

GS ANALYST

MONTHLY CURRENT AFFAIRS MAGAZINE

- ✓ Coverage of Monthly topics for GS Paper 1, 2, 3 & 4
- ✓ Key Concepts & Prelims Specific Topics
- ✓ Questions for Answer Writing Practice

PRELIMS

- ❑ Buddha's relics
- ❑ The City of Dwarka
- ❑ Atmospheric River
- ❑ Schengen Zone
- ❑ Delimitation exercise
- ❑ Maharashtra clears 10% Maratha quota bill
- ❑ Bubonic Plague
- ❑ PAPA Payload
- ❑ Kala Azar Elimination
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MAINS

- ❑ India-Qatar Diplomatic Relations
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- ❑ Centre's New Anti-Cheating Bill
- ❑ Uttarakhand's Uniform Civil Code Bill
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- ❑ India's First Indigenous Space Mission
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- ❑ Mexico: World's 'Sinking' City
- ❑ Carbon capture & storage (CCS)

KEY CONCEPTS

- ❑ BAPS Hindu Mandir
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- ❑ Amrit Bharat Station Scheme
- ❑ Voters in India
- ❑ Grant PC to women coast guard officers: SC
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- ❑ Protein Structure
- ❑ Olive Ridley turtles
- ❑ Ameen Sayani (1932-2024)

SPECIALS
INTERIM BUDGET 2024



DISCLAIMER

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

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

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1. LANGUAGE ATLAS OF INDIA

Context: In light of India's focus on promoting education in mother tongue languages, a proposed linguistic survey by the **Indira Gandhi National Centre for Arts (IGNCA)** aims to determine the actual number of "active" languages spoken across the country, highlighting the significance of preserving linguistic diversity.

1: Dimension : Need of Language Atlas of India

- ◆ **Mapping the diversity:** Given the diversity, there is an urgent need to carry out a comprehensive linguistic survey in order to create the **Language Atlas of India**.
- ◆ **Knowing numbers:** The survey would help to focus on the number of languages and dialects in India.
- ◆ **Knowing scripts and dialects:** It would also try to know how many languages are spoken in India, and how many scripts and dialects there are.
 - IGNCA has identified the **Central Institute of Indian Languages, the National Museum, Centres for Endangered Languages, and the Linguistic Departments** of various universities as potential partners and collaborators in carrying out the survey.

2: Dimension : Diversity in India's language map

- ◆ India recognises **22 languages officially**, which are part of **Schedule 8 of the Indian Constitution**.
- ◆ According to Census data, **97 % of the Indian population speaks one of these languages**.
- ◆ There are an additional **99 non-scheduled languages** included in the Census, and according to the 2011 Census, around **37.8 million people identify** one of these non-Scheduled languages as their mother tongue.
- ◆ The native language of **1.2 million people** remains unaccounted for due to the decision to not include languages with less than **10,000 speakers in the Census since 1971**.
- ◆ Many of these languages not recorded in the **official Census** records are spoken by tribal communities.

2. THE EMPTY PLANET

Context: The global trend towards shrinking populations due to **declining birth rates** despite advances in healthcare and poverty reduction necessitates a comprehensive understanding of its implications on society and the economy.

- ◆ Over the last five decades, the global fertility rate has halved to 2.3, falling below the replacement rate of 2.1

in most advanced economies and following a similar downward trajectory in developing nations.

1: Dimension- Implications on Society:

- ◆ **Shift in Priorities:** The declining birth rates reflect changing priorities among younger generations, with factors like dual-income families and evolving perceptions of marriage and parenthood influencing decisions on family size.
- ◆ **Impact of Education:** Higher education levels correlate with lower fertility rates, signaling a transition from high fertility and low education to lower fertility and higher education in many societies.

2: Dimension- Implications on Economy:

- ◆ **Aging Populations:** Shrinking birth rates contribute to aging populations, increasing the burden on working-age individuals to support both children and elderly parents.
- ◆ **Workforce Challenges:** With fewer births, countries face shrinking workforces, posing challenges for **economic productivity, tax revenues, and sustaining growth**.

3: Dimension- Demographics and Economic Growth:

- ◆ **Labour Supply:** Declining working-age populations globally **strain labour markets and social security systems**, posing **significant challenges for government programs**.
- ◆ **Gender Dynamics:** In countries like **South Korea**, gender disparities in the workforce and societal expectations present obstacles to balancing career and family responsibilities.

Case Studies:

- **South Korea:** Challenges include gender inequality, high costs of child-rearing, and societal pressures, highlighting the trade-offs between career and family.
- **Singapore:** Factors such as financial costs, pandemic disruptions, and work-life balance issues contribute to declining birth rates.

4: Dimension- Finding Balance:

- ◆ **Learning from Successes:** Nations like France and Denmark, with comparatively higher fertility rates, offer insights into policies and societal norms that support family formation while addressing modern challenges.
- ◆ **The declining birth rates** worldwide signify profound shifts in societal norms and economic dynamics, necessitating proactive measures to ensure sustainable population growth and mitigate the adverse effects of aging populations.

- ◆ Policymakers must prioritize initiatives that promote **work-life balance, address gender disparities, and provide adequate support** for families to foster a conducive environment for raising children and sustaining economic vitality.

3. MQ-9B DRONES DEAL

Context: The MQ-9B 'Predator' or Reaper drone, one of the deadliest unmanned aerial vehicles (UAVs) in the world, will soon be in the arsenal of India's military.

1: Dimension- Importance for India:

- ◆ **Effective controlled operations:** With the drones in its arsenal, Indian forces will be able to launch remote-controlled operations on terrorist hideouts.
- ◆ **Capability enhancement:** With its long-endurance, persistent surveillance and strike capability, the MQ-9 Reapers can enhance the **Intelligence-Surveillance-Reconnaissance (ISR)** capabilities of India's Armed Forces.
- ◆ **Strengthening of power:** This increased reconnaissance will be useful as India continues to have strained relations with neighbouring countries, **Pakistan and China**.

About MQ-9B SkyGuardian Drone

- ◆ **Developed by:** General Atomics Aeronautical Systems, Inc. (GA-ASI).
- ◆ It is the first **hunter-killer unmanned aerial vehicle (UAV)** designed for long-endurance and high-altitude surveillance.
- ◆ It has the ability to operate with pin-drop silence.
- ◆ The drone can fly as close to 250 metres from the ground without the target even having an inkling it is there unless spotted.
- ◆ The drone can fly higher than a commercial aircraft, around 50,000 feet above the ground, and has a top speed of 275 mph or 442 km/h.
- ◆ The drone can fly continuously or hover over targets for up to 35 hours.
- ◆ Apart from air-to-air missiles, the drone can also be equipped with air-to-ground missiles, making it unique.
- ◆ **Economical:** The MQ-9B can match 80 per cent of the capability of a manned patrol aircraft at about 20 per cent of its cost per hour, according to General Atomics.

4. INDIA-QATAR DIPLOMATIC RELATIONS

Context: Indian navy veterans arrested on the espionage charges and given death sentence by the Qatari courts

had been freed. The capital punishment was commuted to an extended prison term earlier following diplomatic intervention by New Delhi.

1: Dimension- Strategic importance of Qatar for India

- ◆ Qatar has an outsize influence in the Islamic world. It was the key mediator between US and Taliban which culminated into **Doha Agreement**.
- ◆ The widely popular news channel **Al Jazeera** act as a credible source of news and a point of friction as seen during Saudi Arabia's blockade of Qatar.
- ◆ **Indian Diaspora**
 - Over 800,000 Indian nationals reside in Qatar, forming the largest expatriate community.
 - During the second wave of COVID-19, Qatar sent COVID medical relief material to India.

2: Dimension- How this win shows a shift in India's Middle East policy?

- ◆ The Qatar saga has played out amid a similarly dramatic shift in India's Middle East policy over the last few months, namely with regard to Israel.
- ◆ At the outset of the war in Gaza, India was quick to express support for Israel, even while reiterating its usual line of support for a **two-state solution**.
- ◆ In November 2023, India voiced its support for a **United Nations resolution** that condemned **Israeli settlements** in the **West Bank** and offered similar support in December for a resolution calling for an immediate ceasefire in **Gaza**.

5. INDIA-UAE BILATERAL INVESTMENT TREATY

Context: India and the United Arab Emirates (UAE) have solidified their economic ties through the signing and ratification of a **bilateral investment treaty (BIT)**

1: Dimension: Significance of UAE for India

- ◆ UAE is the third largest source of FDI into Bharat and seventh largest trade partner of India.
- ◆ UAE became the only country with which India has both CEPA and BIT. Even countries like South Korea, Japan and Singapore have a CEPA with India but no BIT.
- ◆ The UAE hosts over 3 million Indians, contributing significantly to both economies. Bilateral trade reached \$84 billion in 2023.
- ◆ **Middle-East Economic Corridor project:** India and UAE are also key partners in the Middle-East Economic Corridor project, which links **Mundra Port** in Gujarat

to **Fujairah Port** in UAE by sea, then to **Saudi Arabia** and **Jordan** by railroad and there on to **Europe** via sea as the new trade route to rival Chinese new Silk Road project and North-South corridor via Iran.

- ◆ India-UAE relations have become a focal point of India's Extended Neighbourhood and Look West policies in the region. This deal will further boost the relation between the two countries.

2: Dimension- Objectives of the Pact

- ◆ The pact would help promote investments between the two countries.
- ◆ The treaty is expected to improve the confidence of investors, especially large investors, resulting in an increase in foreign investments and overseas direct investment (ODI) opportunities.
- ◆ This may have a positive impact on employment generation.
- ◆ **Robust Framework:** The BIT establishes a framework focusing on mutual benefit, fair treatment, national and **most-favored-nation treatment**, and protection against expropriation.
- ◆ It encompasses various forms of investment and includes provisions for dispute resolution, transparency, corporate social responsibility, environmental protection, and human rights.

6. SRI LANKA FOREIGN VESSEL BAN

Context: The ban on Chinese ships in Sri Lanka's exclusive economic zone (EEZ) has become a point of discussion at the global level.

1: Dimension-China's expanding interests in the Indian Ocean

- ◆ In 2008 and 2014, Beijing had deployed its navy and submarines respectively in the **Gulf of Aden** in support of its anti-piracy operations.
- ◆ In 2017, China established its **first ever overseas military facility** in the Indian Ocean, in **Djibouti** in the Horn of Africa.
- ◆ Last November, Sri Lanka gave the green light to **China's energy giant, Sinopec**, to establish a **new petroleum refinery plant in Hambantota**, the town that also houses the **deep water port** that was leased to China in 2017 after Colombo defaulted on debt payments.

2: Dimension- India's objection to Chinese vessels docking in Sri Lanka

- ◆ **Security threats:** India considers Chinese ships docked so close to its mainland a security threat, and suspects

they could be used for snooping, even when their stated aim is scientific research.

3: Dimension- China's Presence in Sri Lanka, a Concern for India

- ◆ **China's Debt strategy:** Recently, China's presence in Sri Lanka has increased on a large scale.
 - China is the largest **bilateral creditor to Sri Lanka**.
 - Its loans to the Sri Lankan public sector amount to **15% of the central government's external debt**.
 - Sri Lanka heavily relies on Chinese credit to address its **foreign debt burden**.
- ◆ **Investment on Infrastructure:** China extended about **USD 2.8 billion to Sri Lanka** soon after the pandemic hit but has not stepped in much in 2022, even as the island's economy collapsed rapidly.
 - China has invested about USD 12 billion in Sri Lanka's infrastructure projects between 2006-19.
- ◆ **Relations with Island countries:** China enjoys friendlier waters in South Asia and the Indian Ocean than it does in Southeast Asia and the Pacific.
 - China faces opposition from Taiwan, territorial disputes in the **South China Sea and East Asia**, and myriad frictions with the **US and Australia**.

7. INDIA, GREECE AGREE TO BOLSTER TIES

Context: India and Greece agreed to bolster cooperation in areas ranging from defence manufacturing and trade to connectivity and to speedily finalise a migration and mobility pact as Prime Minister Narendra Modi held talks with his visiting Greek counterpart Kyriakos Mitsotakis.

1: Dimension- Significance of Greece important for India

- ◆ **Strategic location:** Greece's strategic location in the Mediterranean Sea makes it a major player in the **global shipping industry**.
 - The country's ship owners own roughly one-fifth of the world's shipping fleet and almost 60% of the European Union's fleet, according to the International Trade Administration, a US government agency.
- ◆ **Strong play in IMEC:** The country is expected to be a key player in IMEC, which will help facilitate export of Indian goods to the European markets.

2: Dimension- Greece's role in the Indo-Pacific (Key-takeaways)

- ◆ **Defence:** The two sides agreed to link their defence industries.

- ◆ **Range of sectors for collaboration:** The two sides identified new opportunities in **pharmaceuticals, agriculture, medical devices, technology, innovation and space** to give new energy to their cooperation.
 - ▶ They also discussed ways to boost cooperation in **shipping and connectivity**.
- ◆ India welcomed Greece's "positive role" in the Indo-Pacific and its decision to join the **India-led Indo-Pacific Oceans Initiative (IPOI)**.
- ◆ There was also agreement on cooperation in the **Eastern Mediterranean**, and Greece can become an important partner in the **India-Middle East-Europe Economic Corridor (IMEC)** launched during India's G20 presidency last year.

8. INDIA'S FINAL PUSH FOR UK FTA

Context: The government seems to have fast-tracked its **free trade talks** with the UK, with the PMO having reviewed the progress recently and a delegation already in the UK to iron out differences.

1: Dimension- Challenges

- ◆ **Anti-immigrants stance:** The political atmosphere in the UK remains heated with an increasing **anti-immigrants stance**.
- ◆ **Recession in UK:** The UK's economy dipped into a recession amid high interest rates and spending cutbacks.
- ◆ **Tariff regime:** India's tariff regime has been a concern for trade partners as India has one of the highest import tax rates in the world.
 - ▶ While the average tariff on goods imported from India into the UK is 4.2 per cent, the average tariff in India on goods imported from the UK is 14.6 per cent.

2: Dimension- Importance of the FTA

- ◆ **To compensate passed agreements:** It is crucial for India to sign the FTA as it has passed on regional trade agreements such as the **China led-Regional Comprehensive Economic Partnership (RCEP)** and has also not decided to join the **US led-Indo-Pacific Economic Framework for Prosperity (IPEF's)** trade pillar.
- ◆ **To stay ahead of competitors:** Indian competitors such as **Vietnam and other South Asian countries** are inserting themselves in the **global supply chain** with multiple FTAs and regional trade deals.
- ◆ **Economic benefits:** The India-UK FTA will be the **first full-fledged FTA** with a developed country which could accrue significant benefits in the service sector and **several labour intensive sectors** such as textile and leather industry.

Data Box: India-UK Trade

- **Total trade in goods and services (exports plus imports)** between the UK and India was £38.1 billion in the four quarters to the end of Q3 2023, an increase of 8.7% or £3.0 billion in current prices from the four quarters to the end of Q3 2022. Of this £38.1 billion:
- **Total UK exports to India** amounted to £14.9 billion in the four quarters to the end of Q3 2023 (a decrease of 4.1% or £640 million in current prices, compared to the four quarters to the end of Q3 2022);
- **Total UK imports from India** amounted to £23.2 billion in the four quarters to the end of Q3 2023 (an increase of 18.8% or £3.7 billion in current prices, compared to the four quarters to the end of Q3 2022).
- **India was the UK's 12th largest trading partner** in the four quarters to the end of Q3 2023 accounting for 2.1% of total UK trade.

9. INDIA URGES CENTRAL ASIAN NATIONS TO USE CHABAHAR PORT

Context: At the recent **Bishkek meet**, India has urged countries of the Central Asian regions to use the port of **Chabahar** located on the southeast coast of Iran to enhance connectivity and trade with India and other countries in the world.

1: Dimension- Significance of Central Asia for India

- ◆ **Geo-strategic location:** Its geographical proximity, strategic location, and historical linkages make it an important partner for New Delhi.



- ❖ **Energy hub:** Central Asia has an abundance of oil and gas deposits. The region contains vast hydrocarbon fields both on-shore and off-shore in the **Caspian Sea** which homes around 4 percent of the world's natural gas reserves and approximately 3 percent of oil reserves.
 - **Gas** (Turkmenistan)
 - **Oil, gas and uranium** (Kazakhstan)
 - **Uranium and gas** (Uzbekistan)
 - **Hydropower** (Tajikistan and Kyrgyzstan)
- ❖ **Global power hub:** Strategically, Central Asia is emerging as the next high-stakes competition ground for global powers, hence, it would behoove India to pay closer attention.
- ❖ **Leading role:** Central Asia provides India with the right platform to leverage its political, economic, and cultural connections to play a leading role in Eurasia.
- ❖ **Significant transportation hub:** The region is a major transportation hub for gas and oil pipelines and multi-modal corridors connecting China, Russia, Europe, and the IOR.

10. WHO LAUNCHES GLOBAL INITIATIVE ON DIGITAL HEALTH (GIDH)

Context: Achieving one of the three priority areas agreed upon during India's G20 presidency in 2023, the World Health Organization (WHO) launched the Global Initiative on Digital Health (GIDH).

1: Dimension- Importance of Digital Health

- ❖ Digital health has the potential to prevent disease and lower healthcare costs, while helping patients monitor and manage chronic conditions.
- ❖ It can also tailor medicine for individual patients.
- ❖ Healthcare providers also can benefit from advances in digital health.
- ❖ Digital tools give healthcare providers an extensive view of patient health by significantly increasing access to health data and giving patients greater control over their health.
- ❖ The result is increased efficiency and improved medical outcomes.

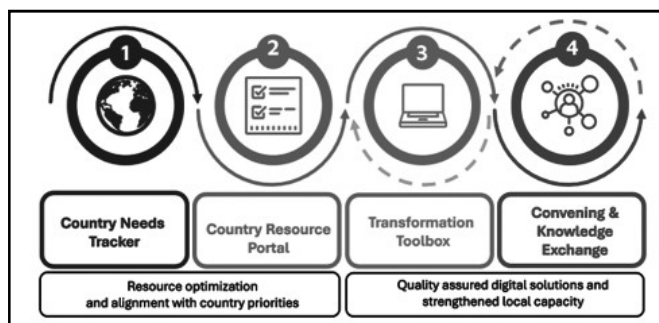
2: Dimension- GIDH, a platform towards transformation

- ❖ GIDH is a platform for sharing knowledge and digital products among countries.

- ❖ The initiative will be a network of networks with four main components —
 - country needs tracker
 - country resource portal (a map of resources available in a country)
 - transformation toolbox that will share quality-assured digital tools
 - knowledge exchange

Through this evidence-based and comprehensive co-creation process, GIDH will ultimately aim to:

- ❖ **ALIGN** efforts to support the Global Strategy on Digital Health 2020–2025;
- ❖ **SUPPORT** quality assured technical assistance to develop and strengthen standards-based and interoperable systems aligned to global best practices, norms and standards;
- ❖ **FACILITATE** the deliberate use of quality assured digital transformation tools that enable governments to manage their digital health transformation journey.



11. THE RED SEA CRISIS & IMEC

Context: The global supply chain turmoil, prompted by the prolonged Red Sea crisis, underscores the urgency of exploring alternative trade routes like the **India-Middle East-Europe Economic Corridor (IMEC)** introduced during the 2023 G-20 summit.

1: Dimension- Significance of Red Sea route

- ❖ **Global trade:** The Red Sea owes its strategic importance for global trade to the **Bab el-Mandab Strait** which lies between **Yemen and Djibouti**.
- ❖ **Busiest route:** It is one of the world's busiest cargo and oil transit points with almost **12% of international merchandise trade passing through it**.
- ❖ **Clear impact of re-routing:** An immediate consequence of the Red Sea conflict has been that major container and oil carriers have been forced to re-route shipments via the **Cape of Good Hope**. The re-routing has led to
 - rising ocean freight

- inflated insurance costs
- longer voyage times leading to delays and shortage of products
- increased transportation costs
- higher shipping costs leading to increased commodity prices

2: Dimension- Impact of this turmoil on India

- ◆ **Drop in shipment:** The rising fears among traders have already seen a drop in Indian shipments.
 - Rising threats have prompted Indian exporters to hold back around 25% of their cargo ships transitioning through the **Red Sea**.
- ◆ **Opportunity for China to promote BRI:** As global supply chains are battling delayed shipments and rising costs, China is actively projecting **China-Europe freight trains**, which are part of the **Belt and Road Initiative (BRI)**, as an alternate route.

3: Dimension- Why IMEC is not receiving attention?

The **India-Middle East-Europe Economic Corridor (IMEC)**, which was announced during the G-20 summit in 2023, is another alternative which is not receiving much attention.

