- **Also, it cuts carbon emissions**. Estimated reduction of CO emissions by about 50% in 2-wheelers and about 30% in 4-wheelers compared to E0.

International

Paris Club

- The Paris Club, an informal group of creditor nations, will **provide financial assurances** to the International Monetary Fund on Sri Lanka's debt.
- The current economic crisis in Sri Lanka is a result of a combination of factors, including high levels of government debt, a large trade deficit, weak foreign exchange reserves, and declining economic growth.
- **The Paris Club (est. 1956, HQ: Paris (France))** is a group of officials from major creditor countries whose role is to find coordinated and sustainable solutions to the payment difficulties experienced by debtor countries
- **Objective:** To find sustainable debt-relief solutions for countries that are unable to repay their bilateral loans.
- **Members:** 22 permanent members (all are a member of the **OECD**)
- **India and China** are not members. India acts as an **ad-hoc participant**

Radioactive capsule lost - and found - in Australia

- The **Caesium-137 capsule lost in transit** more than two weeks ago was discovered using **specialist detection equipment, which picked up the radiation**.
- Radioactive materials like **Caesium-137 produce beta and gamma radiation**, both of which are harmful to humans. When exposed to them, **short-term risks include that radiation poisoning (which can be deadly) whereas in the long term**, it can also be a cause of cancer and damage human DNA.

12 African countries commit to ending AIDS in kids by 2030

- Ministers and representatives from **12 African countries have laid out plans to end acquired immunodeficiency syndrome (AIDS) in children by 2030** through early testing, treatment, and prevention programmes.
- Countries with high HIV burdens have joined the alliance in the first phase: **Angola, Cameroon, Ivory Coast, the Democratic Republic of the Congo (DRC), Kenya, Mozambique, Nigeria, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe.**
- The **Global Alliance to end AIDS** in children will work to drive progress over the next seven years to ensure that the 2030 target is met.
- The **Dar-es-Salaam Declaration** on ending AIDS in children **was endorsed unanimously**. The commitment marks a **step up to ensure that all children with HIV have access to life-saving treatment and that mothers living with HIV have babies free from HIV.**

What are spy balloons?

- Spy balloons are **high-altitude surveillance tools** that usually operate at 80,000-120,000 feet – well above the cruising altitude of commercial aircraft – **to gather intelligence and carry out other military missions.**
- During the cold war, the U.S. military used high-altitude **balloons (Project Genetrix, Project Mogul) to spy on the Soviet Union.**
- **Economically viable** unlike satellites
- Due to their proximity to Earth's surface, they can take **high-resolution images of the target.**
- **Disadvantage:** Not directly steered, but roughly guided.

The US shot down a Chinese 'spy' balloon, days after the surveillance device was first spotted over American airspace.

Turkey earthquake

Three earthquakes measuring — **7.8, 7.6, and 6.0** — magnitude on the **Richter scale have devastated Turkey and Syria**, while impacting regions as far away as Cyprus, Lebanon, Israel, and Egypt.

Why is Turkey prone to Earthquakes?

- In the region of **Turkey, Syria, and Jordan**, tectonics are dominated by complex interactions between the **African, Arabian, and Eurasian tectonic plates, and the Anatolian tectonic block.**
- **Red Sea Rift**, the spreading centre between the African and Arabian plates;
- **Dead Sea Transform**, a major strike-slip fault that also accommodates Africa-Arabia relative motions;
- **North Anatolia Fault**, a right-lateral strike-slip structure in northern Turkey accommodating much of the translational motion of the Anatolia block westwards with respect to Eurasia and Africa;

- **Cyprian Arc**, a convergent boundary between the African plate and the Anatolia block.

India's Proactiveness in Disaster Relief: Turkey (2023): India is sending an Army medical team, National Disaster Relief Force (NDRF) personnel, and medical supplies

Science-Tech & Environment

Quantum coherence

Quantum coherence refers to the ability of a quantum state to maintain its entanglement and superposition in the face of interactions. Quantum dots are needed for the **storage of information** and for its transmission to **longer distances**. **Spin-photon allows** it to do so. However, extending its storage time beyond a few microseconds has puzzled physicists.

An international team of scientists has made a breakthrough in **retaining the quantum coherence of quantum dot spin qubits**. The research has improved the storage of quantum information beyond **hundreds of microseconds**.

Significance of the breakthrough:

- It will enable **practical quantum networks and quantum computers**
- The technologies will alter a wide range of enterprises and research initiatives, from information security to the search for novel materials and chemicals, to measurements of sensors

What are Quantum dots?

Quantum dots are **tiny particles or nanocrystals of a semiconducting material** with diameters in the range of 2-10 nanometers (10-50 atoms). They are used for LEDs, displays, and various other applications (see the below image)

Yaya Tso

Yaya Tso, known as a birds' paradise for its beautiful lake has been **proposed as Ladakh's first biodiversity heritage site (BHS)**.

Yaya Tso is a **nesting habitat for a large number of birds and animals**, such as the bar-headed goose, black-necked crane, and brahminy duck, adding it also has the **distinction of being one of the highest breeding sites of the black-necked crane in India**.

About BHS:

- Biodiversity Heritage Sites are areas that are **unique, ecologically fragile ecosystems having a rich biodiversity**.

- Under Biological Diversity Act (BDA) 2002, the **State Governments** are empowered to notify BHS, in consultation with '**local bodies**', of **areas of biodiversity importance as Biodiversity Heritage Sites**.
- There are 36 BHS in India, **Mahendragiri hill (Odisha) is the last BHS added in 2022**.

Sickle Cell Disease

- Recently, the government announced in the budget the Centre's plan to launch a mission to **eliminate sickle cell anaemia by 2047**
- The health ministry will now screen all tribals in the country **below 40 years** and give them identity cards based on their sickle cell anaemia status (**Unmukt Project** of the central government)
- **The colour-coded cards** can be **matched before marriage** to understand the **risk of sickle cell disease** in the child born from the union
- **Prevalence**: There are approximately **200 districts in the country** where the disease is prevalent, mostly in Maharashtra, Madhya Pradesh, Chattisgarh, Gujarat, Rajasthan, Jharkhand and Odisha.
- **Sickle cell disease** is a genetic condition that affects haemoglobin — responsible for carrying oxygen in the body— in red blood cells.
- **It is inherited when a child receives two genes**—one from each parent—that code for **abnormal haemoglobin**
- It is prevalent among the **tribal population in India**
- It can lead to problems such as **Anaemia, debilitating acute and chronic pain, infection, acute chest syndrome**, stroke, and renal failure are among the problems it can lead to.

World Wetlands Day

- February 2 is marked as World Wetlands Day. '**Revive and restore degraded wetlands**' is the theme for this World Wetlands Day.
- Finance Minister **Nirmala Sitharaman announced a special scheme called 'Amrit Dharohar'** for protecting **India's wetlands in the Union Budget 2023**.
- A separate scheme for mangrove conservation, '**Mangrove Initiative for Shoreline Habitats & Tangible Incomes**', (**MISHTI**) was also announced as part of the **green growth priority of the Budget**.

Muon tomography or muography

Muography is conceptually similar to **X-ray but capable of scanning much larger and wider structures**, owing to the **penetration power of muons**.

Muons are **subatomic particles raining from space**. They are created when the particles in Earth's atmosphere **collide with cosmic rays** — clusters of high-energy particles that move through space at just below the speed of light.

Applications of Muography:

- **Muons and archaeology:** In 2017, modern archaeologists repeated the experiment with more sophisticated and **advanced muon detectors and stumbled upon a major finding.**
- **CORMIS (Cosmic Ray Muon Imaging System)**, to examine the wall of Xi'an city
- It is used in **customs security, internal imaging** of volcanoes, and others

Ethical concerns related to the use of voice deepfakes

- **Deception:** Using false or misleading audio recordings
- **Privacy invasion:** Making deepfake voices to impersonate others without their consent
- **Damage to reputation and credibility**
- **Lack of regulation:** Currently no law regulates it
- **Impact on public trust:** It may lead to **misinformation.**
- **Discriminatory uses:** It can be used to create fake recordings of marginalized communities, amplifying **harmful stereotypes and perpetuating discrimination.**

Other Concerns:

- **Cases of defrauding users:**g. In 2020, a manager from a bank in the U.A.E., received a phone call from someone he believed was a company director to transfer **\$35 million.**
- **Identity Theft: Morgan Neville's documentary film** on the well-known late chef Anthony Bourdain used voice-cloning software to make Bourdain say words he never spoke. This sparked criticism.
- **Phone scams**
- **Posting fake videos on social media platforms:** To blackmail the target

Bard

- Google has finally decided to start public testing for a new **AI chatbot of its own called Bard.**
- Bard is based on **Language Model for Dialogue Application or LaMDA and Google's own conversational AI chatbot.** It is termed an "**experimental conversational AI service.**"
- The model is currently a "**lightweight**" version of **LaMDA**, and the one being "**requires significantly less computing power, enabling us to scale to more users, allowing for more feedback.**"

Jupiter beats Saturn to become the planet with the most moons

- Astronomers have discovered **12 new moons around Jupiter, putting the total count at a record-breaking 92.**
- Jupiter and Saturn are loaded with small moons, **believed to be fragments of once bigger moons that collided with one another or with comets or asteroids.** The same goes for Uranus and Neptune, but **they're so distant that it makes moon-spotting even harder.**
- Uranus has 27 confirmed moons, Neptune 14, Mars two, and Earth one. Venus and Mercury come up empty.
- Jupiter's **newly discovered moons have yet to be named.**

Economics

The Economic Survey 2023

- It provides a **detailed report of the state of the national economy** (from agriculture to unemployment to infrastructure) for the year that is coming to a close (2022-23) with forecasts of the upcoming financial year (2023-24).
- It is prepared by the Economic Division of the **Department of Economic Affairs (DEA)**, Ministry of Finance, under the guidance of the chief economic adviser (CEA).
- Once prepared, the Survey is **approved by the Finance Minister** and the comments or policy solutions contained in the Survey are **not binding** on the government.

Key highlights:

- India is to witness GDP growth of **6.0 – 6.8%** in 2023-24, depending on the trajectory of economic and political developments globally
- The RBI has projected headline inflation at **6.8%** in FY23, outside its comfort zone of 2% to 6%.
- India's budgeted expenditure on the health sector reached 2.1% of the GDP in the financial year 2023 (Budget estimates) and **2.2%** in FY 2022 (revised estimates). The National Health Policy 2017 as well as the 15th Finance Commission **recommended 2.5% by 2025.**
- As a share of total GDP, the budgetary allocation for education saw only a minimal gain of 0.1 percentage points, from **2.8% to 2.9%** during the same seven-year period.
- The Indian agriculture sector has been growing at an average annual growth rate of **4.6% during the last six years.** In recent years, India has also **rapidly emerged as the net exporter of agricultural products** (an all-time high of \$50.2 billion during 2021-22)
- India has been placed among the **top 10 service-exporting countries in the year 2021.** The commercial services export has increased from 3% in 2015 to 4% in 2021.

