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

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

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(JULY, 2023)

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Section A [MAINS]

INDIA, SRI LANKA & THE REVAMPED APPROACH

Context: As the Sri Lankan President was on a two-day visit to India, several agreements were signed between both the countries.

◉ The visit is significant as it was the first time a senior Sri Lankan leader visited India since Sri Lanka experienced a **severe economic crisis last year**.

Major-Points of Discussion:

◉ The leaders underlined the cardinal importance of promoting and strengthening connectivity in all its dimensions as the key enabler.

◉ Accordingly, both leaders adopted 'vision document', based on five pillars:

➤ **Maritime connectivity:** Cooperation in development of ports and logistics at **Colombo, Trincomalee and Kankesanthurai**, with an aim to consolidate regional logistics and shipping.

◉ **Air connectivity:** Expansion of flights between Chennai and Colombo, besides exploring connectivity between **Chennai and Trincomalee, Batticaloa** and other destinations in Sri Lanka.

◉ **Energy and power connectivity:** Plan to establish a **high capacity power grid interconnection** to enable **bidirectional electricity trade** between Sri Lanka and other regional countries, including those of the **BBIN (Bangladesh, Bhutan, India, and Nepal) initiative.**

➤ **Trade, economic and financial connectivity:** The two South Asian neighbours agreed to start a discussion on the **Economic and Technology Cooperation Agreement (ETCA).**

➤ The Agreement signed **to launch UPI** in Sri Lanka to increase Fintech connectivity.

➤ **People-to-people connectivity:** To promote awareness and popularize India's Buddhist circuit and Ramayana trail as well as ancient places of Buddhist, Hindu and other religious worship in Sri Lanka for enhancing tourism.

◉ **Expanding scope of land accessibility**: India and Sri Lanka agreed to conduct feasibility studies on a petroleum pipeline and a **land bridge** connectivity project between the two countries.

◉ **On Fishermen Issue**: Sri Lanka has promised to make amendments in their law regarding the fishing rights and territory.

India-Sri Lanka Fisherman Issue:

● The India-Sri Lanka fisherman is a long-standing dispute between the two over fishing rights in the **Palk Strait** and the **Gulf of Mannar.**

  ➤ The Palk Strait is a **narrow strip of water** that separates the state of **Tamil Nadu** in India from the northern regions of **Sri Lanka.**

● Both Indian and Sri Lankan fishermen have been fishing in the Palk Bay Straits for several years but the maritime agreements signed between the two sides in **1974 and 1976** led to the demarcation of the **International Maritime Boundary Line (IMBL).**

● The two treaties between the two countries led to the **Palk Bay Strait** connecting India and Sri Lanka being declared a "**two-nation pond**" under the **United Nations Convention on the Law of the Sea rules.**

● This led to the **ban on fishing in international waters of the two countries.**

India's view on deal with Sri Lanka:

◉ Sri Lanka has an important place in both India's **'Neighbourhood First' policy** and **'SAGAR' vision**.

◉ India wants to expand the scope of digital payments between both the countries, bringing the use of UPI and similar tools to the forefront.

'Neighbourhood First' policy:

● Neighborhood First Policy of India is a core component of **India's foreign policy**.

● It focuses on peaceful relations and collaborative synergetic co-development with its South Asian neighbors of the Indian subcontinent.

● This policy creates new avenues as well as leverages existing regional cooperation initiatives, such as **SAARC, SASEC, BBIN, and BIMSTEC.**

● It compliments India's Look East policy focused on **Southeast Asia and Look West Policy** focused on Middle East.

'SAGAR' vision:

● SAGAR stands for "**Security and Growth for All in the Region**" is India's policy or doctrine of maritime cooperation in the **Indian Ocean region**.

● The policy was first announced by Prime Minister Narendra Modi in 2015.

Sri Lanka and its Strategic significance:

- **Strategic Location**: Sri Lanka occupies a geo-strategically important position as-
  - about two-thirds of the world's oil and
  - half of the world's container transportation passes through the **south of Sri Lanka**.

- **Positioned as an Island Nation**: On the other hand, Sri Lanka is home to ports that have the potential to become important maritime hubs in the Indian Ocean.

- **Air hub:** In terms of air connectivity, India and Sri Lanka have been following an '**open skies' policy** since 2003. Colombo is a significant air hub in the region.

- **Economic Crisis:** The crisis that is hampering Sri Lanka's economic and political stability could have serious repercussions on India.
  - Because Sri Lanka's economic and therefore political dependence on China has led to an increase in Chinese influence in the country.

How India has revamped its approach to engage with Sri Lanka amid China's presence?

- As India has integrated its **Neigbourhood First Policy** with the **Indo-Pacific Policy**, Sri Lanka has emerged as a hotspot for competition between India and China.

- China's **debt-trap diplomacy** through the **Belt and Road Initiative** caused Sri Lanka to lease its Hambantota Port to China for 99 years in 2017.
  - Chinese base in close proximity is a constant strategic challenge to India.

- To counter Chinese influence, India has initiated **strategic cooperation with Sri Lanka.**
  - **Important exchanges:** India's strategic engagements with Sri Lanka gained traction in 2021 when there was a series of exchanges between the military establishments of the two countries.
  - **Trilateral cooperation:** Besides, India is a part of the **India-Sri Lanka-Maldives trilateral cooperation**.
  - The three countries have come together to cooperate in the area of maritime security.
  - The first trilateral exercise of this grouping was held in 2021 under the Colombo Security Conclave (CSC) Focused Operation.
  - **Crisis management:** India has been the first responder to Sri Lanka in crisis.

India's approach towards Indo-Pacific Region:

- India's approach towards the Indo-Pacific Region where India is building ties through such mechanisms.
- **Some examples include the;**
  - Quad (India, United States, Japan, Australia)
  - I2U2 (India, Israel, United States, the UAE)
  - India-France-Australia
  - India-France-UAE
  - recent India, Saudi Arabia, United States and the UAE cooperation

Conclusion:

On the radar of major powers such as Japan, the US, and the UK, as well as China and India, Sri Lanka has become a hub in the Indian Ocean. For this reason, the any support that Sri Lanka will receive from India and other countries is considered by many experts as a balance against China. On the other hand, it is also claimed that Sri Lanka could use its relations with China and its strategic position and importance to extract economic support and concessions from India. The adoption of such a strategy for the protection of a small and economically crisis country is considered quite rational.

INDIA–MYANMAR–THAILAND TRILATERAL HIGHWAY PROJECT

Context: Recently, India's External Affairs Minister met his Myanmar counterpart for discussions on initiatives that can be taken in order to enhance the connectivity between the two countries.

- Their discussions centred on the **India-Myanmar-Thailand trilateral highway**, further underlining the importance of ensuring **peace and stability** in the border areas.

India-Myanmar-Thailand trilateral highway:

- **Background:** It was first proposed by former Prime Minister Atal Bihari Vajpayee and was approved at a ministerial-level meeting between India, Myanmar and Thailand in **April 2002.**

- **Road link:** The India-Myanmar-Thailand highway is to connect Moreh in **Manipur** and Mae Sot in **Thailand** via **Myanmar.**

- **Distance:** The highway will span a distance of approximately **1,360 kilometers (845 miles).**

- Its construction began in 2012 and is being implemented in several phases.

> **First Segment:** The **India-Myanmar Friendship Road** forms the first segment of the IMT Highway. It runs from the border at **Tamu/Moreh to Kalemyo and Kalewa.**

- **Implementing agencies:** On the Indian side, the project is being implemented by the **Ministry of External Affairs (MEA)** with the cooperation of its counterparts in Myanmar and Thailand and budgetary allocation from the **Ministry of Finance.**

Why this project is important for India?

- **India's Act East Policy:** The project is an important part of India's Act East Policy, which focuses on improving India's relations with the Southeast Asian nations.

> It is a diplomatic initiative to promote economic, strategic and cultural relations with the vast Asia-Pacific region at different levels.

> **Aim:** To promote economic cooperation, cultural ties and developing a strategic relationship with countries in Indo-pacific region with a proactive and pragmatic approach and thereby improving the economic development of the North Eastern Region (NER) which is a gateway to the South East Asia Region.

DIFFERENCE BETWEEN LOOK EAST AND ACT EAST	
Look East	**Act East**

• Look East policy focused on the **Association of Southeast Asian Nations (ASEAN) countries** + Economic Integration.
 	
 • India became a dialogue partner of ASEAN in 1996 and summit level partner in 2002.
 	
 • In 2012 the relationship got up-graded into a Strategic Partnership.
 	
 • The time when India launched the Look East Policy in 1992, India's trade with ASEAN was USD 2 billion. After signing the Free Trade Agreement in 2010 with ASEAN, the trade has grown to USD 72 billion (2017-18).
 	
 • India is also an active participant in several regional forums like the East Asia Summit (EAS), ASEAN Regional Forum (ARF) etc.
	• Act East Policy focused on ASEAN countries + Economic Integration + East Asian countries + Security cooperation.
	
	 • Prime minister of India highlighted **4C's of Act East Policy.**
	   ➤ Culture
	   ➤ Commerce
	   ➤ Connectivity
	   ➤ Capacity building
	
	 • Security is an important dimension of India's Act East Policy.
	
	 • In the context of growing Chinese assertiveness in the South China Sea and the Indian Ocean, securing freedom of navigation and India's own role in the Indian Ocean is a key feature of Act East Policy.
	
	 • In pursuance of this, India has been engaged under the narrative of Indo-pacific and informal grouping called Quad.

Initiatives to Enhance Connectivity:

- **Agartala-Akhaura Rail Link** between India and Bangladesh.

- Intermodal transport linkages and inland waterways through Bangladesh.

- **Kaladan Multimodal Transit Transport Project** and the Trilateral Highway Project connecting the North East with Myanmar and Thailand.

- Under **India-Japan Act East Forum**, projects such as Road and Bridges and modernization of Hydro-electric power projects have been undertaken.

- **India-Japan Act East Forum** was established in 2017 which aims to provide a platform for India-Japan collaboration under the rubric of India's "Act East Policy" and Japan's "**Free and Open Indo-Pacific Strategy**".

> The Forum will identify specific projects for economic modernization of India's North-East region including those pertaining to connectivity, developmental infrastructure, industrial linkages as well as people-to-people contacts through tourism, culture and sports-related activities.

Conclusion:

- India's Northeast region, although a critical connecting link between South and Southeast Asia, is clearly beleaguered with security issues, economic stagnation, and poor infrastructure. While India's Look East Policy has made tremendous progress, it has bypassed the Northeast region.

- The Act East policy was meant to perhaps redeem that. Plans and proposals are in place and the possibilities of building a cobweb of connectivity networks through India and its Northeast region is high. But given India's implementation track record, how soon it can be the real bridge between South and Southeast Asia is still an open ended issue.

THE GLOBAL SOUTH

Context: The unwillingness of many leading countries in Africa, Asia and Latin America to stand with NATO over the war in Ukraine has brought to the fore once again the term "Global South."

Brief Background:

Categorisation:
- **First world:** Advanced capitalist nations
- **Second world:** Socialist nations led by the Soviet Union
- **Third world:** Developing nations

- The term "Global South" was coined by **Alfred Sauvy** in 1952, in an analogy with France's historical three estates: the nobility, the clergy and the bourgeoisie.
- It was first used in 1969 by political activist **Carl Oglesby**.
- But it was only after the 1991 breakup of the Soviet Union – which marked the end of the so-called "Second World" – that the term gained momentum.
- Until then, the more common term for developing nations – countries that had yet to industrialize fully – was "Third World."

What does the term "Global South" mean?

- The term "Global South" is not geographical.

- In fact, the Global South's two largest countries – **China and India – lie entirely in the Northern Hemisphere.**
- Rather, its usage denotes a mix of political, geopolitical and economic commonalities between nations.

What are the major commonalities?

- **Colonisation:** Major commonality between the **South countries** is that most have a history of colonisation, largely at the hands of **European powers.**
- **Exclusion from prominent organizations:** The **region's historical exclusion** from prominent international organisations – such as from the permanent membership of the **United Nations Security Council.**
- **Economic issues:** In general, they are poorer, have higher levels of income inequality and suffer lower life expectancy and harsher living conditions than countries in the "Global North".

- **'Global North'** refers loosely to countries like the US, Canada, Europe, Russia, Australia and New Zealand
- **'Global South'** includes countries in Asia, Africa and South America.

What is India's approach to Global South?

- India's rich history as the leader of the Non-Aligned Movement and its economic and geopolitical clout in global politics are propelling New Delhi to play a greater role in global geopolitics. Assuming the position of G-20 Presidency in 2022-23 is a testimony to this.
- **Narrative to global geopolitics:** Being the leader of the Global South, India provides a voice to the Global South Movement.
  - ➤ Whether on the question of climate change, energy transition, taking a stand on normative issues or protecting the Global South's interest, India played a proactive role in international forums over the years.
- **Forerunner in sustainable energy transitions**: India is the forerunner in global and sustainable energy transitions. At various Climate Summits, India resisted the onslaught from the Global North and protected the interest of the Global south be it on the question of climate financing, limiting the emission norms.
- **Significant contributions to the arena of energy transition framework** are
  - ➤ International Solar Alliance
  - ➤ push to hydrogen-based fuel
  - ➤ technical assistance to the countries of the Global South in harnessing solar energy and hydrogen-based fuel
- **Democratising international relations:** Reforming the United Nations and broadening the UN Security Council's permanent membership are some of the constant demands India has raised over the years.

Guiding Light:

The mottos of G-20, which India is chairing, is based on "**One Earth, One Family, One Future**" — rooted in the Indian ethos of "***vasudhaiva kutumbakam***"— and "**Sustainable Peace**". Hence India's approach provides a guiding light to the **Global South movement.**

Why the concept is being reiterated now?

- **Economic emergence:** The concept is being reiterated now partly because of the economic emergence of some of these South countries, such as India and China, in the last few decades.

- **Political visibility:** This economic shift has gone hand in hand with enhanced political visibility. Countries in the Global South are increasingly asserting themselves on the global scene.

How Global South can help to resolve the emerging issues in the global geopolitics?

- **Emerging challenges to the nature of global geopolitics:**
  - ➤ **Resource + Security:** Supply securitisation of food and energy, technology transfer, energy transition, and climate change issues and their impact on the global community.
  - ➤ **Genuine multilateralism:** The other important challenge is in the form of the need for "genuine multilateralism" of the institutions of global governance to provide an equitable voice to all countries.

- The above challenges are giving opportunities to the countries of the Global South, which is emerging as a cohesive bloc, thus emphasising equity in the decision-making process at the global level.

Challenges before the Global South	Required Measures
• Lack of adequate energy supply at an affordable price. • Lack of sustainable energy transition • Adversarial consequences of climate change (largely due to the historical polluters of the Global North) • Lack of equitable representation from the Global South at global forums.	• There is the need to securitize food, fertilizers. • There is need to ensure a sustainable energy transition which can bring overall socio-economic development to the Global South. • There is a need to look at the process of climate change repercussions on the Global South from a broader perspective. • Broadening the membership of the UNSC is an important step towards democratising international relations.

Conclusion:

- Global South is currently facing a major identity crisis emanating from historical experiences, Cold War legacies, and issues relating to supply chain securitisation. The post-Covid world order and the Ukraine war further aggravated the problem for Global South.

- India, led by Prime Minister Modi, aims to address energy and food crises and the impact of the recession on the global economy in the Global South. India is committed to sharing its developmental experience and calls for inclusive global governance to promote growth and prosperity. India's leadership can reshape global geopolitics and invigorate the existing global order.

MINIMUM GUARANTEED INCOME BILL

Context: The Rajasthan government tabled the Rajasthan Minimum Guaranteed Income Bill, 2023, with an aim to provide **entitlement-based social security to support the individuals or households with an additional minimum guaranteed income in the form of a guaranteed wage or social security pension.**

Key-highlights of the Bill

- **Focus area**: The Bill has three broad components-
  - ➤ Right to Minimum Guaranteed Income
  - ➤ Right to Guaranteed Employment
  - ➤ Right to Guaranteed Social Security Pension

- **Aim:** The Rajasthan government plans to bring a law that promises '**guaranteed minimum income'** for the poor.

- **Mahatma Gandhi Minimum Guaranteed Income Yojana (MGMGIY):** The **Mahatma Gandhi Minimum Guaranteed Income Yojana (MGMGIY)** will be the name of the scheme. The state shall provide to all eligible people a **minimum guaranteed income** by providing employment
  - ➤ **in urban areas** through the **Indira Gandhi Urban Employment Guarantee Scheme (IGUEGS)**

➤ **in rural areas** through **Chief Minister Rural Employment Guarantee Scheme (CMREGS)**

◉ Alternatively, eligible individuals may receive a pension if they fall under the categories of old age, specially abled, widow, or single woman.

◉ **Guaranteed Employment:** Every adult residing in rural areas of the state has the right to guaranteed employment for at least an additional **25 days per financial year**, after completing the maximum days of work under MGNREGA.

◉ **Right to Guaranteed Social Security Pension:** The **Right to Guaranteed Social Security Pension** ensures that individuals in the categories of old age, specially abled, widow, or single woman, who meet the prescribed eligibility criteria, receive a pension.

◉ **Significance:** The law will ensure that all beneficiaries are covered under different social security schemes and in case they are not, the government will ensure minimum income to them.

Benefits	Challenges
• To accommodate a diverse workforce, UBI could potentially provide the necessary support and flexibility for individuals to find suitable work or pursue education and entrepreneurship. • UBI is supposed to be easily accessible, periodic, in the form of funds (and not vouchers or coupons) and is paid to individuals not households.	• UBI did not significantly reduce labour force participation, except for new mothers and teenagers, who used the income to extend their maternity leaves and focus on education. • UBI has no criteria to select the beneficiaries, • Agency involved providing support in the form of cash transfers to respect, not dictate recipients' choices.

Arguments in Favour of UBI in India:

◉ **Social Justice**: No society can be just or stable if it does not give all members of the society a stake. A Universal Basic Income promotes many of the basic values of a society which respects all individuals as free and equal.

◉ **Administrative Efficiency**: A UBI will reduce the burden of financing a plethora of separate government schemes and administrative burden of implementation.