- ◆ **Lack of investment:** Part of the problem is that apart from the MoUs, there have not been any investments or operations regarding the corridor.
- ◆ **Israel-Palestine conflict:** Furthermore, the Israel-Palestine conflict has put a pause on the normalisation of Arab-Israel relations which is a key element of the multi-nation initiative.
- ◆ **Vulnerability:** Another major challenge is the vulnerability of the Strait of Hormuz. The entire trade of the IMEC architecture flows through the Strait of Hormuz and with Iran's proximity and control over the strait, the risk of disruptions remain very high.

Fact Box: IMEC

- **Objective:** The corridor aims to provide a reliable and cost-effective **ship-to-rail transit network** between **Asia, Middle East and Europe**.
- **Proposals:** The corridor will comprise of **two separate corridors**,
 - **The Eastern corridor** - will connect India to the Arabian Gulf.
 - **The Northern corridor**- will connect the Arabian Gulf to Europe.
- The corridor is estimated to cut the journey time from India to Europe by 40% and slash transit costs by 30%.

12. NATO'S EXPANSION

Context: Sweden is set to join NATO after Hungary's parliament ratified its bid. Hungary's decision comes two years after both Sweden and Finland applied to join NATO in May 2022 following Russia's full-scale invasion of Ukraine.

1: Dimension- Significance for the alliance

- ◆ **Break from neutrality:** Sweden has not been involved in a war since 1814 and has "pursued a policy of non-alignment in peacetime and neutrality in wartime, basing its security on a strong national defense. Sweden's entry into NATO move signals a break from a history of neutrality for both countries.

- ◆ **Reducing the vulnerability:** Sweden's NATO membership strengthens alliance in Baltic Sea region.

- ◆ **Sense of security:** At the time that Russia's invasion threatened Europe's security order and made Sweden's need for guaranteed security granted through NATO membership apparent.

- ◆ **Reinforcing the Baltic states:** Three countries breathing a particular sigh of relief over the entry of Sweden - and Finland - are NATO's Baltic states, Estonia, Latvia and Lithuania, long seen as an Achilles heel for the alliance.

- ◆ **Strategic position:** Sweden's geographical position makes it an essential part of any NATO defence plans. Its location means it can serve as a land transit route to reinforce both Norway and Finland, while also allowing NATO to largely take control of the Baltic Sea in any potential conflict with Russia.

- This provides an alternative sea reinforcement option to the **Baltic states** other than the vulnerable land border between Poland and Lithuania which is within artillery range of the **Russian-held Kaliningrad area** and Belarus.

- ◆ **Kaliningrad threat:** Beyond its long Baltic coastline, Sweden brings with it the island of Gotland which would play a central role in helping NATO impose its will. But just across the water, Russia has its vital outpost -- the exclave of Kaliningrad.

- Wedged between Poland and Lithuania, Moscow has in recent years turned the region into one of the most militarised in Europe, with nuclear-capable missiles stationed there.

2: Dimension- Concerns

- ◆ **Russia:** For now, Russia is the biggest loser of Sweden joining NATO. Moscow has threatened Sweden and Finland since both countries turned toward NATO. Since

NATO Lake

After Finland joined last year, Sweden's membership means all the countries surrounding the Baltic Sea, except Russia, will be part of the US-led military alliance.

the two Nordic countries began the process to join the alliance, the West has tightened its grip on the Baltic Sea, complicating a vital transit route for the Russian navy.

- ❖ **Fissure within the NATO alliance:** Not all NATO members view Russia as the principal security threat. In both cases, Sweden's membership has become embroiled in wider domestic issues.

13. SURROGACY RULES CHANGED IN INDIA

Context: The Centre has tweaked the **surrogacy rules**, bringing relief for married couples aspiring to become parents.

1: Dimension- Regulation of Surrogacy in India

- ❖ Surrogacy is a method of **assisted reproduction** where **intended parents** work with a **gestational surrogate** who will carry and care for their baby(ies) until birth.
- ❖ In the practice, one woman carries the child for another with the intention that the child should be handed over after birth.
- ❖ Such a surrogacy arrangement may be **altruistic** or **commercial** in nature.
- ❖ Intended parents use surrogacy to start or grow their families when they can't do so on their own.
- ❖ The Centre and State governments are expected to constitute a National Surrogacy Board (NSB) and State Surrogacy Boards (SSB) respectively, within 90 days of the passing of the Act.
- ❖ This body is tasked with enforcing standards for surrogacy clinics, investigating breaches and recommending modifications.

2: Dimension- The new Rules (Surrogacy (Regulation) Amendment Rules, 2024)

- ❖ The **Ministry of Health and Family Welfare** has amended the **Surrogacy (Regulation) Rules, 2022** to allow the use of a **donor gamete – ova or egg cells and sperm** – if one of the "intending couple" has a medical condition.
- ❖ The notification comes nearly a year after the Centre banned the use of donor gametes in surrogacy.
- ❖ **Changes in surrogacy rules**
 - The notification by the Centre states that both gametes need not come from the "intending couple" in case the husband or the wife have a medical condition.
 - In case when the District Medical Board certifies that either husband or wife constituting the intending couple suffers from medical condition necessitating

use of donor gamete, then surrogacy using donor gamete is allowed subject to the condition that the child to be born through surrogacy must have at least one gamete from the intending couple.

- ❖ However, the Surrogacy (Regulation) Amendment Rules, 2024 will not be applicable for widowed or divorced women.
- ❖ Indian laws bar single unmarried women from having children through surrogacy.

3: Dimension- Impact of the new rules

- ❖ The new rules will relief to couples struggling with infertility problems.
- ❖ While very few people need surrogacy — it is only meant for those who do not have a uterus, have a damaged uterus, or have a thin uterine lining — among those who do, the women are likely to be older, having tried other methods of getting pregnant before considering surrogacy.

14. CENTRE'S NEW ANTI-CHEATING BILL

Context: The Centre introduced the **Public Examinations (Prevention of Unfair Means) Bill, 2024** in Parliament to deal with cases of **exam paper leak** and tampering with answer sheets - whether for school exams, college entrance tests, or applications for government jobs.

1: Dimension- Need of such Bill

- ❖ **Tampering with future:** The leaks derailed schedules of as many as **1.4 crore applicants**, applying for a little over 1.04 lakh posts.
 - The exam leak and disruption was a hot talking point as it stresses the candidates, their families, and successive batches of candidates.
- ❖ **Already shrinking opportunities:** More so as it is linked to job vacancies at a time when the **government employment pie is shrinking** across states.
- ❖ **Absence of law:** Also, there is no specific substantive law at national level to deal with unfair means adopted or offences committed by persons, organised groups, or any other agency/organisation that adversely impacts the conduct of public examinations by Central government and its agencies.

Key-highlights of the Bill

- ❖ The Bill aims to bring in **greater transparency, fairness and credibility** to the **public examination systems**, and to reassure the youths that their sincere and genuine efforts will be fairly rewarded and their futures are safe.

Under the **Public Examinations (Prevention of Unfair Means) Bill**, only those who leaked exam papers, or tampered with answer sheets, by colluding with government officials will face up to 10 years in jail and fine of ₹ 1 crore.

- All offences under this bill shall be **cognisable, non-bailable, and non-compoundable**, meaning police will be empowered to act on its own (and arrest suspects without a warrant), the accused will not be entitled to bail, and the alleged offences cannot be settled via compromise.

◆ **Coverage of the Bill:** Union Public Service Commission, Staff Selection Commission, Railway Recruitment Boards, Institute of Banking Personnel Selection, National Testing Agency

15. CENTRE TO INCLUDE ASHA WORKERS IN AYUSHMAN BHARAT SCHEME

Context: After the Central government announced its decision to include **Accredited Social Health Activists (ASHAs)** and **Anganwadi workers** and helpers into the free cover for health treatment under **Ayushman Bharat Scheme**, the **Health Ministry** has so far received Aadhaar details of 23 lakh anganwadi workers and helpers and over three lakh **ASHA workers** from various States.

1: Dimension- Reason behind this decision

- ◆ The decision to include this group of healthcare workers was announced in the **interim Union Budget 2024-25** recently.
- ◆ **ASHA programme** is a key component of community processes that has continuously evolved over the last decade and a half.
- ◆ ASHA has emerged as the cornerstone of the **National Health Mission** and the group has been acknowledged for their substantial contribution in improving access to care for communities.
- ◆ ASHAs are also a critical component of the **Community platforms like Village Health and Sanitation Committees, Mahila Arogya Samiti and Community Based Planning and Monitoring under National Health Mission**.

Fact Box: Coverage of Ayushman Bharat scheme

- **Ayushman Bharat, Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)** provides health coverage up to Rs 5 lakh a family a year to poor and vulnerable families.
- In India, currently **55 crore individuals** corresponding to **12 crore families** are covered under the **Ayushman Bharat scheme**.

- The government has created approximately **28.45 crore Ayushman cards** till December 20, 2023.
- A total of **6.11 crore hospital admissions** amounting to **Rs 78,188 crores** had been authorised under the scheme, of which 1.7 crore hospitals admissions worth over **Rs 25,000 crores** have been authorised during the year 2023 (Jan-Dec 2023).
- A total of **26,901 hospitals** including **11,813 private hospitals** have been empanelled under **AB-PMJAY** to provide healthcare services to scheme beneficiaries.
- The scheme has ensured gender equity in access to healthcare services with women accounting for approximately **49% of the total Ayushman cards** created and approximately **48% of total authorised hospital admissions**.

16. UTTARAKHAND'S UNIFORM CIVIL CODE BILL

Context: Uttarakhand become first state to clear Uniform Civil Code Bill.

Key-highlights of the Uniform Civil Code Uttarakhand 2024 Bill:

- ◆ The UCC Uttarakhand 2024 Bill includes recommendations such as a complete ban on polygamy and child marriage.
- ◆ It also includes equal property rights for sons and daughters, elimination of the distinction between legitimate and illegitimate children, equal property rights after death, and inclusion of adopted and biological children.
- ◆ **Marriage:** As it sets out common provisions, the Bill effectively **bans polygamy and halala** - without naming them -- practiced among a section of Muslims. Marriages can be solemnised through separate rituals, like **saptapadi, nikah and anand karaj**, followed by different communities.
- ◆ **Live-in Relationships:** Live-in partners in Uttarakhand will have to register themselves with district officials or face imprisonment under the state's Uniform Civil Code bill, once it becomes a law.
 - **Children born of such relationships** will be considered legitimate and deserted women will be entitled to maintenance from their partners.
 - Like marriages, live-in relationships must be registered.
 - Live-in partners must not be under 18. But if any one of them is under 21, the registrar is bound to inform their parents or guardians.
- ◆ **Applicability:** The Code applies to residents of the state, but only to those who identify within the binary

genders of male and female who are in heterosexual relationships, thus leaving most LGBT persons outside its ambit.

- ❖ **Exemption:** The hill state's small tribal community is exempted from the proposed law, which also mandates registration of live-in relationships.

Fact Box: Tribals in Uttarakhand

Uttarakhand have 5 major tribes identified by the Government of India. These are **Tharu, Jaunsari, Buksa, Bhotia, and Raji**. As of 2011 India census, Uttarakhand has a tribal population of 2,91,903, with Tharu being the largest tribe, followed by Jaunsari and Buksa.

Where does the Code fail?

- ❖ The Code fails to **address the discrimination** faced by mothers under guardianship laws that treat only fathers as legal guardians of the child, thus vesting in them the power to take decisions in relation to the child, and mothers as custodians of the child, thereby reducing them to caretakers.
- ❖ It leaves out most **LGBT persons from its ambit**. It is a missed opportunity to follow through on the **Supreme Court's decision in the marriage equality matter**, wherein it had clarified that state legislatures are competent to ensure **marriage equality for all**.

17. PM ROOFTOP SOLAR SCHEME

Context: The government is all set to increase the subsidy provided to consumers under the newly announced **rooftop solar scheme, Suryodaya Yojana**, to 60% against the current 40% provided for installation of rooftop solar projects up to 3 kW capacity. This subsidy for the northeast and hilly states will be 70%.

1: Dimension-Significance of the initiative

- ❖ **Self-sufficiency:** This scheme not only addresses the immediate needs of millions but is also expected to propel nation towards energy self-sufficiency.
- ❖ **Growth:** The impact of the scheme resonates across the **entire solar supply chain**, which may lead to creation of demand right from the level of panel glass to aluminium to solar modules, and various components associated with them.
- ❖ **Employment generation:** This, in turn, will not only aid the growth of the industry but also serve as a catalyst for employment generation.
- ❖ With India already at a local manufacturing capacity of 62.85 GW for solar PV, complemented by the upcoming 39.6 GW under the PLI scheme, the nation is prepared to meet the demands of this project.

1: Dimension- Objectives of the Scheme

- ❖ Pradhanmantri Suryodaya Yojana is a **central government scheme** which aims to provide electricity to low and middle-income individuals through solar rooftop installations, along with offering additional income for surplus electricity generation
- ❖ **Aim:** It aims to benefit around 10 million (one crore) households by allowing them to sell their **surplus electricity** (to DISCOMS).
- ❖ **Nodal Agency:** The state-run Rural Electrification Corporation (REC) Limited is the designated nodal agency for the project.
- ❖ The new scheme will focus on consumers whose consumption of electricity is less than or equal to 300 units per month.
- ❖ This scheme to make India self-reliant in the energy sector will include citizens who belong to the **BPL or poor people** with very minimal investment.

Fact Box: India's Solar Capacity

- Against a target of 40 GW to be achieved by the end of 2022, only 5.87 GW of rooftop solar projects was installed, which is less than 15% of the target (Data from parliamentary standing committee on energy).
- **Total rooftop solar installed capacity** is around 11.08 GW as of December 2023.
 - **Gujarat** tops the list with 2.8 GW, followed by Maharashtra by 1.7 GW.
- **Only 20% of rooftop solar capacity installations** are in the residential sector, with the majority in commercial and industrial sectors (report by Council on Energy, Environment and Water (CEEWW))
- **Total Installed Capacity:** According to the Ministry of New and Renewable Energy solar power installed capacity in India has reached around 73.31 GW as of December 2023.
 - In terms of total solar capacity, **Rajasthan** is at the top with 18.7 GW. Gujarat is at the second position with 10.5 GW.

18. FDI POLICY ON SPACE SECTOR

Context: The Union Cabinet approved the amendment in **Foreign Direct Investment (FDI) policy** on space sector. Now, the satellites sub-sector has been divided into three different activities with defined limits for foreign investment in each such sector.

1: Dimension- Benefits of this amendment

- ❖ **Multiple benefits:** This increased private sector participation would help to

- ▶ generate employment
- ▶ enable modern technology absorption
- ◆ **Integration into global chain:** It is expected to integrate Indian companies into global value chains.
- ◆ **Self-reliant sector:** With this, companies will be able to set up their manufacturing facilities within the country duly encouraging 'Make in India (MII)' and 'Atmanirbhar Bharat' initiatives of the Government.

1: Dimension- Objectives of the changes made in the FDI Policy

- ◆ As per the existing FDI policy, FDI is permitted in **establishment and operation of Satellites** through the **Government approval route** only.
- ◆ In line with the vision and strategy under the **Indian Space Policy 2023**, the Union Cabinet has **eased the FDI policy on Space sector by prescribing liberalized FDI thresholds for various sub-sectors/activities**.
- ◆ Under the amended FDI policy, **100% FDI is allowed in space sector**. The liberalized entry routes under the amended policy are aimed to attract potential investors to invest in Indian companies in space.
- ◆ The entry route for the various activities under the amended policy are as follows:
 - ▶ **Upto 74% under Automatic route:** Satellites- Manufacturing & Operation, Satellite Data Products and Ground Segment & User Segment. Beyond 74% these activities are under government route.
 - ▶ **Upto 49% under Automatic route:** Launch Vehicles and associated systems or subsystems, Creation of Spaceports for launching and receiving Spacecraft. Beyond 49% these activities are under government route.
 - ▶ **Upto 100% under Automatic route:** Manufacturing of components and systems/ sub-systems for satellites, ground segment and user segment.

19. STRENGTHENING INDIA'S EPIDEMIC PREPAREDNESS

Context: The Law Commission (headed by Justice (retired) Ritu Raj Awasthi, in its latest report, has highlighted the deficiencies of **127-year-old Epidemic Diseases Act 1897**, and proposed essential reforms to ensure a robust legal framework for managing epidemics.

1: Dimension- Points highlighted by the Law Commission

- ◆ **Report:** The Law Commission Published the 286th report on "the management, control, and prevention of epidemic diseases."

- ◆ The Law Commission flagged "significant deficiencies" in the Epidemic Diseases Act.
- ◆ **Overhaul of the Act:** The Commission recommended to the government that either the law be suitably amended to address existing gaps or a comprehensive legislation be brought in to effectively deal with future epidemics.
 - ▶ Though the colonial act was amended in 2020, these amendments fell short as critical gaps and omissions remained in the Act.
- ◆ **Strict punishment:** The provisions of the main law are "not stringent enough to act as an effective deterrent", calling for stricter punishment for disobedience of guidelines and regulations made by the government during any health emergency.
- ◆ **Defining an 'Epidemic':** A clear definition of an 'epidemic' is crucial. The amended law or the new legislation should demarcate the stages of disease progression, including "outbreak," "epidemic," and "pandemic." This clarity will guide authorities in implementing appropriate measures at each stage.
- ◆ **Roles of Central, State, and Local Authorities:** The proposed legislation should formulate an Epidemic Plan that clearly defines the roles and responsibilities of central, state, and local authorities. Consultation with stakeholders, including private hospitals and experts, during the drafting process is essential.
- ◆ **Response Mechanisms:** The new law should go beyond granting stipulated powers to the government. It must shape appropriate response mechanisms for preventing and controlling epidemic diseases. Scientific advancements should inform these mechanisms, ensuring a coordinated approach.
- ◆ **Clarification of Terms:** To avoid ambiguity, the legislation should clearly differentiate between terms like 'quarantine' and 'isolation'. Precise definitions will enhance effective implementation during health crises.

20. REGIONAL BENCHES OF SUPREME COURT

Context: The Indian government has reportedly given its nod to the recommendation of a **parliamentary committee** advocating the establishment of regional benches for the Supreme Court.

1: Dimension- Problems With Regard to the Centralisation

The centralisation of the Supreme Court has given rise to several issues.

- ◆ **Long-way for outsiders:** The Supreme Court of India sits in Delhi, which makes it a daunting task for people outside of Delhi to seek justice.
- ◆ **Expensive:** It has become an expensive affair to knock on the door of the apex court.

◆ **Ignored Underprivileged:** It makes it difficult for extensively underprivileged people who live in the remotest areas of the country to even think of reaching to Supreme Court.


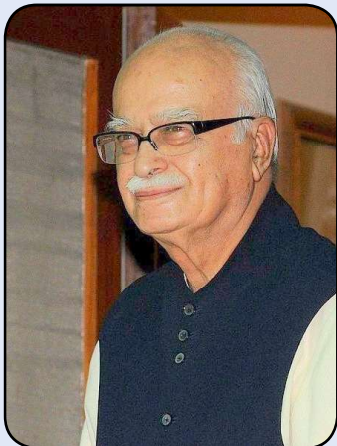
◆ **Burden:** Further, it has also given birth to the long line of pending cases, thus, leading to a heavy burden on the apex court.

ARGUMENTS IN-FAVOUR OF REGIONAL BENCHES	ARGUMENTS GIVEN AGAINST REGIONAL BENCHES
<ul style="list-style-type: none"> • Increased number of Judges: The formation of regional benches will increase the number of seats of judges. • More appointments, better delivery: It will also force the government to appoint more judges to the Supreme Court for all four zones. 	<ul style="list-style-type: none"> • Lessen the binding force: It will dilute the sacrosanct nature of the Supreme Court and lessen the binding force of the decisions of the Supreme Court. • Infrastructure cost: The huge infrastructural cost of setting up these regional benches will further be a loss of money and human resources.

21. BHARAT RATNA: INDIA'S HIGHEST CIVILIAN AWARD

Context: The Centre announced Bharat Ratna for **former Prime Ministers PV Narasimha Rao and Chaudhary Charan Singh**, alongside agricultural scientist **MS Swaminathan**. Earlier **Karpoori Thakur** and **Lal Krishna Advani** were announced to be conferred with **India's highest civilian award**.