- The industry not only accounts for **31% of the GDP** but also has a significant contribution in **generating employment for up to 12.1 crore people** in the financial year 2023, directly or indirectly.
- India declared the **Net Zero Pledge** to achieve a net zero emissions goal by 2070. India achieved its target of **40% installed electric capacity** from non-fossil fuels ahead of 2030.
- The number of start-ups recognized by the **Department for Promotion of Industry and Internal Trade (DPIIT)** has increased from 452 in 2016 to 84,012 in 2022. Start-ups are being envisioned as the **spine of the 'new India'** as they encouraged youth to become job creators rather than job seekers
- India is on the **"right trajectory"** to reach **\$300 billion worth** of electronics manufacturing and **\$120 billion in exports** by FY26 due to an improvement in manufacturing and export over the last five years.

Union Budget 2023-24

- According to **Article 112** of the Indian Constitution, the **annual financial statement** is a statement of the **estimated receipts and expenditures** of the government for a particular year.
- The receipts and expenditures **are shown under three parts**, namely, the Consolidated Fund of India and the Public Account of India (Article **266**), and the Contingency Fund of India (Article **267**).
- It is prepared by the **Department of Economic Affairs**, Ministry of Finance, for the fiscal year **that runs from 1st April to 31st March**.

Highlights of the Union Budget 2023-24 speech:

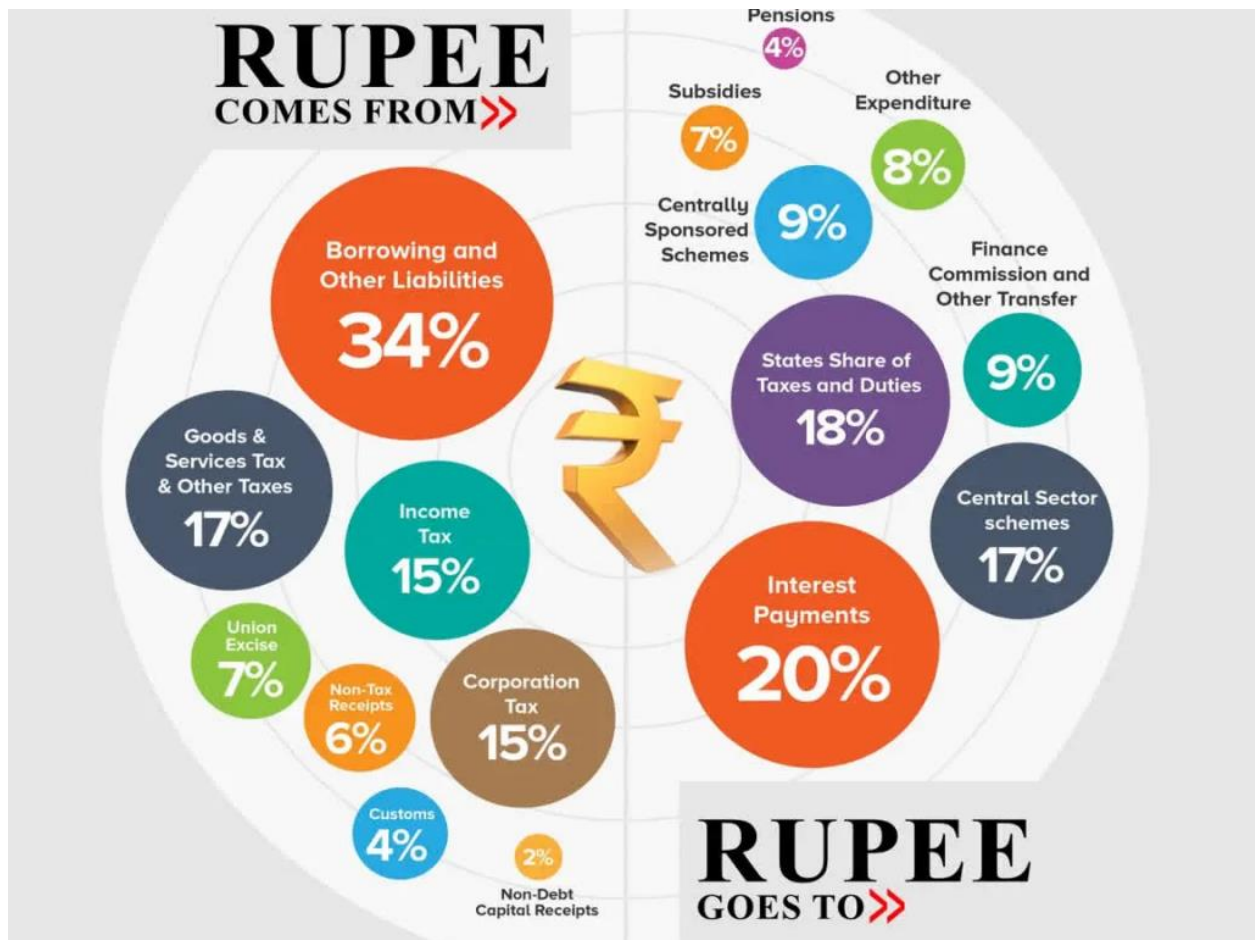
- **Resilience amidst multiple crises: The economic growth is estimated at 7%**, which is the highest among all major economies, despite the massive global slowdown caused by COVID-19 and Russia-Ukraine War.
- **G20 Presidency:** With the theme of '**Vasudhaiva Kutumbakam**', India is steering an ambitious, people-centric agenda to address global challenges and facilitate sustainable economic development.
- **Vision for Amrit Kaal – An empowered and inclusive economy:** The term 'Amrit Kaal' comes from **Vedic astrology** and indicates a sort of **golden era**. It signifies that the coming period in **India is going to be its most prosperous**, with economic growth and **social justice**.
- **The total receipts** other than borrowings and the **total expenditure** are estimated at Rs 27.2 lakh crore and Rs 45 lakh crore respectively.

- **The net tax receipts** are estimated at Rs 23.3 lakh crore and the **fiscal deficit** is estimated to be **9% of GDP**. Set to benefit the economy because it means **more funds available for private players**.
- **The capital expenditure** by the government has been raised to **Rs 10 lakh crore**. This is more than double the amount of money allocated when compared to 2020-21. **Capital expenditure** is the money that is spent on **building productive assets** such as roads and bridges and ports.
- The rebate limit in the new tax regime has been **increased to ₹ 7 lakh**, meaning that peons in the new tax regime with income up to ₹ 7 lakh will not have to pay any tax.
- **Indirect Tax Proposals:** It emphasised **simplification of tax structure** with fewer tax rates so as to help in reducing compliance burden and improving tax administration. **The number of basic customs duty rates on goods**, other than textiles and agriculture, has been reduced from 21 to 13.
- **Better targeting of tax concessions:** For better targeting of tax concessions and exemptions, the deduction from capital gains on investment in residential houses has been capped at ₹ 10 crores.
- **Proposals relating to MSMEs:** Describing MSMEs as growth engines of the Indian economy, the Budget proposes enhanced limits for micro-enterprises and certain professionals for availing the benefit of presumptive taxation
- **Cooperation:** New cooperatives that commence manufacturing activities by 31st March next year shall get the benefit of a lower tax rate of 15%.
- **Start-ups:** The Budget proposes to extend the date of incorporation for income tax benefits to start-ups from 31.03.2023 to 31.03.2024.
- **Amendments in CGST Act:** The Budget provides for amending the CGST Act so as to raise the minimum threshold of tax amount for launching prosecution under GST from ₹ 1 crore to ₹ 2 crores.

As per the '**Saptarishi**' targets, the schemes have been divided into **7 Key Priority Areas**

1. Inclusive Development
2. Reaching the Last Mile
3. Infrastructure and Investment
4. Unleashing the Potential

5. Green Growth
6. Youth Power
7. Financial Sector



Types of Deficits	Description
Budget Deficit	Difference between total expenditure and total receipts.
Fiscal Deficit	Total expenditure – (Revenue receipts + Capital receipts which are non debt imposing)
Revenue Deficit	Difference between revenue expenditure and revenue receipts.
Primary Deficit	The part of Fiscal Deficit that excludes interest payment amount.
Effective Revenue Deficit	Revenue Deficit - Grants for creation of capital assets

The fiscal deficit road map (as a % of GDP)



Years	Budget estimates	Actual
2017-18	3.2	3.5
2018-19	3.3	3.4
2019-20	3.3	4.6
2020-21	3.5	9.2
2021-22	6.8	6.7
2022-23	6.4	-
2023-24	5.9	-

What is an FPO?

FPO (Follow on Public Offer) is a process by which a company, which is already listed on an exchange, issues new shares to the investors or the existing shareholders, usually the promoters

FPO oversubscription: An FPO oversubscription is a condition when an FPO receives more applications from investors than the total number of shares offered. For example, Adani's FPO was oversubscribed **1.12 times**, meaning there were 112 interested investors for 100 shares of the company.

Flipping and Reverse Flipping

- Flipping refers to the **process of transferring the entire ownership of an Indian company to an overseas entity, accompanied by a transfer of intellectual property (IP)** and all data hitherto owned by the Indian company.

- This **effectively transforms an Indian company into a 100 per cent subsidiary of a foreign entity**, with the founders and investors retaining the same ownership via the foreign entity, having swapped all shares.
- Reverse flipping is **shifting their domicile back to India**.

Why start-ups were flipping before: Challenges faced by start-ups: funding hurdles, revenue generation struggles, lack of easy access to supportive infrastructure, and a complex regulatory tax environment. Start-ups have been headquartered overseas, especially in destinations with favourable legal environments and taxation policies.

Angel tax

- According to a proposal made in the Finance Bill, 2023, foreign/angel investors may be required to pay the **“angel tax,”** which was previously only supposed to be paid for investments raised by resident Indian investors.
- The Finance Bill 2023, has proposed to amend Section 56(2) VII B of the **Income Tax Act**.
- According to the clause (introduced in 2012 and commonly known as the ‘angel tax’), equity investments from **residents** for the issuance of shares at a price above their face value are treated as **income** for unlisted businesses like start-ups. **For instance**, if a start-up share has a fair market value of Rs 10 per unit and is sold to an investor for Rs 20 during a subsequent funding round, the difference of Rs 10 would be taxable as income (**at 30%**).
- However, with the latest amendment, the government has proposed **to also include foreign investors in the ambit**.

Why are start-ups concerned?

- According to a PwC India report, **funding for India’s start-ups dropped** by 33% to \$24 billion in 2022 as compared to the previous year.
- **Foreign investors are a key source of funding** for start-ups and have played a big role in increasing the valuation.

What is a Pioneer Investor?

An early investment made in any new sector or technology. E.g. Polymetallic nodules at the ocean bed.

India’s Step for PMN and Blue Economy:

- Recently, the International Seabed Authority (ISA) and the Ministry of Earth Sciences also **exchanged PMN (Polymetallic Nodules) exploration extension contract**
- **India is framing the Blue Economy policy framework**, which aims at covering the coastal economy, tourism, marine fishery, deep-sea mining etc.
- **As a part of the Deep Ocean Mission**, India concluded the world’s first locomotive trials of a deep-sea mining system in the central Indian ocean last year (2022).