◉ **Employment:** UBI is an acknowledgement of the government's duty to guarantee a minimum living standard (Article 43 of Indian Constitution) is even more urgent in an era of uncertain employment generation.

◉ **Insurance against Shocks**: Poor households often face multiple shocks such as bad health, job loss or aggregate shocks such as crop loss, water borne diseases, loss of property and natural disaster.

◉ The UBI income floor will provide a safety net against health, income and other shocks.

◉ **Freedom of Choice**: A UBI treats beneficiaries as agents and entrusts citizens with the responsibility of using welfare spending as they see best, this may not be the case with in-kind transfers.

The idea of 'Basic Income':

◉ **Universal basic income (UBI)** is considered a solution to the looming crisis of decreasing job opportunities and an effective tool for eradicating poverty.

◉ Universal basic income (UBI) is a socio-political financial transfer policy proposal in which all citizens of a given country receive a legally stipulated and equally set financial grant paid by the government.

◉ A basic income can be implemented **nationally, regionally, or locally**.

◉ Universal basic income (UBI) is a government program in which every adult citizen receives a set amount of money regularly.

◉ The goals of a basic income system are to replace other need-based social programs that potentially require greater bureaucratic involvement.

WORLD DRUG REPORT 2023

Context: Recently, the World Drug Report 2023 was launched by the UN Office on Drugs and Crime (UNODC).

Key Highlights:

◉ New estimates of people who inject drugs are higher than previously estimated as treatment services and other interventions fall short, including for record numbers of displaced people due to humanitarian crises.

➤ About **18 per cent increase** has been observed in people consuming drugs, higher than previously estimated.

➤ Globally, over **296 million people used drugs in 2021,** an increase of 23 per cent over the previous decade.

◉ "**Cheap and easy" synthetics** changing drug markets was found.

◉ Drug trafficking accelerated environmental devastation and crime in the **Amazon Basin.**

- More monitoring of public health impacts needed amid **rapid regulatory changes** and clinical trials with psychedelics was poor.

- The report also highlights how **social and economic inequalities** drive – and are driven by – drug challenges; the environmental devastation and human rights abuses caused by illicit drug economies; and the rising **dominance of synthetic drugs**.

- **Youth populations** are the most vulnerable to using drugs and are also more severely affected by substance use disorder in several regions.

  ➤ In Africa, 70 per cent of people in treatment are **under the age of 35.**

According to World Drug Report 2022, India has the **fourth largest quantity of opium** seized in 2020 at 5.2 tons and the third-highest amount of morphine was also seized in the same year at 0.7 tons.

Drug menace in India:

Types of Drugs:

- They are **chemical substances** that affect the normal functioning of the **body and/or brain**.

- In 2016, **6 drug types accounted for nearly all drug trafficking offenses:**

  ➤ **Methamphetamine:** 33.6%

  ➤ **Cocaine:** 19.8%

  ➤ **Marijuana:** 17.6%

  ➤ **Heroin:** 14.4%

  ➤ **Crack:** 8.1%

  ➤ **Oxycodone:** 2.8%

  ➤ **Other:** 3.7%

- India is sandwiched between **two largest Opium producing regions** of the world that is **the Golden triangle on one side and the Golden crescent on other.**

  ➤ The golden triangle area comprises **Thailand, Myanmar, Vietnam and Laos**.

  ➤ The golden crescent area includes **Pakistan, Afghanistan and Iran**.

- India is one of the world's single largest opiate markets in terms of users and would likely be vulnerable to increased supply.

- This is because of the intensification of trafficking in **opiates originating in Afghanistan** may be taking place eastwards, in addition to southwards and westwards along the traditional Balkan route.

Why controlling drug menace is difficult?

- Over the counter and easy availability

- Porous international borders

- **Detached lifestyles**: loss of morals and family support

- **Variation in Drug control Policy:** Cultivation and sale of opium poppy husk is legal in Rajasthan and Madhya Pradesh, accounting for the presence of these two substances in abundance in the districts near Rajasthan, such as **Bathinda, Fazilka and Mansa.**

- There is hardly any coordination among the police, the BSF, and the state and central intelligence agencies for curbing the problem.

Efforts to combat drug problem:

- **Narcotics Drugs and Psychotropic Substance (NDPS) Act, 1985:** It prohibits a person from producing, possessing, selling, purchasing, transporting, storing, and/or consuming any narcotic drug or psychotropic substance.

  ➤ The NDPS Act has since been amended thrice – in 1988, 2001 and 2014.

- **Nasha Mukt Bharat**: The 'Nasha Mukt Bharat', or Drug-Free India Campaign which focuses on community outreach programs.

- **National Action Plan for Drug Demand Reduction (NAPDDR)** is an umbrella scheme of the Ministry of Social Justice & Empowerment (MoSJ&E) under which financial assistance is provided to State Governments/ Union Territory (UT) Administrations for Preventive Education and Awareness Generation.

- **Global stance:** India is signatory of the following international treaties and conventions to **combat the menace of Drug Abuse:**

  ➤ United Nations (UN) Convention on Narcotic Drugs (1961)

  ➤ UN Convention on Psychotropic Substances (1971)

  ➤ UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988)

  ➤ UN Convention against Transnational Organized Crime (UNTOC) 2000.

UN Office on Drugs and Crime (UNODC):

- The agency's focus is the **trafficking and abuse of illicit drugs, crime prevention and criminal justice, international terrorism, and political corruption.**

- It is a member of **the United Nations Development Group**.

CONSTRUCTION WORKERS CANNOT BE DEPRIVED OF 'RIGHT TO PENSION'

Context: Recently, the Delhi High Court has ruled that, Construction workers cannot be deprived of their right to pension "merely due to hyper-technical issues" or requirements such as "production of original MR Slips or serial number of the notary records".

Construction workers in India:

- The **building and other construction workers (BOCW)** are the most vulnerable segment of the unorganized sector workers in India.

- They work under aggravating conditions with uncertain future.

- A large chunk of them are migrant labourers working in different states far away from their native places.

- They play a significant role in nation-building yet find themselves on the margins of the society.

Key-highlights of the ruling:

- The observations were made while granting relief to a construction worker who had applied to the Delhi Building and Other Construction Workers Welfare board for release of her pension as per Rule 372 but the pension benefits were not released.

- The **application for pension** of the petitioner was rejected on the ground that she was **not a member of** the Board on the **'date of superannuation'.**

Superannuation- A regular payment made into a find by an employee towards a future pension.

- The Petitioner in this petition fulfilled the conditions laid down in the **Act and the Rules for release of pension and other benefits.**

- Reviewing the situation, court mentioned that **the period of contribution extended by beyond her retirement** or that the renewal of membership was done after the **age of superannuation** cannot lead to the **denial of pensionary benefits.**

The BOCW boards are meant to **carry out welfare activities for workers** from the cess on construction collected by States.

- The court also observed that "**The Delhi (Right of Citizen to Time Bound Delivery of Services) Act, 2011**, entry 372, **specifies 30 days** as the period during which the pension application has to be processed.

- The SOP of the **BOCW Board** stipulates disposal **within 60 days**.

- Thus, it is clear that once a pension benefit application is made by the construction worker, bearing in mind the financial status of such workers, the said application ought to be **processed without any delay**.

- Accordingly, there is **no justification** for not processing the application for pension of the Petitioner.

Basis of Judicial Intervention:

- **For Fundamental Rights –** The exclusion of gig workers from the category of unorganised workers violates their fundamental rights under **Articles 14 and 21 of the Constitution.**

- **Against Forced labour** – Denial of social benefits amounts to exploitation through forced labour, within the meaning of **Article 23.**

About the Building and Other Construction Workers Act, 1996:

- Enacted to regulate the **employment and conditions of service** of these workers and to provide for their safety, health and welfare measures.

- Under the Act, **the State Governments** through their **State Welfare Boards** are mandated to frame and implement welfare schemes for construction workers.

- The fund, under the legislation, comprises the **Cess @1% of construction costs** which is levied and collected by the State Governments and remitted to the Welfare Fund.

What is the proposed law for gig workers?

- **National Commission on Labour** – It recommended to consolidate central labour laws.

  ➤ Hence, the Ministry of Labour and Employment introduced the **Code on Social Security, 2020** which brings workers within the ambit of labour laws for the first time.

- **Social Security Schemes** – The Code stipulates that Central and State Governments must frame suitable social security schemes for gig workers.

➤ The Code also mandates the compulsory registration of all gig workers to avail of benefits under these schemes.

◉ **National Social Security Board – The** Code also envisages the constitution of a National Social Security Board by the Central government to monitor the implementation of such schemes.

THE CHALLENGES OF ETHNIC CONFLICT IN INDIA

Context: In the past few months, Manipur, a north-eastern Indian state, has experienced repeated inter-ethnic clashes between two local communities, the Meitei and Kuki.

◉ However, such conflicts are not uncommon in India's Northeast, where powerful individuals have exploited the identities of different ethnic groups to serve their own interests.

The Land of Jewels:

◉ Manipur, which means "Land of Jewels," consists of a valley surrounded by mountain ranges.

◉ The state is home to **39 ethnic communities** following different faiths, including **Hinduism, Christianity and Islam**, as well as Indigenous religious traditions such as **Sanamahi.**

◉ **Root of dispute:** Opposition to the manner of **Manipur's merger with India in 1949** laid the groundwork for the nascent stages of **resistance and separatist movements** and remains at the **heart of the dispute** between New Delhi and many restive portions of the Northeast.

◉ **AFSPA:** To quell this resistance, the Indian government imposed the **controversial Armed Forces Special Powers Act** in 1958.

➤ The act provides broad-based powers for the military and paramilitary groups to "(maintain) public order," in "disturbed areas".

◉ Today, the region features multiple conflicting claims to ethnic and communal homelands — and armed insurgent groups to defend those claims.

◉ In Manipur, there are;

➤ At least **four valley-based armed groups**

➤ Several Naga groups

➤ Nearly 30 Kuki armed insurgent organizations

◉ The proliferation of armed groups — at one point estimated to stand at around 60 — contributed to the sense of a "war within a war" in the state.

What Sparked the Latest Violence in Manipur (the immediate trigger)?

• **ST Status to Meitei:** The recent violence in Manipur was sparked by the **Manipur High Court's suggestion** to consider granting **Scheduled Tribe status** to the Meitei community, which is the majority population in the state.

> **Scheduled Tribes:**
> • Constitutionally recognised, this official designation gives certain protections to tribes and communities.
> • This status would offer **constitutional protection and benefits,** including reserved government seats.

➤ The Meitei community had been requesting this status for a long time, but there were concerns that it could **deepen ethnic divisions**, particularly with the **Kuki and Naga Indigenous communities.**

◉ **Protests & Violence**: Protests ensued after the court's announcement, led by the **All-Tribal Students Union of Manipur.** The violence led to retaliatory attacks, with Kuki communities burning Meitei-inhabited villages, and Meitei communities torching Kuki localities, resulting in several casualties.

Decades of Unresolved Ethnic Tensions:

While the protests served as an immediate trigger, tensions between Indigenous communities had been rising in Manipur for years. Some of the reasons are;

◉ **Particular targeting of communities:** The state government's **handling of Indigenous land rights issues**, particularly targeting Kuki communities in hill areas, has been a source of contention.

THE RIVAL PARTIES	
Meitei Community	**The Naga and Kuki tribes**
• The dominant largely Hindu community, which is based in the state's capital city of Imphal, forms more than 50 percent of the state's population of 3.5 million, as per India's last census in 2011. • While the Meiteis are mostly based in the plains, they have a presence in the hills as well.	• The two mostly Christian tribes form around 40 percent of the state's population, and enjoy "Scheduled Tribe" status, which gives them land-owning rights in the hills and forests. They are the most significant tribes residing in the hills. • Other tribal groups, including the Mizo, also constitute the diverse ethnic makeup of the state, which borders Myanmar.

- **Land imbalance:** Land imbalances between Indigenous communities, where Meiteis cannot buy land in hill regions but others can buy land in the valley, also contributed to the conflict.

- **Refugee influx:** Moreover, the influx of refugees from Myanmar following the **2021 military coup**, particularly those with ties to the Kuki community, added to the sense of insecurity for the Meitei Indigenous community.

Common Features of Ethnic Conflicts:

- **Conflicting economic and political interests:** The latent cause is not rooted in cultural disparity. Conflicting economic and political interests form the basis of the latent cause.

- **Deprivation of rights:** The tensions generally arise when a minority group feels deprived of an equal position in either the economic or political sphere as compared to the majority group, using the primary ties to motivate and activate their ethnic group against the dominant group.

- The allegiance or the basis of group loyalty depends on the principle of mutual interest.

  - ➤ **For instance**, during the **1972 Assam riots**, the Bengali Muslims, who share cultural similarities with Bengali Hindus did not side with them, instead, they supported the Assamese in exchange for not being ousted from their land, by the politically active Assamese.

- **Security Forces' Actions:** Heavy-handed responses by security forces to address conflicts can lead to human rights abuses, further aggravating the situation.

- **Displacement and Refugees:** Conflicts can result in the displacement of communities and create refugee populations, adding to humanitarian challenges.

- **Interplay of Nationalism and Regionalism:** The struggle between national identity and regional aspirations can lead to clashes between different ethnic groups and the central government.

Others:

- Identity and Cultural Differences

- Competition for Resources and Territory

- Inadequate political representation of certain ethnic groups

- Socio-economic Disparities

- Historical Grievances

- Communalism and Identity Politics

Implications of Ethnic Conflicts for human rights:

- **Grave violation of the right to life (Article 21):** Ethnic conflicts are characterized by violence, including killings, torture, and other forms of harm to civilians.

- **Violation of the right to freedom of movement and the right to a home and property (Article 19):** Ethnic conflicts frequently lead to the forced displacement of communities, causing them to flee their homes in search of safety.

- **Violates the principles of equality and non-discrimination (Article 15):** Ethnic conflicts are often rooted in discrimination and marginalization of certain ethnic groups.

- **Violation of the right to liberty and security of person (Article 21):** During ethnic conflicts, security forces may carry out arbitrary arrests and detentions without due process. This constitutes a violation of the right to liberty and security of person.

- **Freedom of Expression and Information (Article 19-22):** In times of conflict, freedom of expression and access to information may be restricted to control the narrative and suppress dissent.

- **Sexual Violence and Gender-Based Abuse:** Women and girls are particularly vulnerable during

ethnic conflicts and may experience sexual violence, exploitation, and abuse, violating their rights to dignity, safety, and security.

◉ **Child Rights Violations:** Children are disproportionately affected by ethnic conflicts, facing issues such as forced recruitment, sexual violence, and limited access to education and healthcare.

National shame:

The viral video from Manipur, showing a mob of men parading naked, and sexually assaulting two Kuki women has shaken the whole country.

◉ **Humanitarian Access and Assistance:** On-going conflicts can impede the delivery of humanitarian aid to affected populations, depriving them of essential resources and services.

◉ **Destroying Cultural Heritage:** Ethnic conflicts may result in the deliberate destruction of cultural sites and heritage, depriving communities of their cultural identity and history.

◉ **Impunity and Lack of Accountability:** In many cases, perpetrators of human rights violations during ethnic conflicts may escape accountability, contributing to a culture of impunity.

Concluding thoughts:

◉ In the current conflict, the identities of different ethnic communities

MAJOR ETHNIC CONFLICTS IN INDIA:

- **Kashmir conflict:** A long-standing dispute between India, Pakistan, and China over the region of Jammu and Kashmir. It involves multiple ethnic and religious groups, including Kashmiri Muslims, Kashmiri Hindus (Pandits), and Buddhists in Ladakh.

- **Naxalite-Maoist insurgency:** An ongoing armed conflict in several states, particularly in Central and Eastern India, involving radical leftist groups known as Naxalites or Maoists. The conflict is based on socio-economic and political grievances and affects tribal communities significantly.

- **Northeast Insurgency:** Various insurgent groups in the north-eastern states have been seeking autonomy or independence. States like Assam, Manipur, Nagaland, Mizoram, and Tripura have witnessed prolonged conflicts involving different ethnic groups.

- **Punjab conflict:** Also known as the Khalistan movement, it was a violent separatist movement in the state of Punjab, primarily involving the Sikh community in the 1980s and early 1990s.

- **Assam conflict:** A complex conflict involving different ethnic groups and illegal immigration issues in the state of Assam. The conflict has led to violence and unrest over the years.

- **Mizoram Insurgency:** A past insurgency in the state of Mizoram, which has seen violence and separatist movements involving the Mizo community.

- **Tripura Insurgency**: An insurgency in Tripura, involving tribal groups and the indigenous population seeking autonomy.

- **Involvements of different ethnic communities;**

  ➤ **Bodo Conflict:** The Bodo community in Assam has been involved in clashes with other ethnic groups over issues of identity and territorial rights.

  ➤ **Garo-Khasi Conflict:** In the state of Meghalaya, there have been conflicts between the Garo and Khasi communities over land and political representation.

  ➤ **Karbi-Anglong Conflict:** The Karbi and Dimasa communities in Assam have been engaged in conflicts over territorial autonomy and resource control.

  ➤ **Mizo-Hmar Conflict:** In Mizoram, there have been clashes between the Mizo and Hmar communities over land and political representation.

  ➤ Gorkhaland Movement: The Gorkha community in Darjeeling, West Bengal, has been demanding a separate state called Gorkhaland, leading to periodic conflicts.

  ➤ **Chakma-Hajong Conflict**: In Arunachal Pradesh, clashes have occurred between the Chakma and Hajong communities over land and citizenship issues.

  ➤ **Naga-Kuki Conflict:** In Manipur, there have been historical conflicts between the Naga and Kuki communities over land and political representation.

  ➤ **Kokborok-Bengali Conflict:** In Tripura, tensions have arisen between the Kokborok-speaking tribal community and Bengali-speaking settlers.

  ➤ **Others:**

    - Tripuri-Riang Conflict
    - Maratha-Dalit Conflict
    - Rajput-Gujjar Conflict
    - Kodava-Tulu Conflict
    - Garo-Assamese Conflict
    - Mishing-Rabha Conflict
    - Meghwal-Mali Conflict
    - Vanniyar-Dalit Conflict

were exploited to serve the interests of a few, while women and children bore the brunt of the violence.