Contribution and profile of persons conferred Bharat Ratna 2024

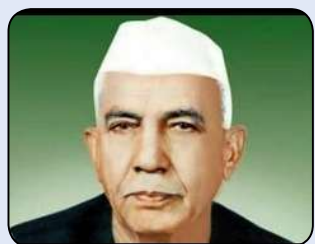
BHARAT RATNA AWARDEES	IMPORTANT CONTRIBUTIONS
<p>Karpoori Thakur (Posthumous) (politician and former Bihar chief minister) (1924-1988)</p> 	<ul style="list-style-type: none"> • Karpoori Thakur, a distinguished Indian political figure, served as the Chief Minister of Bihar. • His legacy is etched in Bihar's political landscape. • Thakur championed social justice, implementing measures such as reservations in education and jobs. • He was popularly known as referred to as 'Jan Nayak' (people's leader).
<p>Lal Krishna Advani (politician and former deputy prime minister) (1927)</p> 	<ul style="list-style-type: none"> • Lal Krishna Advani, a stalwart in Indian politics, played a pivotal role in shaping the Bharatiya Janata Party (BJP). • Advani served as both the home minister and deputy Prime Minister under the leadership of Atal Bihari Vajpayee from 1999 to 2004. • Advani's political journey spans decades, reflecting his unwavering commitment to conservative values.

**Pamulaparthi Venkata Narasimha Rao
(Posthumous) (former Prime Minister of
India) (1921-2004)**



- PV Narasimha Rao, the **9th Prime Minister of India**, led the country through significant economic reforms and global changes.
- His pragmatic approach and ability to make tough decisions earned him praise, albeit sometimes controversial.
- Rao's tenure marked a crucial juncture in India's economic trajectory, leaving a lasting impact on the nation's development.

**Chaudhary Charan Singh (Posthumous)
(former Prime Minister of India)
(1902-1987)**



- Chaudhary Charan Singh, a prominent political figure, served as the Prime Minister of India.
- He staunchly advocated for **farmers' rights and rural development**.
- His legacy resonates through his unwavering commitment to the agrarian community.
- Singh's contributions continue to shape policies and discussions related to **agriculture in India**.

**Mankombu Sambasivan Swaminathan
(Posthumous) (agriculture scientist)
(1925-2023)**



- Dr. Monkomb Sambasivan Swaminathan, fondly known as the 'Father of the Green Revolution', played a pivotal role in transforming Indian agriculture. His monumental contributions to our nation include:
- **Self-Reliance in Agriculture:** Dr. Swaminathan's visionary leadership helped India achieve self-reliance in agriculture during challenging times.
- **Modernization of Indian Agriculture:** He made outstanding efforts towards modernizing Indian agriculture, ensuring food security and prosperity.
- **Innovator and Mentor:** Dr. Swaminathan encouraged learning and research among students, leaving an indelible mark on agricultural science.
- **International Influence:** He served as the Independent Chairman of the Food and Agricultural Organisation Council, President of the International Union for the Conservation of Nature and Natural Resources, and President of the World Wide Fund for Nature (India).
- **Director General of Indian Council of Agricultural Research (ICAR):** His tenure at ICAR furthered agricultural research and development.

22. THE DEBATE OVER "SOCIALIST" AND "SECULAR" IN PREAMBLE

Context: In a public interest litigation filed seeking to delete the words "Socialist" & "Secular" from the Preamble to the Constitution of India, the Supreme Court asked if the Preamble could have been amended while keeping the date intact. It has sparked a significant **legal and constitutional debate**.

1: Dimension- Issue in the Amendment

- ◆ The words 'Socialist' and 'Secular' were inserted in the Preamble of the Constitution under the **42nd Constitutional amendment** moved by the Indira Gandhi government in 1976.
- ◆ The amendment changed the description of India in the Preamble from a "**sovereign, democratic republic**" to a "**sovereign, socialist, secular, democratic republic**."
- ◆ However, the insertion of these terms was not without controversy. Critics argued that it was a departure from the original vision of the Constitution's framers.

- ◆ The petitioner has contended that Preamble **cannot be altered, varied, or repealed**.
- ◆ He says that the **Preamble not only indicated the essential features of the Constitution** but also the fundamental conditions based on which it was adopted to create a unified integrated community.

2: Dimension- Arguments for Removal

- ◆ **Historical and Cultural Essence:** The addition of "socialist" and "secular" disrupts the historical and cultural essence of India. The original Preamble, as drafted by the Constituent Assembly, did not include these terms.
- ◆ **Violation of Fundamental Rights:** The petitioners assert that the inclusion of "socialist" and "secular" infringes upon the fundamental rights guaranteed by the Constitution.
- ◆ Freedom of speech, expression, and religion are fundamental rights enshrined in the Constitution. Critics argue that the insertion of these terms may restrict these rights by imposing a specific ideological framework.
- ◆ **Parliament's Authority:** While Parliament has the power to amend the Constitution, altering the Preamble raises unique challenges. Unlike other provisions, the Preamble is considered part of the Constitution's basic structure.

3: Dimension- Arguments for Retention

- ◆ **Changing Socio-Economic Realities:** Supporters of retaining "socialist" argue that it reflects the changing

socio-economic realities of India. The country has made significant strides in reducing poverty and promoting social welfare. The term "socialist" underscores the commitment to equitable distribution of resources and social justice.

- ◆ **Secularism as a Foundational Principle:** The insertion of "secular" reinforces India's secular character and commitment to religious harmony.
- ◆ **Judicial Review and Basic Structure Doctrine:** Subramanian Swamy's petition highlights that the Preamble not only formed the essential features of the Constitution but also the fundamental conditions based on which various groups and interests adopted the Constitution with the hope to create one unified integrated community. The Preamble, being an integral part of the Constitution, may fall within this protected zone.

23.UK & JAPAN UNDER RECESSION

Context: The United Kingdom slipped into recession, with its worst gross domestic product (GDP) performance in 2023 in years. Japan lost its spot as the world's third-largest economy. Its economy is now the world's fourth-largest after it contracted in the last quarter of 2023 and fell behind Germany.

1: Dimension- Reason behind the recession problem

UNITED KINGDOM	JAPAN
The UK economy fell into recession at the end of last year as hard-pressed households cut back on spending amid the cost of living crisis	A weaker Japanese yen was a key factor in the drop to fourth place, since comparisons of nominal GDP are in dollar terms. But Japan's relative weakness also reflects a decline in its population and lagging productivity and competitiveness.

2: Impact on Indian economy

- ◆ While India's GDP has been performing relatively better, no one is immune to economic problems, in the era of globalisation.
- ◆ External headwinds are poised to hurt India's economy too, as service exports are a major part of revenue generated by India's IT industry and global price rise can make India's imports expensive.
- ◆ **India & the UK:** Negotiations between India and the United Kingdom for the proposed free trade agreement (FTA) are at an advanced stage, but India is keen to safeguard its interests.
- ◆ **India & Japan:** According to the MEA's October 2023 report, bilateral trade totaled US\$ 21.96 billion during FY 2022- 23. Exports from Japan to India during this

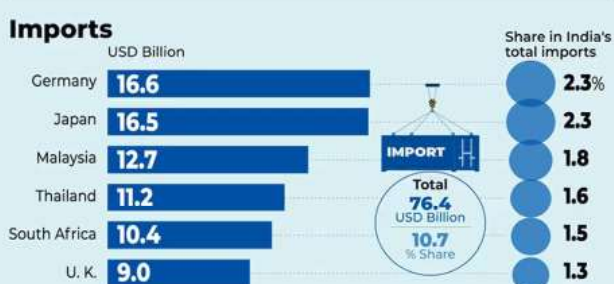
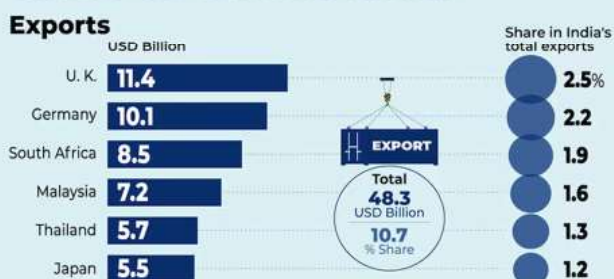
period were US\$ 16.49 billion and imports were US\$ 5.46 billion.

3: Dimension- India's future prospective

- ◆ **Shrinking gap:** The gap between developed countries and emerging nations is shrinking, with India likely to overtake Japan in nominal GDP in a few years.
 - ▶ India is likely to overtake Japan to become the world's third-largest economy with a GDP of USD 7.3 trillion by 2030, S&P Global Market Intelligence said in its issue of PMI in October 2023.
- ◆ **Beneficial diversification:** India is benefiting from growing interest from multinationals, which see the country as a key alternative manufacturing base in the context of developed economies' supply chain diversification strategies.

Why Countries Facing Recession Risks May Impact India

Six major countries facing recession risks account for over 10% of India's total trade



Data for the financial year 2022-23
Source: Ministry of Commerce & Industry
Graphic: Samrat Sharma & Jaipal Sharma

24.SEMICONDUCTOR MANUFACTURING PLANT

Context: The resurgence of proposals for semiconductor fabrication facilities in India, with applications from the Tata Group and Tower Semiconductor, has reignited interest and hope in the country's semiconductor manufacturing sector.

1: Dimension- Challenges for India

- ❖ **Capital requirement:** The semiconductor industry is **extremely labour, technical and capital-intensive**, requiring several billions of dollars.
- ❖ **Critical dependency on China:** Being a **Quad member**, India is engaged in talks with the **US, Japan and Australia** for together working in the field of semiconductor chips production and if leading advanced semiconductor countries wants to adopt India under its **China plus One strategy**, India needs to be in the **Chinese good books** also to get a regular uninterrupted supply of Gallium and Germanium.
- ❖ **Alternatives:** To avoid **Chinese imports** for these critical raw materials supply, India and partner

countries need to find alternate sources of Gallium and Germanium. Until then, India and other partner countries will be critically dependent on China.

- ❖ **Late Entry:** India missed early opportunities to establish itself in the semiconductor industry. This delay has made it challenging to catch up with countries that started developing their semiconductor industries decades ago, such as Taiwan.

2: Dimension- How India is attracting companies to establish semiconductor fabs?

- ❖ **Incentives:** India is offering an array of **financial and other incentives**, including infrastructure development and streamlined regulations, to attract global companies to establish semiconductor fabs in the country.
- ❖ **Financial support (50%):** India will extend financial support equal to 50% of a fab construction project cost "to applicants who are found eligible and have the technology as well as capacity to execute such highly capital and resource intensive projects.
- ❖ Notable initiatives in this endeavor include the:
 - National Policy on Electronics (NPE) 2019
 - Production Linked Incentive (PLI) Scheme for Large Scale Electronics Manufacturing
 - Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPICES)
 - Semicon India Programme

25.DIGITAL PUBLIC INFRASTRUCTURES (DPIS)

Context: Digital Public Infrastructures (DPIS) are likely to propel India towards a \$1 trillion digital economy by 2030, helping it to become a \$8 trillion economy, as per a recent report.

1: Dimension- DPI as enabler

- ❖ DPI is a digital network that enables countries to safely and efficiently deliver economic opportunities and social services to all residents.
- ❖ DPI can be compared to roads, which form a physical network that connects people and provides access to a huge range of goods and services.
- ❖ A strong DPI has three foundational systems—
 - Identity (like Aadhaar)
 - Payments (like UPI)
 - Data exchange (account aggregators and DigiLocker)

2: Dimension- India's Unique Approach to DPIs

Fact Box: Bouquet of services

- Unified Payments Interface (UPI)
- JAM (Jan Dhan Yojana, Aadhaar and Mobile number) trinity
- National Health Stack
- Digital Infrastructure for Knowledge Sharing (DIKSHA)
- National Digital Education Architecture (NDEAR)
- **Digital products:** Digital Locker, electronic KYC (eKYC), and on-demand digital signature (e-Sign), FASTag

India's approach to DPIs is characterized by several key principles:

- ◆ **Public Interest:** DPIs are developed and implemented with the public interest at the core.
- ◆ **Openness and Interoperability:** DPIs are based on open standards and interoperability platforms, enabling seamless integration with various services.
- ◆ **Data Privacy and Security:** Data protection and privacy are paramount considerations in the design and implementation of DPIs.
- ◆ **Innovation and Collaboration:** India encourages innovation and collaboration between the public and private sectors to develop and enhance DPIs.

3: Dimension- Global implications

India's DPI journey has significant implications for the global development landscape:

- ◆ **Alternative Model:** India's DPIs offer an alternative model to the traditional "big tech" approach, emphasizing public ownership and control of critical infrastructure.
- ◆ **Global Adoption:** India's DPI frameworks and tools, such as MOSIP, can be adapted and implemented by other countries to suit their specific needs.
- ◆ **Accelerated Development:** DPIs can accelerate development by enabling efficient and inclusive delivery of public services.

26.PROTECTIONISM & IMPACT ON INDIAN ECONOMY

Context: The Centre's move to progressively hike customs duties, especially the more recent offensive targeted at imports of **Chinese components and inputs**, needs to be reviewed, as it can threaten the domestic economy.

- ◆ The blockade targeting Chinese imports gained traction across Central ministries and departments in the aftermath of the Galwan border clash since 2020.

1: Dimension- Impacts of such blockade

- ◆ **Impact on important sectors:** The blockade targeting Chinese imports is now seen to be impacting sectors such as **electronics and pharmaceuticals**.
- ◆ **Loss in domestic output:** The roadblocks to imports in these sectors is leading to a loss of domestic output.
- ◆ **Restriction on necessary input material:** To check cheap quality imports from China, India imposed **Quality Control Orders (QCOs)** that restrict MSMEs from getting necessary input material.
- ◆ **Loss of competitive advantage:** It is leading to a loss of competitive advantage for Indian manufacturing.
 - **Uncompetitive atmosphere:** The average tariffs in India have jumped to 18.1 per cent in 2022 from 13 per cent eight years ago in 2014, has made India uncompetitive vis-a-vis countries such as Vietnam, Thailand and Mexico.
- ◆ **Threatened supply chain:** India's high tariffs pose a disincentive to de-risking supply chains beyond China. As a result, countries such as **Vietnam, Thailand and Mexico** are offering lower tariffs on components to grab the space vacated by China.

2: Dimension- Pros & Cons Protectionism

- ◆ **Protectionism** refers to government policies that limit international commerce in order to benefit home companies and stimulate domestic investment in a particular industry.
- ◆ Protectionist policies are typically intended to boost domestic economic activity, but they can also be enacted to address safety or quality problems.
- ◆ **Tools of Protectionism:** Tariffs, Quotas, Subsidies, Anti-dumping duties

Fact Box: Protectionist policies followed by India:

- Aatmanirbhar Bharat
- Increase in tariffs
- Anti-Dumping duty
- Food protectionism
- Vaccine nationalization
- Opting out from RCEP

BENEFITS	DISADVANTAGES
<ul style="list-style-type: none"> • More Growth Opportunities • Lower Imports • More Jobs • Higher GDP • Benefits for local producers 	<ul style="list-style-type: none"> • Restricting the trade flow • Stagnation in technological advancement • Limited choices for consumers • Inflationary effect • Economic isolation • Uncompetitive domestic industries • Against WTO norms

27. HOUSEHOLD CONSUMPTION EXPENDITURE SURVEY (HCES)

Context: The government of India has finally conducted and released the Household Consumption Expenditure Survey of 2022-23 after more than a decade. The Household Consumption Expenditure Survey (HCES) is a survey conducted every five years to collect information about the consumption of goods and services by the households.

Findings regarding rural and urban consumption in the survey

- ◆ **Rural vs urban MPCE:** The monthly per capita consumption expenditure (MPCE) was Rs. 3,773 for rural areas and Rs.6,459 for urban areas in 2022-23.
 - Compared to the last survey in 2011-12, rural MPCE has increased at a CAGR of 9.2 per cent from Rs.1,430 while the urban MPCE has increased at an annual rate of 8.5 per cent from Rs.2,630.
- ◆ **MPCE on food vs non-food items:** The households are spending less on food than expected. MPCE on food by rural households is just 46 per cent, whereas expenses on non-food items is 54 per cent. For urban households, the food, non-food mix is 39 and 61 per cent.

Findings of the survey regarding 'inequality'

- ◆ **Narrowing gap:** The consumption gap between urban and rural areas is narrowing but income inequality continues to make spends higher among high-income earners.
 - The difference between rural and urban consumption as a percentage of rural MPCE has fallen from 90.8 per cent in 2004-05 to 71.2 per cent in 2022-23.
- ◆ **Improving income:** This shows that those living in rural areas have seen their incomes improve.

Findings regarding eating habits in rural and urban India

- ◆ **Shift towards processed foods:** The largest share of food and drink consumption is going towards beverages, refreshments and processed foods indicating shifting eating patterns across India.
 - The share in MPCE for this component was 9.62 per cent in rural India while it was 10.64 per cent in urban India. Milk and milk products had the next largest share at 8.3 and 7.2 per cent in rural and urban areas followed by vegetables, egg, fish and meat and cereal and cereal substitutes.
- ◆ In rural India, the **share of cereal** in total **monthly per capita consumption expenditure (MPCE)** has fallen

to 4.89 per cent in 2022-23 as compared to 10.69 per cent in 2011-2012.

- ◆ **Cereal:** The share of cereal substitutes has gone down to 0.02 per cent from 0.06 per cent during the same period.
- ◆ **Vegetables:** At the same time, the spending on vegetables has reduced to 5.38 per cent from 6.62 per cent.
- ◆ The share of this category has gone up to 9.62 per cent from 7.90 per cent in 2011-12. This is despite the total food spending as a percentage of total spending in rural India falling from 52.9 per cent in 2011-12 to 46.38 per cent in 2022-23.
- ◆ Some other categories, which saw higher spending percentages in rural India were **dry fruits (1.17 per cent), egg, fish & meat (4.91 per cent), fruits (2.54 per cent) and milk & milk products (8.33 per cent).**

Reason behind this changing trend

- ◆ The faster growth in rural consumption is a little strange given sluggish growth in rural areas in the recent past.
- ◆ But the **social welfare schemes** could have freed up some money allocated for food, thus increasing overall spends.
- ◆ Rural inflation has also been higher than urban inflation during this period, which would also be reflected in higher expenditure growth for rural households.

28. INDIA'S FIRST INDIGENOUS SPACE MISSION

Context: Group Captains Prasanth Balakrishnan Nair, Ajit Krishnan and Angad Pratap, and Wing Commander Shubhanshu Shukla carry on their shoulders the aspirations of 1.4 billion Indians as preparations for the country's first manned space mission gather steam.

1: Dimension- Significance of Gaganyaan Mission

Gaganyaan mission is not only a scientific and technological endeavor, but also a national and global aspiration. The mission has a significant role to play in various aspects, such as:

- ◆ **Enhancing India's Scientific and Technological Capabilities:** Gaganyaan mission will provide valuable data and insights on various phenomena such as **microgravity, radiation, human physiology**, etc.
- ◆ **Inspiring Young Generations:** Gaganyaan mission will inspire young generations to pursue careers in science, technology, engineering and mathematics (STEM) fields.

- ◆ **Contributing to Global Space Cooperation:** The mission will demonstrate India's commitment and capability to participate in international space endeavors such as **the International Space Station (ISS), the Artemis program, the Lunar Gateway, etc.**
- ◆ **Boosting India's Prestige and Soft Power:** Gaganyaan mission will boost India's prestige and soft power in the international arena as a space-faring nation. It will also enhance India's image and influence in global affairs.
- ◆ **Generating Social and Economic Benefits:** It will generate social and economic benefits for India, such as creating jobs, improving **education, health care, agriculture, disaster management, and environmental protection.**

Fact Box: The Elite Group

- The Gaganyaan Mission will take India into an **elite club of nations** to have successfully sent their astronauts to space using indigenous rockets.
- The United States, Russia and China are the only other countries to have achieved this feat.
- The success of the Gaganyaan Mission will further elevate the status of the Indian Space Research Organisation (ISRO), which has had back-to-back achievements recently in the form of the **Chandrayaan Mission** to the moon and the **Aditya L-1 Mission** to study the sun.

29. '10,000 GENOME' PROJECT COMPLETED

Context: The Department of Biotechnology (DBT) officially announced the **completion of the '10,000 genome' project** — an attempt to create a reference database of **whole-genome sequences out of India.**

The **United Kingdom, China, and the United States** are among the countries that have programmes to sequence at least 1,00,000 of their genomes.

1: Dimension- Distinct variations in Indian Population

- ◆ The Indian population of 1.3 billion consists of over 4,600 population groups, and many of them are endogamous.
- ◆ These factors have contributed to the **genetic diversity of the current population.**
- ◆ Thus, the Indian population harbours distinct variations and often many disease-causing mutations are amplified within some of these groups.

2: Dimension- Significance of complete human genome

- ◆ A complete human genome makes it easier to study **genetic variation** between individuals or between populations.
- ◆ A genome refers to **all of the genetic material in an organism.**
- ◆ The human genome is mostly the same in all people, but a very small part of the DNA does vary between one individual and another.
- ◆ It can help identify differences from the average human genome that are often associated with disorders and disease but can also be associated with other factors like **disease resistance or sensitivity** to an **environmental perturbation** like **sunlight or exercise.**
- ◆ Genome sequencing has been used to evaluate rare disorders, preconditions for disorders, even cancer from the viewpoint of genetics, rather than as diseases of certain organs. Nearly 10,000 diseases — including **cystic fibrosis and thalassemia** — are known to be the result of a **single gene malfunctioning.**

30. SOFT LANDING ON MOON

Context: The United States have achieved first moon landing (moon's south pole) in half century with private spacecraft (Texas-based company Intuitive Machines).