Green debt securities

Sebi broadly defines green debt security as one that is issued for the purpose of raising capital to be used for the cause of sustainable development or furthering energy efficiency

Under the sub-categories of green debt securities:

- **Blue bonds:** It is a debt instrument issued by governments, development banks or others to raise capital to finance **marine and ocean-based projects** that have positive environmental, economic and climate benefits
- **Yellow bonds** pertain to solar energy
- **Transition bonds:** To fund a firm's transition or to reduce their carbon emissions

Ethics & Society

Carrying Capacity

- The total number of **individuals of a species that can live in an ecosystem under certain conditions.**
- More recently the concept has been expanded beyond ecology by including **economic, social, and infrastructure imperatives.**
- **Urban Carrying Capacity (UCC):** It provides a theoretical foundation for **determining the maximum potential population that could be supported without environmental degradation, based on the inherent limitations of a city**

Ethical concerns associated with Generative AI

- **Bias and Discrimination:** AI models can perpetuate and amplify biases in their training data, leading to **discriminatory outcomes and unjust decisions.**
- **Responsibility and accountability**
- **Privacy:** Generative AI models have the **potential to collect and generate vast amounts of personal data, which can raise privacy concerns.**
- **Ownership and control**
- **Fairness and transparency:** AI models can make decisions **that lack transparency and fairness.**
- **Job displacement**
- **Misuse:** AI models can be used for **malicious purposes, such as creating fake news or deep fakes, or spreading hate speech.**

Current Affairs Update (Feb 10-16)

National

Article 105 of the Indian Constitution

- It deals with the powers, and privileges of the Houses of Parliament (**collective**), its members (**individual**) and committees. It has the following provisions –
- **There shall be freedom of speech in Parliament**
- **MPs are exempted from any legal action for any statement made or act done** in the course of their duties in Parliament.
- This immunity extends to certain non-members as well – the **Attorney General of India** or a Minister who may not be an MP but speaks in the House.
- This article guarantees that MPs can carry out their duties **without interruption or fear, upholds the dignity and authority of the Parliament and supports its democratic operation.**
- Instead of the court, the **Speaker** of the House will deal with instances where a Member goes beyond the bounds of permissible free expression

200th birth anniversary of Dayanand Saraswati

- PM inaugurated celebrations commemorating the **200th birth anniversary of social reformer and Arya Samaj founder Dayanand Saraswati**
- He was the **first to give the call for Swaraj as “India for Indians” in 1876**, a call later taken up by Lokmanya Tilak.
- Subsequently, former President of India, S. Radhakrishnan, called him one of the **“makers of Modern India”**, as did Sri Aurobindo.
- **Book:** Satyarth Prakash (Text on the philosophy of the Vedas)

The Treaty of Alinagar

- It was signed on **9 February 1757** between the British East India Company (**Robert Clive**) and the Nawab of Bengal (**Siraj ud-Daulah**).
- **Alinagar** was the short-lived name given to Calcutta by the Nawab after it was captured by him.
- Although the Nawab had taken control of the English fort in Calcutta, he signed the pact in response to the **English military might and the threat posed by Afghans** (under Ahmad Shah Abdali).

Terms of the treaty: The Nawab would recognize all the provisions of **Mughal Emperor Farrukhsiyar's farman of 1717** – exempt from paying duties on goods passed through Bengal, can fortify Calcutta, mint coins in Calcutta, etc.

Significance of the treaty: The signing of the treaty was one of the events leading up to the famous Battle of Plassey, which set the stage for **British colonial expansion in India**.

SWAYAM

- **Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)**, was launched in 2017 by the **Ministry of Human Resource Development** to provide one integrated platform and portal for online courses.
- This covers **all higher education subjects** and skill sector courses.
- It is a **repository of more than 300 high-quality Massive Open Online Courses (MOOC)** that are developed by **academicians** from **top-ranked institutions** and are offered free of cost

Millet International Initiative for Research and Awareness (MIIRA)

India (during its G20 Presidency) is planning to propose the launch of a global initiative (MIIRA) to encourage the consumption and production of millet

Objectives:

- It will **coordinate millet research programmes** at the international level.
- It is in line with the **UN declaring 2023 as the International Year of Millets** and the **Centre's plan** to make India a global hub for millets.
- **For MIIRA to take off**, India will contribute the **"seed money"** while each G20 member will later have to contribute to its budget in the form of a membership fee

Appointment of the Governor – Constitutional provisions

- **Article 153:** There shall be a Governor for each State and the same **person can be the Governor for two/more States** (2nd part added through an amendment in 1956).
- **Article 155:** Governor of a State shall be **appointed by the President** by warrant under his hand and seal.
- **Article 156:** The Governor shall hold office during the **pleasure of the President**, but his normal term of office **will be five years**. Since the President acts on the aid and advice of the PM and the Union Council of Ministers, **the Governor is appointed and removed by the central government**.
- **Articles 157 and 158:**
 - **Qualification:** The Governor must be a **citizen of India** and should have completed the age of **35**

- **Condition of office:** The Governor should not be a member of Parliament or a state legislature, and **must not hold any other office of profit.**

Issues with the use of Article 356

- **Overuse and abuse in a politically motivated manner,** especially by the central government to dismiss state governments run by opposition parties.
- **Subversion of democracy:** It suspends the democratic process in a state
- **Lack of accountability:** The frequent use of Article 356 has been seen as an infringement on the federal principles of the Indian Constitution and a diminution of the powers of the states.
- **Negative impact on governance:** It can lead to administrative and governance breakdowns in a state

Commonly known as **President's Rule**, Article 356 **allows the president to assume any and all functions of the state.** Recently Prime Minister mentioned the **misuse of Article 356 in the parliament.**

Constitutional provisions regarding Deputy Speaker

- **Article 93** of the Constitution of India establishes the **post of the Deputy Speaker of Lok Sabha and Articles 94-96 detail their appointment, removal, and powers.**
- In the absence of the Speaker, **the Deputy Speaker serves as the Speaker and wields the full powers of the Speaker.**
- **Deputy Speaker is not subordinate to the Speaker** and is directly responsible to the House.
- **Article 178 of the Constitution establishes the post of Deputy Speaker** of assemblies and Articles 179-181 deal with their powers and appointment or resignation.

Is it mandatory to have a Deputy Speaker?

- Constitutional experts point out that **both Articles 93 and 178 use the word "shall"**, indicating that the election of Speaker and Deputy Speaker is mandatory under the Constitution

Discovery of lithium deposits in J&K

Geological Survey of India (GSI) has for the **first time** established Lithium inferred resources of about **6 million tonnes** in the **Salal-Haimana area** of the Reasi District of Jammu & Kashmir (UT). **51 Mineral Blocks** including **Lithium and Gold** were handed over to State Governments

Significance of the find:

- Reduce the need for **imports**
- Improve **employment** opportunities
- Boost to the **manufacture** of rechargeable batteries
- Boost to the **Economy**

- **Push for India's Clean Energy targets:** Lithium is a key component in batteries for electric vehicles and renewable energy storage systems

Lithium is primarily extracted from **brine pools** ('Salar' in Chile) and rock minerals such as **spodumene** (in Australia). **Countries with Largest Reserves:** Chile> Australia> Argentina

Applications of Lithium:

- **Batteries:** Lithium is widely used in batteries due to its high electrochemical potential and low weight.
- **Glass and Ceramics:** Lithium is added to glass and ceramics to improve their thermal stability, transparency, and strength.
- **Aerospace:** Lithium is used in the production of lightweight alloys for the aerospace industry.
- **Pharmaceuticals:** Lithium is used in the treatment of bipolar disorder due to its ability to stabilize mood swings.
- **Lubricants:** Lithium is used as a lubricant in high-temperature and high-vacuum environments.

Pulwama Attack

Pulwama district is in Jammu and Kashmir. The Pulwama Attack killed more than 40 CPRF personnel. It occurred on February 14, 2019. The Jaish-e-Mohammed terrorist group claimed responsibility for the attack. The attack was conducted by a vehicle-borne suicide bomber. The UN and several other countries condemned the attack. This includes China, Russia, and France, the UK, the US, and Israel. In 2023, the CPRF marked the fourth anniversary of its fellowmen.

Nominated members can't vote in MCD mayoral polls: SC

The Supreme Court has said that the **aldermen** — who are nominated members of the Delhi Municipal Corporation cannot vote in the election of Delhi's Mayor.

Municipal Corporation constitutes of **elected representatives** called **Councillors**. Councillors can nominate **eminent personalities of the city** to become members of this body. These nominated members are called '**Aldermen**'.

Article 243R of the Constitution says that "all the seats in a Municipality shall be filled by persons chosen by **direct election** from the territorial constituencies in the Municipal area and for this purpose, each Municipal area shall be divided into territorial constituencies to be known as **wards**".

International

India-Nordic countries' relations

The **Nordic countries** include the sovereign states of Denmark, Finland, Iceland, Norway and Sweden.

Recent developments in India-Nordic countries' relations:

- **The 2nd Nordic-India Summit (Copenhagen) 2022:** Both agreed to intensify cooperation on digitalisation, renewable energy, maritime industries, and the circular economy.
- **Trade links:** Trade between Norway and India has **doubled (to \$2 billion) in the last three years** and it is **likely to become one of India's largest single foreign investors** (around \$17.6 billion).
- **Investment in renewable energy:** Norway's new **Climate Investment Fund** (for investments in renewables abroad) has invested almost ₹1,500 crores in India so far.
- **Leadership Group for Industry Transition (LeadIT):** Launched by **Sweden and India** at the UN Climate Action Summit in 2019 and supported by the WEF, it gathers countries and companies that are committed to action to achieve the Paris Agreement.

Earthquake hits New Zealand

After Cyclone Gabrielle, New Zealand faced yet another disastrous natural calamity. An earthquake of 6.1 Richter shook the country. The epicentre was at a depth of 57.4 km and 50 km from Paraparaumu. According to the US Geological Survey, the epicentre was right at the Cook Strait. The strait divides the two main landmasses of the country.

Black Sea Grain Deal

Ukraine is one of the largest exporters of food grains such as rapeseed, maize, wheat, and sunflower oil. The country has good access to the Black sea ports. Ukrainian ports in the Black sea are the lifelines of the country's trade with Europe and middle-east. Unfortunately, the Ukraine-Russia war blockaded the ports. To aid Ukraine with its smooth exports, United Nations and Turkey came forward. Under their brokering, Ukraine and Russia signed the Black Sea Grain Deal in July 2022.

What is the Black Sea Grain Deal?

The deal was to provide a safe corridor for Ukrainian exports, especially food grains on humanitarian concerns. The main objective of the deal was to calm markets and to reduce increasing food inflation affecting several countries.

Aksai Chin Railway Line

The Chinese Government is planning to build a new railway line in the Aksai Chin region. The line will run till Pangong Lake. It will run very close to the Line of Actual control. Phase one of the railway line will be completed by 2025. During this phase, China will lay a railway line between Xiagtse and Pakhutso. The plan is to complete the line by 2035.

The 1962 war was fought between India and China because of the G219 highway. The new planned Railway line will run through this highway

Science-Tech & Environment

SSLV-D2

- **Launch site:** Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota
- **Launch vehicle:** Small Satellite Launch Vehicle
- **No of satellites launched:** 3 (2 Indian+ 1 foreign)
- **Main Indian Payload:** EOS-07
- **Nature of satellite:** Earth Observation Satellite
- **Other payloads:** Janus-1 (USA) and AzaadiSAT-2 (Indian)
- **Significance:** SSLV caters to the launch of up to **500 kg** satellites to low earth orbits on a 'launch-on-demand' basis. It provides low-cost access to space, offers low turn-around time and flexibility in accommodating multiple satellites, and demands minimal launch infrastructure.