◉ Putting an end to the present violence and promoting lasting reconciliation are two distinct yet interconnected goals. Achieving reconciliation requires addressing the enduring impacts of violence resulting from various insurgencies and the government's sometimes harsh responses, which have left deep scars of trauma within the state.

NURSING INFRASTRUCTURE IN INDIA

Context: **Recently, the Central Government has directed States to overcome the regional disparity in availability of nursing colleges which is found to be skewed in five southern states and three western states in the country.**

◉ This has become difficulty for students of **Eastern and Central India** due to lack of seats.

The Skewed Nursing Infrastructure:

◉ About **64% of the nursing workforce** is currently trained in just **eight States**.

> India currently has close to **35 lakh nurses**, but its nurse-to-population ratio is only **2.06:1000** against a global benchmark of **3:1000.**

◉ Around **42%** of nursing colleges are present in five southern States whereas **17% in three western States**.

◉ The nursing institutions are concentrated in **Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, and Telangana,** while 17% are in the western states of **Rajasthan, Gujarat, and Maharashtra**.

◉ Only **2% of nursing colleges** are in the **north-eastern states**.

> **Global nursing shortages:**
>
> • According to the **World Health Organisation (WHO)**, approximately **27 million men and women** make up the global nursing and midwifery workforce, accounting for **nearly 50% of the global health workforce**.
>
> • "There is a global shortage of health workers, in particular nurses and midwives, who represent more than 50% of the current shortage in health workers.

Why India needs to focus on the issue?

◉ **Backbone:** Nursing services form the backbone of any **medical establishment**. Nurses play a critical role in **health promotion, disease prevention and delivering primary and community care.**

◉ **Frontline:** They are often the first to detect health emergencies and work on the front lines of disease prevention and the delivery of **primary health care, including promotion, prevention, treatment, and rehabilitation.**

◉ **Key in achieving UHC:** They provide care in **emergency settings** and will be key to the achievement of **universal health coverage.**

Possible Reasons of shortage:

◉ **Lack of Infrastructure**: As there is a skewed scenario for availability of nursing colleges there are limited seats for nursing in several states in India, which makes difficult for students to take the nursing courses.

◉ **Health as a 'State' subject**: Since **Health** is a state subject, the onus lies on the states to ensure that the optimum **nurse-patient ratio** is maintained. This has been compromised by the state government up to an extent.

◉ **Gender biased profession:** The nursing jobs are treated to be a gender biased occupation especially in India.

◉ **Poor governance:** The nursing and midwifery profession is witnessing a large-scale brain drain from the country due to poor salary, working conditions and absence of a proper career pathway, and out-dated systems of professional governance.

Concerns associated:

◉ **Less Nurse-patient ratio:** Due to lack of staff in the hospitals, patients are suffered for timely services.

◉ **Health facilities compromised:** Health facilities in a hospital get automatically compromised as staff members are unavailable or due to overburden of work.

◉ **Corruption:** The appointment of nurses is adding to the issue of corruption in nursing college for admissions due to fewer seats by officials.

◉ **Harassment at workplace:** As the less staff is available, hospitals are required to order their staff working for more time than normal employees, which creates frustration amongst the nurses.

Government interventions:

◉ The Centre has announced **157 new nursing colleges** in co-location with the existing medical colleges established since 2014 for investment of Rs.1570 crore that would add around 15700 nursing graduates every year.

○ **Development of nursing services:** Rs.100 crore has been allocated for the development of nursing services in the **10th five-year plan**.

○ In line with the **World health Organisation's (WHO's) global strategy** on "**Human Resources for Health: Workforce 2030**", the Ministry of Health and Family Welfare (MoHFW) issued draft guidelines earlier this month to improve the working conditions of all **categories of nurses in all healthcare institutions** across India.

➤ The WHO's global strategy calls for a safe and healthy work environment for nurses in order to ensure quality nursing care.

Way forward:

○ **Incentivise the nursing staff**: The government should provide nurses with personal protective equipment as required, free of cost, will fall on the hospital or clinic employing them.

○ **Open-up more colleges**: There should be a central scheme for nursing colleges in every state and regulations must be scrutinised by an authority likewise for Medical colleges.

○ **Promote awareness to stop gender biasness for occupation:** For India society, there is a need to spread awareness and campaigns **regarding boys joining** jobs of nurses by making '**Nurse**' a **gender neutral Term.**

SC ON 'DELIMITATION EXERCISE' IN NORTH-EASTERN STATES

Context: Recently, the Supreme Court (SC) prima facie disagreed with the legal stand of the Election Commission of India (ECI) that it can only begin the delimitation process in Manipur, Assam, Nagaland and Arunachal Pradesh after getting an authorisation from the Central Government.

Brief Background:

○ In pursuance to the request received from **Ministry of Law & Justice, Government of India**, **Election Commission of India** decided to initiate the delimitation exercise of Assembly and Parliamentary Constituencies in the **State of Assam** as per **Section 8A of the Representation of the People Act, 1950**.

○ Unlike other States, the ECI, and not the **Delimitation Commission,** have to conduct the delimitation exercise in these **four States**.

○ In the latest hearing, the SC observed that the **Election Commission of India** did not require the authorisation of the Government of India to conduct the exercise of delimitation.

About the Representation of the People Act, 1950:

○ **Section 8A of The Representation of the People Act, 1950** deals with the delimitation of Parliamentary and Assembly Constituencies in the **States of Arunachal Pradesh, Assam, Manipur or Nagaland.**

○ **Section 8A(1)** says that, subject to being satisfied that the conditions were conducive, the President can rescind the deferment of the delimitation exercise in the **four States** and provide for the conduct of delimitation exercise by **the Election Commission**.

○ **Section 8A(2)** provides that the Election Commission has to start the delimitation process to determine **Parliamentary and Assembly constituencies** in the four States as soon as the **President rescinds the order**.

Within the **Constitutional Provisions and RPA 1950**, there is no such mandate to take authorization of centre before starting a delimitation exercise.

Provisions supporting Delimitation:

○ As mandated under **Article 170 of the Constitution**, **census figures (2001**) shall be used for the purpose of readjustment of **Parliamentary and Assembly Constituencies** in the State.

○ Reservation of seats for the **Scheduled Castes and Scheduled Tribes** will be provided as per **Articles 330 & 332** of the Constitution of India.

What is Delimitation?

○ 'Delimitation' is the act of **redrawing boundaries** of **Lok Sabha and Assembly** seats to represent changes in population dynamics.

What is the Process of Delimitation?

○ Under **Article 82,** the Parliament enacts a **Delimitation Act** after every Census.

○ Under **Article 170**, States also get divided into territorial constituencies as per Delimitation Act after every Census.

○ Once the Act is in force, the **Union government** sets up a Delimitation Commission.

Need of such an exercise:

○ To provide equal representation to equal segments of a population.

- Fair division of geographical areas so that one political party doesn't have an advantage over others in an election.

- To follow the principle of "**One Vote One Value".**

The working of Delimitation Commission:

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

- The main task of the commission is redrawing the boundaries of the various assembly and Lok Sabha constituencies based on a recent census.

- The Commission's orders cannot be challenged in any court of law.

Composition:

- Retired Supreme Court judge
- Chief Election Commissioner
- Respective State Election Commissioners

  ➤ The representation from each State is not changed during this exercise. However, the number of SC and ST seats in a state is changed in accordance with the census.

  ➤ The present delimitation of constituencies has been done on the basis of 2001 census under the provisions of Delimitation Act, 2002.

VALIDITY OF TENURE EXTENSION OF CBI AND ED DIRECTORS

Context: **Recently, the Supreme Court (SC) asked Enforcement Directorate (ED) Director to quit four months before his third extension and held that tenures of Directors of the Central Bureau of Investigation and the ED has been stretched without any valid reason.**

Background:

- Recently, the President **promulgated two ordinances** that would allow the Centre to extend the tenures of the directors of the Central Bureau of Investigation and the Enforcement Directorate from **two years to up to five years.**

- The controversy was around the point that **chiefs of the Central agencies** currently have fixed two-year tenure, but can now be given **three annual extensions.**

About the case:

- A Bench headed by **Justice B.R. Gavai** held that the continuous service extensions given to ED chief in 2021 and 2022 were illegal.

- Besides, the committees were required to **record reasons** in writing in support of their recommendations for these extensions.

- They also cited Fundamental **Rule 56** which states that tenures of Government employees cannot exceed the age of **retirement at 60 years**.

- The Court mentioned that while deciding this case **in 2021,** the Court held that the CVC Act only laid down a minimum tenure of 2 years.

- Tenures could be extended if the Director reached retirement age before the two year tenure completed.

- Extensions to CBI or ED Directors were to be given only in '**rare and exceptional cases'.**

Who can extend the tenure of services?

- A **five-member** panel composed of the **Central Vigilance Commissioner and Vigilance Commissioners** had to recommend if an ED Director was worthy of an extension in service.

- In case of the CBI Director, a **High-Level Committee** of the Prime Minister, **Opposition Leader and the Chief Justice of India had to recommend.**

Tenure and Extension of service of ED & CBI Chief:

- The **Delhi Special Police Establishment (DSPE) Act,1946** and the **Central Vigilance Commission (CVC) Act, 2003** have been amended to give the government the power to keep the two chiefs in their posts for one year after they have completed their **two-year terms**.

- **Amendments made in DSPE Act:**

  ➤ Provided that the period for which the Director holds the office on his initial appointment may, in public interest, on the recommendation of the Committee (the committee led by **the Prime Minister and leader of Opposition and CJI as members**) and for the reasons to be recorded in writing, be extended up to **one year** at a time.

  ➤ Provided further that no such extension shall be granted after the completion of a **period of five years** in total including the period mentioned in the initial appointment.

- **Amendments in CVC Act:**

  ➤ Provided that the period for which the Director of Enforcement holds the office on his initial appointment may, in public interest, on the recommendation of the Committee (**comprising**

of **CVC chief, Revenue and Home Secretaries among others)** and for the reasons to be recorded in writing, be extended up to one year at a time.

➤ Provided further that **no such extension** shall be granted after the completion of a period of five years in total including the period mentioned in the initial appointment.

Significance of the move:

◉ Considering that the CBI and the ED investigate corruption in the government and money laundering, it is crucial that these investigative institutions are kept safe from political interference.

◉ Many argue that the wide powers of the ED, combined with a leader arguably in the good-books of the government, are a threat to democracy.

THE DNA TECHNOLOGY (USE AND APPLICATION) REGULATION BILL, 2019

Context: Recently, the Union government has withdrawn the DNA Technology (Use and Application) Regulation Bill, 2019, from the Lok Sabha.

Background:

◉ First proposed in 2003, the Bill has gone through numerous changes, led by both the **Department of Biotechnology** and the **Law Ministry.**

◉ In 2019, it was referred to the **Parliamentary Standing Committee** after being introduced in the Lok Sabha.

◉ Two years later, the panel's report was released, in which it highlighted that **the Bill could be misused** to target segments of society based on **religion, caste or political views**.

Key points of the Bill:

◉ The Bill seeks to create a **regulatory framework** for **obtaining, storing and testing** DNA samples of human beings, mainly for the purposes of **criminal investigations**, and with the objective of establishing the **identity of a person.**

> DNA testing is already being used for a variety of purposes, such as **criminal investigations, establishment of parentage, and search for missing people.**

◉ The proposed law seeks to bring in a **supervisory structure** to oversee these practices, and frame guidelines and rules so that the DNA technology is not misused.

◉ The Bill proposes to set up **two institutional structures**:

➤ A DNA **regulatory board** and

➤ A **DNA data bank** — at the national level.

➤ Regional centres of the board as well as the data bank can be set up at the **state level too.**

◉ **Laboratories:** The Bill proposes that testing of DNA samples can be carried out only at laboratories that are authorised to do so by the regulatory board.

Need of such a legislations:

◉ **Increasing demands:** A growing number of complainants are asking for DNA tests. Such demands are growing by **around 20% annually**.

➤ Although the **3,000-odd DNA tests** performed yearly by **Indian laboratories** are insignificant in comparison to the **70 other nations** that rely on DNA Technology, the spike in demand contradicts worries about privacy and probable data abuse.

◉ **Gray area**: DNA tests fall into a gray area in the pursuit of justice, bridging the gap between the **'eminent need'** to uncover the truth, whether it be in the form of evidence in a criminal case, a claim of marital infidelity, or proving paternity and the risks of slipping into **self-incrimination and encroachment** on individual privacy.

◉ **Concerned privacy rights:** This brings attention to the **expanding use of technology** for improving the process of justice but it also violates people's privacy.

> As part of the **Right to life** under **Article 21**, the Supreme Court acknowledged that bodily autonomy and privacy are part of fundamental right.

What are the objections against the Bill?

◉ The main debate over the proposed law has been around **three issues**;

➤ Whether **DNA technology** is fool proof

➤ Whether the provisions adequately address the possibility of **abuse of DNA information**

➤ Whether the **privacy of the individual** is protected

◉ **DNA contains much personal information**: DNA information can be extremely revelatory. It can not only establish a **person's identity** but also reveal a lot about **physical and biological attributes** of the person like **eye, hair or skin** colour, susceptibility to **diseases, possible medical history, and possible clues to biological relatives**.

◉ **Against Individual Privacy:** For years, critics of the Bill have been claiming that **collecting and storing such intrusive information** could lead to abuse, besides being violative of a person's privacy.
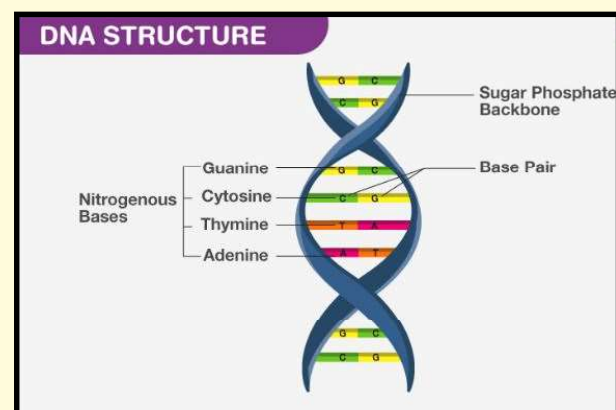
What is DNA Profiling?

- The DNA profiling method was first developed in 1985, specifically for **forensic use**.

- Every individual has a unique DNA blueprint, making it a reliable means of identification and establishment of biological relationships between individuals.

- This can be done by analysing **hair, blood or semen samples**.

- DNA fingerprinting is a laboratory technique used to determine the probable identity of a person based on the **nucleotide sequences** of certain regions of human DNA that are unique to individuals.

Deoxyribonucleic acid (DNA):

- DNA refers to deoxyribonucleic acid, a blueprint of all living forms that encodes information allowing the cells of an organism to grow and function.

- **Deoxyribonucleic acid (DNA)** is an organic molecule with a complex molecular structure.

- DNA molecule's strands are made up of a **long chain of monomer nucleotides**. It is arranged in a double helix structure.

- It is essential for the transfer of the genetic characteristic of the living being from one generation to the other generation.

- The majority of DNA is found in the cell nucleus so it is called **nuclear DNA.**

DNA STRUCTURE

Sugar Phosphate Backbone

Base Pair

Nitrogenous Bases
- Guanine
- Cytosine
- Thymine
- Adenine

DNA testing and related Judgments:

- **Banarsi Dass case, 2005:** In the **Banarsi Dass case, 2005,** SC held that **DNA test** must balance the **interests of the parties**. **DNA tests DNA tests** should also not be ordered if there was **other material evidence** at hand to prove the case.

- **Bhabani Prasad Jena, 2010:** Precedents set by the **Supreme Court** through the years show that judges cannot order **genetic tests** as a **"roving enquiry"** *(Bhabani Prasad Jena, 2010)*.

- **K.S. The Puttaswamy case, 2017:** The ruling of the **Constitution Bench** in the *K.S. The Puttaswamy case (2017)* affirming that the **right to privacy** is part of the **rights to life (Article 21)** has only strengthened the privacy argument.

  - In a case involving a woman, the Supreme Court recently ruled that forcing someone to submit to a **DNA test** against their will would **violate their right to personal liberty and privacy**.

- **Ashok Kumar judgment 2021:** Before ordering a **genetic test**, courts should consider the **"proportionality of the legitimate aims,"** the court stated in its **Ashok Kumar judgment 2021**.

'MAKE IN INDIA' MANDATES FOR AIRCRAFT MANUFACTURING

Context: According to a latest update, for boosting the Indigenous Aircraft manufacturing in India, Final Assembly Line (FAL) at Vadodara has been introduced in partnership with Tata Advanced Systems Limited (TASL) under 'Make in India' Obligations.

In a particular plant, **a Final Assembly Line (FAL)** is created to join several major aero-structures and components, integrate systems and test the complete aircraft.

More about the news:

- In addition the above, the first aircraft -**Airbus C295,** manufactured in India would be delivered in September 2026.

- The C-295 is an aircraft of 5-10 tonne capacity used for tactical transport of up to 71 passengers or 50 paratroopers.

- It will replace the Indian Air Force's ageing fleet of Avro-748 planes

- It will be used for **logistic operations** to locations that are not accessible by current heavier aircraft.

- India has become the 35th C-295 operator worldwide.

- The first made-in-India aircraft is expected from September 2026 and completed by 2031 at the rate of eight aircraft per year.

- **Important features:**

  - With a flight endurance of **up to 11 hours**, can carry out multi-role operations under all weather conditions.

  - It can operate from short or unprepared airstrips.

  - The C-295 has very **good fuel efficiency.**

Aircraft Industry in India

- India has a much bigger footprint in civil aviation manufacturing than defense, in addition to being a market itself.

- India is currently the **7th largest civil aviation market** in the world.

- **Defense aircraft Industry**

  - India has the **third largest armed forces in the world** and plans to spend billions of dollars on defense articles over the next several years.

  - India's resolve to drastically reduce its reliance on imports is referred to as **"Aatmanirbharta" (self-reliance).**

Indigenisation of aircraft industry

- It is among the five fastest growing aviation markets globally, registering a growth rate of over 15.2 per cent year-on-year.

- Despite this high rate of growth, the country is one of the least penetrated air markets in the world with 0.04 trips per capita per annum compared to 0.3 in China and more than two in the US.

- With 'Make in India' initiatives, it is estimated that huge procurement costs can be significantly reduced.

- Additionally, this will enable building up of manufacturing capabilities spurring the much needed growth of the economy.