1: Dimension- Complexities of soft landing

- ◆ A soft landing entails a successful landing by a spacecraft without sustaining any significant damage to itself or its payloads.
- ◆ Whereas, in a hard landing, the probe suffers damage which may result in the failure of the mission.

Fact Box: The South Pole

- The region has a difficult terrain, full of craters and deep trenches. It is also far from the **equatorial region** explored by previous lunar missions.
- Some areas on the south pole are shrouded in darkness and have never received sunlight.
- Temperatures are so cold there that they can plummet to as low as -230 degree Celsius. This rocky terrain, complete darkness and extremely cold weather make it more difficult for electronic instruments to function properly.
- Situated on the edge of the **Aitken basin**, the largest impact basin on the Moon, the lunar south pole offers a unique opportunity to study materials from the Moon's deep crust and mantle.
- Before Russia, countries such as Japan, Israel and the United Arab Emirates (UAE) have tried and failed to land on the Moon's south pole.

2: Dimension- Challenges of Landing on Moon

- ❖ **Less gravity than Earth:** The Moon has much less gravity than the Earth. Its thin and tenuous atmosphere, along with lunar dust, also makes it tough for spacecraft to land.
- ❖ **Dust:** The presence of dust, even in very small quantities, can have a significant effect on temperature control and optical performance of hardware on the lunar surface.
- ❖ **Deep space communication** also poses a challenge as the "large distance from the Earth and the limited on-board and radio signals are weak with heavy background noises that need to be picked up by large antennas".

31. GREEN AMMONIA PRODUCTION

Context: The quest for sustainable agriculture and energy solutions has ushered in an era of innovation, with companies worldwide striving to produce **green ammonia**.

1: Dimension- Opportunity for India

With the existing non-fossil-fuel capacity at around 186 GW, of which approximately 179 GW is renewable, India aim to add 50 GW of renewable capacity annually, targeting 500 GW by 2030.

- ❖ In 2023, India is about 60 MMTPA fertilizer consumption nation. This will grow to about 135 MMTPA by 2050.
 - The concomitant requirement of ammonia will also balloon.
- ❖ The demand, therefore, is massive. The opportunity to reduce the **carbon-footprint is enormous**.
- ❖ India is gearing up to establish about 5.8 million tonnes of green ammonia manufacturing across various regions.

2: Dimension- Challenges

- ❖ **High cost:** The cost of making green ammonia is very high today compared to brown ammonia due to two major cost-components: **a) electrolyzer and b) green power**.
- ❖ **Storage issues:** Storage of hydrogen, separated using electrolysis of water, is also a challenge today leading to disruption of a continuous supply of feedstock to the ammonia plants.

32.PLAN TO BOLSTER THE ELECTRIC VEHICLE (EV) ECOSYSTEM

Context: During the presentation of the **Interim Budget 2024-25**, the government announced plans to expand the **electric vehicle (EV) ecosystem**. The government set aside ₹2,671 crore for the **Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India (FAME India) scheme**.

1: Dimension- Challenges to transitioning to electric mobility

- ❖ **Lack of charging infrastructure:** The key barrier on the path of adoption of EV or Hybrid Vehicles is the lack of public charging infrastructure in India. The highest number of EV charging stations was in Delhi (1845) and then in Maharashtra (660) followed by Uttar Pradesh (406).
- ❖ **Expensive affair:** EV often cost 15 – 20% more than their conventional counterparts, making affordability a major roadblock for individuals and communities with limited financial resources.
- ❖ **Higher power requirement for heavy vehicles:** Fast-charging means power levels of **50-350 kW** for cars and up to 1,000 kW for heavy-duty vehicles.
- ❖ **Anxiety over the distance** that can be travelled per battery charge is a cause for concern.

The **global electric vehicle (EV) sector** is booming with an anticipated annual growth rate of 15.9% up to 2035 when sales are expected to reach 51.6 million units.

33.ESCALATING HUMAN-ANIMAL CONFLICT IN KERALA

Context: Wayanad is on the boil after a radio-collared wild elephant chased a 47-year-old man and trampled him to death, inside a gated property in a residential area. The tragedy brings to attention escalating human-animal conflict in the state.

1: Dimension- Reason behind human-wildlife conflict in Kerala

- ❖ **Large forest area:** Forest covers nearly 30% of the State's geographical area.
- ❖ **Human settlements in close proximity to forests:** For a relatively small State with an average width of just around 70 km and a population of more than 3.46 crore, this means numerous densely populated human settlements are located close to protected forest regions.

◆ **Agricultural plantation near wildlife habitat:**

Moreover, a large number of agricultural plantations too lie near wildlife habitats.

◆ **Other reasons:**

- ▶ **significant increase** in the population of animals like elephants and tigers due to conservation efforts
- ▶ **substantial increase** in the population of prolific breeders like wild boars and peacocks
- ▶ **habitat depletion and fragmentation** caused by human activities
- ▶ **invasive alien species** have reduced the availability of food and water
- ▶ **movement** of livestock and humans in wildlife habitats during odd hours

2: Dimension- Kerala's Governance mechanism

- ◆ The state has several schemes meant to prevent animals from entering human settlements. These include
 - ▶ schemes for the construction of elephant-proof trenches
 - ▶ elephant-proof stone walls
 - ▶ solar powered electric fencing
- ◆ To keep animals in forests, Kerala has also undertaken eco-restoration programmes. The state is also running a scheme to acquire land from farmers, to be then converted into forestland.
- ◆ In areas which see the highest incidence of human-animal conflict, 15 Rapid Response Teams have also been established — eight permanent, and seven temporary. 25 new RRTs will be established in the coming years.

34. CONVENTION ON MIGRATORY SPECIES OF WILD ANIMALS (CMS COP14)

Context: The 14th Meeting of the Conference of the Parties to the Convention on Migratory Species of Wild Animals (CMS COP14) concluded in Samarkand, Uzbekistan.

Key-Takeaways of the Conference

- ◆ **CMS Appendices:** The parties agreed to adopt listing proposals for 14 migratory species and several other resolutions for global wildlife.
 - ▶ The 14 species are **Eurasian lynx, Peruvian pelican, Pallas's cat, guanaco, Laulao catfish, Balkan lynx, Lahille's bottlenose dolphin, harbour porpoise, Magellanic plover, bearded vulture, Blackchin guitarfish, Bull ray, Lusitanian cownose ray and Gilded catfish.**
- ◆ The *State of Migratory Species Report 2024* identified 399 species that could be listed in either the **Appendices of the CMS-listed species.**
- ◆ The Parties also extended ongoing efforts to safeguard species already included in concerted actions, such as the **giraffe, antipodean albatross, Atlantic humpback dolphin** and others.
- ◆ **Central Asian Flyway for migratory birds:** After two decades of efforts, the COP14 played a key role in giving recognition to the Central Asian Flyway for migratory birds that stretches from Siberia all the way to the Maldives.
- ◆ **Insects:** Observing the insect decline and its potential threats to migratory insectivorous animals, the COP14 also endorsed a new scientific report on the same.
- ◆ **Samarkand Strategic Plan:** A new, science-based Samarkand Strategic Plan for Migratory Species for the period 2024-2032. The SPMS Vision Statement sets out Six Goals: **improvement of the conservation status of migratory species; maintaining and restoring the habitats and ranges of migratory species; and eliminating or "significantly" reducing threats affecting migratory species.**
- ◆ **Bycatch and illegal taking of meat:** The meeting of the Parties also saw the strengthening of the mandate to take bycatch and aquatic wild meat. The bycatch and illegal taking of meat is a major concern for small cetaceans such as dolphins, sharks, marine turtles and seabirds.
- ◆ **Action plan for aquatic species:** The COP also introduced three action plans for aquatic species, such as **Hawksbill turtle, Angelshark, Atlantic humpback dolphin** were also adopted.
- ◆ **Terrestrial species:** In case of terrestrial species, new species specific ranges were table such as the transboundary jaguar initiative and the **Sahelo-Saharan megafauna**, based on the successful initiatives under the CMS Central Asian Mammals Initiative. Action Plans for critically endangered migratory species such as **dama gazelle** and **addax** were also included.
- ◆ **Cheetah introduction:** Uzbekistan also announced plans to introduce cheetahs in the country.
- ◆ **Zoonotic disease:** To address the concerns about zoonotic diseases — diseases transmissible to humans from animal contact — from the COP14, under the leadership of International Union for Conservation of Nature, saw the launch of One Health Central Asia project.
- ◆ **Light pollution:** The CMS COP14 also saw new guidelines presented for mitigating the impacts of light pollution on migratory species. It also strengthened measures for illegal and unsustainable killing of migratory species and resolutions and endorsements on climate change and its effects on migratory wildlife.

- ◆ **Global Partnership on Ecological Connectivity:** To address the destruction, degradation and fragmentation of natural habitats among wild life, the COP14 took an initiative — Global Partnership on Ecological Connectivity (GPEC) — to “protect and connect natural areas” to ensure that key areas of migratory species are identified, protected and connected.

35.MEXICO: WORLD'S 'SINKING' CITY

Context: A new study in *Advancing Earth and Space Science* unveils a concerning reality - **Mexico City** is gradually sinking 30 centimetres every year.

1: Dimension- What's at 'stake'?

- ◆ Mexico City is one of the largest metropolises globally. It is the home to over 21 million people.
- ◆ This subsidence, which has persisted for over a century, has intensified in recent years, reaching a staggering half a metre annually.
- ◆ The potential for an additional descent of 30 metres is a looming threat, contingent on the absence of a **severe water crisis**.

SIMILAR SHRINKING PATTERNS AROUND THE WORLD

Jakarta	<ul style="list-style-type: none"> • Jakarta is the largest city and capital of Indonesia. • Jakarta is congested, polluted, prone to earthquakes, and rapidly sinking into the Java Sea. • It has been described as the world's most rapidly sinking city and it is estimated that one-third of the city could be submerged by 2050.
Florida	<ul style="list-style-type: none"> • Low-lying south Florida, at the front line of climate change in the US, will be swallowed as sea levels rise
Islands in India	<ul style="list-style-type: none"> • India has a fragile network of over 1,382 islands. However, several of these islands are under threat due to unseasonal cyclonic storms, sea erosion and new development projects. • One such island in Lakshadweep has entirely disappeared from the map. • Islands across the country that are under threat: Lakshadweep, Vaan island, Andaman and Nicobar islands, Ghoramara, Majuli island, Munroe Thuruthu

Joshimath (Uttarkhand)

- Joshimath, the ancient Uttarakhand town has become a cause of concern.
- Though the town of Joshimath has been witnessing cracks emerging for the past two decades, things have escalated over a few days when the area was declared a disaster prone region.

2: Dimension- Reason behind the situation

- ◆ **Extensive extraction of water:** The primary culprit behind this phenomenon is the extensive extraction of underground water, with 70 percent of the city's drinking water sourced from aquifers located in a **basin**.

The **Cutzamala water system**, a network of reservoirs, pumping stations, canals and tunnels, supplies about 25% of the water used by the Valley of Mexico, which includes Mexico City.

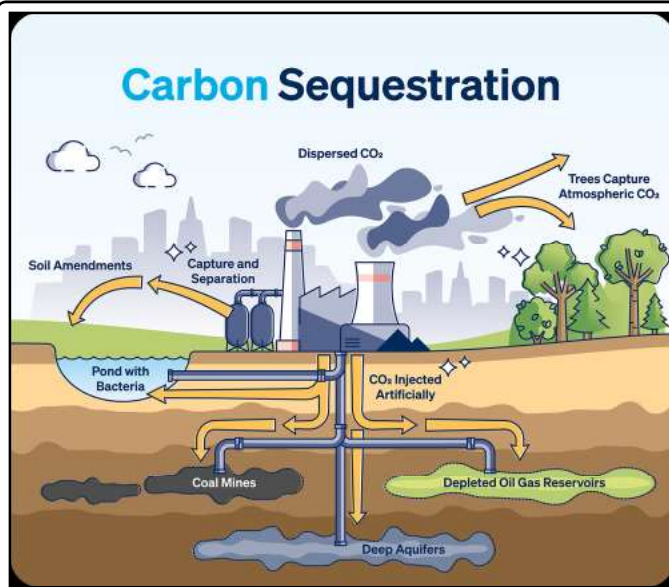
- ◆ **Destruction of protective walls:** The city's history plays a significant role in this subsidence. Originally established on the **Aztec city Tenochtitlán** and **Lake Texcoco**, the Spanish arrival in the 16th century led to the destruction of protective walls that prevented flooding.
- ◆ **Climate change:** Years of abnormally low rainfall, longer dry periods and high temperatures have added stress to a water system already straining to cope with increased demand.

36.CARBON CAPTURE AND STORAGE (CCS)

Context: Germany plans to enable underground carbon storage at offshore sites, pushing ahead with a much-discussed technology in an acknowledgment that time is running out to combat climate change.

1: Dimension- The CCS Approach

- ◆ **Capturing: Carbon capture and storage (CCS)** is the separation and capture of **carbon dioxide (CO₂)** from the emissions of industrial processes prior to release into the atmosphere and storage of the CO₂ in deep underground geologic formations.
 - **Approaches:** The most well-developed approach to storing CO₂ is injecting it underground into **naturally occurring, porous rock formations** such as **former natural gas or oil reservoirs, coal beds** that can't be mined, or **saline aquifers**.



- ◆ **Geological sequestration:** Once CO₂ has been captured using CCUS technology, it's pressurised and turned into a liquid-like form known as 'supercritical CO₂'. From there it's transported via pipeline and injected into the rocks found in the formations deep below the earth's surface. This is a process called geological sequestration.

2: Dimension- Can Sequestered Carbon Escape?

- ◆ Carbon stored underground could find multiple ways to escape and seep back into the atmosphere due to chemical reactions that take place between the carbon dioxide, rocks, water in the pores and even the cement from abandoned wells.
- ◆ If these emissions escape, this would add to existing greenhouse gas emissions which exacerbate global warming.

3: Dimension- What about India?

- ◆ Carbon capture and storage (CCS) is vital for India to be self-reliant, achieve **net-zero GHG emissions by 2070, and ensure a just transition.**
- ◆ Despite India promoting renewable and alternative energy sources, long-term projections show that to meet the growing energy demand of power systems and industries, fossil fuels will need to remain an integral part of India's energy economy.
- ◆ Cumulatively, India will have to inject 5.3–10 gigatonnes (Gt) of CO₂ by 2050 to mitigate fossil fuel use-based emissions under 1.5°C temperature increase scenarios.



SECTION

B

SPECIALS

☞ Interim Budget 2024

PRELIMS
SAMPORNA

YEARLY

CURRENT AFFAIRS REVISION CLASSES



PROGRAM FEE:

₹4,000 (+GST)

COMBO-1

PRELIMS CRASH COURSE
+
CURRENT AFFAIRS
CLASSES

₹8,000 (+GST)

COMBO-2

PRELIMS CRASH COURSE
+
CURRENT AFFAIRS CLASSES
+
MOCK TEST SERIES

₹10,000 (+GST)

60⁺ Hrs
**CLASSROOM & ONLINE
PROGRAMME**

for Complete Revision
of Prelims 2024
Current Affairs



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India's Finance Ministry presented the country's **interim budget for 2024** at a time when the overall economic landscape appears stable, backed by strong macroeconomic data. The budget outlines a multi-pronged economic management strategy, including infrastructure development, digital public infrastructure, and tax reforms. Given that 2024 is an election year, the Vote on Account or Interim Budget would merely be an interim approval to spend money, without any major tax or policy changes expected. Noting that India's economy will see an "unprecedented" development, four major areas of focus for the government have been highlighted:

- ◆ Poverty
- ◆ Youth
- ◆ Women
- ◆ Farmers

Important Estimation (key numbers):

- ◆ **Fiscal Consolidation:** FY24 fiscal deficit is estimated at 5.8% of GDP, below the budgeted 5.9%. The government pegged the FY25 target at 5.1%, with an aim to reduce it to 4.5% by FY26.

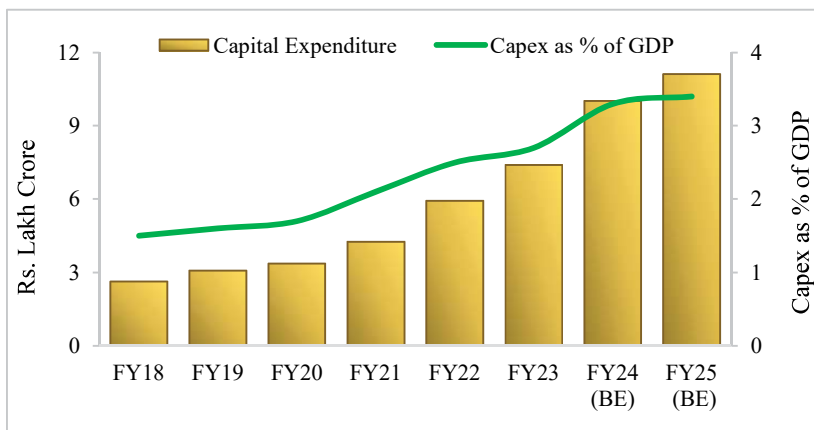
- ◆ **Capital expenditure:** It will rise by 11.1% to 11.11 trillion rupees (\$133.9 billion) in fiscal year 2025, while tax revenue for the year would be 38.31 trillion rupees (\$461.7 billion).
- ◆ **Borrowings:** The administration aims to borrow ₹14.13 trillion (\$170 billion) in the fiscal year starting April 1.
- ◆ **Revenue Receipts:** The revenue receipts for the current fiscal at ₹30.03 lakh crore are expected to be higher than the Budget Estimate, reflecting strong growth momentum and formalisation in the economy.
- ◆ **Infrastructure:** The outlay for infrastructure has been increased by 17% to Rs 11.11 lakh crore, or 3.4% of GDP, over the revised estimate of Rs 9.5 lakh crore in FY24.
- ◆ The Interim Budget 2024 unveiled a series of transformative initiatives aimed at bolstering India's growth, development, and global standing. Here's a comprehensive look at the key highlights:

Key-Takeaways

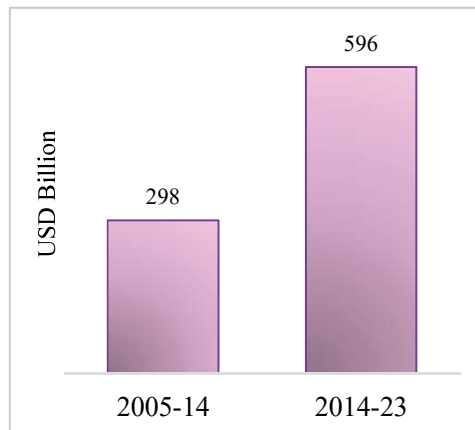
Taxes:

- ◆ No changes in tax slabs in keeping with convention; FY25 tax receipts seen at Rs 26.02 lakh crore.

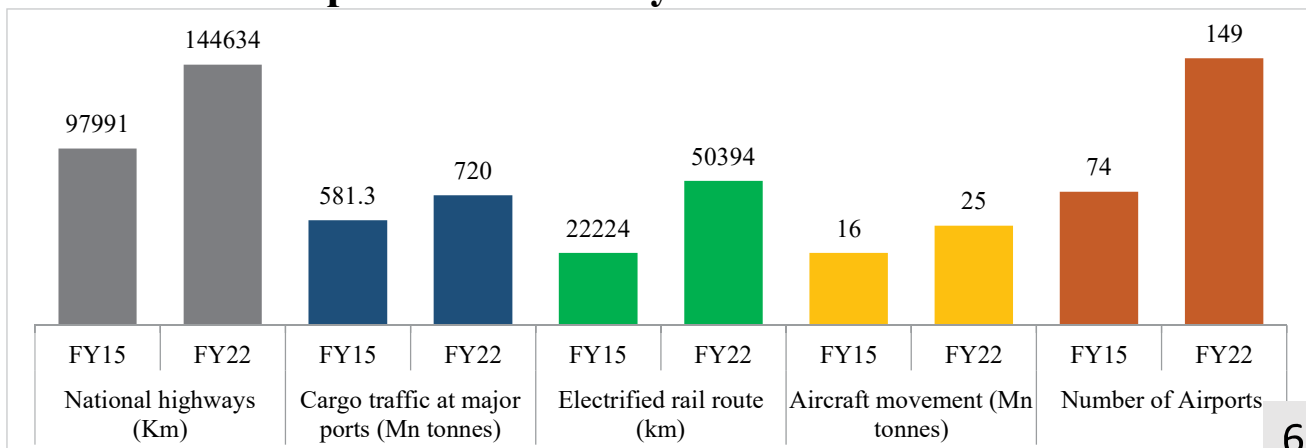
Increase in Capital Expenditure



Doubling of FDI Inflow



Improvement in Physical Infrastructure



- ◆ In a major announcement, the government has decided to withdraw outstanding direct tax demands up to Rs 25,000 for the period up to financial year 2009-10 and up to Rs 10,000 for financial years 2010-11 to 2014-15.
- ◆ The only major change to taxation was tabled with respect to startups and investments made by **sovereign wealth or pension funds**, alongside tax exemption on certain income of some **IFSC units** – which are expiring on March 31.