BHASHINI Mission

Under Bhashini Mission, a team at MeitY is currently building a **WhatsApp-based chatbot** that relies on information generated by ChatGPT to return appropriate responses to queries.

BHASHINI Mission is a **local language translation mission** that aims to enable **easy access to the internet and digital services** in Indian languages, including voice-based access, and help the creation of content in Indian languages.

It will also provide AI-based resources to Indian MSMEs, startups and innovators in the public domain

Bhasha Daan: It is an ambitious project which aims to crowdsource voice datasets in multiple Indian languages as part of **Project BHASHINI**.

On the project's website, people can contribute in three key ways:

- By recording their voice samples in multiple Indian languages
- By typing out a sentence being played
- By translating text from one language into another.

New broadband definition

- Recently, the definition of broadband was upgraded to mandate a **minimum speed of 2Mbps**
- Broadband is a **data connection** that is able to support interactive services, including internet access and has the capability of the **minimum download speed of 2 Mbps** to an individual

subscriber from the **point of presence (POP) of the service provider** intending to provide broadband service.

- The **minimum download speed** was previously **512 kbps** (kilobits per second).

Few Basic terms:

- **Broadband:** It refers to **high-speed Internet access** that is always on and faster than traditional dial-up access.
- **White Spots:** Places without cellular connectivity at all are called “white spots”.
- **Grey Spots:** Places which show simply being “connected” but have very slow and intermittent connectivity

MicroLEDs

- Micro-LEDs are **self-illuminating diodes** that have **brighter and better colour reproduction** than Organic Light Emitting Diode (OLED) display technology.
- They are similar to OLEDs – but with an inorganic LED structure.
- **Advantages:** Promise to be much more efficient and bright, more durable (higher lifetime), and with a higher colour gamut. Relatively easy to scale up.
- **Disadvantage:** Higher Cost

Forever Chemicals

An Oxford study has found that the Norwegian Arctic ice is contaminated with alarming levels of toxic PFAS (**Per- and polyfluorinated alkyl substances**, also called “forever chemicals”).

PFAS are a **class of about 12,000 chemicals** often used to make thousands of consumer products resist water, stains and heat. **They are called “forever chemicals”** because they do not naturally break down, and they are linked to cancer, liver disease, kidney stress, fetal complications and other serious health problems.

Uses: They are used in cosmetics (hair conditioner, foundation cream, sunscreen etc.), electronics (smartphones), textiles (waterproof clothing), utensils (non-stick pan) etc.

Impact of PFAS:

- These chemicals are **persistent and can bioaccumulate** in living organisms, potentially causing health and environmental risks.
- **Risk of further contamination:** The chemicals can move from glaciers into downstream ecosystems like Arctic fjords and tundra.
- **It affects the entire food web**, including plankton, fish, seal and apex animals like polar bears, and thus impact local communities

TARKASH

It is an **ongoing Indo-US joint exercise (TARKASH)** by the National Security Guard (NSG) and US Special Operations Forces (SOF) **has for the first time included “Chemical, Biological, Radiological, and Nuclear (CBRN) terror response” in its drill**

Dwarf planet Quaoar

A ring has been detected around Quaoar by the European Space Agency’s Cheops telescope, similar to Saturn’s ring.

Quaoar: Discovered in 2002, it is a **dwarf planet** in the **Kuiper belt**, a region of icy planetesimals beyond Neptune. Its diameter of about 700 miles is **a third that of Earth’s moon and half that of the dwarf planet Pluto**. It has a small moon called **Weywot**.

Discovery of New Quasicrystal

A US scientist recently discovered quasicrystals. The major difference between an ordinary crystal and a quasi-crystal is that the atomic patterns in quasi-crystals do not repeat themselves as that of an ordinary crystal. They are rare to occur naturally. However, can be created artificially. So far, we have discovered only two naturally occurring quasicrystals. The recently discovered is the third naturally occurring quasicrystal and was formed accidentally from an electric discharge.

The first discovery was in 2009 in Russia. The second discovery was in 2021 in Mexico from a nuclear explosion. The recent and third discovery is from a meteorite near Nebraska. The meteorite rock that hit the earth’s surface millions of years ago has been hit by a lightning strike and the quasi-crystal was formed.

Fungal Attack in Neem Trees

The neem trees in the state of **Telangana** are affected by a fungus. The fungus is invisible to the human eye and has been identified as *Phomopsis azadirachtae*. The fungus is causing a disease called **Twig Blight**. The disease kills the twigs, shoots, branches, and the starting tips of the neem trees.

Marburg Disease Outbreak

The World Health Organization recently confirmed the Marburg disease outbreak in Equatorial Guinea. Patients suffering from the disease experience diarrhoea, vomiting, and stomach pain. Also, there is bleeding in severe cases. An e-bola-related virus is causing the disease. The Spread of the disease is epidemic; meaning the disease is widespread.

The virus comes from bats. It spreads through close skin contact, bodily fluids, and also through infected surfaces. It causes hemorrhagic fever. Fever affects the organs and they start bleeding.

Filariasis

Lymphatic filariasis commonly known as **elephantiasis** is a **neglected tropical disease, which causes tissue or limb swelling.**

Transmission: Filarial parasites (nematodes (roundworms)) are transmitted to humans through mosquitoes. One of the three parasites, **Wuchereria bancrofti**, is responsible for 90% of the cases

Treatment: WHO recommended strategy for lymphatic filariasis elimination is mass drug administration (MDA).

Government Initiatives:

- **Nationwide mass drug administration (MDA) campaign** aimed at ending **filariasis** disease transmission through **door-to-door administration** of anti-filarial drugs, especially in 10 affected states such as Bihar, Chhattisgarh, Jharkhand, Maharashtra, Uttar Pradesh, etc.
- **Accelerated Plan for Elimination of Lymphatic Filariasis (APELF)** was launched in 2018
- **January 30:** World Neglected Tropical Diseases Day
- **London Declaration on NTDs:** It was adopted on 30th January 2012 to recognise the global burden of NTDs

Economics

What is MAI?

It is an **Export Promotion Scheme**. The scheme aims to **act as a catalyst** to promote India's exports on a sustained basis. The scheme is **formulated on the basis of the product and country focus approach**. It will evolve **specific markets** and **specific products** through market studies/surveys.

What is Reverse Buyer Seller Meet?

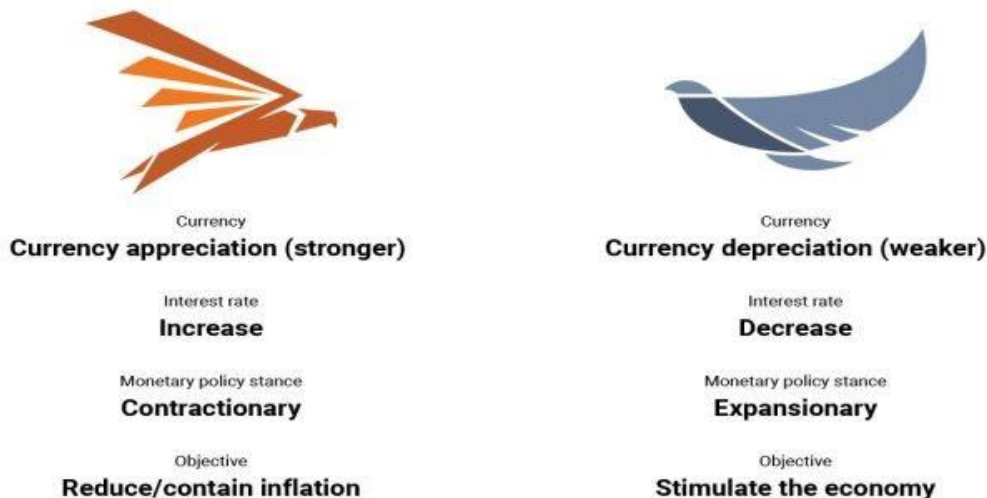
Reverse Buyer Seller Meet is to provide an opportunity for **prospective importers (Buyers)** to interact with their **Indian counterparts (sellers)** about the requirements, instead of sellers going to buyers to sell their products.

About Apparel Export Promotion Council (AEPC)

Incorporated in 1978, AEPC is the **official body of apparel exporters in India** that provides assistance to Indian exporters as well as importers/international buyers who choose India as their preferred sourcing destination for garments.

Investment Type	Description	Risk	Reward
Stocks	These include a share of ownership of a listed company. You earn through stock price increases and dividends.	High	High
Bonds	These are investment options where your money is invested with a government or institution, and you receive a fixed interest rate at regular intervals or maturity.	Low	Low
Mutual funds	A well-diversified portfolio of equity, bonds, and money market securities. You can invest in individual funds or hybrid funds.	Medium	Medium
United Linked Insurance Plan (ULIP)	ULIPs offer you a venue to invest in multiple equities and debt funds at the same time and manage the portfolio manually or in auto mode.	As per your Portfolio	High
Gold	You can invest in gold through mutual funds or Exchange Trade Funds (ETFs).	Medium	Low

Hawkish vs Dovish Monetary Policies



QR code-based Coin Vending Machine (QCVM)

- It is a **cashless coin dispenser** that dispenses coins in exchange for a bank account debit via the **Unified Payments Interface (UPI)**.
- Unlike traditional cash-based Coin Vending Machines, **the QCVM would not require banknote tendering or validation.**
- This will offer ease and ready access to coins for customers via the UPI facility.

Ethics & Society

Uttarakhand's new anti-cheating law

The **Uttarakhand Competitive Examination (Measures For Control and Prevention of Unfair Means in Recruitment) Ordinance, 2023**, which has provisions of fines up to **Rs 10 crore** and life imprisonment for the guilty has been given nod by the governor. There have been **continuous agitations against multiple paper leaks in Uttarakhand since 2016**

Provisions of the anti-cheating law

- **Applicable to:** public examinations for **recruitment to posts under the state government, autonomous bodies run by the government**, and authorities, corporations, and institutions operated with grants of the state government.
- If any examinee is **caught cheating or causing another examinee** to cheat in a competitive examination (online and offline) or to have indulged in unfair means, **he shall be:**

- **Punishable with imprisonment for three years and with a minimum fine of Rs 5 lakh.**
- **If the fine is not paid, the examinee shall be jailed for another 9 months.**
- If any person, printing press, service provider contracted or ordered for examination, management for conducting an examination, or any person and organization authorized to keep and transport the examination material, any employee of the examination authority, limited liability partnership, coaching centre, or any other institution has indulged in conspiracy or other unfair means, they shall be punished with a **jail term of not less than 10 years**, which may extend to life imprisonment.