'Make-in-India' and offset obligations:

- **Indigenous Production under the Defence Acquisition Procedure, 2020:**

  - The **Defence Acquisition Procedure, 2020 ("DAP 2020")** which governs **capital acquisition for the defence sector,** sets out certain categories (methods/routes) under which the **Ministry of Defence** undertakes capital procurement.

  - These categories are ranked in order of **procurement preference, with the purchase of indigenously designed, developed and manufactured products** being the highest priority and outright purchase of fully formed equipment being the lowest priority.

- **Other mandates:**

  - In addition to the categories for **purchase of equipment**, the DAP 2020 also envisages the 'Make' procedure of procurement which promotes **indigenous design and development of prototypes** of military equipment.

  - The aim is in line with the wider Make in India policy, and to develop **long term defence capabilitie**s.

- Once products are designed and developed under Make, they are procured by the Ministry of Defence under either the **Buy (Indian-IDDM) or Buy (Indian) category (as applicable).**

- **Local Procurement Preference**:

  - The **Public Procurement (Preference to Make in India) Order, 2017** grants general purchase preference in government tenders to local suppliers.

Attempts made so far:

- **FDI:** Foreign investment of up to 49% is allowed under the automatic route.

- **UDAN Scheme:** The Ministry of Civil Aviation (MoCA) launched Regional Connectivity Scheme (RCS) – **Ude Desh ka Aam Nagrik (UDAN)** in 2016.

- **National Policy:** In 2016, the Ministry of Civil Aviation released the **National Civil Aviation Policy (NCAP).**

- **Two Defense Industrial Corridors** in the Indian states of Uttar Pradesh and Tamil Nadu were announced in the 2018-2019 budgets, which will attract manufacturers and suppliers.

- 10-year Integrated Capability Development Plan: India is formulating the 10-year Integrated Capability Development Plan, which would be the basis for future defense procurement.

- Made in India:

  - The **state-owned Hindustan Aeronautics (HAL)** has manufactured indigenously in large numbers, the multi-purpose light transport aircraft — **Dornier 228 aircraft**. HAL bought the production licence for this aircraft from the **German firm Dormer GmbH in 1983.**

  - Recently Made-in-India light combat helicopters 'Prachand' has been inducted into Indian Air Force.

INDIA AND UAE CURRENCY EXCHANGE TO FACILITATE TRADE

Context: **During Prime Minister Narendra Modi's recent visit to the UAE, the Reserve Bank of India (RBI) and the Central Bank of the UAE signed two MoUs to promote local currency use in cross-border transactions and interlink payment systems, fostering economic cooperation.**

Key-highlights of the Agreement:

- **Background:** The step was taken in line with the

emerging future threats of **dollar dominance, currency manipulation and Russia's sanctions.**

◉ **The first MoU**, aims to encourage the use of local currencies **(rupee and dirham)** for cross-border transactions, promoting economic cooperation between the two nations.

◉ **The second one** is focused on linking their payment systems, facilitating smoother financial transactions between India and the UAE.

◉ **Significance:**

➤ Such cooperation will also include the mutual acceptance of **domestic card schemes** by interlinking national card switches.

➤ Integration between these systems will enhance access to **payment services** for the benefit of the **citizens and residents of the two countries.**

◉ **Other points of discussion:**

➤ The agenda of the groupings such as the **I2U2 (India, Israel, UAE and USA)** and the **UAE-France-India trilateral cooperation** under which both sides are in collaboration with other powers.

➤ Also, the two leaders also witnessed the signing of a MoU on establishing a **branch of the Indian Institute of Technology-Delhi in Abu Dhabi.**

How currency exchange helps in Trade facilitation?

◉ **Easy documentation**: Trade facilitation covers the full spectrum of border procedures, from **the electronic exchange of data about a shipment,** to the **simplification and harmonisation of trade documents**, to the possibility to appeal administrative decisions by border agencies.

◉ **Fixed rate of transaction: Foreign exchange markets** provide a way to hedge currency risk by fixing a rate at which the transaction will be completed.

◉ A **lower-valued currency** makes a country's imports more expensive and its exports less expensive in foreign markets.

◉ A **higher exchange rate** can be expected to worsen a **country's balance of trade**, while a lower exchange rate can be expected to improve it.

How exchange rate affects Trade?

➤ An increase in exchange rates reduces the **balance of trade in a country** by reducing **exports and increasing imports.**

➤ If a country's imports are valued higher than their exports, the country is said to have a **trade deficit** and a lower demand for their currency. This drives the currency exchange rate down.

India's step in similar lines:

◉ According to reports, **18 countries** have agreed to trade in Indian rupees.

◉ These **18 nations** include **Botswana, Fiji, Germany, Guyana, Israel, Kenya, Malaysia, Mauritius, Myanmar, New Zealand, Oman, Russia, Seychelles, Singapore, Sri Lanka, Tanzania, Uganda and the United Kingdom.**

◉ These agreements mean that the Indian rupee can be used for trade transactions between the countries involved, rather than relying solely on **the US dollar.**

Why domination of US Dollar is concernable?

The domination of the US Dollar is concernable for several reasons:

◉ **Economic Vulnerability:** Countries relying heavily on the US Dollar for trade and reserves are susceptible to fluctuations in its value, which can impact their own economies.

◉ **Global Financial Stability**: As the world's primary reserve currency, the Dollar's fluctuations can create volatility in international financial markets, affecting global stability.

◉ **Trade Imbalances**: Countries with weaker currencies may find it harder to export and compete in the international market.

◉ **Dependency on US Policies:** Countries using the Dollar as a major currency may become subject to the monetary policies and decisions of the US Federal Reserve, which may not align with their own economic needs.

◉ **Geopolitical Influence:** The US can use its currency's dominance as a tool for exerting geopolitical influence, leading to concerns over economic and political sovereignty for other nations.

- **Dollarization Risks**: Some countries may fully adopt the US Dollar as their official currency, relinquishing control over their monetary policies and economic autonomy.

NEED TO STRATEGIZE POVERTY ELIMINATION IN INDIA

Context: India has ranked 149 out of 194 countries in per capita Income terms for the year 2022. There is a need to take steps to achieve its targets of eliminating poverty; and focus on raising incomes of individuals.

- Let us identify the challenges that the country will face in reaching this goal and the actions it needs to take to overcome them.

Poverty in India:

- The poverty rate in India has increased to **9.7% in 2020**.

- From **2011 to 2019,** the number of poor in India was estimated to have decreased to **78 million from 340 million.**

How poverty is measured?

- In India, the official consumption-based poverty line is still the Tendulkar Line, which is close to the World Bank **1.9 dollars** a day line.

- The **Tendulkar Expert Group** chaired by economist **Suresh Tendulkar** in 2009 was formed to review the methodology for poverty estimation.

- The committee finalised per person per day consumption figure of Rs.32 a day for urban areas and Rs 26 a day for rural areas.

- The **national poverty line** for 2011-12 was estimated at Rs 816 per capita per month for rural areas and Rs 1,000 per capita per month for urban areas.

India's plan for poverty alleviation:

The strategy for poverty alleviation is essentially two fold;

- Firstly, an effort is underway to provide **greater opportunity for the poor** to participate in the growth process by focusing on specific sectors, which offer such opportunities.

- Secondly, **poverty alleviation and social sector programmes** have been strengthened and restructured with special programmes for the weaker sections of society.

Multidimensional Poverty Index (MDP):

- To tackle the drawbacks associated with the poverty line, UNDP, in association with **Oxford Poverty** and **Human Development Initiative (OPHI),** has developed the **Multidimensional Poverty Index (MDP)** for the 107 developing countries.

- MDP uses **Health, Education and Standard of Living** indicators to determine the incidence and intensity of Poverty experienced by a population.

Dimensions (Indicators):

- Health (Child Mortality, Nutrition)

- Education (Years of Schooling, School Attendance)

- Standard of living (Cooking Fuel Sanitation, Drinking Water, Electricity, Housing Assets)

What else is required to be done?

- **More Employment Opportunities**: Poverty can be eliminated by providing more employment opportunities so that people may be able to meet their basic needs. For this purpose, labour intensive rather than capital intensive techniques can help to solve the problem to a greater extent

- **Establishment of Small Scale Industries**: The policy of encouraging cottage and small industries can help to create employment in rural areas especially in backward regions. Moreover, this will transfer resources from surplus areas to deficit without creating much problem of urbanisation.

- **Focus to boost rural economy**: As more than half of the country resides in rural India, there is an acute need to focus on increasing rural income opportunities.

Challenges:

- **Large population:** India continues to have a large population, which is certainly, not able to afford basic things, whichever poverty line, either based on calorific value or on income.

According to the last released official data, in 2011, 268 million people were surviving on less than $1.90 a day.

- **High Out-of-Pocket expenditure:** More people are investing their **disposable income** in 'Utilities' like on electricity, transport, health etc.

- **High Income and Wealth Inequality:** According to latest Oxfam Study, India's top **1 percent** holds 51.53 percent of the national wealth whereas the bottom **60 percent**, the majority of the population, own merely **4.8 percent of the national wealth**, indicating a huge difference in the income level of people.

Measurement of Income Inequality:

- Gini coefficient is a typical measure of income inequality. The coefficient varies between **0 and 1,** with 0 representing perfect equality and 1 perfect inequality.

- Most of the analysis is centered on the concept of **income inequality**.

Perfect Equality

Gini = 0

Cumulative percentage share of income

Cumulative percentage share of population

Some Equality

0<Gini<1

Cumulative percentage share of income

Cumulative percentage share of population

Perfect Inequality

Gini=1

Cumulative percentage share of income

Cumulative percentage share of population
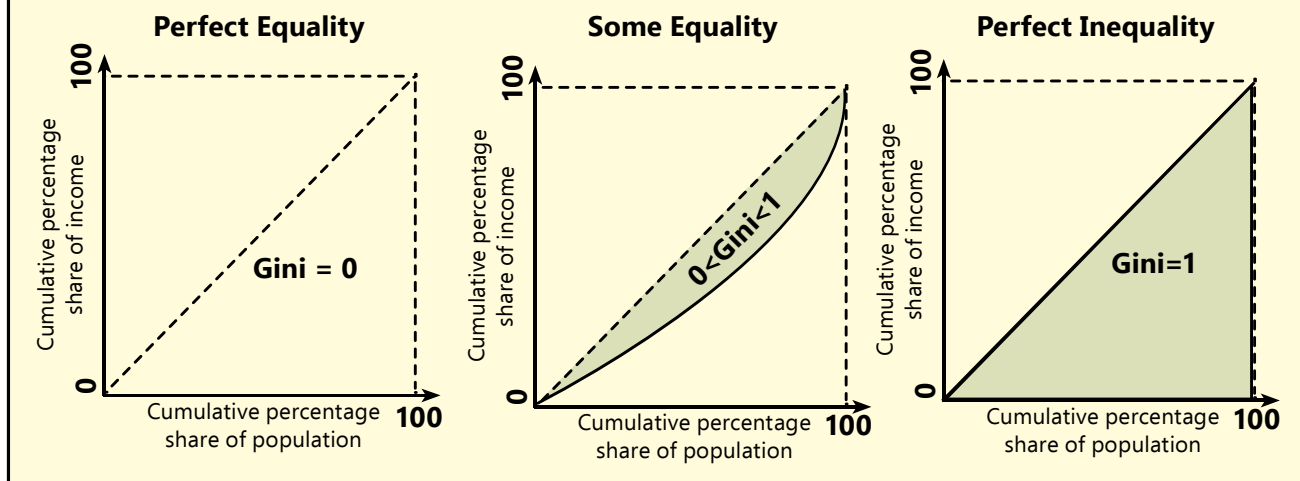
Factors responsible:

- For a country, the factors those related to economic developments and economic stability as well as to domestic policies — **include financial integration, redistributive fiscal policies, and liberalization and deregulation of labour and product markets** — which plays an important role in explaining inequality trends within countries.

Steps taken to eliminate poverty (based on Income):

- **National Food for Work Programme:** The National Food for Work Programme was launched on November 14, 2004 in 150 most backward districts of the country with the objective to intensify the generation of supplementary wage employment.

- **Swaranjayanti Gram Swarozgar Yojana (SGSY):** SGSY, launched in April 1999, aims at bringing the assisted poor families (Swarozgaris) above the poverty line by organizing them into Self Help Groups (SHGs) through a mix of Bank credit and Government subsidy.

- **Sampoorna Grameen Rozgar Yojana (SGRY):** SGRY, launched in 2001, aims at providing additional wage employment in all rural areas and thereby food security and improve nutritional levels. The SGRY is open to all rural poor who are in need of wage employment and desire to do manual and unskilled work around the village/habitat. The programme is implemented through the **Panchayati Raj Institutions (PRIs).**

- **Pradhan Mantri Gramodaya Yojana (PMGY):** PMGY launched in 2000-01 envisages allocation of Additional Central Assistance (ACA) to the States and UTs for selected basic services such as primary health, primary education, rural shelter, rural drinking water, nutrition and rural electrification.

- **Rural Employment Generation Programme (REGP):** REGP was launched with the objective of creating self-employment opportunities in the rural areas and small towns, is being implemented by **the Khadi and Village Industries Commission (KVIC).**

- **Prime Minister's Rozgar Yojana (PMRY):** The objective of making available self-employment opportunities to the educated unemployed youth by assisting them in setting up any economically viable activity.

Suggestive Measures:

- **Realistic Assessment** of the present situation of poverty in the country in need of the hour.

- **Direct income transfer** to needy is an immediate solution.

- Taxing wealth of rich people to fund amelioration of poor in the country.

- By improving **social infrastructure and job opportunities** in rural areas, migration to urban areas can be decreased, and thus urban poverty can also be decreased.

RISING TEMPERATURES IN EUROPE

Context: Europe is experiencing scorching temperature that rose to an unprecedented level in the couple of days recently, accompanied by extreme heat waves.

Heat waves and standards:

◉ A heat wave is a period of unusually hot weather that typically lasts two or more days.

A heat wave is aperiod of excessively hot weather, which may be accompanied by high humidity, especially in oceanic climate countries.

Heat wave is usually measured relative to the usual weather in the area and relative to normal temperatures for the season.
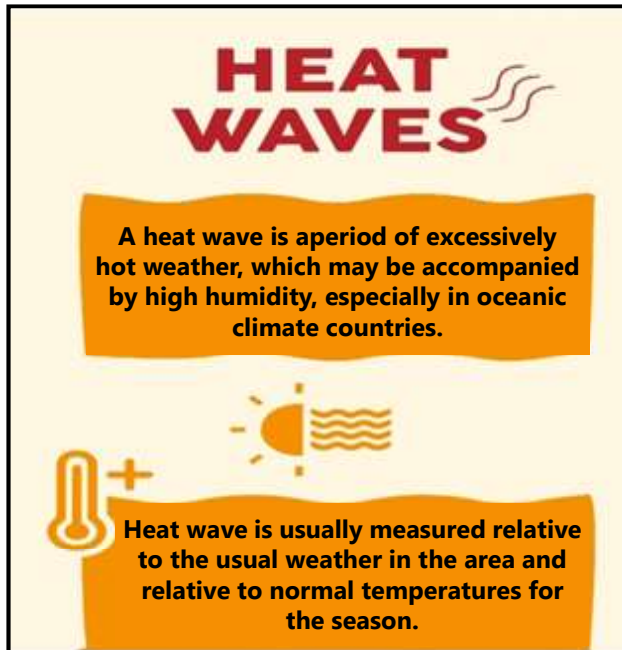
◉ Several countries have adopted their own standards on heat waves:

➤ **United States:** The US National Weather Service defines a heat wave as a spell of "**abnormally and uncomfortably hot and unusually humid weather**" over two days or more.

➤ **Denmark:** A heat wave occurs when the mean of the highest recorded temperature measured over three consecutive **days exceeds 28°C (82.4°F).**

➤ **Australia:** In Adelaide, Australia, a heat wave is defined as five straight days with temperatures at or **above 35°C (95°F),** or three consecutive days at or **over 40°C (104°F).**

➤ **India:** A heatwave is declared when an area logs a maximum temperature of 45 degrees Celsius.

What is contributing to Europe's heat waves?

◉ **AMOC:** A slowdown in a major ocean current — the **Atlantic Meridional Overturning Circulation (AMOC)** — could also be contributing to European heat waves.

> **What is AMOC?**
> - AMOC is a **large system of ocean currents** that carry warm water from the tropics northwards into the North Atlantic.
> - It moves around **15 million cubic meters** of water per second.

◉ **Disturbed jet stream:** Europe's climate is moderated by the **jet stream**, a current of fast-moving air that loops around the northern hemisphere from west to east. Sometimes the jet stream splits in two, called **double jet**.

➤ Double jets are normal, but **climate change** seems to be making them happen more often and last longer.

> **What are Jet Streams?**
> - Jet streams are **narrow bands of strong wind** that generally blow from west to east all across the globe.
> - **Earth has four primary jet streams:**
>   ➤ two polar jet streams, near the north and south poles
>   ➤ two subtropical jet streams closer to the equator
> - **Formation:** Jet streams form when warm air masses meet cold air masses in the atmosphere.
>   ➤ The Sun doesn't heat the whole Earth evenly. That's why areas near the equator are hot and areas near the poles are cold.
>   ➤ So when Earth's warmer air masses meet cooler air masses, the warmer air rises up higher in the atmosphere while cooler air sinks down to replace the warm air. This movement creates an **air current, or wind**.
>   ➤ A jet stream is a type of air current that forms high in the atmosphere.
> - Jet streams are located about five to nine miles above Earth's surface in the mid to upper **troposphere.**

North Pole Jet Stream

Subtropical Jet Streams

South Pole Jet Stream
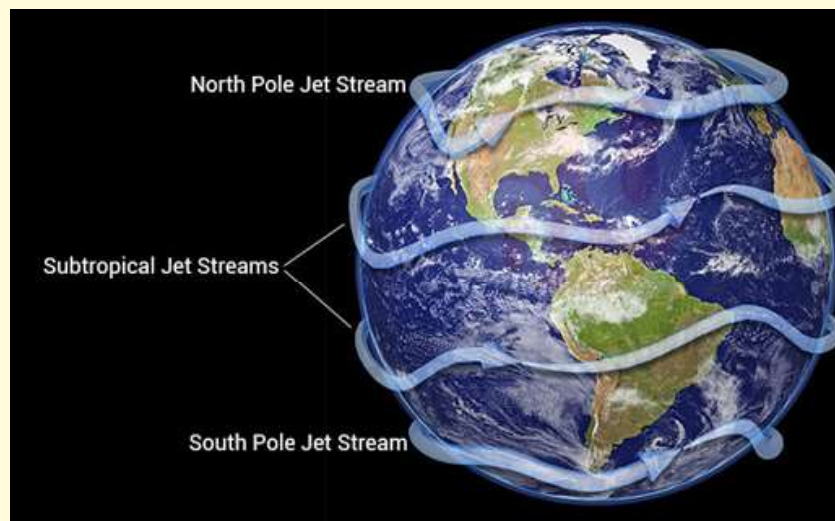
Impact of Heat waves:

- **Health effects**: Hyperthermia (**heat stroke)**, constant sickness, overweight and other heat-related illness.