Railways

- ◆ In a bid to improve operations of passenger trains, the government announced three major economic railway corridor programmes to improve logistics efficiency and reduce cost —

The **Union Budget 2023** proposed a record budgetary allocation of ₹2.40 lakh crore for the Indian Railways.

- ▶ energy, mineral and cement corridors
- ▶ port connectivity corridors
- ▶ high traffic density corridors
- ◆ **Enhancing Passenger Safety and Comfort** The government is set to convert a staggering 40,000 standard rail bogies into state-of-the-art **Vande Bharat coaches**, elevating the safety, convenience, and comfort of passengers across the nation.

Impact:

- The development of commodity-specific economic rail corridors can de-congest existing lines, mostly in the eastern part of the country.
- This is supportive of faster freight movement and turnaround times and should help reduce the logistics cost for India from 12 percent of GDP, improving competitiveness, especially manufacturing, against peers.

State of Indian Railways:

- India is projected to account for 40% of the total global share of rail activity by 2050. In 2023-24, traffic revenue is estimated to be Rs 2,64,600 crore, comprising 99.8% of the total revenue.
- Government has allowed 100% FDI in the railway sector.
- Indian Railways is developing and creating technology in areas such as signaling and telecommunication with 15,000 kms being converted into automatic signaling and 37,000 kms to be fitted with '**KAVACH**', the **domestically developed Train Collision Avoidance System**.

Energy

- ◆ **Rooftop Solarisation:** Rooftop solar project to give 1 crore households 300 units of free electricity per

month. **Coal gasification and liquefaction** of 100 million tonne to be set up by 2030. New scheme of bio manufacturing, biofoundry to be launched.

- **Impact:** This will help save up to ₹15,000-18,000 annually for households from free solar electricity and selling the surplus to the distribution companies

- ◆ The government will expand the **electric vehicle ecosystem** to support charging infra, and e-buses for public transport networks will be encouraged.
- ◆ The blending of compressed biogas into compressed natural gas for transport and piped natural gas will be mandatory.
- ◆ **Bio-manufacturing and bio foundry scheme** will be launched to provide environment-friendly alternatives for bio-degradable production
- ◆ **Green Energy:** Towards meeting the commitment to 'net zero' by 2070, the following measures were announced.
 - ▶ **Viability gap funding** will be provided for harnessing offshore wind energy potential for the initial capacity of one giga-watt.
 - ▶ **Coal gasification and liquefaction capacity** of 100 MT will be set up by 2030. This will also help in reducing imports of **natural gas, methanol, and ammonia**.

Agriculture and food processing

- ◆ The government announced that the efforts for value addition in the agricultural sector and boosting farmers' income will be stepped up.
- ◆ **Pradhan Mantri Kisan Sampada Yojana** has benefitted 38 lakh farmers and generated 10 lakh employment.
- ◆ **Pradhan Mantri Formalisation of Micro Food Processing Enterprises Yojana** has assisted 2.4 lakh SHGs and sixty thousand individuals with credit linkages.
- ◆ **Promotion of post-harvest activities:** Other schemes are complementing the efforts for reducing postharvest losses and improving productivity and incomes.
- ◆ **Expansion of Nano DAP application:** Following the success of nano urea, Nano DAP application on various crops will be expanded across all **agro-climatic zones**.

DAP usage in India

- India is among the world's largest buyers of fertiliser, besides China, Brazil, and the US.
- **India imports four types of fertilisers:**
 - ▶ Urea
 - ▶ diammonium phosphate (DAP)

- ▶ muriate of potash (MOP)
- ▶ nitrogen-phosphorous-potassium (NPK)
- India, the top importer of urea, imports about 30% of its average 35 million tonnes of annual consumption of the crop nutrient.
- India imports urea from a number of countries, including Oman, Qatar, Saudi Arabia and United Arab Emirates.

- ❖ **Aatma Nirbhar Oilseeds Abhiyan:** Strategy formulation to achieve self-reliance in oilseeds through research, adoption of modern farming techniques, market linkages, and crop insurance.
- ❖ **Matsya Sampada:** Promotion of investments in fisheries to generate employment opportunities, with a separate department set up for fisheries under the government's initiative.

Pradhan Mantri Matsya Sampada Yojana (PMMSY)

Introduced by the Department of Fisheries, Pradhan Mantri Matsya Sampada Yojana (PMMSY), the aim of the scheme is to bring about Blue Revolution through the sustainable development of the fisheries sector over a period of five years (2020-2025)

Defense

- ❖ **Defense Outlay:** A substantial 11.1% increase in the Defence outlay, amounting to Rs 11,11,111 crore, demonstrates the government's dedication to national security.
- ▶ **Strengthening Deep Tech in Defence:** The government is set to launch a comprehensive plan to strengthen deep tech capabilities in the Defence sector, ensuring India's security and technological prowess.

The Central government aims to take India's defence exports up to US\$ 5 Bn by 2024-25.

Housing

- ❖ The government plans to launch a scheme for **deserving sections of middle class** living in **rented houses or slums** to build their own houses. Details are awaited.
- ❖ The government also aims to make 2 crore houses in the next five years under the **PM Awas Yojana-Grameen** and is close to achieving the 3 crore target.
- ❖ **Housing for the middle class** - The Government will launch a scheme to help deserving sections of the middle class, living in rented houses or slums, or chawls and unauthorized colonies, to buy or build their own houses. This is likely to free encroachment areas like slums for easier redevelopment.

- ▶ The Finance Minister also announced 2 crore more houses under the **Pradhan Mantri Awas Yojana – Gramin (PMAY-G)**.

Women

- ❖ **Empowering Women (Triple Talaq Ban and Legislative Representation):** The government's commitment to women's empowerment is highlighted by making Triple Talaq illegal and reserving one-third of legislative seats for women.
- ❖ **Health Sector:** The interim Budget announced the government's plans to focus on vaccination against **cervical cancer** for girls aged 9 to 14.
- ❖ **Other health-related schemes in her speech, including:**
 - ▶ The **U-WIN platform** for managing immunisations will be rolled out in the country.
 - ▶ Extension of Ayushman Bharat coverage: The government will extend Ayushman Bharat cover to all Asha workers and Anganwadi workers and helpers.
 - ▶ **Expansion of medical colleges:** The government will focus on setting up more medical colleges by utilising existing hospital infrastructure in the country.
 - ▶ **Umbrella scheme:** Schemes under maternal and child health care will be brought under one comprehensive programme.
 - ▶ An upgradation has also been announced of Anganwadi centres and expedited nutrition delivery and other steps for early childhood care.
- ❖ **'Lakhpati Didi' Scheme:** The government announced that **eighty-three lakh SHGs (self-help groups)** with **9 crore women** are transforming the rural socio-economic landscape with empowerment and self-reliance. Their success has assisted nearly one crore women to become **'Lakhpati Didi' already**. Buoyed by the success, it has been decided to enhance the target for 'Lakhpati Didi' from 2 crore to 3 crore.

Impact:

- The Lakhpati Didi Scheme, aiming to empower two crore women in villages, has achieved notable success by reaching 83 lakh self-help groups and benefiting 9 crore women.
- With a financial injection of **₹1 lakh per household** for one crore beneficiaries, this initiative is poised to significantly uplift the economic status of rural women.
- This empowerment will:
 - ▶ stimulate the rural economy
 - ▶ enhance credit demand for micro-financiers, particularly from women and self-help groups
 - ▶ reduce stress on asset quality issues

Investment

- ◆ The **FDI inflow** during 2014-23 was \$596 billion marking a golden era. That is twice the inflow during 2005-14.
- ◆ For encouraging sustained foreign investment, the government is negotiating **bilateral investment treaties** with foreign partners, in the spirit of 'first develop India'.

Tourism:

- ◆ **Interest free loans:** Long-term interest free loans would be given to various states to develop tourist centers, while highlighting that spiritual tourism saw a boost last year.
 - As much as **750 billion rupees at a 50-year interest free loan** will be set aside for states to boost tourism.
- ◆ **Rating system:** A rating system based on the quality of facilities and services will be established.
- ◆ **Lakshadweep Plan:** Projects for port connectivity, tourism infrastructure, and amenities will be taken up on islands, including Lakshadweep. This will help in generating employment as well.

- **Travel and tourism** are two of the largest industries in India, with a total contribution of about US\$ 178 billion to the country's GDP.
- **Schemes:** PRASHAD, Swadesh Darshan, SAATHI, Dekho Apna Desh and NIDHI,

Other Important Announcements

- ◆ **Aqua Parks and Economic Corridor:** Five integrated Aqua Parks are slated to be established, promising recreational spaces for communities. Additionally, the recently announced India **Middle East Europe Economic Corridor** is expected to be a game-changer for India's economic landscape.

Middle East Europe Economic Corridor

- The project is a part of the **Partnership for Global Infrastructure Investment (PGII)** — a West-led initiative for **funding infrastructure projects** across the world.
- **Objective:** The corridor aims to provide a reliable and cost-effective **ship-to-rail transit network** between **Asia, Middle East and Europe**.

- **Proposals:** The corridor will comprise of **two separate corridors**,
 - **The Eastern corridor** - will connect India to the Arabian Gulf.
 - **The Northern corridor** - will connect the Arabian Gulf to Europe.
- **Member Nations:** Apart from India, the other participants will include **Saudi Arabia, UAE, France, Germany, Italy, USA and the European Union**.
- **Components of the project:**
 - The arrangement will include a **railway route** that, upon completion, will provide a **reliable and cost-effective cross-border ship-to-rail transit network** to supplement **existing maritime and road transport routes**.
 - This will enable **goods and services** to transit to, from, and between **India, the UAE, Saudi Arabia, Jordan, Israel, and Europe**.
 - Along the railway track, the members want to lay a **cable for clean hydrogen export**.

- ◆ **Bond sale program:** The government announced a lower-than-expected bond sales program for the next fiscal year, as the nation prepares for big foreign inflows on **global index inclusion**.

Government Bond Index-Emerging Markets index

- In 2023, **JPMorgan** announced that Indian government bonds will be included in its **Government Bond Index-Emerging Markets index** suite starting June 2024.
- The **JP Morgan GBI-EM** is a widely followed and influential benchmark index that tracks the performance of **local-currency-denominated Sovereign Bonds** issued by emerging market countries.

- ◆ **FDI Focus:** The government is set to push for bilateral treaties with foreign partners under the mantra of 'First Develop India' promoting foreign direct investment.
- ◆ The interim budget is seen as a stop-gap financial plan during an election year, aimed at meeting immediate financial needs before a new government is formed. The full-fledged union budget will only be released after the elections. The Budget has been touted as a roadmap to "vikshit Bharat", or developed India, by 2047.



SECTION

C

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- ❧ Sammakka-Sarakka Jatara
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- ❧ Direct Tax Kitty
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PRELIMS 2024

MOCK TEST SERIES

TOTAL 20 FULL MOCK TESTS

TEST NO. & DATE		SUBJECT	TEST NO. & DATE		SUBJECT
TEST: 01	17 MARCH, 2024	PAPER 1 (GS)	TEST: 11	21 April, 2024	PAPER 1 (GS)
TEST: 02	17 MARCH, 2024	PAPER 2 (CSAT)	TEST: 12	21 April, 2024	PAPER 2 (CSAT)
TEST: 03	24 MARCH, 2024	PAPER 1 (GS)	TEST: 13	25 April, 2024	PAPER 1 (GS)
TEST: 04	24 MARCH, 2024	PAPER 2 (CSAT)	TEST: 14	25 April, 2024	PAPER 2 (CSAT)
TEST: 05	31 MARCH, 2024	PAPER 1 (GS)	TEST: 15	28 April, 2024	PAPER 1 (GS)
TEST: 06	31 MARCH, 2024	PAPER 2 (CSAT)	TEST: 16	28 April, 2024	PAPER 2 (CSAT)
TEST: 07	07 APRIL, 2024	PAPER 1 (GS)	TEST: 17	01 MAY, 2024	PAPER 1 (GS)
TEST: 08	07 APRIL, 2024	PAPER 2 (CSAT)	TEST: 18	01 MAY, 2024	PAPER 2 (CSAT)
TEST: 09	14 APRIL, 2024	PAPER 1 (GS)	TEST: 19	05 MAY, 2024	PAPER 1 (GS)
TEST: 10	14 APRIL, 2024	PAPER 2 (CSAT)	TEST: 20	05 MAY, 2024	PAPER 2 (CSAT)

**PROGRAMME FEE**
₹ 3,000 (+GST)**BATCH
STARTS****17 MARCH****8448496262****iascore.in**

1. BUDDHA'S RELICS

Context: Four of the 20 relics of Lord Buddha preserved at the National Museum are being taken to Thailand for a month-long exposition.

About (Kapilvastu Relics)

- ◆ The relics at the National Museum are known as the '**Kapilvastu Relics**' as they were recovered in 1898 from a site in Bihar believed to be the **ancient city of Kapilvastu**.
- ◆ It was an **inscribed casket** found at the stupa site in **Piprahwa (near Siddharthnagar in Uttar Pradesh)** that helped identify Kapilavastu.
- ◆ The casket contained the **relics of Buddha and Sakya**, his community.
- ◆ The relics fall under the 'AA' (rare) category of antiquities and art treasures.

What are Buddha relics?

- ◆ Simply put, they are the Buddha's cremated remains.
- ◆ As per the Buddhist belief, at the age of 80 (486-483 BC), Lord Buddha obtained salvation in **Kushinagar (Uttar Pradesh)**.
- ◆ His **funeral relics** were collected and divided into eight shares to be distributed among them
 - Ajathasatrus of Magadha
 - Vaishali's Licchavis
 - the Sakyas of Kapilavastu
 - Housing in Kushinagar
 - Alakappa Bullies
 - Mallas of Pava
 - the Colossians of Ramagrama once
 - Brahmana of Vethadipa

2. SAMMAKKA-SARAKKA JATARA

Context: Sammakka-Sarakka Jatara, Asia's biggest biennial tribal festival, is scheduled from February 21 to 24.

About

- ◆ **Type:** Tribal Festival (State Festival of Telangana)
- ◆ **Conducted in:** Medaram village by the committee of tribal priests.

- ◆ Sammakka Saralamma Jathara or Medaram Jathara is a **tribal festival** of honouring the goddesses celebrated in the southern state of Telangana.
- ◆ It commemorates the fight of a mother and daughter, **Sammakka and Saralamma**, with the reigning rulers against an unjust law.
- ◆ It is celebrated by the **second-largest Tribal Community of Telangana- the Koya tribe**.
- ◆ People offer bangaram/gold (jaggery) of a quantity equal to their weight to the goddesses and take holy bath in Jampanna Vagu (stream).
- ◆ It is a festival with **no vedic or brahmanic influence**.
- ◆ This fair is said to be the **largest repeating congregation of tribal communities** in the world.
- ◆ It is held every two years (biennially).

Fact Box: Koya Tribe

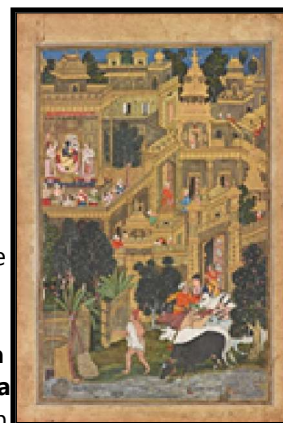
- **Koya** is a tribal group found in southern India, especially **Chhattisgarh, Telangana and Andhra Pradesh**.
- The Koya are mainly settled cultivators and artisans, expertise in making bamboo furniture including mats for fencing, dustpans, and baskets.
- They grow Jowar, Ragi, Bajra and other millets.

3. THE CITY OF DWARKA

Context: PM Narendra Modi recently performed underwater prayers at 'Dwarka Nagari', believed to be the kingdom of Lord Krishna. Since the start of the 20th century, several attempts have been made by scholars to establish the location of Dwarka as mentioned in the Mahabharata.

About the City

- ◆ '**Dwarka**', which translates to a 'gate' in Sanskrit, has been the gateway to India, which acted as an important centre of trade between India and West Asia.
- ◆ The city of Dwarka, one of the **Sapt Puris of Hinduism**, was said to have been reclaimed from the sea by **Lord Krishna** after he shifted from **Mathura** in Uttar Pradesh to **Dwarka** in Gujarat.
- ◆ Dwarka, according to legends, was submerged under the **Arabian Sea** as **Lord Krishna** departed from the world, marking the beginning of the **Kali Yuga**.



Fact Box: Dwarkadhish Temple

- At present, devotees are mainly drawn to Dwarka for the Dwarkadhish Temple.
- The temple is believed to have been established more than 2500 years ago by Lord Krishna's great-grandson, Vajranabh.
- The ancient temple has been renovated several times, especially leaving imprints of the 16th and 19th centuries.

4. ASSAM'S TRADITIONAL BUFFALO FIGHT-MOH-JUJ

Context: The Gauhati High Court has temporarily halted any future buffalo fight, known as *moh-juj* in Assamese, in response to a plea by PETA.

What is Moh-Juj?

- ◆ The traditional buffalo fight (*Moh-Juj*) is an integral Bihu celebration of Assam.
- ◆ Buffalo or bulbul or nightingale fights have been traditionally organised as part of the Bhogali Bihu celebrations.
- ◆ It is held during the Magh Bihu celebrations in mid-January every year.

Fact Box: Other similar cultural festivals

- **Jallikattu:** Jallikattu is a 2,000 years old competitive bull taming sport in which contestants attempt to tame a bull for a prize, wherein if they fail, the bull owner wins the prize. In May 2023, a five-judge constitution bench, however, upheld the validity of laws passed by Tamil Nadu, Maharashtra and Karnataka to allow the bull-taming sport Jallikattu, bullock-cart races and buffalo racing sport Kambala in their respective region.
- **Kambala** is an annual buffalo race held in the southwestern Indian state of **Karnataka**.

5. DEEPASTAMBHAM (LAMP POST)

Context: A newly-discovered *Deepastambham* (lamp post) on the edge of **River Krishna** in Nalgonda district casts a fresh light on trade ties in the region in early medieval times.

What has been found?

- ◆ Archaeologists have found the **20-foot tall pillar** with **hollows for lamps** and a **multi-lingual inscription** in **Mudimanikyam village** of Nalgonda in Telangana.

- ◆ While Dhvajasthambam (flag poles) are part of **temple architecture**, lamp posts are rare in the **Deccan** while they are common in temples in the west coast including Goa.
- ◆ **Age:** Based on the inscription engraved on the lamp post, the pillar can be dated to June 1635.
- ◆ **Inscription:** It is written in **Telugu mixed with Tamil language**.
- ◆ It is dedicated to **Kasi Viswanatha** and because of its height, it would have served as a lighthouse on the riverine trade route.

Deepastambham is the traditional lamp post (holds many layers of oil-based lamps) that can still be found in temples of India.

6. TEMPLES FROM BADAMI CHALUKYAN PERIOD

Context: Archaeologists have unearthed two ancient temples dating back to the **Badami Chalukyan period**, along with a rare inscription, in Mudimanikyam village of Nalgonda district, Telangana.

Key-findings

- ◆ **Origin:** The temples are estimated to be at least 1,300 years old (8th or 9th century AD).
- ◆ **Location:** on the way to the Krishna river
- ◆ **Architectural style:** They showcase unique architectural styles, blending **Badami Chalukyan and Kadamba Nagara influences**.
- ◆ In one temple, a **panavattam** (base of a Shiva lingam) in the sanctum sanctorum has been found. In another, a Vishnu idol was recovered.
- ◆ The discovery also includes an inscription, labelled as '**Gandaloranru**', dating back to the **8th or 9th Century AD**, offering clues about the historical context of the region.

Fact Box: Temple Architecture**Temple Architecture of Chalukya Period**

- From the 5th century CE onwards (535-757CE), the Chalukyas of Badami were the leading force in Deccan.
- The temple architecture of Chalukya Period is actually the mixture of Nagar and Dravida styles. However, this style has been termed as Besar style.
- This style originate and flourished at Aihole, Badami and Pattadakal of Karnataka state between 5th to 7th century CE.