Reason for high crony capitalism in India

- **Weak governance and lack of transparency** in the political and bureaucratic systems
- **Corruption**
- **Lack of competition** in the business sector dominated by a few large conglomerates
- Influence of money and power where **financial resources shape government policies**
- **Weak legal and regulatory frameworks** with slow and inefficient courts
- **Weak enforcement** of laws and regulations
- **Complex rules** and regulations

Crony capitalism: A political-economic system in which success in business depends on close relationships between **business people and government officials**, rather than on merit and competition

Ethical issues with Crony Capitalism:

- **Corruption:** It undermines the **integrity of public institutions** and **erodes trust** in the democratic process.
- **Inequality:** It creates a **two-tiered system** and exacerbates income and wealth inequality, contributing to social injustice.
- **Reduced Competition:** It stifles innovation, reduces economic growth, and limits opportunities for small businesses and entrepreneurs.
- **Lack of Social Responsibility:** Crony capitalists often prioritize their own self-interest over the well-being of society.

Knowledge Republic

A “**Knowledge Republic**” refers to a society or community that places a high value on knowledge and education, and prioritizes the acquisition, dissemination, and application of knowledge as a key aspect of its functioning and growth.

It is a vision of a society in which

- Knowledge is **freely available** and accessible to all
- Individuals are **empowered to pursue** their own intellectual and educational goals
- **India's civilizational heritage**: Indian civilization always revered knowledge. E.g., India's richness of languages, the vastness of scriptures, and the ancient universities.

Sports

Formula E

- Formula E is an **electric equivalent** of the widely followed Formula 1 which was staged in India from 2011 to 2013. However, other than the 'Formula' prefix, **there is no similarity** between the two FIA world championship status events.
- Hyderabad has become **the 30th location** to host a Formula E race
- It is the **first global sport** to be certified with a **net zero carbon footprint**
- **Gen3 technology** has been introduced this season. Gen3 is the fastest, lightest, most powerful and most efficient car in its history.
- More than **40 per cent of the energy in the Gen3** will come from **regenerative braking** (energy recovery mechanism that slows down a moving vehicle)

Current Affairs Update (Feb 17-23)

National

Sealed cover jurisprudence

- It is a practice (origins can be traced to service or administrative cases) used by the **SC and sometimes lower courts**, of asking/accept information from government agencies in sealed envelopes **that can only be accessed by judges**.
- While a **specific law does not define** the doctrine of sealed cover, the SC derives its power to use it from the SC Rules 2013 and the Indian Evidence Act 1872.
- **Recent times have seen the government produce myriad documents** (such as the Rafale jets' purchase deal, and the Ayodhya title dispute) as sealed covers, resulting in the doctrine rising to the status of 'due procedure'.

Pros

- To avoid harm to the reputation of public servants.
- To protect the identity of rape victims.
- Disclosure can endanger **national security and public order**.

Cons

- The other parties are unable to defend themselves.
- Against the **principles of natural justice and the fundamental right to know**.
- Threaten the very **credibility of the judicial institution** ('open court' principle).

Union Cabinet clears seven ITBP battalions

- With the Line of Actual Control remaining tense, **India is raising seven new battalions of the famed patrol force ITBP**, for 'effective monitoring' of the border region.
- The battalions **are expected to be raised by 2025-26**, increasing the strength of the ITBP from the current 88,000 to 97,000, **making it the fourth largest CAPF**.
- The Indo-Tibetan Border Police (ITBP) is a border patrol organization of India deployed **along its borders with Tibet Autonomous Region**.
- It is one of the **seven Central Armed Police Forces**, established in 1962 in the **aftermath of the Sino-Indian War of 1962**.
- The ITBP guards **3,488 km long India-China borders ranging from the Karakoram Pass in Ladakh to Jachep La in Arunachal Pradesh**.

Special Marriage Act, 1954

- The Special Marriage Act of 1954 (SMA) was passed by **Parliament on October 9, 1954**. It governs a civil marriage where the **state sanctions the marriage rather than the religion**.
- Laws, such as the **Muslim Marriage Act, of 1954, and the Hindu Marriage Act, of 1955**, require either **spouse to convert to the religion of the other before marriage**.
- However, the SMA enables marriage between **inter-faith or inter-caste couples without them giving up their religious identity or resorting to conversion**.

Who can get married under the Special Marriage Act?

- The applicability of the **Act extends to the people of all faiths, including Hindus, Muslims, Sikhs, Christians, Sikhs, Jains, and Buddhists, across India**.
- The minimum age to get married under the **SMA is 21 years for males and 18 years for females**.

Special Category Status

Central government will not consider demands for “special category status” for any state. States such as **Odisha (vulnerability to natural disasters), Andhra Pradesh and Bihar (backwardness)** have been pushing for “**special category status**” for some years now.

The 14th Finance commission has clearly said no special status can be given.

Special Category Status (SCS): It is a classification given by the Centre to assist the development of states that face geographical and socio-economic disadvantages (on the **recommendations of the 5th Finance Commission** in 1969 and is the **Gadgil formula**).

The parameters for SCS were:

- Hilly Terrain
- Low Population Density And/Or Sizeable Share of Tribal Population
- Strategic Location along Borders with Neighboring Countries
- Economic and Infrastructure Backwardness
- Nonviable Nature of State finances

Currently, 11 states enjoy SCS. There is no provision for SCS in the Constitution. **The 14th Finance Commission** has done away with the ‘**special category status**’ for states, except for the northeastern and three hill states.

Vibrant Villages Programme

- The Union Cabinet has approved the **Centrally Sponsored Scheme– “Vibrant Villages Programme” (VVP)** for the Financial Years 2022-23 to 2025-26.

- Comprehensive development of villages of **blocks on the northern border thus improving the quality of life of people living in identified border villages.**
- The scheme will provide funds for the development of essential infrastructure and the creation of livelihood opportunities in **19 Districts and 46 Border blocks 4 states and 1 UT** along the northern land border of the country which will help in achieving inclusive growth.
- Vibrant Village Action Plans will be created by district administration with the help of **Gram Panchayats**. Development of growth centres on the **Hub and Spoke Model** through the promotion of social entrepreneurship, youth and women empowerment etc.

International

Russia suspends New START

- The Russian President announced to suspension of its participation in the last remaining major military agreement with the US – **New START**.
- The original **Strategic Arms Reduction Treaty/START-I** was signed between the US and the erstwhile USSR in **1991** and came into force in 1994.
- **START-I**, which capped the number of nuclear warheads (to 6,000) and intercontinental ballistic missiles (ICBMs to 1,600), **lapsed in 2009**.
- This was replaced first by the Strategic Offensive Reductions Treaty (**SORT**)/the Treaty of Moscow and then by the New START treaty.

What is the New START?

- **Officially**, the Treaty between the USA and the Russian Federation on Measures for the Further Reduction and Limitation of Strategic Offensive Arms, entered into force on February 5,
- It placed **new verifiable limits** (to be met by 2018) **on intercontinental-range nuclear weapons**. **For example**, 700 deployed ICBMs, deployed SLBMs (submarine-launched) and deployed heavy bombers equipped for nuclear armaments, etc.
- The US and Russian Federation subsequently agreed to extend the treaty through February 4, **2026**.

REAIM 2023

- World's first global summit on **Responsible AI** in the Military kicks off in **The Netherlands**.
- The REAIM 2023 brings together **governments, corporations, academia, startups, and civil societies** to **raise awareness, discuss issues, and possibly, agree on common principles for deploying and using AI** in armed conflicts.

- Role of AI in military domain Training and simulation to provide battlefield experience to soldiers. Surveillance, specifically in difficult-to-reach **border regions, provides situational awareness.**

Russia-China relations

Both pledged their commitment to a “**no limits**” friendship. According to China’s Foreign Ministry, the China-Russia partnership is established on the basis of **non-alignment, non-confrontation, and non-targeting** of third parties.

China’s position on the Russian war on Ukraine:

- China **has refused to criticize Russia.**
- **Russia was provoked** into taking action by NATO’s westward expansion.
- Russian and Chinese forces have held joint military drills since Russia invaded Ukraine.
- At the same time, it insists that **the sovereignty and territorial integrity** of all nations must be upheld.
- Thus, China has tried to walk a **fine and often contradictory** line – presenting itself as a country **striving for peace in Ukraine** publicly but privately **aiding and abetting Russia’s war effort.**

El Niño and La Niña

- El Niño refers to a band of **warmer water spreading from west to east in the equatorial Pacific Ocean.** Similarly, a La Niña occurs when the **band of water spreads east-west and is cooler.**
- Both phenomena affect the **weather worldwide and can have drastic effects on economies** that depend on rainfall.
- Together, El Niño and La Niña make up a cyclical process called the **El Niño Southern Oscillation (or ENSO).**

Issues in predicting El Niño:

- El Niño forecasts before spring tend to be notoriously unreliable due to a so-called ‘**spring predictability barrier**’.
- The tropical Pacific Ocean soaks up **heat like a sponge and builds up its volume of warm water.** During El Niño, this warm water spills from the western part of the Pacific Ocean to the eastern part.
- But the earth has **had three straight La Niña years, which means the Pacific’s warm-water volume is fully loaded and is likely to birth an El Niño soon.**

Thwaites Glacier ('Doomsday Glacier')

- As per a recent finding, Thwaites Glacier in Antarctica is in peril as warm ocean water has entered its weak points. **Thwaites Glacier** might contribute to a rise in sea level of **more than half a metre** and further destabilise the nearby glaciers, which can add another three metres to the surge.
- **Thwaites Glacier** is an unusually broad and vast Antarctic glacier flowing into Pine Island Bay, part of the **Amundsen Sea**
- Currently, the Thwaites contribute **four per cent to the average sea-level rise** rate of 1.5 inches per decade
- It is called '**Doomsday Glacier**' as it is one of the most unstable (roughly the size of Florida (US)) and its collapse could drive catastrophic sea level rise

Science-Tech & Environment

Bio-Engineering to fight Climate Change

- **Living Carbon**, a San Francisco-based biotech firm, has planted genetically modified (GM) **poplar trees** that grow wood at a **much faster rate** and absorb more CO₂ than normal trees.
- The company used a technique known as the **gene gun method** to insert foreign genes into the trees' chromosomes.
- **Threats:** Critics have warned they could be a "growing threat" to forests biodiversity, and the government has allowed the trees to evade regulation.
- To date, the only country where large numbers of GM trees have been planted in **China**

Vinyl chloride

- Vinyl chloride – the chemical in several of the train cars that derailed and burned in Ohio – can wreak havoc on the human liver.
- Vinyl chloride is a **colourless gas that burns easily**. It does not occur naturally and must be produced industrially for its commercial uses.
- Vinyl chloride is used primarily to make **polyvinyl chloride (PVC)**, a hard plastic resin used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.
- Its health risks **were discovered in the 1970s** when four workers involved in the polymerization process for producing polyvinyl chloride there each **developed angiosarcoma of the liver, an extremely rare type of tumour**.

India's first hybrid rocket by private player

- India's first **hybrid-sounding rocket** by private players was launched from **Tamil Nadu's Pattipulam**.

- Martin Foundation, in association with Dr APJ Abdul Kalam International Foundation and Space Zone India, launched the **Dr APJ Abdul Kalam Satellite Launch Vehicle Mission- 2023**.
- A hybrid-sounding rocket is a type of rocket that uses a **hybrid rocket engine to power its flight**.
- A hybrid rocket engine uses a **solid fuel grain and a liquid or gaseous oxidizer to generate thrust**.
- Hybrid-sounding rockets are often used by universities, government agencies, and private companies for scientific research and testing of new technologies because of their low cost.