- **Psychological and sociological effects:** In addition to physical stress, excessive heat causes psychological stress, to a degree which affects performance, and is also associated with an increase in violent crime.

- **Increase in surface ozone: Ozone pollution** in urban areas is especially concerning with increasing temperatures, raising heat-related mortality during heat waves. During heat waves in urban areas, ground level ozone pollution can be **20% higher** than usual.

- **Lead to wild fires:** If a heat wave occurs during a drought, which **dries out vegetation**, it can contribute to bushfires and wildfires.

- **Power outages:** Heat waves often lead to electricity spikes due to increased air conditioning use, which can create power outages, exacerbating the problem.

MARINE HEAT WAVES (MHWS) & IMPACTS ON WORLD'S OCEANS

Context: According to a recent forecast of *Mercator Ocean International*, **Marine Heat Waves have gripped the oceans of north-east Pacific, the southern hemisphere in the southern Indian Ocean and the Pacific, the north-east Atlantic, tropical North Atlantic, and the Mediterranean sea.**

About the forecast:

Researchers are making predictions that the occurrence of **Marine Heat Waves** will increase as much **as 50-fold by 2100** as compared to the pre-industrial times.

What are marine heat waves?

- A marine heat wave is an **extreme weather event**.

- It occurs when the surface temperature of a particular region of the sea rises to **3 or 4 degree Celsius** above the average temperature for **at least five days**.

- MHWs can last for **weeks, months or even years.**

What are the impacts of marine heat waves on ocean life?

- **Catastrophic for marine life:** Marine Heat waves may cause the deaths of several marine species, alter their **migration patterns, and lead to coral bleaching and even impact weather patterns.** Although an increase of **3 or 4 degrees Celsius** in average temperatures may not be much for humans, it can be catastrophic for marine life.

- **Destroying kelp forest**: MHWs destroy **kelp forests** and fundamentally altered the **ecosystem of the coast.**

- **Enhances Coral Bleaching**: A 2010 study showed that more than **80 per cent of surveyed corals** had bleached and over **40 per cent** of the total surveyed had died.

  - Corals are very sensitive to the temperature of the water in which they live.

- **Disturbs food web**: MHWs also fuel the growth of **invasive alien species**, which can be destructive to marine food webs.

Factors contributing to Marine Heat Waves:

- **Global Warming:** Rise in temperatures due to Anthropogenic events, has led to an increase in global temperatures which ultimately contributes to ocean warming.

- **El Nino:** Winds can enhance or suppress the warming in a marine heatwaves, and climate models like El Niño can change the likelihood of events occurring in certain regions.

- **Ocean currents:** The most common drivers of marine heatwaves include ocean currents which can build up areas of warm water and air-sea heat flux, or warming through the ocean surface from the atmosphere.

How do marine heat waves affect humans?

- **Increasing the intensity of storms:** Higher ocean temperatures, which are associated with MHWs, can make storms like **hurricanes and tropical cyclones stronger.**

- **Increased evaporation and heat:** With warmer temperatures, the **rate of evaporation escalates** and so does the transfer of heat from the oceans to the air.

- **More devastating effects:** When storms travel across hot oceans, they gather more **water vapour and heat**. This results in more powerful **winds, heavier rainfall** and more flooding when storms reach the land — meaning heightened devastation for humans.

CHANDRAYAAN-3: MISSION TO MOON

Context: The Indian Space Research Organisation (ISRO) launched Chandrayaan-3 to the Moon on a mission to attempt a soft landing on the lunar surface.

Key-highlights:

- The spacecraft is currently cruising in space and is expected to reach lunar orbit by August 5 and the soft-landing.

- The spacecraft will cover the nearly 3,84,000 kilometres distance between the Earth and Moon in nearly 40 days, which is much longer than what the Apollo mission launched by NASA would take.
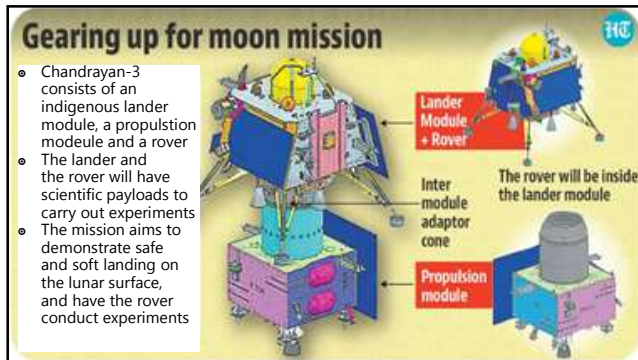
What is Chandrayaan Mission?

- Chandrayaan-3 is a follow-on mission to **Chandrayaan-2** to demonstrate end-to-end capability in safe landing and roving on the lunar surface.

- **Need:** The need for Chandrayaan-3 arose after the unsuccessful landing of the **Vikram lander** during **Chandrayaan-2**.

  ➤ This new mission is designed to demonstrate the essential landing skills required for the proposed lunar polar **exploration mission** in 2024, which India intends to carry out in collaboration with Japan.

- **Aim:** The goal of the mission is to put India's first lander (*Vikram*) and rover (*Pragyan*) on the lunar surface.

- Following in its predecessor's footsteps, Chandrayaan-3 will attempt to land *Vikram* and *Pragyan* near the lunar **South Pole** in hopes of using their respective scientific payloads for conducting *in situ* experiments, analysis, and observations to gain insights into the Moon's composition.

- These include gaining insights into the:

  ➤ lunar surface composition

  ➤ presence of water ice in the lunar regolith

  ➤ the history of impacts on the Moon

  ➤ the Moon's atmospheric evolution

- **Global Elite:** Mission makes India only the 4th nation after US, Russia and China to land on the moon.

- **Launch Vehicle:** The Chandrayana-3 mission was launched on India's heaviest rocket, the **Launch Vehicle Mark-III.**

The *Vikram* lander scientific payload consists of the:

- Radio Anatomy of Moon Bound Hypersensitive ionosphere and Atmosphere (RAMBHA) instrument
- Chandra Surface Thermophysical Experiment (ChaSTE)
- Instrument for Lunar Seismic Activity (ILSA)
- Langmuir Probe (LP)
- NASA's Laser Retroreflector Array (LRA)

The *Pragyan* rover scientific payload consists of the:

- Alpha Particle X-ray Spectrometer (APXS)
- Laser Induced Breakdown Spectroscope (LIBS)

Gearing up for moon mission

- Chandrayan-3 consists of an indigenous lander module, a propulsion module and a rover
- The lander and the rover will have scientific payloads to carry out experiments
- The mission aims to demonstrate safe and soft landing on the lunar surface, and have the rover conduct experiments

Composition:

The Chandrayaan-3 spacecraft consists of **three parts:**

- **Lander:** The lander will be powered by four throttle-able engines and will feature a **Laser Doppler Velocimeter (LDV).**

- **Rover:** The rover will carry out chemical analysis of the lunar surface. Both the lander and the rover carry many scientific payloads for experiments on the lunar surface.

- **Propulsion module:** The propulsion module has one main function—to carry the lander and rover from "launch vehicle injection" to a 100-kilometre circular polar lunar orbit before it separates from the other modules.

Why is Chandrayaan-3 taking weeks to reach the cratered sphere?

Chandrayaan-3's LVM-3

- LVM-3 or Launch Vehicle Mark-III, is a **three-stage medium-lift launch vehicle** developed by ISRO and earlier known as the **GSLV Mark III.**

- It is the **most powerful rocket** in the space agency.

- **Lift-off mass:** 640 tonnes.

- **Payload capacity:**

  ➤ upto 8,000 kilograms to a **low-Earth orbit.**

  ➤ Upto 4,000 kilograms of payload to a **geostationary transfer orbit**

- Its **cryogenic upper stage** is powered by **CE-20** (**India's largest cryogenics engine**).

- The **core stage** is powered by two **L110 liquid-stage Vikas rockets.**

- While the Chandrayana-3 mission was launched on India's heaviest rocket, the Launch Vehicle Mark-III, it is still not strong enough to propel the mission on a direct path of the Moon. Hence, the longer journey.

- **Clever use of gravity:** In order to counter the lack of a powerful rocket, ISRO uses **Earth's gravity** to slingshot its way around the Moon, the same way as it used the slingshot around the planet to push the Mars Orbiter Mission (MoM) a.k.a **Mangalyaan** towards Mars.

- Chandrayaan-3 employs a series of **Earth-bound maneuvers and lunar orbit insertion burns** to gradually raise their orbits and synchronize with the Moon's orbit.

- These missions used a method called a series of **"bi-elliptic transfers,"** which involved multiple engine burns to gradually increase the spacecraft's energy and adjust its trajectory.

- This method allows for more fuel-efficient and cost-effective missions but takes longer compared to the direct trajectory used by the **Apollo missions.**

> In the case of Apollo missions, including **Apollo 11**, a direct trajectory called **Translunar Injection (TLI)** was used. The **Saturn V launch** vehicle propelled the Apollo spacecraft into Earth orbit first.

- Chandrayaan-3's mission is not just about reaching the Moon; it also aims to conduct scientific experiments to study the lunar environment, including its history, geology, and potential for resources. If all proceeds as planned, sometime around 23 August, Chandrayaan-3 will accomplish a ground-breaking feat as the first mission ever to successfully soft-land in the vicinity of the lunar South Pole.

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Section B
[CONTEMPORARY ISSUES BASED ESSAY]

Topic

ଌ   Science is Organised Knowledge, Wisdom is Organised life

SCIENCE IS ORGANISED KNOWLEDGE, WISDOM IS ORGANISED LIFE

Essay Prompt: Discuss the intricate relationship between the concepts of erganised knowledge, and organised life. Explore whether they can exist without the other. Also determine how wisdom plays a role in one's life. Establish an integration of both as more harmonious & meaningful.

"Science is organized knowledge. Wisdom is organized life."

Immanuel Kant
(1724-1804)
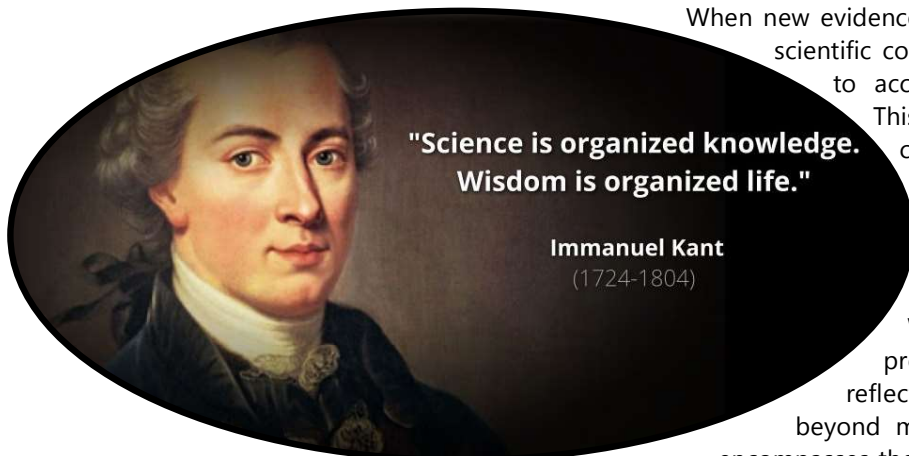
Science can be aptly described as the systematic pursuit of knowledge about the natural world through observation, experimentation, and analysis. It involves the relentless quest to uncover the underlying principles that govern the universe, from the microscopic realm of subatomic particles to the vast expanse of galaxies. Science is not merely a collection of facts; rather, it is an organized framework that provides us with a deeper understanding of the intricacies of reality.

The organization in science emerges from the meticulous process of observation and experimentation. Scientists meticulously observe phenomena, gather data, and then subject that data to rigorous analysis. Through this process, patterns, relationships, and trends are identified, leading to the formulation of theories and laws that explain the observed phenomena. These theories are continually tested, refined, and expanded as new information becomes available. This organized approach ensures that scientific knowledge is not arbitrary but rather built upon a solid foundation of evidence.

Science also adheres to a set of established methodologies that guide researchers in their pursuit of knowledge. The scientific method, a cornerstone of organized knowledge, provides a systematic way to investigate and understand the natural world. It involves making observations, formulating hypotheses, conducting experiments, and drawing conclusions. This structured approach ensures that scientific knowledge is not based on personal biases or beliefs but on empirical evidence and logical reasoning.

Furthermore, science is inherently self-correcting.

When new evidence contradicts existing theories, the scientific community revises its understanding to accommodate the new information. This adaptability and openness to change demonstrate the organized nature of scientific knowledge. It is a dynamic process that thrives on questioning, skepticism, and continuous refinement.

Wisdom, on the other hand, is the product of a life lived with intention, reflection, and experience. It goes beyond mere knowledge or intelligence; it encompasses the ability to make sound judgments, exercise discernment, and apply insights gained from life's lessons. Wisdom emerges from a deep understanding of oneself, others, and the world at large.

Organizing life to cultivate wisdom involves embracing a set of principles that guide one's actions and decisions. These principles often stem from cultural, ethical, and philosophical perspectives that have withstood the test of time. Wisdom is not haphazard; it is the result of conscious choices made in alignment with these guiding principles.

Living a wise and organized life requires self-awareness and introspection. It involves acknowledging one's strengths, weaknesses, values, and aspirations. By understanding oneself on a profound level, individuals can make choices that are congruent with their authentic selves. This self-awareness contributes to a sense of purpose and direction, which are essential components of an organized life.

Learning from experiences, both positive and negative, is integral to cultivating wisdom. Reflecting on past actions, outcomes, and the emotions associated with them allows individuals to extract valuable insights. These insights become the building blocks of organized living, as they shape future choices and behaviors. Wisdom is not born out of avoiding mistakes, but rather from acknowledging them and using them as stepping stones toward personal growth.

Furthermore, wisdom involves a consideration of the broader context and the well-being of others. It encourages empathy, compassion, and the ability to see situations from multiple perspectives. This consideration of others contributes to harmonious relationships and

effective decision-making, demonstrating the organized nature of wisdom.

In conclusion, science and wisdom both exemplify organization but in different domains. Science represents organized knowledge, characterized by systematic observation, experimentation, and evidence-based conclusions. It is a dynamic and self-correcting process that continually refines our understanding of the natural world. Wisdom, on the other hand, embodies organized living, rooted in self-awareness, reflection, and the application of insights gained from experience. It involves making deliberate choices aligned with guiding principles and considering the well-being of oneself and others. Together, science and wisdom showcase the power of organization in unlocking the mysteries of the universe and navigating the complexities of life.

Thus, Wisdom, as organized life, weaves together personal experiences, introspection, and ethical principles to guide individuals towards thoughtful decisions and meaningful actions. It is the culmination of a life lived intentionally, marked by self-awareness, empathy, and the capacity to glean insights from challenges. This organized approach to living leads to fulfillment and harmonious relationships.

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Section C [PRELIMS]

To Attempt
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- Karnataka's Lambani craft
- Kui Language
- Santhal Revolution (1855–56)
- Indian Ocean Geoid Low (IOGL)
- Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)
- SCO Summit 2023
- Centre to rename NHM as 'PM Samagra Swasthya Mission'
- SC recognises 'Right to silence'
- Playing of the national anthem and laws
- Full-Reserve Banking
- Jammu and Kashmir Reorganisation (Amendment) Bill, 2023
- Cantonment Towns and Administration
- National Research Foundation
- Multidimensional Poverty Index 2023
- Henley Passport Index 2023
- Export preparedness index (EPI) 2022
- Centre bans export of non-basmati white rice
- Forever Chemical
- Death of Cheetahs
- Naegleria fowleri
- Government launches Bharat 6G alliance
- Tropical waters have turned 'green' in colour
- Desiccant-based water harvesting from Air
- Sagar Sampark
- Crimean-Congo haemorrhagic fever (CCHF)

KARNATAKA'S LAMBANI CRAFT

Context: As part of the third G20 culture working group (CWG) meeting in Hampi, a Guinness world record was created for the 'largest display of Lambani items'.

List of some important crafts in India	
Kondapalli Dolls	Andhra Pradesh
Bamboo and cane Craft	Arunachal Pradesh
Madhubani Painting	Bihar
Wall Paintings	Chhattisgarh
Lavo Mandri	Goa
Zari Work	Gujarat
Bidriware	Karnataka
Durries Weaving	Madhya Pradesh
Pattachitra	Odisha
Kantha	West Bengal
Kutch Embroidery	Gujarat
Chikankari	Uttar Pradesh
Kashmiri Shawls	Jammu and Kashmir

About Lambani craft:

⊙ The Lambani embroidery is an intricate form of textile embellishment characterised by colourful threads, mirror-work and **stitch patterns** practised in several villages of Karnataka such **as Sandur, Keri Tanda, Mariyammanahalli, Kadirampur, Sitaram Tanda, Bijapur and Kamalapur.**

⊙ The **Lambani craft tradition** involves stitching together small pieces of discarded fabric to create a beautiful fabric.

⊙ The sustainable practice of patch-work is seen in many **textile traditions of India** and around the world.

⊙ The embroidery traditions of the Lambanis are shared in terms of technique and aesthetics with textile traditions across **Eastern Europe, West, and Central Asia**.

The Lambani Community:

⊙ They wear clothes that have a lot of **thread embroidery, buttons, shells, sequins, silver beads, etc.**

⊙ Not only their clothes, but their homes are interestingly styled, too.