Kadamba Architecture

- The Kadamba have been regarded as one of the foundations upon which the **Karnataka architecture is based**.
- The Kadamba style of architecture has many distinguishing characteristics, including a few things in common with the Chalukyan and the Pallava styles.

Nagara or North Indian Temple Architecture:

- **Origin:** 5th century AD.
- **Region:** From Northern India to Karnataka to parts of Madhya Pradesh, Odisha and Gujarat, giving it its pan-India appeal.
- The Nagara style is mainly associated with the land between the **Himalayas and Vindhyas**.

7. ATMOSPHERIC RIVER

Context: Parts of Los Angeles received a storm powered by an atmospheric river hit the state. Known as a 'river in the sky', the weather phenomenon can produce torrential amounts of rain.

What are Atmospheric Rivers?

- ◆ Atmospheric rivers are **relatively long, narrow regions in the atmosphere** – like rivers in the sky – that transport most of the water vapour outside of the tropics.
- ◆ **Size:** Atmospheric rivers can be between 400 and 600 kilometres wide. They can be over 1,600 kilometres long.
- ◆ **Impacts:** Heavy rainfall associated with ARs can cause flooding, landslides and mudslides. They can also lead to water supply disruption, and develop drought-like conditions.

8. RAFAH BORDER

Context: South Africa asked the World Court to weigh whether **Israel's strikes on Rafah**, and its intention to launch a ground offensive on the city, breaches both the **U.N. Genocide Convention**.

Rafah

- ◆ Rafah sits on the Gaza-Egypt border.
- ◆ **On the Palestinian side**, it is the name of Gaza's southernmost governorate and its capital city, as well as of the crossing into Egypt's Sinai.
- ◆ **On the Egyptian side**, it is a city in the North Sinai governorate.

- ◆ Rafah was already one of the most densely-populated cities in Gaza before the war began, housing some 280,000 people within 23 square miles.



9. PANCHESHWAR MULTIPURPOSE PROJECT

Context: More than a month after India and Nepal signed the agreement on long-term power sharing, the two sides have not managed to make any forward movement on the stalled negotiations over the landmark **Pancheshwar Multipurpose Project (PMP)**.

What is Pancheshwar project?

- ◆ The Mahakali or Kali River rises at an altitude of 3,600 meters in the Greater Himalaya range at Kalapani, in the Pithoragarh district of Uttarakhand.
- ◆ This river forms the natural border between India and Nepal in Uttarakhand.
 - ▶ Kalapani is near the Lipu-Lekh pass at the border between India, Nepal, and Tibet.
- ◆ The Kali river, which forms the boundary of India and Nepal, is also connected to the territorial dispute of Kalapani-Limpiadhura-Lipulekh as the river originates in the triangular area that is claimed by both countries.
- ◆ Once the Kali River descends from the Himalayan foothills and onto the Gangetic plain, at Banbasa near the town of Tanakpur, its name changes to the Sharda River.
 - ▶ The river is a part of the Ganga river system, joining the main river near the city of Madhubani.
- ◆ This river is the center of the Pancheshwar Dam.

- ❖ The Pancheshwar multipurpose hydroelectric project is to be built over the Mahakali river jointly by the Indian and Nepalese Governments.
- ❖ The project involves the construction of two dams on the river Mahakali, for
 - irrigation, flood control, and;
 - generation of power for both countries
- ❖ The project is to come up near the Pancheshwar temple, 2.5 km downstream of the confluence of the Mahakali and Sarju rivers.

10. FRANCE FIRST EUROPEAN COUNTRY TO ACCEPT INDIA'S UPI

Context: NIPL in partnership with Lyra, a French leader in securing e-commerce and proximity payments, has announced the acceptance of the **Unified Payments Interface (UPI) payment mechanism** in France starting with the iconic Eiffel Tower.

About UPI

- ❖ The UPI is India's **mobile-based payment system**.
- ❖ It is an **instant payment system** that allows people to make **round-the-clock payments** through a virtual payment address created by the customer.
- ❖ It was developed by the **National Payments Corporation of India (NPCI)** in 2016 and is regulated by the **Reserve Bank of India (RBI)**.

Which nations have adopted UPI?

- ❖ Non-resident Indians (NRIs) from 10 countries can use UPI to send and receive money if their domestic bank accounts are linked to their phone numbers abroad.
- ❖ The list of countries included **Singapore, Australia, Canada, Hong Kong, Oman, Qatar, US, Saudi Arabia, United Arab Emirates, and the United Kingdom**.

Fact Box: UPI's Adoption

- With over 380 Million users, UPI as a payment method has significantly marked its presence in India, evidenced by its recent milestones.
- In January 2024 alone, UPI recorded over 12.2 billion transactions, emphasizing its widespread adoption.

11. SCHENGEN ZONE

Context: Kosovo recently secured visa-free access to the **Schengen zone** in Europe, world's largest zone of free movement, becoming the last western Balkan non-European Union nation to be waived visa requirements.

About Schengen Agreement

- ❖ It started in 1985 as an **intergovernmental project** between five **EU countries– France, Germany, Belgium, the Netherlands and Luxembourg** – and has gradually expanded to become the largest free travel area in the world.
- ❖ Schengen zone in Europe is the world's largest zone of free movement, which provides visa free travel to signatory countries citizens.

Which countries are part of Schengen?

- ❖ Today, the Schengen area covers over 4 million square kilometres with a population of almost **420 million people**, and includes 27 countries:
 - 23 of the 27 EU member states
 - all members of the European Free Trade Association (Iceland, Liechtenstein, Norway and Switzerland)

Schengen is the name of a small village in **Luxembourg**, on the border with Germany and France, where the **Schengen Agreement** and the **Schengen Convention** were signed in 1985 and in 1990 respectively.

12. DELIMITATION EXERCISE

Context: The delimitation of constituencies for the Lok Sabha and State Legislative Assemblies is to be carried out on the basis of the first Census after 2026.

What is delimitation?

Article 82 and 170 of the Constitution provide that the number of seats in the Lok Sabha and State Legislative assemblies as well as its division into territorial constituencies shall be readjusted after each Census.

- ❖ Delimitation means the **process of fixing the number of seats and boundaries of territorial constituencies** in each State for the Lok Sabha and Legislative assemblies.
 - It also includes determining the seats to be **reserved for Scheduled Castes (SC) and Scheduled Tribes (ST) in these houses**.
- ❖ **Performed by:** Delimitation Commission. Such an exercise was carried out after the 1951, 1961 and 1971 Census.

Fact Box: Delimitation Commission:

- The **Delimitation Commission or Boundary Commission of India** is a commission established by the Government of India under the provisions of the **Delimitation Commission Act**.

- **Composition:**
 - Retired Supreme Court judge
 - Chief Election Commissioner
 - Respective State Election Commissioners
- The Commission's orders cannot be challenged in any court of law.

13. INDIA TO CONSTRUCT FENCING ALONG INDO-MYANMAR BORDER

Context: The Centre has decided to construct a fence along the entire 1,643-kilometer-long **Indo-Myanmar border**.

The Plan

- ◆ **Target:** to construct a fence along the entire 1,643-kilometer-long Indo-Myanmar border.
- ◆ **Aim:** to enhance surveillance capabilities and establish a patrol track along the border for effective monitoring.
- ◆ **The Bordering States**
 - **Manipur** shares a 398-kilometer border with Myanmar.
 - Out of the total border length, a 10 km stretch in Moreh, Manipur, has already been fenced.
 - **Arunachal Pradesh** shares a 520-kilometer border
 - **Nagaland's** border with Myanmar spans 215 kilometers.

14. GHAR (GO HOME AND RE-UNITE) PORTAL

Context: As informed by **National Commission For Protection of Child Rights (NCPCR)**, a total 5175 children have been registered on the **Go Home and Re-Unite (GHAR) Portal** for repatriation.

About the Portal

- ◆ NCPCR has developed and launched portal namely **GHAR - GO Home and Re-Unite (Portal for Restoration and Repatriation of Child)**.
- ◆ The GHAR portal has been developed to digitally monitor and track the restoration and repatriation of children as per the protocols under the **Juvenile Justice (Care and Protection of Children) Act, 2015** and Rules thereof.
- ◆ **Salient features of the portal:**

- **Digital tracking and monitoring** of children who are in the Juvenile Justice system and have to be repatriated to another Country/State/District.
- **Digital transfer of cases of children** to the concerned Juvenile Justice Board/Child Welfare Committee of the State for speedy repatriation of children.
- Where there is a requirement of a translator/interpreter/expert, request to be made to the concerned State Government.
- Child Welfare Committees and District Child Protection Officers can ensure proper restoration and rehabilitation of children by digitally monitoring the progress of the case of the child.
- **A checklist format** will be provided in the forms so that the children who are hard to repatriate or children who are not getting their entitled compensation or other monetary benefits can be identified.
- **List of Government implemented schemes** are provided, so that at the time of restoration the Child Welfare Committees can link the child with the schemes to strengthen the family and ensure that child remains with his/her family.

Fact Box: Track Child Portal

- The "Track Child Portal" enables tracking of the missing and found children in all States/UTs including **Maharashtra, Chhattisgarh, North Eastern States and Jharkhand**.
- The TrackChild portal is also integrated with the **CCTNS or Crime and Criminal Tracking & Network Systems** of the Ministry of Home Affairs, which allows interoperability in terms of matching of F.I.Rs of missing children with database of TrackChild to trace and match missing children by the concerned State/UT police
- One component of TrackChild Portal has "**Khoya-Paya**" where any citizen can report for any missing or sighted children.
- **Developed by:** Ministry of Women and Child Development
- **Stakeholders:** Ministry of Home Affairs, Ministry of Railways, State Governments/ UT Administrations, Child Welfare Committees, Juvenile Justice Boards, National Legal Services Authority, etc.

15. PRITHVI VIGYAN (PRITHVI) SCHEME

Context: The Union Cabinet has approved Rs 4,797 crore research scheme to boost and maintain research momentum in the fields of ocean, atmospheric and polar sciences.

What is PRITHvi VIgyan (PRITHVI) Scheme?

- ◆ The PRITHvi VIgyan (PRITHVI) will be an **umbrella scheme** to help continue many of the ongoing research projects and efforts in the areas of **atmosphere, hydrosphere, cryosphere, geosphere and biosphere** (five components of the Earth system) till 2026.
- ◆ **Nodal Ministry:** Ministry of Earth Sciences (MoES)
- ◆ It will open doors for Indian scientists to join hands with international experts.
- ◆ This initiative, with a budget of **Rs 4,797 crore over a five-year period (2021-26)**, aims to streamline and enhance the research efforts of the Ministry of Earth Sciences (MoES).
- ◆ Some of the ongoing research that will now come under PRITHVI include:
 - ▶ Atmosphere and Climate Research-Modelling Observing Systems and Services (ACROSS),
 - ▶ Ocean Services, Modelling Application, Resources and Technology (O-SMART)
 - ▶ Polar Science and Cryosphere Research (PACER)
 - ▶ Seismology and Geosciences (SAGE)
 - ▶ Research, Education, Training and Outreach (REACHOUT)
- ◆ **Need of the scheme:** With climate change and its adverse impacts affecting globally, the need for improving understanding the roles of atmosphere-ocean-poles has become increasingly necessary.

16. 'LAKHPATI DIDI' SCHEME

Context: In the interim budget, the government has announced to enhance the target of 'Lakhpati Didi' Scheme.

What is 'Lakhpati Didi' initiative?

- ◆ In 2023, the government announced the 'Lakhpati Didi' scheme to provide skill development training to 20 million women in villages across the country.

The term 'Lakhpati Didis' refers to women members of **Self Help Groups (SHGs)** who harness their entrepreneurial skills and earn a sustainable income of at least Rs 1 lakh per year per household.

- ◆ Under this scheme, the women would be trained in skills like plumbing, LED bulb making and operating and repairing drones.

Assessing the success

- ◆ The Lakhpati Didi Scheme, aiming to empower two crore women in villages, has achieved notable success by reaching 83 lakh self-help groups and benefiting 9 crore women.

According to the **World Bank**, only 20.5% of women in India participated in the labor force in 2019, compared to 76.1% of men. Moreover, the gender gap in literacy rate was 14.4% in 2018, with 74.4% of men and 60% of women being literate.

- ◆ With a financial injection of **₹1 lakh per household** for one crore beneficiaries, this initiative is poised to significantly uplift the economic status of rural women.
- ◆ This empowerment will:
 - ▶ stimulate the rural economy
 - ▶ enhance credit demand for micro-financiers, particularly from women and self-help groups
 - ▶ reduce stress on asset quality issues

17. BLUE AADHAAR CARD

Context: The Aadhaar card has become a crucial document in India, and children are no exception. For kids below 5 years old, a special **blue-colored Aadhaar card**, called **Baal Aadhaar**, is issued.

What is Baal Aadhaar (Blue Aadhaar card)?

- ◆ In 2018, the UIDAI introduced the concept of the 'Baal Aadhaar' card specifically tailored for children under the age of five.
- ◆ The Baal Aadhaar card is blue in colour, unlike the regular white Aadhaar card for adults.
- ◆ This card also contains a 12-digit unique identification number for a child below 5 years.

Features of Blue Aadhaar card:

- ◆ Unlike adults, no biometric data of the child is required for issuing the card.
- ◆ His/her UID is processed based on the demographic information and facial photograph linked with the UID of their parents.
- ◆ But the child needs to update his/her biometric data of ten fingers, iris and facial photographs, when he/she turns five and again at the age of 15, otherwise the card will become invalid.
- ◆ The biometric data update for the teen Aadhaar cardholders is free.

18. CABINET APPROVES RS 6,000 CRORE FISHERY SCHEME

Context: The government announced **Rs 6,000 crore scheme** in order to **formalise the unorganised fisheries sector**, facilitate institutional finance to **micro and small enterprises** and promote **aquaculture insurance**.

What is this new scheme?

- ◆ The Union Cabinet approved the **Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana (PM-MKSSY)**.
- ◆ **PM-MKSSY** is central sub-scheme under the **Pradhan Mantri Matsya Sampada Yojana (PMMSY)**.
- ◆ **Target group:** fishermen, fish farmers, fish workers, micro and small enterprises, and fish farmers producers organisations, among others.
- ◆ **Objectives:** To formalise the fisheries sector while focusing on micro and small enterprises in all states and Union Territories.
 - It will also address issues of **aquaculture crop losses** due to disease through insurance and enhance export competitiveness through value addition, value realization and value creation.
- ◆ **Funding:** Rs 6,000 crore
 - About 50 per cent i.e. Rs 3,000 crore will come from **public finance** including the **World Bank and the AFD external financing**.
 - The remaining 50 per cent is expected from the beneficiaries and private sector.
- ◆ **Period:** four years from 2023-24 to 2026-27 fiscal years
- ◆ **Significance:**
 - **Employment generation:** The sub-scheme is projected to generate about 1.7 lakh new jobs, with a special emphasis on employing 75,000 women.
 - **Opportunities in MSME:** It also aims to generate 5.4 lakh continued employment opportunities in the micro and small enterprises (MSME) value chain.

Fact Box: Fisheries Sector of India

- India is the third largest fish producing country, contributing **8 percent to the global fish production** and **ranks second in aquaculture production**.
- India is the **4th largest exporter of fish and fisheries products**.
- **100% FDI** is allowed under the automatic route in **pisciculture** and aquaculture sector in India.

19. INDIA-MYANMAR FREE MOVEMENT REGIME (FMR)

Context: The central government has decided to scrap the India-Myanmar Free Movement Regime (FMR).

About Free Movement Regime between India and Myanmar

- ◆ The FMR came into existence in 2018 as a part of **India's Act East policy**.

- ◆ It allows **cross-border movement** up to **16 km without a visa**.
- ◆ The agreement was brought to facilitate local border trade, improve access to education and healthcare for border residents, and strengthen diplomatic ties.
- ◆ Under the agreement, individuals were also allowed to up to two weeks in the neighbouring country by getting a **one-year border pass**.

20. PM-SVANIDHI SCHEME

Context: A study that evaluated the impact of the **PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi)**, a small working capital loan scheme for street vendors, has found that the first tranche of Rs 10,000 led to an additional annual income of Rs. 23,460 for each beneficiary.

What is PM SVANIDHI?

- ◆ PM SVANIDHI is a **special micro-credit facility plan** to provide affordable loan of up to Rs. 10,000 to more than 50 lakh street vendors.
- ◆ The scheme is a **Central Sector Scheme** fully funded by **Ministry of Housing and Urban Affairs**.
- ◆ **Eligibility:** The Scheme is available to all street vendors engaged in vending in urban areas as on or before March 24, 2020.
 - It was **announced aims to enable street vendors to resume their livelihoods**, which have been hit hard due to the national lockdown.
- ◆ **Implementing agency:** **Small Industries Development Bank of India** is the **technical partner** for implementation of this scheme. It manages the credit guarantee to the lending institutions through **Credit Guarantee Fund Trust for Micro and Small Enterprises**.
- ◆ **Salient features:**
 - Vendors can **avail working capital loan of up to Rs 10,000**, which is repayable in monthly instalments within one year.
 - On timely/early repayment of the loan, an interest subsidy of 7% per annum will be credited to the bank accounts of beneficiaries
 - Monthly cash back incentive on digital transactions
 - There will be **no penalty on early repayment of loan**.

21. MAHARASHTRA CLEARS 10% MARATHA QUOTA BILL

Context: The Maharashtra Legislature unanimously passed a bill **reserving 10% of the seats in educational institutions and the same proportion of government jobs for people from the Maratha community**.

What is the Bill?

- ◆ **Bill:** Maharashtra State Reservation for Socially and Educationally Backward Classes Act 2024

Fact Box: Reservation Cap

The **current percentage of reserved categories** in the state stands as follows (totaling 62 per cent):

- SC – 13 per cent
- ST – 7 per cent
- OBC – 19 per cent
- SBC – 2 per cent
- VJ (A) – 3
- Vimukta Castes, NT (B) – 2.5
- Nomadic caste, NT (C) – 3.5
- Nomadic tribes (Dhangars etc), NT (D) – 2
- Nomadic tribes (second category)
- EWS – 10 per cent

The enactment of the **10 per cent Maratha quota through this reservation bill will constitute 72 per cent of the total reservation, exceeding the 50 per cent cap in the state.**

- ◆ In the bill passed by both houses of the state legislature, the Maharashtra government cited the findings of a report submitted by the **Maharashtra State Commission for Backward Classes (MSCBC)** as the basis for the reservation.
- ◆ **Key-findings of the Report:**
 - Marathas account for 28% of Maharashtra's population, and are in an "exceptional circumstances and extraordinary condition" of backwardness, making it a fit case for reservation over the 50% ceiling mandated by the Supreme Court.
 - The 10% quota is over and above the existing 62% reservation in the state, which includes 10% for those belonging to economically weaker sections (EWS) and remaining 52% caste based quota
- ◆ Based on these findings, the commission recommended that the **Maratha community** be notified as a **socially and educationally backward** class under **Article 342(C) and Article 366(26C)** of the constitution, indicating the need for a **separate social component** with different and independent percentages from the existing reserved castes.
- ◆ **Article 342-C** of the Constitution empowers the state to list the backward communities as per the provisions of **Articles 15(4) and 16(4).**
- ◆ The Bill outlines the provision of a 10-year review period after the implementation of the proposed reservation.

22. INDIAN ARMY TO SET UP NEW CORPS

Context: The Army is converting its **Headquarters Uttar Bharat (HQ UB)** area into a **full-fledged operational corps** – a move that will shift its focus towards operations along the **Line of Actual Control (LAC)** from its current responsibility of peacetime duties.

What is a corps?

- ◆ A corps is a **military structure** that includes elements of **all arms and services**, equipped with sufficient reserves for operations within its area of responsibility.
- ◆ Typically, a corps is organised to manage three divisions, though this can vary based on operational needs, with each division consisting of 15,000 to 18,000 soldiers.

Fact Box: Line of Actual Control (LAC)

- The **Line of Actual Control (LAC)** is the effective border between India and China.
- LAC was supposed to **divide areas under Indian and Chinese** control since the end of the Sino-Indian War of 1962.
- Unlike the LoC (between India and Pakistan), the LAC was **not mutually agreed upon**. This was because the war ended with a **unilateral ceasefire by China**.

23. SC REJECTS WRIT PETITION ON CRIMINAL APPEAL DELAY

Context: The Supreme Court said one cannot **question delay in a pending criminal appeal** by filing a **writ petition** alleging violation of **fundamental right**. The SC dismissed a writ petition filed seeking a direction to the Allahabad High Court to decide his criminal appeal pending since 2016 or grant him bail by suspending his sentence.

Key-points made by the SC

- ◆ Accepting the prayer of the petitioner and issuing any direction, as prayed, would amount to **inappropriate exercise of discretionary jurisdiction** showing disrespect to another constitutional court; hence, no such direction, as prayed by the petitioner, can be issued.
- ◆ The bench also said the **Constitution does not grant power of superintendence to the Supreme Court over the High Court.**

About Writs

- ◆ A writ petition can be termed as a formal written order issued by a judicial authority who possesses the authority to do so.