Rhododendrons

As per the recent **Botanical Survey of India (BSI) publication; Darjeeling and Sikkim Himalayas** are home to **more than one-third** of all types of rhododendrons found in India

About Rhododendrons:

- **Name:** Rhododendron meaning rose tree in Greek
- **Ecological Significance:** It is considered an indicator species for climate change
- **Nature:** Evergreen to Deciduous in nature (can be in form of dwarf shrubs to large trees)
- **Threats:** Rampant construction
- **Habitat:** Cold, moist deep valleys of the eastern Himalayas
- State tree of Uttarakhand and the state flower of Nagaland

Hallucinating chatbots

- **AI chatbots** are trained to have human-like conversations using a process known as **natural language processing (NLP)**. With NLP, they can **interpret human language as it is written**, which enables them to **operate more or less on their own**.
- Hallucination in AI chatbots is when a **machine provides convincing but completely made-up answers** (untrue facts). It is not a new phenomenon. **For example**, after being live on Twitter for just 24 hours in 2016, Microsoft's chatbot **Tay** started parroting racist and misogynistic slurs back at users.
- These reports emerged as **OpenAI (ChatGPT), Google (Bard), and Microsoft (Bing's beta)** were opening up their AI-enabled chatbots for test users.

World Pangolin Day

- On the eve of **World Pangolin Day** observed on **February 18**, TRAFFIC (a not-for-profit organisation working on the international trade of animals and plants), has reported that 1,203 pangolins have been found in illegal wildlife trade in India from 2018 to 2022.
- Pangolins are among **the most trafficked wild mammals globally**.
- **India is home to two species:** Indian Pangolin (EN), found across the subcontinent & Chinese Pangolin (CR), is found across a larger area in south Asia.

- Both species are included under **India's Schedule I** of the **Wildlife Protection Act**
- **Appendix I of CITES** (meaning they are most endangered)
- **Ecological Importance:** They play a vital role in ecosystem management, mostly in **aerating and adding moisture** to the soil as well as the succession of plant communities through burrowing.

Dharma Guardian

The fourth edition of the **India-Japan bilateral Army exercise 'Dharma Guardian'** began at Camp Imazu in Shiga province, Japan and will go on till March 2. **2022 marked 70 years of diplomatic relations** between the two countries.

Geomagnetic storms

A geomagnetic storm (magnetic storm) is a **temporary disturbance** of the Earth's magnetosphere caused by a solar wind shock wave that interacts with the Earth's magnetic field. The magnetosphere **shields Earth from harmful solar particle** radiation, as well as erosion of the atmosphere by the solar wind

Reason: These storms are generally associated with solar Coronal Mass Ejections (CMEs) where a billion tons or so of plasma from the sun, with its embedded magnetic field, arrives at Earth.

CMEs are large ejections of **plasma and magnetic fields** that originate from the Sun's corona (outermost layer).

Impact on Earth:

- **Impact space weather in** near-Earth space and the upper atmosphere.
- **Impact satellites, GPS, Radio communication:** E.g. last year (2022), over **40 Starlink satellites** stopped functioning after a solar storm
- Can create **disturbances in the magnetosphere**, the protective shield surrounding the Earth results in the formation of bright auroras
- **Astronauts on spacewalks** face health risks from possible exposure to solar radiation outside the Earth's protective atmosphere.

Soil Organic Carbon

- Soil organic carbon (SOC) is the amount of **carbon stored in soil organic matter**. It is an important component of **soil health and fertility**, as it influences **soil structure, nutrient cycling, water-holding capacity, and the ability of soil to support plant growth**.
- It shows the carbon held within the soil **that is measurable**, expressed as a **percentage by weight (gC/Kg soil)**.

Economics

Regulation of securities market

The securities market in India is regulated by four key laws:

- **The Companies Act, 2013:** It regulates the incorporation of a company, responsibilities of a company, directors, and dissolution of a company.
- **The Securities and Exchange Board of India Act, 1992:** It empowers SEBI to register intermediaries like stock brokers, merchant bankers, and portfolio managers, regulate their functioning, impose penalties including suspending/cancelling the registration
- **The Securities Contracts (Regulation) Act, 1956 (SCRA):** It empowers SEBI to recognise (and derecognise) stock exchanges, prescribe rules and bye-laws for their functioning, and regulate trading, clearing and settlement on stock exchanges.
- **The Depositories Act, 1996:** It introduced and legitimised the concept of dematerialised securities being held in an electronic form. SEBI set up the infrastructure for doing this by registering depositories and depository participants.

What are the safeguards against fraud?

- SEBI notified the **Prohibition of Fraudulent and Unfair Trade Practices Regulations (1995)** and the **Prohibition of Insider Trading Regulations (1992)**.
- These regulations **define different types of fraud**, and provide for penalties and violation of these regulations is a presumed violation of the **Prevention of Money Laundering Act**.
- SEBI has been given the **powers of a civil court** and using these powers, SEBI has acted against Satyam, Sahara India, Ketan Parekh and Vijay Mallya.
- **Appeals** – SEBI order → Securities Appellate Tribunal (SAT) → SC

Blue Economy

Blue economy refers to a **wide range of economic activities** pertaining to the sustainable development of resources and possessions in the **oceans, connecting rivers, water bodies and coastal regions** with a **focus on equity, inclusion, innovation and modern technology**.

Advantages of coastal India hold for the blue economy:

- **Global producer of Fish**
- **Presence of Poly Metallic Nodules – PMNs**
- **Sea Trade** – Currently 95% of India's trade volume transits by sea and the total capacity of all the Indian Ports was 2562.85 MTPA in 2021.
- **Boosting Domestic and Regional Trade**

Indian Initiatives:

- Promoting the spirit of ‘**SAGAR-Security and Growth for All in the Region**’ in the Indian Ocean Region.
- **Sagarmala Project**
- **Coastal Economic Zones**
- **Resource exploration:** India in recent times has shifted its focus toward Indian Ocean resource exploration. E.g. India has explored 75000 sq km of Indian Ocean Seabed and is developing technologies (like remotely operated vehicles) for mining the resources.
- **Matsya Sampada Yojana**

Special Rupee Vostro Accounts (SRVA)

20 Russian banks have opened Special Rupee Vostro Accounts (SRVA) with partner banks in India. SRVA is an account that **domestic banks hold for foreign banks in the former’s domestic currency**, the rupee, which allows domestic banks to provide international banking services to their clients who have global banking needs without having to be physically present abroad.

The SRVA is an **additional arrangement to the existing system** that uses freely convertible currencies and works as a complimentary system.

It has three important components:

- **All exports and imports** must be denominated and invoiced in **domestic currency** (e.g. Rupee)
- **The exchange rate** between the currencies of the trading partner countries would be **market-determined**
- The **final settlement** also takes place in **domestic currency** (e.g. Rupee)

Benefits (as per the Economic Survey (2022-23))

- The system could reduce the “**net demand for foreign exchange**, the U.S. dollar in particular, for the settlement of trade flows”
- Reduce the need for **holding foreign exchange reserves**
- Reduce the **dependence on foreign currencies**
- Making the country **less vulnerable to external shocks**
- **Timely payments:** Indian exporters could get advance payments in INR from overseas clients and in the long term,
- It would **promote Indian Rupee as an international currency** once the rupee settlement mechanism gains traction: Currently, the U.S. dollar was the most dominant vehicle currency accounting for **88% of all trades**. The INR accounted for **1.6%**

Status of R&D

Global:

- World invests a little over **2% of gross domestic product** (GDP) in R&D (around \$2 trillion)
- **Top five countries in R&D:** US, China, Japan, Germany and South Korea (they combined to account for three-quarters)
- **Top five industries:** Pharmaceuticals, automobiles, technology hardware, software and electronics (they together account for almost 73% of all industrial R&D)

India:

- **India is the world's fifth-largest economy.** But in total R&D investment, India ranked 16th, below Israel.
- Indian firms invest **3% of GDP** in in-house R&D, compared to a world average of **1.5%**.
- **The European Commission report** stated that India **has only 24 firms** among the top 2,500 investors in R&D worldwide.

Ethics & Society

Steps taken to promote mother languages in India

- **The Indian Constitution (Article 350 A)** provides that every state must provide primary education in a mother tongue.
- **The National Education Policy (NEP) 2020** advocates education in one's mother tongue right from the primary-school level. It will instil confidence in students belonging to **poor, rural and tribal backgrounds**.
- AICTE's landmark decision to **permit BTech programmes in 11 native languages**.
- **The UGC** has written to governors and CMs of various states to give a fillip to mother tongue education in colleges and universities.
- **The Staff Selection Commission** has decided to conduct examinations in 13 Indian languages in addition to Hindi and English.
- Similarly, the **SC's decision** to make verdicts accessible in all Indian languages is of great significance.

In **1999**, UNESCO declared **February 21 as International Mother Language Day** in response to the declining state of many languages all over the world. **The theme of International Mother Language Day 2023:** "Multilingual education — a necessity to transform education."

Cadaver organ transplants

The Union Health Ministry has done away with the **age cap of 65 years** for receiving an organ from a dead donor (cadaver).

The new guidelines

- **The Elderly can now register to receive organs from deceased donors.**
Previously, **NOTTO** (National Organ and Tissue Transplant Organisation) guidelines barred them. This violated the Right to Life of elderly. Preference will **still be given to younger recipients**, those above the age of 65 will not be completely barred from the process
- **A patient irrespective of domicile State can register** in any other State for a transplant (previously a domicile certificate was necessary)
- The patient will be allotted a **unique ID** by NOTTO upon registering. This will help in charting a **'One Nation One Policy,'** for organ donation and transplantation
- **Health Ministry** has intimated states to **stop charging registration** fees to patients.
- **For awareness generation:** The government is introducing a **chapter in the school curriculum** regarding organ donation awareness for students.

Haryana GK

North India's first nuclear plant

- North India's **first nuclear plant** will be installed in Haryana's Gorakhpur
- **Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP)** has two units of 700 MWe capacity each
- **Type of Reactor:** Pressurised Heavy Water Reactor (PHWR) indigenous design

Current Affairs Update (Feb 24-Mar 2)

National

Section 153A of the Indian Penal Code (IPC)

- It penalises (with imprisonment up to 3 years/fine/both) **promoting enmity** between different groups on grounds of religion, race, place of birth, residence, language, etc., and **committing offences against the maintenance of peace**.
- The provision was enacted in **1898** and was not in the original penal code. In **1969**, the offence was amended (made cognisable – arrest without a warrant) to enlarge its scope to prevent communal tensions.

The application of the law:

- **Hate speech laws** have been invoked under different regimes **to crack down on criticism** of public functionaries and to arrest individuals.
- According to the NCRB data, the rate of conviction for Section 153A is **very low**. In 2020, 1,804 cases were registered (six times higher than in 2014), however, the conviction rate was **2%**.
- Also, the registration of multiple FIRs across different states **drains the resources of the accused to secure legal representation**.

Safeguards against misuse:

- **Section 153A requires prior sanction** (before the trial begins, not at the stage of preliminary investigation) from the government for initiating prosecution.
- In the **Arnesh Kumar v State of Bihar case (2014)**, the SC laid down a set of guidelines. For instance, the police **cannot automatically arrest a suspect before investigation** for crimes that carry a punishment of less than seven years.
- In 2021, the SC ruled that the state will have to prove **intent** (to cause disorder or incite people to violence) for securing a conviction under Section 153A.