⊙ The Lambanis have multiple colours on their walls, which are also decorated with artworks and art styles.

⊙ The Banjaras speak '**Gor Boli' — also called 'Lambadi'**.

⊙ Since it has no script, it is written either in **Devanagari or in the local languages, like Telugu or Kannada.**

⊙ Many people belonging to this tribal group are **bilingual or multili**ngual.

KUI LANGUAGE

Context: Odisha Cabinet gave nod to Inclusion of the Kui Language in 8th Schedule of Constitution.

⊙ The Inclusion of kui language is going to benefit the **Kandha tribe** in the State.

About Kui Language:

⊙ Kui (also known as **Kandh, Khondi, Khond, Khondo**), is a **South-Eastern Dravidian language** spoken by the **Kandha community**.

- It is primarily spoken in **the state of Odisha**.

- It is closely related to other languages in the Dravidian family, such as **Gondi and Kuvi**. It was also referred to as the **Kuinga language** during the historical period.

- With **941,988 registered native speakers**, it figures at rank 29 in the **1991 Indian census**.

- **Script**: Kui is traditionally written using the **Odia script**, which is also used for writing the **Odia language**.

> **Parliament** can amend the provision on the **official language of India** under the Constitution by a simple majority of its members. However, there is **no such procedure** of inclusion of a language under 8th schedule in the Constitution.

Provisions under Eighth Schedule:

- The Constitutional provisions relating to the **Eighth Schedule** occur in **Article 344(1) and 351** of the Constitution.

- **Article 344(1)** provides for the constitution to make **recommendations to the President** for the progressive **use of Hindi** for official purposes of the Union.

- **Article 351 of the Constitution** provides that it shall be the duty of the Union to promote the spread of the Hindi language to develop it so that it may serve as a medium of expression for all the elements of the **composite culture of India** and to secure its enrichment by assimilating without interfering with its genius, the forms, style and expressions used in Hindustani and in the other languages of India specified in the Eighth Schedule.

- The **eighth schedule** includes the recognition of the following **22 languages**:

  ➤ Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Odia, Punjabi, Sanskrit, Sindhi, Tamil, Telugu, Urdu, Bodo, Santhali, Maithili and Dogri are the **22 languages** presently in the eighth schedule to the Constitution.

  ➤ Of these languages, 14 were initially included in the Constitution.

  ➤ Subsequently, Sindhi was added in 1967; Konkani, Manipuri and Nepali were added in 1992; and **Bodo, Dogri, Maithili and Santali** were added by the **92nd Amendment Act of 2003**.

> **Demands from other States:**
> - At present, there are demands for inclusion of **38 more languages** in the Eighth Schedule to the Constitution.
> - **Some of them are:** Angika, Banjara, Bhojpuri, Chhattisgarhi, Kok Barak, Tulu etc.

SANTHAL REVOLUTION (1855–56)

Context: The Santhal revolution took place on June 30, 1855.

What was the revolution all about?

- The Santhal Hul (revolution) was a tribal revolt and holds a lot of significance to the **Santhal tribe**.

  > Santhal Tribe is the **third-largest scheduled tribe** community in India after the **Gonds and Bhils.**

  ➤ **Forefront:** At the forefront of it were the **Santhal Adivasis** and **lower-caste peasants**.

  ➤ **Against:** The movement was against the atrocities of the upper-caste landlords, moneylenders, traders, police, and administrative officials from the East India Company in the erstwhile Bengal presidency.

- **Led by:** Murmu brothers (Sidho Murmu and Kanhu Murmu)**, Chand and Bhairab**.

What led to the revolt (Background)?

- In the late 1700s, the Santhals were driven out of **Birbhum** by the wealthy zamindars (landlords) and were forced to settle in an area known as **Santhal Parganas** which is in present-day Jharkhand.

- They cleared the dense jungles and were provided land for settlement in the foothills for rent.

- Once the land was cleared, their **rent was increased by the zamindars** and the moneylenders took control of their land and forced them into **bonder labour.**

- The Santhals believed that since they cleared the land and inhabited it, it **belonged to them.**

- However, it was not easy to raise their voices against the landlords and moneylenders and the British administration paid no heed to their pleas.

How was the revolution kicked off?

- **Beginning:** On 30 June 1855, the **Murmu brothers**

(Sidho Murmu and Kanhu Murmu) mobilised around 10,000 people against the zamindars, moneylenders, and British in the village of **Bhognadih** in present-day Jharkhand.

◉ **Increasing numbers:** The Santhals started marching to Calcutta and were joined by other tribes and lower-caste groups.

◉ **Arrest and further spread:** A Santhal head man**, Harma Desmanjhi**, was arrested in Panchkatia in present-day West Bengal and this led to the rebellion spreading further.

How women participated in the revolt?

◉ The women also played an important role.

◉ **Phulo Murmu and Jhalo Murmu**, sisters from the same family, participated in the **Hul,** inspiring women to join the rebellion.

How did it conclude?

◉ In the conflict, the tribes fought British troops with **bows and arrows.**

◉ In November 1855, **martial law** was introduced to curb the revolt and the Hul was quashed by early 1856.

◉ It led to the formation of the **Santhal Parganas** and the passing of the **Santhal Pargana Tenancy Act, 1876,** which outlawed the transfer of Adivasi land to non-Adivasis.

MAJOR TRIBAL UPRISINGS		
Year	**Tribal Uprising**	**Features**
1776	**Chuar Uprising**	It was initiated by indigenous tribespeople of Midnapore, in response to land revenue demands and economic hardships.
1818-1831 and 1913	**Bhil Uprising**	The Uprising took place in the Western Ghats as a resistance against the rule of the Company. It resulted in the formation of Bhil Raj. In 1913, under the leadership of Govind Guru, the Bhil community reorganized and continued their fight for the establishment of Bhil Raj.
1820–37	**Ho and Munda Uprisings**	The Ho and Munda Uprisings were initiated by the Ho tribals under the leadership of Raja Parahat in the Singhbhum and Chottanagpur regions. These uprisings were in response to the implementation of a new farming revenue policy. Over time, the Ho uprising transformed into the Munda rebellion.
1822-29	**Ramosi Uprising**	It was led by the Ramosi tribals residing in the Western Ghats. Under the leadership of **Chittur Singh**, they revolted against the British occupation of the region.
1829	**Koli Uprising**	The Uprising witnessed multiple revolts by the tribal communities of Gujarat and Maharashtra. They rebelled against the control of the East India Company in the years 1829, 1839, and once more during the period of 1844-48.
1832	**Kol Rebellion**	It occurred when the tribal communities of Chottanagpur, led by Buddho Bagat, revolted against the British colonial rule and oppressive money lenders.
1837-56	**Khond Rebellion**	The Rebellion saw the tribal communities residing in the hills from Tamil Nadu to Bengal, led by Chakra Bisoi, rise up against the interference in their tribal customs and the imposition of new taxes.
1899-1900	**Munda Rebellion**	It involved the tribal population of the Chotanagpur area who, under the leadership of Birsa Munda, revolted against the 'Dikus' (a term used to refer to outsiders or non-tribal people).
1879-80	**Koya Uprising**	The Uprising witnessed the tribal communities of the eastern Godavari region, led by Tomma Sora and Raja Annantyar, rebelling against the oppressive actions of the police and moneylenders.

1910	**Bastar Revolt**	The Revolt was staged by the tribal population of Jagdalpur as a protest against the imposition of new feudal and forest levies.
1921-22	**Chenchus Uprising**	The Uprising took place when the tribal community of Nallamalla Hills, led by K. Hanumanthu, revolted against the forest laws imposed by the British authorities.
1922-24	**Rampa Rebellion**	It was led by Alluri Sitaraman Raju, a member of the Koya tribe in Andhra Pradesh. The rebellion was launched in response to British interference in the region.

Important Leaders

- **Birsa Munda:** spearheaded an Indian tribal religious Millenarian movement during British rule in the late 19th century across the tribal belt of modern-day Jharkhand and Bihar.

- **Shaheed Veer Narayan Singh:** Considered the **Pride of Sonakhan** in Chhattisgarh, he looted trader's grain stock and distributed them amongst the poor after the 1856 famine. He became the **first martyr** from Chhattisgarh in the independence struggle of 1857.

- **Shri Alluri Seetha Ram Raju**: Best remembered for leading the **Rampa Rebellion** against the British in which he organised the tribal people of Visakhapatnam and East Godavari districts to revolt against the foreigners.

- **Rani Gaidinliu:** He was a Naga spiritual and political leader who led a revolt against British rule in India.

INDIAN OCEAN GEOID LOW (IOGL)

Context: Researchers at the Indian Institute of Science have revealed the secrets of the giant gravity hole that rests in the Indian Ocean.

What is the Indian Ocean Geoid Low (IOGL)?

- There is an **enigmatic "gravity hole"** in the **Indian Ocean**.

- It is not the kind of "hole" that would allow the entire ocean to be drained. However, there is a **massive anomaly in the Earth's crust** that has a much **weaker gravitational attraction** than usual.

- It is located about **600 miles** below the surface of the Earth.

- This "gravity hole" is actually the **Indian Ocean Geoid Low (IOGL),** which spans an area of more than two million square miles.

- **Type of structure:** Humongous structures

- **Shape:** The gravity hole is not actually a perfect sphere, as Earth's gravitational field is not uniform due to variations in density and mass distribution.

What forms it?

- The **distribution of mass** within Earth is **not homogeneous**, with denser regions in some areas and less dense regions in others.

- These variations in density and mass create differences in **gravitational attraction**, leading to the formation of the geoid.

- The irregularity in the **gravitational field** causes anomalies, resulting in differences in the strength of gravity at different locations on the Earth's surface, which influences the Earth's shape.

- The shape is also affected by the **planet's rotation, gravitational forces, and internal structure.**
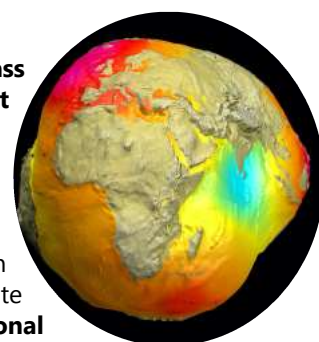
How are they formed (Key-findings)?

- The scientists looked **inside Earth's surface**, nearly **1,000 kilometres** beneath the crust where once an **ancient ocean** plunged nearly and stirred up hot molten rock, nearly 30 million years ago.

- The team then looked at how the tectonic plates moved along each other in the past **140 million years** when the Indian plate had just begun separating from the larger Gondwanaland.

- Every time for the gravity hole anomaly to form plumes of hot, **low-density magma** was required, and the first such plume appeared nearly **20 million years ago,** and as the plumes intensified so did the gravity hole.

- **Low density anomalies:** The researchers found that **'low density anomalies'** or the presence of lighter materials in the upper to mid mantle below the IOGL, were responsible for the **gravity low** in this region.

- **Mantle plumes:** Plumes are integral in generating the IOGL. Mantle plumes or the rising up of abnormally hot rock within the Earth's mantle can result in low density anomalies.

COMPREHENSIVE AND PROGRESSIVE AGREEMENT FOR TRANS-PACIFIC PARTNERSHIP (CPTPP)

Context: Three years after leaving the European Union (EU), the United Kingdom joined the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a club of 11 other countries which together generate 14% of the world's income.

About the deal:

- The CPTPP is a landmark pact agreed upon in 2018 that cuts trade barriers **among 11 countries,** including **Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam.**

> All **11 countries** of CPTPP are also members of the **Asia-Pacific Economic Cooperation (APEC).**

- Those founding members signed the Pacific trade pact in March 2018.

- Between them, they generate 13% of the world's income.

> ### What is Brexit?
>
> - Brexit refers to the U.K.'s decision to leave the European Union (EU). The country formally left the EU in January 2020, after a referendum in 2016.
>
> - **Impact of Brexit on U.K.:**
>   - Changes in trade policies and tariffs with the EU and other countries.
>   - Reduced access to the EU market for U.K. businesses.
>   - Increased regulatory burden on U.K. businesses trading with the EU.

- The UK is the first non-founding country to join, and will be its second biggest economy after Japan.

- With **UK membership**, CPTPP will have a combined **GDP of 12 trillion pounds** and **account for 15% of global trade.**

Highlights of the Deal:

- The pact requires countries to eliminate or significantly **reduce tariffs** and make strong commitments to opening services and investment markets.

- It also has rules addressing competition, intellectual property rights and protections for foreign companies.

- **Significance:**
  - CPTPP removes **99% of tariffs** on goods and services.
  - It prevents environmental abuses, such as unsustainable **logging and fishing.**
  - This is also has impact on wildlife trafficking.

CPTPP: Geopolitical impacts:

- **For Britain**: The CPTPP is a "gateway" to the **Indo-Pacific region**, which is expected to account for a majority (54%) of **global economic growth** in the future.
  - As a CPTPP member, the U.K. will have a veto on whether China joins the treaty. U.K. firms will not need to establish a local office or be resident to provide services and will be able to operate on a par with firms in host countries.

- **India's views**:
  - India has recognized that the **sweeping economic concessions** required to join CPTPP have too far-reaching consequences, similar to RCEP.
  - India opted out of the bloc because it wants to **impose stricter labour and environmental regulations** on its other partners.
  - India also mentioned that the deal eliminates crucial issues such as **data localisation and environmental standards.**

SCO SUMMIT 2023

Context: India hosted leaders of the Shanghai Cooperation Organization for a virtual summit. The virtual summit under India's presidency was attended by leaders of Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan and Iran as well.

Major highlight from PM Modi's address at SCO:

- **Terrorism:** Prime Minister Narendra Modi gave a clarion call for SCO member nations to stand against terrorism for regional and global peace.

- **India's AI-based language platform Bhashini at SCO:** He also talked about the impact of language barrier on the functioning of multi-nation platforms like SCO, and how India's AI-based language platform Bhashini will help overcoming the obstruction.

- **Opportunities for youngsters from SCO:** In his address he threw light upon major programs and conclaves have been organised to harness talent of the youth from SCO. He mentioned about platforms

like the Young Scientist Conclave, Authors Conclave, Start-up Forum, and Youth Council.

◉ **Five pillars of cooperation within the SCO:** PM elaborated upon the role of India in establishing five pillars of cooperation within the SCO. The five pillars he mentioned were Start-up and innovation, traditional medicine, youth empowerment, digital inclusion, and shared Buddhist heritage.

◉ **Food, fuel and fertiliser big challenge for world:** In his opening remark, PM mentioned the major challenge of food, fuel and fertilisers lying ahead of all the countries in the world that are surrounded by controversies, tensions and epidemics. He called for united efforts to deal with such problems.

What is 'New Delhi declaration'?

◉ SCO members adopt 'New Delhi declaration'.

◉ **"New Delhi declaration"** coined by the Indian government proposed at SCO summit to fight against terrorism.

China's Belt and Road Initiative

◉ It also proposed four other joint statements on;

➤ de-radicalisation

➤ sustainable lifestyle to tackle climate change

➤ production of millets

➤ digital transformation

What is India's take on BRI?

◉ India once again refused to endorse **China's Belt and Road Initiative**, becoming the **only nation** at the **Shanghai Cooperation Organisation (SCO) summit** not to sign an agreement in support of the ambitious project.

◉ All member nations barring India supported China's BRI in a joint declaration.

◉ The declaration issued at the end of the summit, hosted by India, said **Russia, Pakistan, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan and Uzbekistan** reaffirmed their support for the BRI.

CENTRE TO RENAME NHM AS 'PM SAMAGRA SWASTHYA MISSION'

Context: Recently, the Central government has announced to rename National Health Mission (NHM) as Pradhan Mantri-Samagra Swasthya Mission (PM-SSM), during the meeting of the Central Council of Health and Family Welfare (CCHFW).

About National Health Mission:

◉ The NHM was launched as **National Rural Health Mission (NRHM)** in 2005.

◉ In 2013, the Centre included the urban component in the mission.

◉ Last year, the Centre had decided to extend the NHM till **March 2026,** with an overall allocation of **Rs.2.75 lakh crore.**

◉ The main programmatic components include Health System Strengthening in rural and urban areas for - **Reproductive-Maternal- Neonatal-Child and Adolescent Health (RMNCH+A),** and **Communicable and Non-Communicable Diseases.**

◉ The NHM envisages achievement of universal access to **equitable, affordable & quality health** care services that are accountable and responsive to people's needs.

PM Samagra Swasthya Mission:

◉ The main objective of starting this scheme of the **central government** is to strengthen the healthcare sector of India.

◉ Because during the Coronavirus infection in the **last 2 years** it has been seen that the healthcare sector of our country is not strong enough to face any serious medical problem.

◉ Under the **Pradhan Mantri Samagra Swasthya Yojana**, the ambitious health schemes to be operated in the country by the central government will be absorbed. So that the best medical facilities can be provided to the general public at the right time.

◉ While the NHM was focused on **primary and secondary care**, the PM-SSM is aimed at developing **tertiary care capacities at the district hospital level.**

SC RECOGNISES 'RIGHT TO SILENCE'

Context: Recently, the Supreme Court (SC) mentioned that, all accused have 'Right to silence' and investigators cannot force them to speak up or admit guilt. SC emphasised that the Constitution accords every person a right against self-incrimination.

Key-highlights of the Verdict:

- The **Right to silence** emanates from **Article 20(3) of the Indian Constitution**, "which states that no one can be compelled to be a witness against himself."

- The provision gives an accused the right against **self-incrimination, a fundamental canon of law.**

- Under **criminal law jurisprudence**, it is considered the duty of the prosecution to prove a person guilty beyond reasonable doubt.

- Until proven otherwise, the **accused remains innocent**.

- An accused's decision to remain silent can be construed as a **negative inference** in certain circumstances but it cannot absolve the prosecution from its duty to prove the guilt of that person beyond reasonable doubts.

- Referring to the constitutional **Right of every person to not speak against himself or to remain silent,** the court added that it cannot deprive a person of his **liberty merely because there is a statement that he has not admitted his crimes.**

Constitutional Provisions:

- **Article 20**: It grants protection against **arbitrary and excessive punishment** to an accused person, whether citizen or '**foreigner' or 'legal' person** like a company or a corporation.