◆ In India, writs are issued by the Supreme Court under Article 32 of the Constitution of India and by the High Court under Article 226 of the Constitution of India.

◆ Someone can seek justice through the five types of writs as provided by Article 32 of the Constitution. These are —

Habeas corpus	<ul style="list-style-type: none"> Considered to be among the most important writs for personal liberty, habeas corpus literally means to 'produce the body'. It is invoked to seek relief in cases where a person has been unlawfully detained. Individuals can file habeas corpus petitions if they believe they have been wrongfully imprisoned.
Mandamus	<ul style="list-style-type: none"> The writ of mandamus is issued by a higher court to a lower court or a government official or body, directing them to perform duties that they have refused to do.
Certiorari	<ul style="list-style-type: none"> A superior court issues a certiorari writ for re-examination of an action or decision by a lower court. It is invoked when a judgment has been delivered in violation of principles of natural justice or in opposition to the procedure established by law.
Prohibition	<ul style="list-style-type: none"> The writ of prohibition is to stop a lower court from going ahead with certain proceedings to ensure that it does not exceed its jurisdiction.
Quo warrant	<ul style="list-style-type: none"> This writ is issued to prevent people from assuming positions in public office when she or he is not entitled to it.

24.AR AND VR IN THE CLASSROOM

Context: Recent advancements in science and technology, particularly **augmented reality (AR)** and **virtual reality (VR)**, are revolutionizing education by offering immersive learning experiences. These innovations, fostering problem-solving skills, are garnering attention for their transformative potential in both traditional and continuing education settings.

What is AR, VR?

- ◆ **Augmented reality (AR):** In AR, the digital content is overlaid onto the real-world scenarios, and this provides an immersive experience of virtual objects in the real world.
 - **For example**, a teacher can use an AR app to demonstrate a volcanic eruption while teaching geography or geology or even to teach how volcanic eruptions can impact air routes. Such AR technologies promote active learning.
- ◆ **Virtual reality (VR):** VR technology, on the other hand, offers a completely virtual environment.
 - **For example**, virtual field trips, foreign language acquisition or virtual laboratories. These technologies when adopted in educational domain offers an enhanced hands-on experience which were never witnessed within the traditional classroom.

25.KYASANUR FOREST DISEASE (KFD)

Context: Karnataka is grappling with the outbreak of **Kyasanur Forest Disease (KFD)**, commonly known as monkey fever.

What is Monkey Fever?

- ◆ Monkey fever is caused by the **Kyasanur Forest disease virus (KFDV)**, a member of the Flaviviridae virus family.
- ◆ The KFD virus is an **arbovirus** belonging to the Flaviviridae family.
- ◆ The virus was first identified in 1957 when it was isolated from a sick monkey in the **Kyasanur Forest** of Karnataka.
- ◆ **Transmission** to humans primarily occurs through tick bites or contact with an infected animal, particularly a sick or recently deceased monkey.
 - There is no evidence of **person-to-person transmission**.
- ◆ **Prevention of monkey fever** involves several strategies.
 - A vaccine is available and used in endemic areas of India.
 - Other preventative measures include **using insect repellents, wearing protective clothing in tick-infested areas, and avoiding contact with potentially infected animals**.
- ◆ **Treatment:** There is no specific treatment for KFD. Management of the disease includes early hospitalisation and supportive therapy.

26.HIGH-ALTITUDE PSEUDO SATELLITE VEHICLE (HAPS)

Context: THE NATIONAL Aerospace Laboratories (NAL) in Bengaluru has successfully completed the **first test** of a solar-powered "**pseudo satellite**", a **new age unmanned aerial vehicle (UAV)** that can significantly increase India's surveillance and monitoring capabilities in the border areas.

About

- High-altitude pseudo satellites, or HAPS, are unmanned air vehicles that can hold a fixed position.
- Operational height:** HAPS operate in the **stratosphere**, closer to Earth than many satellites but further up than drones and conventional aircraft.
 - The **high-altitude pseudo satellite vehicle, or HAPS**, can fly at altitudes of **18-20 km** from the ground, almost double the heights attained by commercial airplanes.
- HAPS is a still-developing technology, and the recent successful test flight puts India among a **very small group of countries currently experimenting with this technology**.

27. BUBONIC PLAGUE

Context: In a recent incident, health officials in Oregon, US confirmed the **first case of bubonic plague** in the state since 2005.

What is the bubonic plague?

- Bubonic plague specifically refers to cases where bacteria gets into the **lymph nodes**.
- Caused by:** *Yersinia pestis*, a zoonotic bacteria, i.e. bacteria that can spread between animals and people. *Y. pestis* is usually found in small animals and their fleas.

Between 1346 and 1353, the bubonic plague killed as many as 50 million in Europe in what is known as the **Black Death**.

- Transmission:** Humans can be infected in one of three ways —
 - the bite of infected vector fleas
 - unprotected contact with infectious bodily fluids or contaminated materials
 - inhalation of respiratory droplets/small particles from a patient with pneumonic plague
- Symptoms:** It can cause fever, headache, weakness and painful, swollen lymph nodes, and usually happens from the bite of an infected flea.

OTHER TYPES OF PLAGUE

Septicemic plague	Pneumonic plague
<ul style="list-style-type: none"> Septicemic plague happens if the bacteria enters the bloodstream. This often follows untreated bubonic plague, and causes additional, more serious symptoms. <ul style="list-style-type: none"> These include abdominal pain, shock, bleeding into the skin, and blackening of appendages, most often fingers, toes or the nose. Source: This form comes either from flea bites or from handling an infected animal. 	<ul style="list-style-type: none"> It happens when the bacteria enters the lungs, and adds rapidly developing pneumonia to the list of symptoms. It is the only form of plague that can be spread from person to person by inhaling infectious droplets — also making it the most contagious. Pneumonic plague is the most dangerous, and according to the WHO, "almost always fatal" if untreated.

28. INSAT-3DS: ISRO'S METEOROLOGICAL SATELLITE

Context: The Indian Space Research Organisation (ISRO) successfully launched the **INSAT-3DS meteorological satellite** onboard a **Geosynchronous Launch Vehicle (GSLV)**.

About INSAT-3DS Satellite

- INSAT-3DS Satellite is a **follow-on mission of Third Generation Meteorological Satellite** from **geostationary orbit**.
- It is designed for enhanced meteorological observations and monitoring of land and ocean surfaces for weather forecasting and disaster warning.
- The satellite would serve various departments under the **Ministry of Earth Sciences** including the **Indian Meteorological Department (IMD)**.
- The satellite will augment the meteorological services

along with the presently operational **INSAT-3D and INSAT-3DR satellites**.

Fact Box: About GSLV

- GSLV is a **three-stage 51.7 m long launch vehicle** with a liftoff mass of 420 tonnes.
- First stage (GS1)** comprises a solid propellant (S139) motor having a 139-tonne propellant and four earth-storable propellant stages (L40) strap-ons, each carrying 40 tonnes of liquid propellant.
- Second stage (GS2)** is also an earth-storable propellant stage loaded with 40-ton propellant.
- Third stage (GS3)** is a cryogenic stage with a 15-ton propellant loading of liquid oxygen (LOX) and liquid hydrogen (LH2).
- During the atmospheric regime, the satellite is protected by Ogive payload fairing.
- GSLV can be used to launch a variety of spacecraft capable of performing communications, navigation, earth resource surveys, and any other proprietary mission.

29. UNIVERSE'S BRIGHTEST OBJECT

Context: Astronomers have discovered what may be the brightest object in the universe, a quasar with a black hole at its heart growing so fast that it swallows the equivalent of a sun a day.

Key-highlights of the findings:

- ◆ Scientists have **spotted a quasar** powered by the **fastest growing black hole** ever discovered.
 - ▶ The black hole powering this distant quasar is more than 17 billion times more immense than sun.
- ◆ The light from the celestial object travelled for more than **12bn years** to reach Earth.
- ◆ The record-breaking quasar shines 500 trillion times brighter than sun.
- ◆ Though the quasar resembles a **mere dot** in images.
- ◆ The **rotating disk** around the **quasar's black hole**—the luminous swirling gas and other matter from gobbled-up stars—is like a **cosmic hurricane**.

Fact Box: J0529-4351

- The European Southern Observatory spotted the object, J0529-4351, during a 1980 sky survey, but it was thought to be a star.
- It was not identified as a quasar — the extremely active and luminous core of a galaxy — until last year.
- The quasar is 12 billion light-years away and has been around since the early days of the universe. A light-year is 5.8 trillion miles.

30. GOOGLE UNVEILS 'GEMMA'

Context: Google has unveiled Gemma, a new series of open models designed to support developers and researchers in responsibly building AI systems.

What is Gemma?

- ◆ Gemma is a set of **lightweight models** inspired by Google's Gemini models, developed by Google **DeepMind** and other teams across the company.

Key Features of Gemma

- ◆ **Two Sizes:** Gemma 2B and Gemma 7B come with pre-trained and instruction-tuned variants.
- ◆ **Responsible AI Toolkit:** Google offers tools supporting safer AI applications with Gemma.
- ◆ **Framework Support:** Inference and supervised

fine-tuning (SFT) toolchains are provided for major frameworks like JAX, PyTorch, and TensorFlow.

- ◆ **Easy Deployment:** Gemma models can run on various platforms and integrate seamlessly with tools like Colab and Kaggle.
- ◆ **Commercial Usage:** Gemma permits responsible commercial usage and distribution for all organizations.

31. CERVICAL CANCER

Context: Cervical cancer, the second most common type of cancer diagnosed in women in India, received a push in the Budget 2024 (increased vaccination).

What is Cervical Cancer?

- ◆ Cervical cancer is a type of cancer that occurs in the cells of the **cervix**- the lower part of the uterus that connects to the vagina.
- ◆ **Caused by:** The primary cause is the Human Papillomavirus (HPV), a dangerous virus. The majority of cases of cervical cancer (99%) are associated with HPV infection.
 - ▶ **Other risk factors:** Multiple sexual partners, starting the journey into sexual activity at a young age heightens vulnerability, infections like **chlamydia, gonorrhea, syphilis**, and **HIV/AIDS** can increase the risk, and smoking can also elevated risk of cervical cancer.
- ◆ **Symptoms:** Although most infections with HPV resolve spontaneously and cause no symptoms, persistent infection can cause cervical cancer in women.
- ◆ **Prevention: Effective primary (HPV vaccination) and secondary prevention approaches** (screening for, and treating precancerous lesions) will prevent most cervical cancer cases.

32. PAPA PAYLOAD

Context: The Plasma Analyser Package for Aditya (PAPA) payload onboard the Aditya-L1 has been operational and performing nominally. Its advanced sensors have successfully detected the impact of **coronal mass ejections (CMEs)** including those that occurred recently.

About PAPA

- ◆ PAPA is an energy and mass analyzer designed for **in-situ measurements** of **solar wind electrons and ions** in the low energy range.
- ◆ **It has two sensors:**
 - ▶ the Solar Wind Electron Energy Probe (SWEEP, measuring electrons in the energy range of 10 eV to 3 keV)

- ▶ the Solar Wind Ion Composition Analyser (SWICAR, measuring ions in the energy range of 10 eV to 25 keV and mass range of 1-60 amu)
- ◆ The sensors are also equipped to measure the direction of arrival of solar wind particles.

33. GUINEA WORM DISEASE

Context: Global efforts have dramatically reduced Guinea worm disease from over 3.5 million cases in the 1980s to just six cases in 2023, marking a significant stride towards eradication.

About guinea worm disease

- ◆ Guinea worm disease, also called dracunculiasis, is caused by a parasite called guinea worm (*Dracunculus medinensis*).
 - ▶ A parasite is an organism that feeds off another organism to survive.
- ◆ The worm's larvae are carried by water fleas found in stagnant water in ponds, open wells, and freshwater lakes.
- ◆ When someone drinks contaminated water, the larvae can invade their stomach and intestines.
- ◆ **Treatment:** There is no drug to treat Guinea worm disease and no vaccine to prevent Guinea worm infection.
- ◆ By 2021, only five countries remained endemic – Mali, Chad, South Sudan, Ethiopia, and Angola.
- ◆ **India's case:** India eliminated Guinea worm disease in the late 1990s.
 - ▶ **Measure taken by India:** rigorous campaign of surveillance, water safety interventions, and community education.

34. KALA AZAR ELIMINATION

Context: India achieves a major milestone in the battle against Kala Azar, with less than one reported case per 10,000 population across all blocks in 2023, showcasing a significant reduction from 891 cases and three deaths in 2022 to 595 cases and four deaths last year, according to data from the National Vector Borne Disease Control Programme

About the disease:

- ◆ Kala-azar or black fever is a chronic and potentially fatal parasitic disease of the internal organs, particularly the liver, spleen, bone marrow and lymph nodes.
- ◆ **Caused by:** It is caused by bites from female phlebotomine sandflies – the vector (or transmitter) of the leishmania parasite.

- ◆ **Transmission:** Leishmania donovani is transmitted by sandfly bites in parts of Asia (primarily India), Africa (primarily Sudan), South America (primarily Brazil), Europe (primarily in the Mediterranean region) and in North America.
- ◆ According to WHO, if the disease is not treated, the fatality rate in developing countries can be as high as 100% within 2 years.
- ◆ **Symptoms of Kala azar:** Fever, loss of appetite (anorexia), fatigue, enlargement of the liver, spleen and nodes and suppression of the bone marrow.
- ◆ **Diagnosing Kala azar:** The first oral drug found to be effective for treating kala-azar is miltefosine.

35. BITCOIN HALVING

Context: 'Bitcoin Halving' is predicted to happen in April this year.

About Bitcoin Halving

- ◆ The Bitcoin Halving refers to the 50% reduction in the reward paid to Bitcoin miners who successfully process other people's cryptocurrency transactions so that they can be added to the public digital ledger known as the **blockchain**.
- ◆ **Proof of work:** Bitcoin miners rely on advanced computer equipment to solve a complex mathematical puzzle through a process known as '**Proof of work**' to grow Bitcoin's blockchain and keep the ecosystem running.
 - ▶ Carbon footprints: This intense activity is the reason Bitcoin transactions result in huge carbon footprints and require vast amount of electricity. **No real mining is carried out.**

36. GREEN BOND ISSUANCES FALL IN FY24

Context: Fundraising through **green corporate bonds** by companies and banks fell to a two-year low so far in the current financial year due to low investor appetite and little incentive for the issuers.

What are Green Bonds?

- ◆ **Category:** Debt Instruments
- ◆ Green bonds are fixed-income securities that are dedicated only to projects with environmental advantages or climate and environment-related objectives.

Why the low appetite?

- ◆ In India, there is no obligation to invest in these green

bonds and there are also no dedicated companies to invest in them. As a result, the appetite of the Indian investor for such bonds has been low.

- Also, green bonds are new in India and hence, pricing based on the international issue of bonds becomes difficult.

37. DIRECT TAX KITTY

Context: India's **net direct tax** collections picked up pace over the past month to rise **20.25% year-on-year by February 10**, compared to a 19.4% uptick on the same date in January, as per data released by the **Finance Ministry**.

PERSONAL INCOME TAX

- Income from Salary
- Income from House Property
- Income from Profits and Gains of Business or Profession
- Income from Capital Gains
- Income from Other Sources

CORPORATE INCOME-TAX (CIT)

- Income-tax paid by domestic companies, and foreign companies on their income

- Revenue collection from direct taxes in 2023-24 is set to surpass the budgetary estimate by Rs 1.22 lakh crore.
- Indirect Tax collection:** Not just direct taxes, there has been buoyancy in indirect tax collections as well. Revenue collection from **Goods and Services Tax (GST)** soared to Rs 16.69 lakh crore in the first 10 months of the current financial year, which is 11.6% higher when compared with the collection during the same period last year.

Fact Box: Interim Budget for 2024-25

In the interim budget, the government increased the **direct tax revenue target** for the current financial year to Rs 19.45 lakh crore from the original budgetary estimate of Rs 18.23 lakh crore.

38. FUGITIVE ECONOMIC OFFENDERS

Context: Fugitive economic offenders will be extradited to India, Finance Minister Nirmala Sitharaman said in Lok Sabha.

Who are 'fugitive economic offenders' (FEO)?

- FEO is defined as an individual against whom a **warrant of arrest** in relation to a scheduled offence has been issued by any court in India and the **value of the offence is at least Rs. 100 crore**.

Data

Net direct tax is calculated by deducting refunds from gross tax inflows

- From Rs 14.7 lakh crore on January 10, net direct tax collections, had hit Rs 15.6 lakh crore by Saturday, constituting 80.23% of the revised estimates for direct taxes for this year.
- Personal Income vs Corporate Income:** Growth in the Personal Income Tax (PIT) revenues continued to outstrip Corporate Income Tax (CIT), with a 26.91% uptick in net PIT collections vis-à-vis a 13.6% rise in CIT inflows so far this year.

- The offender has **left the country** so as to avoid criminal prosecution and refuses to return to face criminal prosecution.
- Money laundering, forging official stamps or money, dishonouring checks and activities that mislead creditors** are some of the offences that are included in the FEO legislation.

39. HYBRID MUTUAL FUND SCHEMES

- Context: **Hybrid mutual fund schemes** have been gaining popularity among investors, attracting **Rs 20,634 crore** in January, marking a 37 per cent surge from the previous month, largely due to their appeal as an alternative investment option post-change in taxation laws for **debt funds**.

What are Hybrid Funds?

- Hybrid funds are a combination of equity and debt features into a **single fund**.
- Hybrid funds are **mutual fund schemes** that typically invest in a combination of equity and debt securities and sometimes in other asset categories such as **gold**.
- A hybrid fund tries to give the investor the best of both worlds - it is neither too risky, nor it is too low on returns

40. DAIRY FARMING IN INDIA

Context: In a divergence from global trends, India's dairy sector experiences a robust 6% growth, propelled by the substantial contribution of the **Gujarat Cooperative Milk Marketing Federation (Amul)**, as highlighted by Prime Minister Narendra Modi.

The numbers

- ◆ India has the world's largest bovine population and is a leader in milk production.
- ◆ In the past 10 years, the milk production in India has gone up by around 60% and the per person availability of milk has grown by around 40%.
- ◆ At a time when the global dairy sector is growing merely at a rate of 2%, India's dairy sector is growing at a rate of 6%.
- ◆ In the last 2 decades, the number of milk corporations in the state has doubled from 12 to 23.
- ◆ **Women participation:** More than 36 lakh people are connected with the dairy industry, including 11 lakh women. Out of the 16,384 milk houses, 3300 are completely run by women.
- ◆ **State-wise production:**
 - ▶ Uttar Pradesh contributed the highest share of milk production at 15.7%, followed by Rajasthan (14.44%), Madhya Pradesh (8.73 %), Gujarat (7.49 %) and Andhra Pradesh (6.70 %).
 - ▶ The highest annual growth rate was recorded by Karnataka (8.76%) followed by West Bengal (8.65%) and Uttar Pradesh (6.99%).

41. PANAMA CANAL SUFFERING MAJOR DISRUPTION

Context: Drought conditions in the **Panama Canal** are challenging **supply chains** that rely on this important waterway to rethink their strategies to move product as **shallower-than-usual waters** have reduced the number of vessels allowed to traverse the canal per day and restricted maximum ship weights.

What is Panama Canal?

- ◆ The Panama Canal was among the defining engineering achievements of the 20th century.
- ◆ **Completed in:** 1914
- ◆ **Length:** 82-kilometre long

- ◆ **Connecting Points:** The Canal connects the **Pacific and the Atlantic Ocean** via one of the narrowest isthmi in the world.
- ◆ **Physical features:** The Canal's principal physical features are
 - ▶ **Gatun Lake**, and the **central man-made lake** stretching nearly all the way across the **Isthmus**;
 - ▶ **Gaillard Cut**, the eight-mile-long excavation through the Continental Divide that extends Gatun Lake to Pedro Miguel Locks
 - ▶ the locks on both sides of the Isthmus that raise ships between sea level and the lake (Gatun Locks on the Atlantic and Pedro Miguel and Miraflores Locks on the Pacific)
 - ▶ the ports of **Balboa on the Pacific and Cristobal** on the Atlantic

42. INDIA'S FIRST GREEN HYDROGEN FUEL CELL INLAND WATERWAY VESSEL

Context: Prime Minister Narendra Modi launched the country's first indigenous green hydrogen fuel cell inland waterway vessel under the Harit Nauka initiative in Tamil Nadu's Thoothukudi.