Anti-defection law

- It **punishes** individual MPs/MLAs for **leaving one party for another** to bring stability to governments.
- However, **it allows a group** (at least **2/3rd**) of MP/MLAs to join/merge with another political party without inviting the penalty for defection.
- The Parliament of India added it to the Constitution as the Tenth Schedule in 1985 (**52nd Amendment**).

- The Presiding Officers of the Legislature – **Speaker, Chairman.**
- However, **the law does not provide a time frame** within which the presiding officer has to decide a defection case
- The SC held that, ideally, the Speakers/Chairman should take a decision on a defection petition within **3 months.**
- Legislators can **challenge** the decisions before the higher judiciary

National Data & Analytics Platform (NDAP)

The National Data & Analytics Platform (NDAP) was **launched in 2022 by NITI Aayog** in collaboration with different ministries and state governments in India.

NDAP aims to **democratize access to public government data** by making it accessible, interoperable, interactive, and available on a user-friendly platform for various stakeholders such as policymakers, civil servants, university students and researchers, journalists, innovators, and civil society groups.

Current Issues:

- **Lack of uniformity in data format and no interoperability:** The need to bring NDAP arose because public **data in India was difficult to use**, and users couldn't compare **data from different departments** or data gathered over time due to **differences in format and quality.**
- **Implications of rising digital Technologies:** The rise of data and digital technologies is rapidly transforming economies and societies, with enormous implications for governments' daily operations.

The Sansad Ratna Awards

- They were instituted in **2010**, inspired by the teachings of former **President APJ Abdul Kalam**, who launched the first edition of the Award function in Chennai.
- They seek to **recognise and felicitate the top-performing MPs** on the basis of their work in the apex legislative body.
- **Its jury committee comprises** eminent Parliamentarians and members of civil society and was chaired by the MoS, Parliamentary Affairs and co-chaired by T S Krishnamurthy (Former Chief Election Commissioner of India).
- The Awards are **not given by the Government of India.** It is the **Prime Point Foundation** which runs the awards show.

Heat wave

According to the IMD, a region has a **heat wave if its ambient temperature deviates by at least 4.5-6.4° C** from the long-term average. There is also a heat wave if the **maximum temperature crosses 45° C (or 37° C at a hill-station).**

Heat domes: A heat dome is a meteorological phenomenon that occurs when a high-pressure system traps hot air in a region, causing temperatures to rise and creating a dome of hot air. This dome of hot air can persist for several days or weeks, leading to prolonged periods of extreme heat and heat waves.

Effects of Heat Dome:

- They are dangerous for human health, especially for vulnerable populations such as the elderly, children, and those with preexisting health conditions.
- Impacts food production
- Increasing wildfires.
- Lead to droughts and other environmental impacts
- Increased energy demand and strain on the power grid due to increased use of air conditioning.

Issues plaguing OTT regulation

- **Lack of awareness:** The Rules mandate the display of contact details relating to grievance redressal mechanisms and grievance officers on OTT websites/interface. **However, compliance is very low.**
- While the Rules require disclosure of grievance details by publishers and self-regulating bodies, the reporting formats **only capture the number of complaints received and decided**
- **Ambiguity around content regulation**
- **Jurisdictional issues:** Many OTT platforms are based outside India, which makes it difficult to enforce regulations and hold them accountable.
- **Freedom of expression concerns.**

Solar Geo-engineering

Solar geo-engineering, also called solar radiation modification, involves cooling the earth by radiating **absorbed sunlight back into space.**

Types of solar geoengineering

- **Stratospheric aerosol injection (SAI):** SAI includes **spraying large quantities of tiny particles (e.g. of Sulphur Dioxides)** into the earth's stratosphere to reflect sunlight. **The concept of SAI is derived from sulphur clouds released during volcanic eruptions.**
- **Marine cloud brightening:** Marine cloud brightening proposes **spraying sea salt into low-lying clouds to increase their brightness and the ability to reflect sunlight.**

Why is it controversial?

- SAI is particularly controversial because the **reflective effect of aerosols wears off after some time, leading to a net heating effect.**

- According to the Union of Concerned Scientists, solar geoengineering can be a “**moral hazard**” and **slow efforts towards emission reduction as it does not address the root cause of climate change.**

FGD facility

The **Singareni Thermal Power Plant (STPP) in Telangana** is set to become the **first public sector coal-based power generating** station in the South and first among the State PSUs in the country to have **flu gas desulphurization (FGD)** plant to meet the green norms by cutting sulphur dioxide emission to a safe level.

About Flue Gas Desulfurization: Flue-gas desulfurization (FGD) is a **set of technologies used to remove sulfur dioxide (SO₂)** from exhaust flue gases of **fossil-fuel power plants** and from the emissions of other sulfur oxide emitting processes such as **waste incineration, petroleum refineries, cement and lime kilns.**

Process of changing the name of a city or place in a state

- **State Assembly:** A resolution is proposed by any Member of the Legislative Assembly as a request to change the name of a particular city or place in the state.
- **Discussion:** In the discussion, the reasons for and possible consequences of altering the name are discussed
- **The passing of the resolution in the state assembly:** Only a simple majority is required.
- **The resolution sent to central government:** The resolution as a proposal is submitted to the Ministry of Home Affairs.
- **Approvals:** The Home Ministry seeks approval from the Ministry of Railways, Intelligence Bureau, Department of Posts, Survey of India, and Registrar General of India.
- **A ‘No Objection’ certificate** is issued by the Ministry if the proposal is approved by the ministry and all the agencies.
- After getting approval from the ministry, the **State Government can issue an official notification** in the Gazette.

International

Chicago Convention on international civil aviation

The Union government cleared three protocols related to amendments in Chicago Convention

Significance: It would help India to become **more instrumental** in matters pertaining to international civil aviation

The International Civil Aviation Organization (est. 1944, HQ: Montreal, Canada) is a **specialized agency of the United Nations** (linked to ECOSOC) that coordinates the principles and techniques of international air navigation and fosters the planning and development of international air transport to ensure safe and orderly growth. It has **193 state parties** including all UN members except Liechtenstein. **Chicago Convention** led to the creation of ICAO.

Ratified Protocols:

- **Amend Article 3** (refrain member States from use of weapons against civil aircraft in flight)
- **Amend Article 50 (a)** for raising the strength of the International Civil Aviation Organization (ICAO) Council)
- **Amend Article 56** (for raising the strength of the Air Navigation Commission)

China blocks ChatGPT

ChatGPT is a popular search engine that uses **artificial intelligence and natural language** processing to provide mostly accurate and relevant results to users. However, the Chinese government has decided to block this search engine in the country, citing concerns about **propaganda and censorship**. The Chinese government is afraid that ChatGPT could provide access to information that could be used to spread anti-government sentiment or even incite social unrest.

Fab 4/Chip 4 chip alliance

A semiconductor alliance comprising the **world's top producers of semiconductors**— the US, Taiwan, Japan, and South Korea has been convened recently.

Objective:

- Serve as an early warning and mutual reminder system to ensure a **stable supply chain for chip manufacturers**
- Prevent the occurrence of chip shortages and supply chain disruptions
- To reduce the **world's dependence** on China.

FATF suspends Russia's membership over Ukraine war

The Financial Action Task Force (FATF) **suspended** Russia's membership.

Reasons for suspension

- **Russia's "Illegal, unprovoked and unjustified"** full-scale military invasion of Ukraine
- **Arms trade** between Russia and United Nations-sanctioned jurisdictions
- **Malicious cyber-activities** emanating from Russia

Despite being suspended, **Russia remains a FATF member** and will only be barred from attending meetings and accessing documents.

Science-Tech & Environment

The concepts of mitigation and adaptation in international climate discourse

Adaptation measures for climate change

Adaptation refers to **adjustments in ecological, social, or economic systems** in response to actual or expected **climatic stimuli and their effects or impacts**. It focuses on assisting countries that are most vulnerable to the effects of **climate change (coastal states, island nations) with finance and infrastructural assistance**

Reason for Focusing on the adaptation of climate Change

- Can help manage the risks from climate disasters such as floods and droughts
- Sponge cities concept to increase storing of water in city spaces to adapt to urban floods
- Protection of ecosystems
- Protecting agriculture and food security
- Can allow populations to benefit from opportunities for climatic change.

Mitigation measures for climate change

Mitigation refers to actions **taken to lower the concentration of greenhouse gasses** in the atmosphere and thereby **reduce the extent to which the global climate system changes**

Reason for Focusing on Mitigation of Climate Change

- To stabilize greenhouse gas levels in a sufficient time frame
- Reducing emissions from deforestation and forest degradation (REDD+)
- Avoid significant human interference with the earth's climate
- Enable economic development

1st indigenously developed ATS system

India launched the **first ever indigenously developed Train Control and Supervision System**. India becomes **the sixth country** which has its own ATS products

What is i-ATS (Indigenous-Automatic Train Supervision) system?

- It is a **computer-based system** that will manage train operations such as running and halting.
- It is part of the **CBTC** (Communication-Based Train Control) Signalling system.
- The system has been launched by Delhi Metro Rail Corporation (DMRC) on its first corridor

Blue foods

According to a new study- **blue food**, sourced from **aquatic environments**, can reduce nutritional deficiencies, and contribute to employment, and export revenue in India.

Benefits of Blue Food:

- Reduce dietary environmental footprints: Compared to terrestrial meat, **blue foods generate lower emissions**.
- Contribute to the **health, nutrition, well-being, and livelihoods of rural communities**.
- India can use aquatic foods to **address B12 and omega-3 deficiencies**

Omega-3 fatty acids are “**healthy fats**” that support heart health (help prevent heart disease and stroke). One key benefit is helping to lower your triglycerides. A deficiency of essential fatty acids—either omega-3s or omega-6s—can cause **rough, scaly skin and dermatitis**.

Programmes launched in India towards biodiversity conservation

- The Union Budget 2023: It mentioned “**Green Growth**” as one of the seven priorities/**Saptarishis**.
- The National Mission for a Green India: It aims to increase forest cover on degraded lands and protect existing forested lands.
- **The Green Credit Programme: It incentivises environmentally sustainable and responsive actions** by companies, individuals and local bodies.
- The Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI): It is significant because of the importance of mangroves and coastal ecosystems in mitigating climate change.
- **The PM Programme for Restoration, Awareness, Nourishment, and Amelioration of Mother Earth (PM-PRANAM):** It aims to reduce inputs of synthetic fertilisers and pesticides, which is critical for sustaining agriculture.
- **The Amrit Dharohar scheme:** It is expected to **encourage optimal use of wetlands** and enhance biodiversity, carbon stock, eco-tourism opportunities and income generation for local communities.

National Science Day

India celebrates National Science Day on February 28. National Science Day is celebrated in the country to mark the discovery of the Raman Effect. Raman discovered the Raman Effect on February 28, 1928, and received Nobel Prize for his discovery in 1930.

The theme of National Science Day 2023: Global Science for Global well being

BANDICOOT

Kerala uses a BANDICOOT robot to clean sewage. With this, it has become the first state to launch

robotic scavengers. BANDICOOT was launched in the temple town **Guruvayur**. Genrobotics developed the robot. The main objective of developing the robot is to **eliminate manual scavenging**. The robot has been in use since 2018. However, this is the first time, it is being used to clean public manholes, replacing humans.