- It contains **three provisions** in that direction:

  - It contains provisions related to **No ex-post-facto law**, **No double jeopardy**, **No self-incrimination.**

  - **No self-incrimination**: No person accused of any offence shall be compelled to be a witness against himself.

  - The protection against **self-incrimination** extends to both **oral evidence** and **documentary evidence.**

- However, **it does not extend to:**

  - Compulsory production of material objects,

- Compulsion to give thumb impression, specimen signature, blood specimens, and

- Compulsory exhibition of the body.

- Further, it extends only to **criminal proceedings** and not to **civil proceedings or proceedings** which are not of criminal nature.

PLAYING OF THE NATIONAL ANTHEM AND LAWS

Context: In a recent incident, an executive magistrate in Srinagar sent 11 men to jail after they were detained for allegedly not rising for the National Anthem at an event.

What are the laws related to 'disrespect' to the National Anthem?

- **Prevention of Insults to National Honour Act, (1971): Section 3** of the Act prescribes jail up to **three years** and/ or a fine for "intentionally preventing the singing of the National Anthem or causing disturbance to any assembly engaged in such singing".

- **Article 51-A (a) of the Constitution** makes it every citizen's duty to "**abide by the Constitution and respect its ideals and institutions, the national flag and the national anthem**".

Bijoe Emmanuel *v State of Kerala* (1986):

- The law around alleged disrespect to the National Anthem was laid down by the Supreme Court in its **1986 judgment in Bijoe Emmanuel & Ors vs. State of Kerala & Ors.**

- The court granted protection to three children (in school), who did not join in the singing of the National Anthem at their school.

- The court held that forcing them to sing the Anthem violated their **fundamental right to religion** under **Article 25 of the Constitution.**

- **Standing up respectfully** when the National Anthem is sung **but not singing** oneself "does not either prevent the singing of the National Anthem or cause disturbance to an assembly engaged in such singing so as to constitute the offence".

JAMMU AND KASHMIR REORGANISATION (AMENDMENT) BILL, 2023

Context: The Home Ministry has tabled Jammu and Kashmir Reorganisation (Amendment) Bill, 2023 in the Lok Sabha to nominate two members from the "Kashmiri Migrants" community.

Highlights of the Bill:

◉ The **Jammu and Kashmir Reorganisation (Amendment) Bill, 2023** provides for the following, namely:

➤ to insert new **sections 15A and 15B** in the Act so as to nominate not more than two members, one of whom shall be a woman, from the community of **Kashmiri Migrants**, and one member from **Displaced Persons from Pakistan occupied Jammu and Kashmir**, to the Legislative Assembly of the Union territory of Jammu and Kashmir

➤ amendments to **sub-sections (3) and (10) of section 14 of the Act** which are of consequential in view of completion of delimitation process in the Union territory of Jammu and Kashmir," according to the statement of objects and reasons.

◉ **Objective:** The Bill aims "**to preserve their political rights**" and "**overall social and economic development**."

Significance of the Bill:

◉ In the wake of the **1947 Pakistani aggression**, 31,779 families migrated from **Pakistan-occupied Kashmir.**

◉ Further, during the **wars of 1965 and 1971**, 10,065 more families were displaced from the **Chhamb Niabat area**.

◉ As such, a total of 41,844 families were displaced **during 1947-48, 1965 and 1971 wars with Pakistan.**

◉ The Families who migrated were forced to leave their ancestral places of residence in the Kashmir province, particularly for community of the **Kashmiri Hindus and Pandits**.

◉ The Delimitation Commission has received many representations from these communities regarding **reservation of seats** in the **Legislative Assembly** to preserve their political rights and identity.

◉ So, to address the stance of these people, the bill is of importance.

Jammu and Kashmir Reorganisation Bill 2019:

● The **Jammu and Kashmir Reorganisation Bill, 2019** provides for reorganisation of the state of Jammu and Kashmir into the **Union Territory of Jammu and Kashmir and Union Territory of Ladakh.**

● The Bill provides for a Legislative Assembly for the Union Territory of Jammu and Kashmir. The total number of seats in the Assembly will be 107.

● Of these, **24 seats will remain vacant on account** of certain areas of Jammu and Kashmir **being under the occupation of Pakistan.**

● Further, seats will be reserved in the Assembly for **Scheduled Castes and Scheduled Tribes** in proportion to their population in the **Union Territory of Jammu and Kashmir**.

● In addition, the Lieutenant Governor may nominate two members to the Legislative Assembly to give representation to women, if they are not adequately represented.

● The Assembly will have a term of five years, and the Lieutenant Governor must summon the Assembly at least once in six months.

● **The Legislative Assembly may make laws for any part of the Union Territory of Jammu and Kashmir related to:**

➤ Any matters specified in the State List of the Constitution, except "**Police" and "Public Order**", and

➤ Any matter in the **Concurrent List** applicable to Union Territories.

● Further, Parliament will have the power to make laws in relation to any matter for the Union Territory of Jammu and Kashmir.

CANTONMENT TOWNS AND ADMINISTRATION

Context: The Ministry of Defense has decided to demerge civil areas from Military Stations and integrate them with municipalities in their respective states, aiming to move away from the British-era concept of cantonment towns.

What are cantonments?

- Cantonments —**or cantts**, as they are often referred to— **are civic bodies** that trace their roots to the British Raj.

- A cantonment is governed by a **Cantonment Board**. Instead of the state government, these civic bodies come under **the Ministry of Defence (MoD).**

- There are more than **60 Cantonments in the country** which have been notified under the **Cantonments Act, 1924 (succeeded by the Cantonments Act, 2006).**
- The first cantonment was established in 1765 at **Barrackpore, near Calcutta (now Kolkata).**

- These are the places where the **British Indian Army** stationed its troops. Unlike the **Air Force or the Navy** that had exclusive 'bases', the Army had cantonments where civilians too stayed in places away from military installations — but close by, leading to a **fusion of lifestyles and cultures.**

- Over the course of time, these cantonments developed into **towns and cities**, with military and civilian parts.

- While the military parts are managed by the **military authorities**, the civilian parts are managed by the **cantonment boards**.

Cantonments and their structure:

- Cantonments are classified into four categories — **class I to class IV** —depending on the **size of the area and population.**

- While a class I cantonment has eight **elected civilians and eight government/military members** on the board, a class IV cantonment has **two elected civilians and two government/military members.**

- This board is responsible for various aspects of the cantonment's administration.

- The **station commander** of the cantonment is the **ex-officio president of the board**, and an officer of the **Defence Estates Organisation** is the chief executive and the member-secretary.

- The board has **equal representation of elected and nominated/ex-officio members** to balance the official representation.

- **Administrative Control:**
  - An inter-services organisation of the Ministry of Defence directly controls cantonment administration.
  - In terms of **Entry 3 of Union List (Schedule VII) of the Constitution of India**, Urban Self Governance of the Accommodation therein is the subject matter of the Union of India. Cantonments and the Housing.

NATIONAL RESEARCH FOUNDATION

Context: The National Research Foundation Bill was recently approved in Parliament to give high-level strategic direction to scientific research in the country, as per the National Education Policy's recommendations.

What is National Research Foundation?

- The establishment of the **National Research Foundation (NRF)** will be a huge boost to the field of research in India.

- **Objective:** Its core aim is to sow the seed and enable the growth of research and development in the country and facilitate the creation of a culture of research and innovation in the academic circuit of India.

- **Scope:** The NRF's scope is vast and it will encompass and wide range of fields.

- NRF will become the **highest authority** to give a **strategic blueprint for scientific research** in India.

- **Costing:** The NRF will develop the **research facilities** in the country at a total estimated cost of Rs.50, 000 during a span of five years, from **2023 to 2028.**

- It will join hands with **academicians and research institutions**, among other educational bodies to create an environment in the country where interested people can pursue research works without any hazard.

- It will form a **policy framework** and implement regulations to encourage more spending on research and development in the country.

What about SERB?

- The **Science and Engineering Research Board (SERB)** which was formed in 2008 will be repealed and subsumed into the NRF whose area of work is much bigger than that of the SERB.

How it would be structured?

- **Administration:** The NRF will have an administrative department named the **Department of Science and Technology (DST).**

- **Governance:** A governing body will operate it, and it will be made up of distinguished researchers and professionals across fields.

- **Executive Council:** An executive council headed by the **central government's Principal Scientific Adviser** will govern the functioning of the NRF.

- The Prime Minister of India will act as the **ex-officio President of the Board.**
- The Union Minister of Science and Technology and the Union Minister of Education will act as the **ex-officio Vice-Presidents.**

MULTIDIMENSIONAL POVERTY INDEX 2023

Context: As per the Multidimensional Poverty Index 2023, the number of states with less than 10 per cent people living in multidimensional poverty doubled in the five years between 2016 and 2021.

About the Report:

- **Released by**: NITI Aayog

- **Title of the Report**: *'National Multidimensional Poverty Index: A Progress of Review 2023'.*

- **Indicators**: The report examines three broad indicators of multidimensional poverty — **health, education, and standard of living**, each comprising various sub-indicators.

- **Approach used:** It uses statistics from the **National Family Health Survey (NFHS)** to capture the various dimensions of poverty in India.

Key Highlights:

In terms of Standard of Living:

- NITI Aayog **Multidimensional Poverty Index 2023** shows **13.5 crore Indians** escaped poverty between 2016 and 2021.

- Data suggests a big boost came from '**Standard of living'** indicators.

- According to the report, in **2015-16 (NFHS-4),** only seven states had less than **10 per cent** of their population living in multidimensional poverty — **Mizoram, Himachal Pradesh, Punjab, Sikkim, Tamil Nadu, Goa, and Kerala.**

- In **2019-21 (NFHS-5),** the list had doubled to **include 14 states**, with the seven new additions being **Telangana, Andhra Pradesh, Haryana, Karnataka, Maharashtra, Manipur, and Uttarakhand.**

- All of these states saw a significant reduction in **poverty headcount ratios**.

Except for Bihar, no other state in India has more than **one-third of its population** living in multidimensional poverty.

- **State shown improvement:**

  - **Jharkhand** reduced the percentage of people living under multidimensional poverty from 42 per cent in 2015-16 to 28.82 per cent in 2019-21;

  - **Uttar Pradesh** saw a decline from **37.68 per cent** to **22.93 per cent**, and

  - In **Madhya Pradesh**, multidimensional poverty dropped from **36.57 per cent** to **20.63 per cent**.

- **In terms of Health:** Within the health category, three sub-indicators — **nutrition, child and adolescent mortality, and maternal health** — showed **only moderate improvement**.

- **In terms of education**: There has been a slight reduction in the percentage of people facing deprivation on the **two sub-indicators**.

  - The first indicator is "**Years of schooling**," where a household is considered deprived if no member has completed **at least six years of schooling**.

  - The second indicator is **"school attendance**," which considers a household deprived if any school-age child does not attend **school until completing class 8.**

How did India reduce multidimensional poverty?

- The seven standard-of-living sub-indicators has shown the growth which including **cooking fuel, sanitation, drinking water, housing, electricity, assets, and bank accounts**— rather than in the indicators for health and education.

NITI Aayog report shows that around **58 per cent** of Indians were deprived of clean cooking fuel in 2015-16, but by 2019-2021, it was **only 44 per cent**.

- Similarly, the **percentage of individuals lacking adequate sanitation facilities** dropped from 51.88 per cent to 30.13 per cent, electricity deprivation went from 12 per cent to 3.27 per cent.

- **The percentage of people lacking access to banking** reduced from 9.66 per cent to 3.69 per cent.

- **The percentage of people experiencing deprivation**

in years of Schooling has marginally decreased from 13 per cent in 2015-16 to 11.4 per cent in 2019-21.

Global Multidimensional Poverty Index:

- **Released by:** United Nations Development Programme (UNDP)
- The index is a key international resource that measures acute multidimensional poverty across more than **100 developing countries**.
- It was first launched in 2010 by the **OPHI and the Human Development Report Office of the UNDP**.
- The MPI monitors deprivations in **10 indicators** spanning health, education and standard of living and includes both incidence as well as intensity of poverty.

HENLEY PASSPORT INDEX 2023

Context: Recently, Henley Passport Index 2023 has been released which assess the world's passports according to the number of destinations their holders can access without a prior visa.

About the Index:

- **Released by:** Henley and Partners.
- The index includes **199 different passports** and **227 different travel destinations**.

Key Findings:

- **Singapore** is on the Top with most powerful passport in the world, with its citizens able to visit **192 travel destinations** out of **227 around the world visa-free**.
- **Germany, Italy, and Spain** occupy the second place.
- **Japan** remained at the third position with countries like **Austria, Finland, France, Luxembourg, South Korea, and Sweden.**
- **India's Performance:** India has climbed seven places on Henley Passport Index 2023 to 80th rank from 87 last year.

In 2014, India ranked **76 with 52 countries** allowing Indian passport holders visa free access but its performance has not been linear.

Henley Openness Index:

- An exclusive new research has also been released named as '**Henley Openness Index** ' which measures "**how many nations does a country allow visa-free access to**".
- Here, India was ranked **94 out of a total of 97 ranks** for allowing only **four countries visa-free access**.
- The Top 20 '**most open'** countries are all small island nations or **African states, except for Cambodia.**
- At the bottom of the Index were four countries for scoring zero for not permitting visa-free access for any passport — namely, **Afghanistan, North Korea, Papua New Guinea, and Turkmenistan**.

EXPORT PREPAREDNESS INDEX (EPI) 2022

Context: Recently, the third edition of the report titled 'Export Preparedness Index (EPI) 2022' for States/UTs of India was released.

About the Report:

- **Released by**: NITI Aayog
- **Aim:** To evaluate the export performance and pending potential of the Indian States and Union Territories.
- **Export Preparedness Index (EPI)** is a comprehensive tool which measures the export preparedness of the States and UTs in India.
- The index undertakes a **comprehensive analysis** of **States and UTs** across export-related parameters in order to identify their strengths and weaknesses.
- Developing the methodology for the index is an evolving process which constantly incorporates stakeholder feedback.
- **Significance:**
  - Exports are vital for simulating economic growth and development in a country, which necessitates understanding the factors which influence export performance.

Key-highlights of the Report:

- **Tamil Nadu** has been ranked the **'One'** State in **Export Preparedness Index (EPI)** for 2022.
- It is followed by **Maharashtra and Karnataka**.
- **Gujarat** has been pushed to the **fourth** slot this time.
- The report also mentioned that **Karnataka and Tamil Nadu** have the highest number of **GI products** being exported.

- EPI assesses the performance of the **States and UTs** across four pillars – **Policy, Business Ecosystem, Export Ecosystem, and Export Performance.**

- Each pillar is composed of sub-pillars, which in turn capture a state's performance using relevant indicators.

  - ➤ **Policy Pillar** evaluates states and UTs' performance based on its adoption of the export-related policy ecosystem at a state and district level as well as the institutional framework surrounding the ecosystem.

  - ➤ **Business Ecosystem** assesses the prevailing business environment in a state/UT, along with the extent of business-supportive infrastructure, and a state/UTs' transport connectivity.

  - ➤ **Export Ecosystem** focuses on the export-related infrastructure in a state/UT along with the trade support provided to the exporters, and the prevalence of Research and Development in the state/UT to foster innovation.

  - ➤ **Export Performance** is an output-based indicator which gauges the growth of a state's export over the previous year and analyses its export concentration and footprint on the global markets.

CENTRE BANS EXPORT OF NON-BASMATI WHITE RICE

Context: **India's recent ban on non-basmati white rice exports has sent shockwaves through the global market, leading to a scramble for supplies and heightening concerns over food security.**

India's Rice exports:

- India is the **world's second-largest producer** after **China** and the **largest exporter of rice**.

- The country commands **40% share in the global rice trade**.

  - ➤ In 2022, it shipped 22m tonnes to more than 140 countries. Around half of those shipments were of non-basmati rice.

> The Indian rice varieties cultivated widely are Basmati, Joha, Jyothi, Navara, Ponni, Pusa, Sona Masuri, Jaya, Kalajiri (aromatic), Boli, Palakkad Matta, etc.

- **Key buyers:** Benin, Bangladesh, Angola, Cameroon, Djibouti, Guinea, Ivory Coast, Kenya and Nepal, Iran, Iraq, Saudi Arabia.

- **Polished Rice** and **Basmati Rice** constitute around **55% of total rice export** from India.

- Due to the **current geo-political situation**, the international price of rice was lucrative, leading to high export of rice as compared to previous year.

> **Rice as a Crop:**
> - Rice (*Oryza sativa*) has a major role in **diet, economy, employment, culture and history**, and this staple food (**eastern and southern India**) plays a pivotal role in the food and livelihood security of people.
> - Rice is a **nutritional staple food** which provides instant energy as its most important component is carbohydrate (starch).
> - On the other hand, it is poor in nitrogenous substances and **fat content or lipids.**
> - It is fundamentally a **kharif crop in India** and demands a temperature of around **25 degrees Celsius and above, and rainfall of more than 100 cm.**
> - **Major producing states:** West Bengal, Uttar Pradesh, Andhra Pradesh, Punjab, Odisha and Chattisgarh.

Need of such a step:

- **Increasing price due to increasing exports:** The domestic prices of rice are on an increasing trend due to sharp increase in exports ascribed to high international prices due to geo-political scenario. The retail prices have increased by 11.5% over a year and 3% over the past month.

- **Supply shortage:** A supply shortage was recently created in the domestic market due to extreme weather conditions.

Impact of the ban

- India accounts for more than **40 percent** of all global rice shipments, so the decision could "risk exacerbating food insecurity in countries highly dependent on rice imports".

Major Agri-exports

- The major agri-exports of India are **cereals, spices, cashew, oilcake/meals, tobacco, tea, coffee and marine products.**

- **Drivers of export:** The two big contributors to India's agri-export growth have been rice and sugar.

- **APEDA**: The initiatives taken by the **Agricultural and Processed Food Products Export Development Authority (APEDA)** has helped the country in achieving 84 percent of its total export target for the year 2022-23 in nine months of the current fiscal. APEDA has undertaken initiatives like:

➤ Paperless office (re-engineering, digital signatures, electronic payment facility)

➤ APEDA Mobile App

➤ phase-wise delivery of online services, monitoring and evaluation, uniform access

➤ Virtual trade fair to make governance more efficient and effective

About APEDA:

● **Founded:** 1986

● APEDA works under the **Ministry of Commerce and Industry.**

● The Authority replaced the **Processed Food Export Promotion Council (PFEPC).**

● APEDA is mandated with the responsibility of export promotion and development of the following scheduled products.