About

- ◆ The hydrogen-fueled electric vessel project is part of India's transformative efforts on the innovative and new technology fronts on green energy and sustainable cost-effective alternate fuel front.
- ◆ **Wide range of application:** Hydrogen fuel cells can be used in a wide range of applications, including transportation, material handling, stationary, portable, and emergency backup power applications.
- ◆ **Environmental benefits:** Hydrogen fuel cell powered vessel have zero emission, zero noise and energy efficient which in turn reduce the effect of global warming.
- ◆ **Promotion:** The inauguration of this project will provide impetus for using hydrogen in marine application as envisaged under National Green Hydrogen Mission.
- ◆ **Competitive advantage:** Early adoption of hydrogen fuel cell technology in the marine sector will provide it a global competitive advantage where by meeting sustainable green energy aspiration.



SECTION

D

QUICK BYTE

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- ☞ Attukal Pongala
- ☞ Exercise Vayushakti-2024
- ☞ Grey-zone warfare
- ☞ India's diplomatic mission in Albanian capital
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BAPS Hindu Mandir

'BAPS Mandir', the first traditional Hindu temple in the United Arab Emirates has been inaugurated.

About

- The BAPS Hindu Mandir in Abu Dhabi is the **first Hindu temple in UAE**.
- The temple is built on a 27-acre site in Abu Mreikhah, near Al Rahba off the Dubai-Abu Dhabi Sheikh Zayed Highway, at a cost of around ₹700 crore.
- It incorporates **intricately designed pink sandstone** and **marble façade** with **seven spires** that represent each of the Emirates of the country.
- The temple has been made of 40,000 cubic metres of marble, 1,80,000 cubic metres of sandstone and over 1.8 million bricks.
- The temple's design draws inspiration from **Vedic architecture and sculptures**.
- Many of the statues and carvings have been done by artisans in India and have been shipped to Abu Dhabi.
- The vast complex includes a **large amphitheatre, a gallery, a library, a food court, a majlis and two community halls** with space for 5,000 people.



What is BAPS?

- BAPS stands for the **Bochasanwasi Shri Akshar Purushottam Swaminarayan Sanstha (BAPS)**.
- The organisation is named after **Bhagwan Swaminarayan**, a religious leader who lived in the late 1700s.
- It is a socio-spiritual Hindu faith with its roots in the **vedas** and was pioneered by Bhagwan Swaminarayan (1781-1830) in the late 18th century and established in 1907 by **Shastriji Maharaj (1865-1951)**.
- The Akshardham temples in Delhi and Gujarat are also run by BAPS.

Attukal Pongala

Lakhs of women arrived in Thiruvananthapuram district of Kerala, to observe 'Attukal Pongala'.

About Attukal Pongala

- Attukal Pongala is a **ten day annual Malayalam event**.
- **Time:** Malayalam month of Makaram-Kumbham (Feb-March) on Karthika star.
- The 'Attukal Pongala' is dubbed as one of the **biggest gatherings of women in the world**.
- It is attended by women from different parts of Kerala and neighbouring states such as Tamil Nadu.
- The goddess at the centuries-old **Attukal Devi temple** is worshipped by the devotees in the form of '**Bhadrakali**' or '**Kannaki**' to whom the 'pongal' offering is made on the ninth day of the 10-day festival at the temple.



Exercise Vayushakti-2024

The Indian Air Force is all set to conduct **Exercise Vayu Shakti-24** at the Pokhran Air to Ground Range, near Jaisalmer.

About

- **Last Edition:** 2019
- The exercise, following the last edition in 2019, will involve an impressive participation of 121 aircraft.
- Noteworthy inclusions are indigenous aircraft such as Tejas, Prachand, and Dhruv, along with other prominent models like Rafale, Mirage-2000, Sukhoi-30 MKI, Jaguar, Hawk, C-130J, Chinook, Apache, and Mi-17.



Grey-zone warfare

Growing concerns over "grey-zone" warfare tactics amid tensions with China highlighted by Chief of Defence Staff Gen. Anil Chauhan.

What is grey-zone warfare?

- The grey zone describes a set of activities that occur between peace (or cooperation) and war (or armed conflict).
- A multitude of activities fall into this murky in-between—from nefarious economic activities, influence operations, and cyberattacks to mercenary operations, assassinations, and disinformation campaigns.



India's diplomatic mission in Albanian capital

Albania is planning to open an Embassy in New Delhi while India will soon have a diplomatic mission in Tirana.

India and Albania

- India and Albania established diplomatic relations in 1956.
- Albania is at the crossroads between the European Union and East. Albania is a part of many corridors that link India with the **European Union**.
- Albania's neighbour Greece is keen to join the **India Middle-East Economic Corridor (IMEC)** and become India's gateway to the European market.
- **Indian companies** are represented in the manufacturing sector in Albania, primarily in clothing.



PVTGs of Odisha, A.P.

The Rajya Sabha passed two bills which seek to modify the list of **Scheduled Castes and Scheduled Tribes** in Andhra Pradesh and Odisha. The Upper House cleared the

- Constitution (Scheduled Tribes) Order (Amendment) Bill, 2024, and
- Constitution (Scheduled Castes and Scheduled Tribes) Order (Amendment) Bill, 2024

New Entries in ST List (Odisha)

- There will be two new entries in the list of 62 ST communities of the state increasing it to 64.
- The new entries in the ST list are
 - ▶ Muka Dora
 - ▶ Nuka Dora
- Besides, **Konda Reddy, Konda Reddi** will also be included.
- Similarly, two communities listed as SCs - **Tamadia and Tamudia** - will be removed from the SC list and included in the ST list under **Bhumij category**.
- **PVTG:** In addition to this, four PVTGs will be added to the ST list of Odisha. They are **Pauri Bhuyan, Paudi Bhuyan as synonyms of Bhuiya, Bhuyan; Chuktia Bhunjia** as synonym of Bhunjia; Bondo as sub-entry under ST's Bondo Poraja, Bonda Paroja, Banda Paroja; and Mankidia as synonym of ST Mankirdia.



Amrit Bharat Station Scheme

Prime Minister Narendra Modi laid the foundation for over 550 Amrit Bharat stations across the country, with an allocated budget of Rs 40,000 crore.

What is Amrit Bharat Stations Scheme?

- **Objective:** To enhance station facilities with modern infrastructure, including roof plazas and city centers, fostering a more convenient and comfortable experience for passengers.
- The initiative underscores a commitment to bolstering India's transportation infrastructure.



- As part of the scheme, Indian Railways is crafting **comprehensive Master Plans**, integrating urban development around railway stations.
- This integrated approach signifies a holistic vision aimed at fostering overall urban development centered on these pivotal transport hubs.

The numbers

- Indian Railways, renowned as one of the **world's busiest and oldest railway systems**, served a staggering 3.52 billion passengers and transported 1512 MT of freight in 2023.
- Aptly dubbed the **lifeline of India**, it operates over 13,000 trains daily, connecting 7,325 stations across the nation.

Voters in India

Nearly 97 crore people are registered to vote in the forthcoming Lok Sabha elections and around 1.85 crore of them are in the 18-19 age-group, as per the Election Commission (EC).

Important Facts

- Total:** A total of over 96.88 crore voters are registered across the country.
- New addition:** More than 2 crore young electors, spanning the 18-19 and 20-29 age groups, have been added to the electoral roll.
- Female voters:** There has been a remarkable increase in female voter registrations, pointing at efforts towards gender parity. Female voter enrollment surpassed male voters during 2024 data, with over 1.41 crore newly enrolled female electors.
- PwD:** Around 88.35 lakh Persons with Disabilities (PwD) have been flagged in the electoral roll database, ensuring accessibility and inclusivity on polling day.



Grant PC to women coast guard officers: SC

Supreme Court directed the Centre to set up a fresh selection board to consider the issue of granting permanent commission to women coast guard officers.

The current induction method

- The **SSC (short service commission) officers** are inducted under the **10+4 scheme**, in which the officer serves for 10 years and can exercise the option of extending his service by four years.
- The **Permanent Commission** is granted to SSC officers subject to service requirement and availability of vacancies.



In 2020, Supreme Court had delivered a significant verdict paving the way for **granting permanent commission to women officers in the Indian Navy**.

SC invokes Article 142

The Supreme Court, using **Article 142**, declared Aam Aadmi (AAP) party councillor as elected to the post of Chandigarh mayor, upon finding that the presiding officer deliberately defaced eight votes cast in his favour.

What is Article 142?

- Article 142 of the Indian constitution is a provision that empowers the Supreme Court to pass any decree or order necessary for doing complete justice in any case or matter pending before it.
- It also makes such decree or order enforceable throughout the territory of India.
- Article 142 is supported by several other provisions, including
 - Article 32** (which ensures the right to constitutional remedies)
 - Article 141** (mandating that all courts within India must abide by the Supreme Court's decisions)
 - Article 136** (which allows for the Special Leave Petition)
- This collective framework is known by the term **"judicial activism"**.

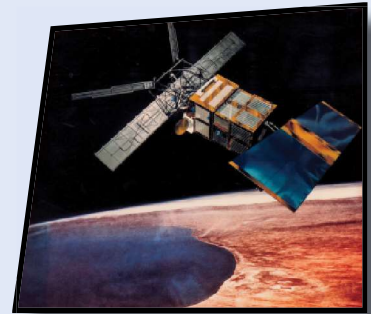


European Remote Sensing 2 (ERS-2)

After 16 years of operation, a defunct satellite, **ERS-2 spacecraft**, burnt up in the atmosphere over the Pacific.

About

- European Remote Sensing 2 (ERS-2) was launched in 1995, retired in 2011, and has been gradually making its way back to Earth since then.
- Over its 16-year life, the ERS-2 collected information on climate change and the Earth's atmosphere.



Space Junk

- Orbital debris, also known as space junk, can range from defunct satellites or small fragments of rockets or satellites.
- Since the dawn of the space age in the 1950s, humankind has launched almost 50,000 tons of material into space.
- About 10,000 tons remains in orbit

OpenAI's latest offering Sora

OpenAI's Sora is its newest AI innovation that generates realistic videos from simple text descriptions.

What is Sora?

- Sora is a **text-to-video diffusion model**, capable of generating videos based on textual descriptions.
- Users can input text prompts, and Sora will create corresponding video content.
- Other models:
 - ▶ Meta has a tool for creating short video clips.
 - ▶ Google is working on its text-to-video model.



Zodiacal Light

Zodiacal light is sunlight scattered by interplanetary dust, but where this dust originates has been an open question in astronomy.

What is Zodiacal Light?

- It is sunlight scattered by **interplanetary dust**.
- From the earth, it is visible as a faint, diffuse glow on completely dark nights.
- Zodiacal light is present across the entire path of the ecliptic, which is the path along which the Sun moves in the sky over the course of a year.



iOncology AI for cancer detection

To exploit the power of AI in healthcare, AIIMS, New Delhi, in collaboration with the Centre for Development of Advanced Computing (CDAC), Pune, has launched an AI platform, iOncology.ai, for facilitating **early detection of Cancer**.

Cancer

- Cancer is globally estimated to be the most fatal disease than those from **cardiovascular** (Lancet, 2019) in **high-income countries (HICs)**, and **middle-income countries (MICs)**.
- According to the **Global Cancer Observatory (GLOBOCAN)** estimates, there were 19.3 million incident cancer cases worldwide for the year 2020.
- India ranked third after China and the United States of America.

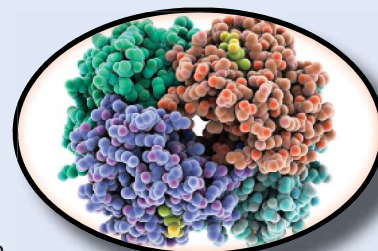


Protein Structure

John Jumper, Breakthrough Prize laureate, has been developing novel methods to apply artificial intelligence and machine learning to **protein biology**.

What are protein structure?

- Proteins are the end products of the decoding process that starts with the information in **cellular DNA**.
- The building blocks of proteins are amino acids, which are small organic molecules that consist of an **alpha (central) carbon atom** linked to an **amino group**, a **carboxyl group**, a **hydrogen atom**, and a **variable component** called a side chain.
- Protein structure** is the **three-dimensional arrangement** of atoms in an amino acid-chain molecule.



Microfinance institutions (MFIs)

Reserve Bank of India (RBI) slammed **microfinance institutions (MFIs)** for charging higher rates to borrowers, thus cautioning against irresponsible practices.

- Microfinance institutions (MFIs) are **financial companies** that provide small loans to people who do not have any access to banking facilities.
- The definition of "small loans" varies between countries.
- In India, all loans that are below Rs. 1 lakh can be considered as microloans.
- Different categories of institutions** are involved in providing microfinance in India, such as:
 - Commercial banks
 - Credit unions
 - NGOs (Non-Governmental Organizations)
 - Sectors within government banks
 - Cooperatives

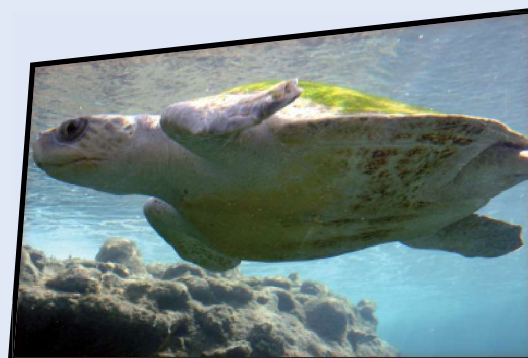


Olive Ridley turtles

Dead **Olive Ridley turtles** continue to wash up on the beaches of Visakhapatnam coast in this current breeding season. The deaths are attributed to trawling activities and pollution from industries among others.

About Olive Ridley Turtles (*Lepidochelys olivacea*):

- They are the **smallest** and most abundant of all sea turtles found in the world.
- Major nesting sites in India:** Rushikulya rookery coast (Odisha), Gahirmatha beach (Bhitarkanika National park) and mouth of the Debi River.
- Presence:** Found in **warm waters** of the Pacific, Atlantic and Indian oceans.
- Conservation Status:**
 - IUCN Red List: **Vulnerable**
 - Schedule I** of Indian Wildlife (Protection) Act, 1972
 - CITES Appendix I
- Features:** Known for their unique **mass nesting called Arribada**, where thousands of females come together on the same beach to lay eggs.



Snow Leopard Population Assessment in India (SPAI)

India's first-ever snow leopard estimated a population of 718 in **Ladakh, Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh.**

About Snow Leopard

- **Snow leopards (*Panthera uncia*)** are considered **medium-sized cats**, standing about 24 inches at the shoulder and weighing around 30-55kg.
- **Habitat:** Snow leopards can be found throughout high mountain ranges, including the Himalayas and the **southern Siberian Mountains in Russia.**
 - ▶ They can also be found in the **Tibetan Plateau** and across a range that stretches from China to the mountains of Central Asia.
- In India, their geographical range encompasses a large part of the **western Himalayas** including the **states of Jammu and Kashmir, Himachal Pradesh, Uttarakhand and Sikkim and Arunachal Pradesh** in the **eastern Himalayas.**



Protection Status:

- The snow leopard is listed as Vulnerable on the **IUCN-World Conservation Union's Red List** of Threatened Species.
- In addition, it is also listed in **Appendix I** of the **Convention on International Trade of Endangered Species (CITES).**
- It is listed in **Schedule I** of the Indian Wildlife (Protection) Act 1972.
- It is also listed in the **Convention on Migratory Species (CMS)**, affording the highest conservation status to the species, both globally and in India.

Great Indian Bustard

The **Great Indian Bustard (GIB)** has not been spotted at the **Rollapadu Wildlife Sanctuary** in Nandyal district of Andhra Pradesh and its surrounding areas for the last couple of years, which is an indication that the bird is at risk of local extinction.

About Great Indian Bustard:

- The Great Indian Bustard (*Ardeotis nigriceps*), is a bustard native to the Indian subcontinent. Bustards are large terrestrial birds found in dry grasslands and steppe regions. It is also known as the Indian Bustard; it is **among the heaviest of flying birds in existence.**
- It is the **State bird of Rajasthan** and is considered India's most critically endangered bird.
- It is considered the **flagship grassland species, representing the health of the grassland ecology.**
- The **GIB is now found in a small number only in western Rajasthan**, while Gujarat claims to have a few females left in its **Banni Grassland Reserve.**
- **Population:** Less than 150 individuals of these birds persist in a few fragmented pockets of Rajasthan and Gujarat.
 - ▶ As per the last count of the GIB in 2018, there were around **127 birds in the Desert National Park or the DNP in Rajasthan.**
- **Protection Status:**
 - ▶ International Union for Conservation of Nature Red List: **Critically Endangered**
 - ▶ Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES): **Appendix I**
 - ▶ Convention on Migratory Species (CMS): **Appendix I**
 - ▶ Wildlife (Protection) Act, 1972: **Schedule 1**

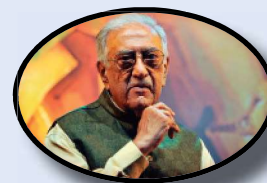


Ameen Sayani (1932-2024)

Ameen Sayani, a pioneering radio presenter who drew in generations of listeners in India with his melodic voice on a radio show that became a national phenomenon, died in Mumbai.

About

- Mr. Sayani was one of the most recognizable voices in Indian radio as the host of one of the first radio shows in the country.
- He showcased songs featured in Hindi movies for more than 42 years, helping establish a place for film music in India's popular culture.
- He hosted the program on Radio Ceylon, one of the oldest radio stations in the world, based in what is now Sri Lanka.



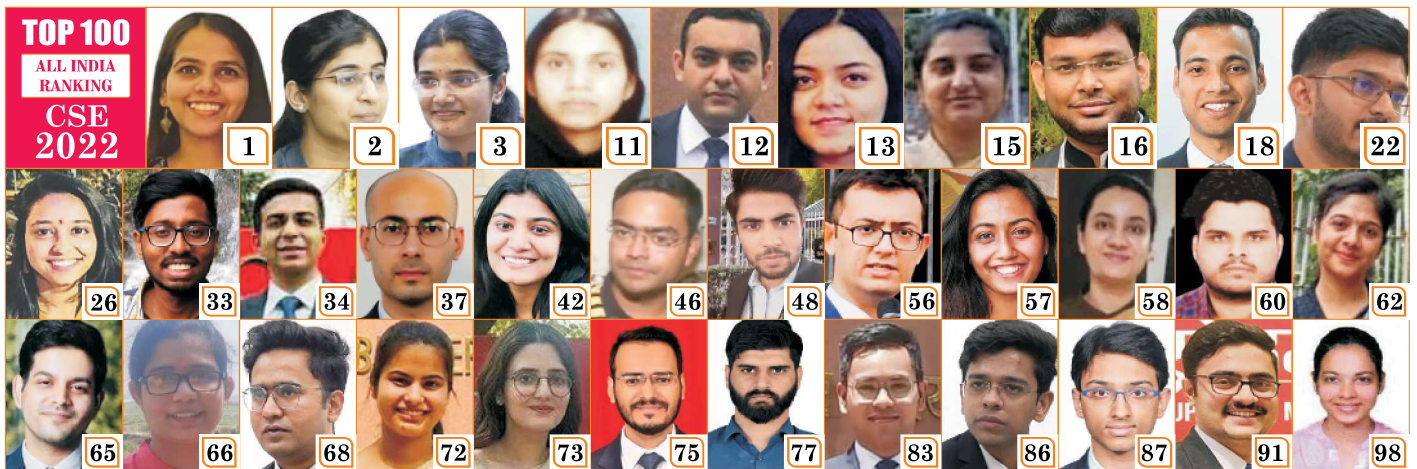
Satyendra Nath Bose (1894-1974)

The centennial anniversary of **Satyendra Nath Bose's groundbreaking discovery in physics**, which laid the foundation for **quantum theory**, is being celebrated, highlighting the pivotal contribution of an often-overlooked Indian scientist in reshaping the field of physics.

Satyendra Nath Bose:

- Satyendra Nath Bose was an outstanding Indian physicist specialising in quantum mechanics.
- He is of course most remembered for his excellent role played in the class of particles '**bosons**', which were named after him by **Paul Dirac** to commemorate his work in the field.
- He is known for his work in **Quantum Physics**.
- He is famous for "**Bose-Einstein Theory**" and a kind of particle in an atom has been named after his name Boson.
- Bose adapted a lecture at the **University of Dhaka** on the theory of radiation and the ultraviolet catastrophe into a short article called "**Planck's Law and the Hypothesis of Light Quanta**" and sent it to Albert Einstein.
- Einstein agreed with him, translated Bose's paper "**Planck's Law and Hypothesis of Light Quanta**" into German, and had it published in **Zeitschrift für Physik** under Bose's name, in 1924.
- This formed the basis of the **Bose-Einstein Statistics**.
- His theoretical paper became one of the most important findings in quantum theory.
- In honor of Bose's legacy, **any particle that conforms with his statistics today** is known as a Many scientific breakthroughs have come from his work including the discovery of the particle accelerator and the **God particle**.





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