Under the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act (PEMSR), 2013**, Manual scavenging is banned in India. National Action for Mechanised Sanitation Ecosystem (**NAMASTE**) is an initiative by MoSJ&E and MoHUA.

Key provisions of the E-Waste (Management) Rules 2022

- Unlike the earlier rules (seeking authorisation by stakeholders), the new rules provide for the **'Registration of Stakeholders'** (manufacturer/producer/refurbisher/recycler).
- A **'digitalised systems approach'** may now standardise the e-waste value chain through a common digital 'portal'.
- The above provisions **will reduce the frequency of 'false trail'** – falsely revealing 100% collection on paper while collecting/weighing 'scrap' to meet targets.

Issues with the 2022 rules:

- **Weak monitoring system** and a **lack of transparency**. For example, many recyclers undertake activities only up to the pre-processing/segregation stage and channelise e-waste to the informal sector, which is a pure violation of the law.
- Two important stages of efficient e-waste recycling – **component recovery and residual disposal** – are briefly touched upon.
- **It does away with PRO and dismantlers** and vests all the responsibility of recycling with authorised recyclers.
- **The informal sector**, which plays a crucial role (95% of e-waste is channelised) in e-waste handling, draws no recognition in the new rules.

Mad Cow Disease

- Brazil has halted its beef exports to China after a case of mad cow disease was confirmed in its northern state. Brazil is **the largest exporter of Beef** in the world while the USA is the largest producer.
- **Bovine Spongiform Encephalopathy (BSE) (or simply Mad Cow Disease)** is a degenerative, transmissible, slowly progressive, and fatal infection that affects the central nervous system of adult cattle.
- It is caused by a **protein called a 'prion'** normally found on the cell surfaces of cattle. However, the normal prion protein changes into an abnormal prion protein and these proteins destroy the nervous system tissue- the brain and spinal cord.

The ALMA telescope

- The Atacama Large Millimetre/submillimetre Array (ALMA) — a radio telescope comprising **66 antennas**— is set to get software and hardware upgrades that will help it collect much more data and produce sharper images than ever before.
- ALMA is operated under a partnership among the **United States, 16 countries in Europe, Canada, Japan, South Korea, Taiwan, and Chile**
- ALMA is a **state-of-the-art telescope that studies celestial objects at millimetre and submillimetre wavelengths** — they can **penetrate through dust clouds and help astronomers** examine dim and distant galaxies and stars out there. It also **has extraordinary sensitivity, which allows it to detect even extremely faint radio signals.**

Economics

Virtual Trade corridor

A virtual trade corridor is an online platform that enables faster and more efficient customs clearance for international trade between two countries.

Significance:

- It will **complement the bilateral comprehensive free trade agreement** signed between India and the UAE in 2022
- The agreement immediately **eliminated duties for 90% of India's exports** in value terms covering sectors like gems and jewellery, textiles, leather, and engineering goods.
- The two countries **estimate non-oil trade to reach \$100 billion** over the five-year period after the implementation of the free trade agreement
- It will cut the **cost and time for customs clearance** and speed up bilateral trade.

Social Stock Exchange

- The National Stock Exchange of India has received final approval from SEBI to launch a Social Stock Exchange (SSE) as a separate segment of the NSE.
- **Aim:** To provide new avenues for social enterprises to finance social initiatives, provide them visibility, and bring in increased transparency in fund mobilisation and utilisation.
- **Eligibility:** Any social enterprise, Non-Profit Organization (NPOs), or For-Profit Social Enterprise (FPE) that **establishes its primacy of social intent** can get registered/listed on the SSE segment.
- **Function:** The SSE will allow social enterprises to raise **capital as equity, debt, or as units like a mutual fund**. The minimum **issue size is set at INR 1 crore**, and the **minimum application size** for subscription is **INR 2 lakhs for Zero Coupon Zero Principal (ZCZP) issuance.**

India's first municipal bond index

- National Stock Exchange (NSE) launched **India's first municipal bond index- IBMX**
- It will track the **performance of bonds issued by municipal corporations.**
- It has **investment-grade credit ratings** (AA category)
- The index includes **municipal bonds issued as per the Securities Exchange Board of India Issue and Listing of Municipal Debt Securities Regulations, 2015**

A municipal bond is a **type of bond issued by a local government or municipality**, such as a city, county, or state. When these entities **need to raise money to fund projects** like building schools, roads, or other public infrastructure, they can issue bonds as a way to borrow money from investors.

The municipal bond market has seen a **three-fold rise** in fundraising since 2017 (to about 6000 crores in 2022). The first municipal bond in India was issued by the **Ahmedabad Municipal Corporation** in 1998. **Indore** issued India's first-ever municipal green bond recently

Birds Eye Chilli

The Birds Eye Chilli is widely used in Asian cuisines. The chilli is also called **Thai chilli**. It is native to Mexico. The Spanish and Portuguese people spread the chilli all over the world. The chilli variety has received a **GI tag** from GoI. The state of **Mizoram** is to export the chilli variety.

The production of Bird eye chillies in the region has increased. This was due to the initiative called FOCUS. **FOCUS** means Fostering Climate Resilient Upland Farming System. The project is aided by the International Fund for Agriculture Development the UN.

The chillies are highly pungent. The SCU of spiciness is 50,000 to 1,00,000. The higher the SCU, the greater their spiciness. SCU means **Scoville Heat Units**. SCH is a measure of spiciness.

Ethics & Society

8R Ethical guidelines for use of Traditional Knowledge

- A group of experts has **proposed a set of ethical guidelines** to guide practices on the use of traditional indigenous medicines and knowledge.
- Cultural appropriation, traditional indigenous medicine is not widely protected by law, there is no mechanism to provide reparation and share benefits with indigenous communities, USA is not part of CBD and ABS.
- **8R principles:** Respectful, Reverence, Relevant, Regulation, Reparation, Reconciliation, Responsibility, Restoration
- As of 2022, only the constitutions of **Bolivia and Ecuador** include regulations specific to Indigenous traditional medicine

- **CBD's Nagoya Protocol on Access and benefit-sharing (ABS):** It mentions indigenous rights to the use and development of their traditional medicines and related practices

Foundational Literacy and Numeracy (FLN) report

- The 2nd edition of the Foundational Literacy and Numeracy (FLN) report was released by Dr Bibek Debroy, Chairman EAC-PM.
- It is the ability of a child (between the ages of 3 and 8 years old) **to read basic texts and do basic mathematical problems** such as addition and subtraction. It is one of the main elements of the National Education Policy (**NEP) 2020**.
- It is a **benchmark for states and UTs** to track their performance in achieving **universal foundational learning by 2026-27**.
- Its findings cover the role **of nutrition, access to digital technology and language-focused** instructional approach.

Initiatives to promote FLN:

- **DIKSHA or Digital Infrastructure for Knowledge Sharing:** Launched in 2017, it is a national platform of the NCERT, where teachers can find interactive and engaging teaching material to make their classes interesting.
- **NIPUN Bharat Mission:** Launched in 2021 for ensuring that every child in the country necessarily attains foundational literacy by the end of the third grade by the year 2026-27.
- **NISHTHA:** A new training program (in FLN) for the teachers, as well as the heads of the school launched by the NCERT.
- **The National Curriculum Framework for Foundational Skills 2022:** To meet a key focus area of the NEP 2020, to improve the foundational skills of students.

The Protection of Women from Domestic Violence Act 2005

- The law, which is overseen by the Union Ministry of Women and Child Development (**MWCD**), provides a definition of **"domestic violence" for the first time**.
- Domestic violence **includes not only physical violence**, but also **emotional, verbal, sexual and psychological abuse**.
- It is a **civil law** meant primarily for protection orders, rather than criminal enforcement.

Mission Shakti: It is an **integrated-umbrella scheme** of MWCD aimed at **strengthening interventions for women safety, security and empowerment** during the 15th Finance Commission period 2021-22 to 2025-26.

The issue of lowering the efficiency of Civil Servants

- **Less manpower:** The parliamentary standing committee said that there are **22% fewer IAS officers in the country than** the sanctioned strength.
- **Not enough reforms and incentives:** The government's lack of reforms in incentives and penalties have helped **incapacity, indifference, and corruption creep in.**
- Lack of **functional independence**
- **Social media addictions:** The self-aggrandizement stimulated **by social media addictions is a new challenge to the All India Services (Conduct) Rules, 1968.**
- **Unattractive private sector:** The private sector still isn't attractive and big enough for breaking the charm of government services such as prestige, power, and job security.

Ethical issues in Civil Servants using Social Media:

- Breach of neutrality
- Conflict of interest
- Misuse of official position
- Breach of confidentiality
- Inappropriate behavior
- Risk to reputation
- Lack of accountability

Menstrual leave/period leave

Menstrual leave refers to **all policies that allow employees or students to take time off when they are experiencing menstrual pain or discomfort.** In the context of the workplace, it refers to policies that allow for both **paid or unpaid leave, or time for rest.**

Examples from India:

- **Zomato in 2020,** announced a **10-day paid period of leave per year,** and **Swiggy and Byjus have also followed suit.**
- Among State governments, **Bihar and Kerala are the only ones to introduce menstrual leave to women.**
- The Bihar government, then headed by **Lalu Prasad Yadav,** introduced its **menstrual leave policy in 1992,** allowing employees **two days of paid menstrual leave every month.**
- Kerala announced that the **State's Higher Education department grants menstrual and maternity leaves for students in universities that function under the department**

Sports GK

2023 T20 Women's World Cup

The 2023 T20 Women's world cup was held in South Africa. The final battle was between South Africa and Australia. The Australian team won the battle. The Australian woman's team is winning the T20 world cup for the sixth time. The team captain is Meg Lanning. India quit losing to the Australian team during the semi-finals.

FIFA Men's player award

The captain of the Argentina football team **Lionel Messi** recently won the Best FIFA Men's player award. Earlier he was called the FIFA World Player of the Year. Later in 2010, it was combined with Ballon d'Or and together it was called the FIFA Ballon d'Or. Currently, Lionel Messi belongs to the "Paris Saint Germain" club.

Haryana GK

Haryana Budget 2023-24

The Chief Minister of Haryana **Manohar Lal Khattar** presented the state budget for the year 2023-24. **No new taxes** were introduced in the budget. The state government is to focus on rural welfare, healthcare, environment, and education sectors in the year 2023-24. The total funds in the budget are Rs 1.83 lakh cores. This is 11.6% higher than the previous budget

Key Highlights of Haryana Budget 2023-24

- Chirayu-Ayushman Bharat Scheme extended to families with annual income between Rs 1.8 lakhs and Rs 3 lakhs
- More buses are to be added to Haryana state transport. Currently, there are 4,500 buses. The number will be increased to 5,300
- 800 MW of thermal power plant to be established
- Private and government ambulances will be integrated
- Paddy stubbles will be bought from the farmers at Rs 1000 per tone
- Every girl child taking training from the Industrial training institute will receive Rs 2,500
- 20,000 acres of land allocated for natural farming
- Anganwadis to be converted into play schools
- Cycling Velodrome to be established in Kurukshetra district
- A water sports centre is to be established in Karnal