FULL-RESERVE BANKING

Context: **Owing to the failures of three United States banks and one major European investment bank in March this year, it is important to understand the working type of the banks. (Full-Reserve Banking and Fractional reserve banking).**

Demand deposits are deposits that customers can withdraw from the bank at any point in time without any prior notice.

What is Full-Reserve Banking?

⊚ Full-reserve banking is also known as **100% reserve banking.**

⊚ Full-reserve banking is a system where **banks are prohibited from lending out the money** they receive as demand deposits from customers.

⊚ Instead, they are required to keep all customer funds in their vaults at all times.

⊚ In this model, banks only act as custodians for depositors' money and may charge a fee for this service.

⊚ This stands in contrast to the current banking system, where banks pay interest to customers on their demand deposits.

⊚ Under full-reserve banking, banks must maintain reserves equal to 100% of their demand deposits to ensure they can meet withdrawal requests and prevent a bank run, even if all depositors decide to withdraw their funds simultaneously.

⊚ **India does not have a full-reserve banking system in place**. The banking system in India follows the fractional-reserve banking model.

How full-reserve banking systems lend money?

Time deposits are deposits that customers can withdraw from the bank only after a certain period of time that is agreed upon between the bank and its customers.

⊚ Under a full-reserve banking system, banks can only lend money that they receive as **time deposits** from their customers.

⊚ This arrangement gives banks the time to lend these deposits to borrowers at a certain interest rate, collect repayments from the borrowers, and finally repay depositors their money along with a certain amount of interest.

What is Fractional reserve banking?

⊚ The current banking system operates on **fractional-reserve banking**, where banks primarily hold cash deposits from customers in their vaults.

⊚ However, they can lend out more money than the **physical cash** they possess, as most lending occurs in the form of electronic money.

⊚ This practice creates **electronic loans** that can exceed the actual **cash reserves.**

⊚ If borrowers demand cash withdrawals exceeding the bank's physical cash, it can lead to a bank run due to insufficient cash to meet the demand.

FOREVER CHEMICAL

Context: **A recent study conducted by the U.S. Geological Survey (USGS) has found that nearly half of the tap water in the United States is estimated to contain one or more PFAS (per- and polyfluorinated alkyl substances), also known as "forever chemicals."**

What are Forever Chemicals?

⊚ PFAS, or forever chemicals, are **highly persistent synthetic chemicals** used in a wide range of industrial and consumer products.

⊚ PFAS are a group of more than 12,000 types of chemicals that are known to persist in the environment for long periods, hence their nickname "forever chemicals."

⊚ They have long-lasting properties, resist degradation,

and can accumulate in the environment and the human body.

◎ PFAS contamination of water, soil, and food sources is a major concern.

◎ **Potential health risks:**

➤ developmental issues

➤ liver damage

➤ immune system disorders

➤ hormone disruption

➤ certain types of cancer

DEATH OF CHEETAHS

Context: Recently, Supreme Court (SC) urged the government to transfer the Cheetahs to a more conducive environment due to alarming rate of death of Cheetahs since March 2023.

Reintroduction Plan for Cheetahs:

◎ **Aim:** To establish a viable and secure cheetah population in India promoting its conservation.

◎ Twenty cheetahs have been brought from **Namibia and South Africa** since September 2022 to reintroduce them into Indian habitat.

◎ Eight of the animals have died, but the long-term plan is to gradually release the animals into the wild and keep adding more until a self-sustaining population is established.

◎ Four of the cheetahs have already been released into the wild, but the remaining cheetahs will remain in the acclimatisation camps for the duration of the monsoon season.

◎ The **National Tiger Conservation Authority (NTCA)** is the nodal body for Project Cheetah.

Why Cheetahs being relocated to India?

◎ The cheetah is the **only large carnivore** to have gone extinct in India, primarily due to hunting and habitat loss.

◎ **Maharaja Ramanuj Pratap Singh Deo** of Korea, Madhya Pradesh, is widely believed to have killed the last three recorded cheetahs in India.

◎ **In 1952, the Indian government officially declared the Cheetah extinct in the country.**

Demand for Reintroduction of Cheetah:

◎ **The State Wildlife Board of Andhra Pradesh** was the first to suggest the policy in **1955,** on an experimental basis in two districts of the state.

◎ **In the 1970s, the Department of Environment** formally requested Iran, which had **300 Asiatic cheetahs** at the time, for some cheetahs.

➤ However, the Shah of Iran was deposed before any deal could be reached.

◎ Attempts to bring cheetahs to India were revived **once more in 2009,** and the **Wildlife Trust of India** conducted a meeting to discuss the feasibility of cheetah reintroduction.

➤ Several sites were chosen, of which **Kuno-Palpur National Park (KNP)** was seen as the most suitable.

➤ This was because the area had a large habitat area available and significant investments had already been made to displace the villagers inhabiting the site.

Reasons for the death:

◎ Around **40% of the cheetahs** out of 20 that were introduced in India under Reintroduction of Cheetah project died in KNP in last four months.

◎ **As per the report for analysing reasons for death**:

➤ Sasha, a female cheetah, died due to chronic renal failure.

➤ Uday, a male cheetah, suffered a cardiopulmonary failure.

➤ Cheetah Daksha died of traumatic shock, the report said without elaborating on the causes.

➤ Male cheetah Tejas died due to traumatic shock.

➤ Suraj, the fifth one brought in from Africa, also died of traumatic shock.

➤ Three cubs born at the park died of heatstroke.

◎ **Radio Collars:** Two cheetahs died of suspected **Septicaemia** (an infection of the bloodstream) due to **neck wounds caused by radio collars** in Kuno.

➤ If there is **constant rainfall** then the skin under the collar becomes infected due to constant moistness resulting in a systematic infection brought on by flies and maggots, eventually causing death.

➤ Additionally collar affects the athleticism of cheetahs as it amounts to nearly **7kg of massive weight** during sprinting eventually causing injuries.

NAEGLERIA FOWLERI

Context: A 15-year-old boy in Kerala has died due to a rare infection caused by Naegleria fowleri or "brain-eating amoeba".

What is Naegleria fowleri?

- Naegleria fowleri, commonly known as **"brain-eating amoeba,"** is a **single-cell organism** found in a warm freshwater environment such as lakes, hot springs and even in poorly maintained swimming pools.

- It is so small that it can only be seen with a microscope. Only one species of **Naegleria, Naegleria fowleri,** infects people.

- The amoeba enters the body through the nose and travels to the brain, leading to a severe and usually fatal brain infection known as **primary amebic meningoencephalitis (PAM).**

- Although the amoeba becomes vulnerable in its maturing or **trophozoite phase**, as a **cyst** it becomes resistant to its environment. It grows best at temperatures above 46 degree celsius.

- Although **trophozoites** are killed rapidly by refrigeration, **cysts** can survive even extreme cold.

- Naegleria fowleri infection does not spread from person to person, nor does it manifest symptoms when contracted in other forms.

- **Cause:** Poorly maintained swimming pools or contaminated water sources increase the risk of exposure.

- **Teatment:** A combination of drugs, often including **amphotericin B, azithromycin, fluconazole, rifampin, miltefosine, and dexamethasone.**

Survival of Amoeba:

- Amoeba is known to thrive in any natural environment, particularly in warm water habitats. It survives on bacteria found in the sediment in lakes and rivers.

- However, it doesn't survive in saline conditions and is hence not found in sea water.

GOVERNMENT LAUNCHES BHARAT 6G ALLIANCE

Context: The government has launched the Bharat 6G alliance to drive innovation and collaboration in next-generation wireless technology.

What is Bharat 6G Alliance (B6GA)?

- The Bharat 6G Alliance (B6GA) is a **collaborative platform** consisting of public and private companies, academia, research institutions, and standards development organisations.

- **Global Alliance:** B6GA will forge coalitions and synergies with other **6G Global Alliances**, fostering international collaboration and knowledge exchange.

  - The Alliance will enable India to become a leading global supplier of IP, products and solutions of affordable 5G and 6G and other future telecom solutions.

- The aims and objectives of the B6GA include:

  - To deploy 6G technologies to act as a powerful force multiplier for India by 2030;

  - To support and energise Indian participation in standard development organisations;

  - To build coalitions with similar 6G Global Alliances and other global technology alliances and associations;

  - To address India's priorities for contribution to 6G and other future technology-related global standards, deployments, products, operations and services

  - To promote the ecosystem for research, design, prototyping, development, proof of concept testing, IPR creation, field testing, security, certification and manufacturing of telecom products, end-to-end Solutions, Use-cases, Pilots, among other things.

  - To study and recommend national requirements and enable their inclusion in Indian and international standardisation bodies;

  - To develop recommendations for Bharat 6G Vision implementation readiness in India;

What is 6G?

- A 6G network is defined as a **cellular network** that operates in **untapped radio frequencies** and uses **cognitive technologies like AI** to enable **high-speed, low-latency communication** at a pace multiple times faster than fifth-generation networks.

- **India's tryst with 5G**

- As of 2023, 5G networks are rapidly being rolled out worldwide.

- India has witnessed one of the swiftest rollouts of 5G networks, with the establishment of 2.70 lakh 5G sites within a span of nine months.

Other Important Developments:

- Further, with a grant of Rs 240.51 crore under the **Telecom Technology Development Fund (TTDF),** two agreements were signed for two technology projects.

- The projects include a 6G THz testbed with **Orbital Angular Momentum (OAM)**

- **Multiplexing** through consortium of SAMEER, IIT Madras, IIT Guwahati and IIT Patna.

> **About Telecom Technology Development Fund (TTDF):**
> - Telecom Technology Development Fund (TTDF) scheme was launched by DoT in **2022.**
> - The scheme is envisaged to **bridge digital divide** by developing and manufacturing state-of-the-art technologies and to form synergies among academia, start-ups, research institutes, and the industry to build and develop the telecom ecosystem.

TROPICAL WATERS HAVE TURNED 'GREEN' IN COLOUR

Context: Recently, a study has indicated that Tropical Ocean waters are turning Green in colour due to alteration in phytoplankton communities.

- The green colour comes from **chlorophyll,** a pigment that helps microscopic plant-like phytoplankton make food.

Highlights of the study:

- According to the study, Climate change has altered the colour of **56 per cent** of the world's oceans.

- The southern Indian Ocean, in particular, has seen a significant colour change.

- The reason highlighted for the change in colour seems to determine **the amount of carbon dioxide absorbed** by the ocean.

- Currently, oceans absorbed **25 per cent** of all carbon dioxide (CO2) emissions.

- The study also predicted that predicted that more than **50 per cent of the world's oceans** will shift in colour due to climate change by 2100.

Data collection and Procedure:

- They analysed data generated from the **Moderate Resolution Imaging Spectroradiometer (MODIS)** aboard the **Aqua satellite**, which has been monitoring ocean colour for two decades **between 2002 and 2022.**

- The team then used to model to simulate **two scenarios**: one with the addition of greenhouse gases and the other without them.

How Oceans absorb CO2?

- The ocean absorbs carbon dioxide from the atmosphere wherever air meets water.

- Wind causes **waves and turbulence,** giving more opportunity for the water to **absorb the carbon dioxide**.

- Fish and other animals in the **ocean breathe oxygen and give off carbon dioxide (CO2),** just like land animals.

Tropical Oceans & Ecosystem:

- Tropical oceans encircle Earth in an equatorial region between the **Tropic of Cancer** (23.5° North latitude) and the **Tropic of Capricorn** (23.5° South latitude).

- The central portions of the **Pacific and Atlantic Oceans** and most of the **Indian Ocean** lie in the tropics.

- The warm tropical oceans play a critical role in regulating Earth's climate and large-scale weather patterns.

- Much of the planet's biological diversity resides in the tropics, and the global distribution of species and ecosystems depends on **oceanographic and atmospheric processes that occur in the equatorial oceans.**

Threats:

- A change in colour due to an **increase or decline** in the population will impact organisms that feed on plankton.

- It will also change how much the ocean will take up carbon because different types of plankton have different abilities to absorb carbon dioxide.

DESICCANT-BASED WATER HARVESTING FROM AIR

Context: Recently, a Bengaluru-based deep-tech start-up has found a technique to harvest water from air entirely powered by renewable energy.

What is this new Product?

◉ The product is based on '**desiccants'.**

◉ This contains a **salt solution of calcium chloride.** It allowed scaling up production to **20-30 litres of water per day.**

◉ The product is significant to reimagine the water infrastructure by reducing dependence on conventional water sources such **as groundwater**.

As per the observations, for coastal areas like **Chennai and Calicut**, where the relative humidity is usually **80-90 per cent** on average, **optimum water production** can be done at lower energy.

How water extraction can be done from air?

What Is a Desiccant?

A desiccant is a substance that adsorbs or absorbs water and promotes drying.

Calcium chloride   Silica gel   Activated charcoal

sciencenotes.org

◉ Conventional technologies that harvest water from the air are roughly based on an **air conditioning device.**

◉ Basically, the air conditioner cools the air by **condensing the moisture** present in the atmosphere and then forms water.

◉ But the new technology is power-hungry and is highly dependent on the relative humidity of the place.

'Science' behind the Technique:

◉ **Desiccants** are materials that attract and absorb moisture from the surrounding air. The common example of a desiccant is **silica gel**.

➤ It can absorb moisture from the air when exposed.

➤ And heating this material to **about 70-80°C** releases the moisture in an almost **steam-like form**, which can be condensed to form **fresh water**.

How does the equipment make drinkable water?

◉ First, when **air enters the unit,** the absorber air filters remove some dust particles.

◉ Second, the **liquid desiccant** has an affinity only for **water vapor and no other pollutants**.

◉ Third, **microbial life** dies when the material is heated to over 70°C. The water becomes pure and distilled, with **no minerals, heavy metals, or microbial life**.

◉ To make it drinkable, the water is passed through **an ultrafiltration membrane**.

➤ The **ultrafiltration stage** removes any particles that might have entered after the water gets collected; no water gets wasted at this stage.

◉ At last, it is passed through an **ultraviolet disinfection** chamber **to add an extra layer of safety and minerals** (minerals are primarily added in the form of a powder).

SAGAR SAMPARK

Context: **Recently, the Union Minister of Ports, Shipping and Waterways inaugurated the indigenous Differential Global Navigation Satellite System (DGNSS) 'SAGAR SAMPARK'.**

What is Sagar Sampark?

◉ It is an indigenous **Differential Global Navigation Satellite System (DGNSS).**

◉ The Differential Global Navigation Satellite System is a **terrestrial based enhancement system** which corrects the errors and inaccuracies in the **Global Navigation Satellite System (GNSS)** allowing for more accurate positioning information.

◉ It is now able to transmit corrections of **GPS and GLONASS**.

◉ The error correction accuracy has been improved from **5 to 10** meters to less than **5 meters for 100 Nautical Miles (NM)** from Indian coastlines.

Significance:

◉ Sagar Sampark at **six locations** will assist the **Director General of Lighthouses and Lightships (DGLL)** to provide radio aids to ships for marine navigation.

◉ The system will provide accurate information to the ships for safe navigation and will reduce the risk of **collisions, groundings, and accidents in the port and harbour areas.**

◉ This will lead to the safe and efficient movement of vessels.

◉ It will significantly improve the accuracy of **GPS positioning and reduces errors** caused by atmospheric inferences, satellite clock drift, and other factors.

Global Navigation Satellite System (GNSS):

● A **Global Navigation Satellite System (GNSS) consists of a constellation of satellites orbiting the Earth in very specific trajectories**.

● GNSS is often generically referred to as GPS (Global Positioning System) but that acronym actually refers specifically to the United States constellation. There are several GNSS constellations provided by governments around the world, including:

   ➤ BeiDou – China
   ➤ Galileo – European Union
   ➤ GLONASS – Russia
   ➤ GPS - United States
   ➤ IRNSS – India (also known as NavIC)
   ➤ QZSS – Japan

CRIMEAN-CONGO HAEMORRHAGIC FEVER (CCHF)

Context: According to the World Health Organization (WHO), rising temperatures in Europe have also raised fears of spread of viruses generally not found in colder climates namely includes Crimean-Congo haemorrhagic fever (CCHF), an infection spread by ticks that has a high fatality rate.

◉ In June 2023, a person got infected from the **Crimean-Congo haemorrhagic fever in Gujarat** whose vaccine is still not made.

Background:

◉ The CCHF is endemic to **Africa, the Balkan countries, Middle East, and parts of Asia**.

◉ The first fatality from the **disease in Europe was in Spain, in 2016**.

◉ Scientists are now warning that CCHF, which can kill between **10% and 40%** of patients, is spreading north-ward and westward in Europe.

About Crimean-Congo haemorrhagic fever (CCHF):

◉ **Crimean-Congo haemorrhagic fever (CCHF)** is a viral haemorrhagic fever usually transmitted by ticks.

◉ It can also be contracted through contact with **viraemic animal tissues** (animal tissue where the virus has entered the bloodstream) during and immediately post-slaughter of animals.

◉ **Vector of the spread: 'Ticks'**, especially those of the genus, **Hyalomma,** are both a reservoir and a vector for the CCHF virus.

   ➤ Numerous wild and domestic animals, such as **cattle, goats, sheep and hares,** serve as amplifying hosts for the virus.

   ➤ **Transmission to humans** occurs through contact with **infected ticks or animal blood.**

◉ CCHF outbreaks constitute a threat to public health services as the virus can lead to epidemics, has a **high case fatality ratio (10–40%),** potentially results in **hospital and health facility outbreaks**, and is difficult to prevent and treat.

◉ **Symptoms:**

   ➤ CCHF symptoms include **fever, muscle ache, dizziness, neck pain, backache, headache, sore eyes and sensitivity to light.**

   ➤ There may be **nausea, vomiting, diarrhoea, abdominal pain and sore throat early** on, followed by sharp mood swings and confusion.

   ➤ After **2–4 days** the agitation may be replaced by **sleepiness, depression and lassitude**.

◉ **Treatment:**

   ➤ There **is no vaccine** for the virus in either humans or animals, and treatment generally consists of managing symptoms.
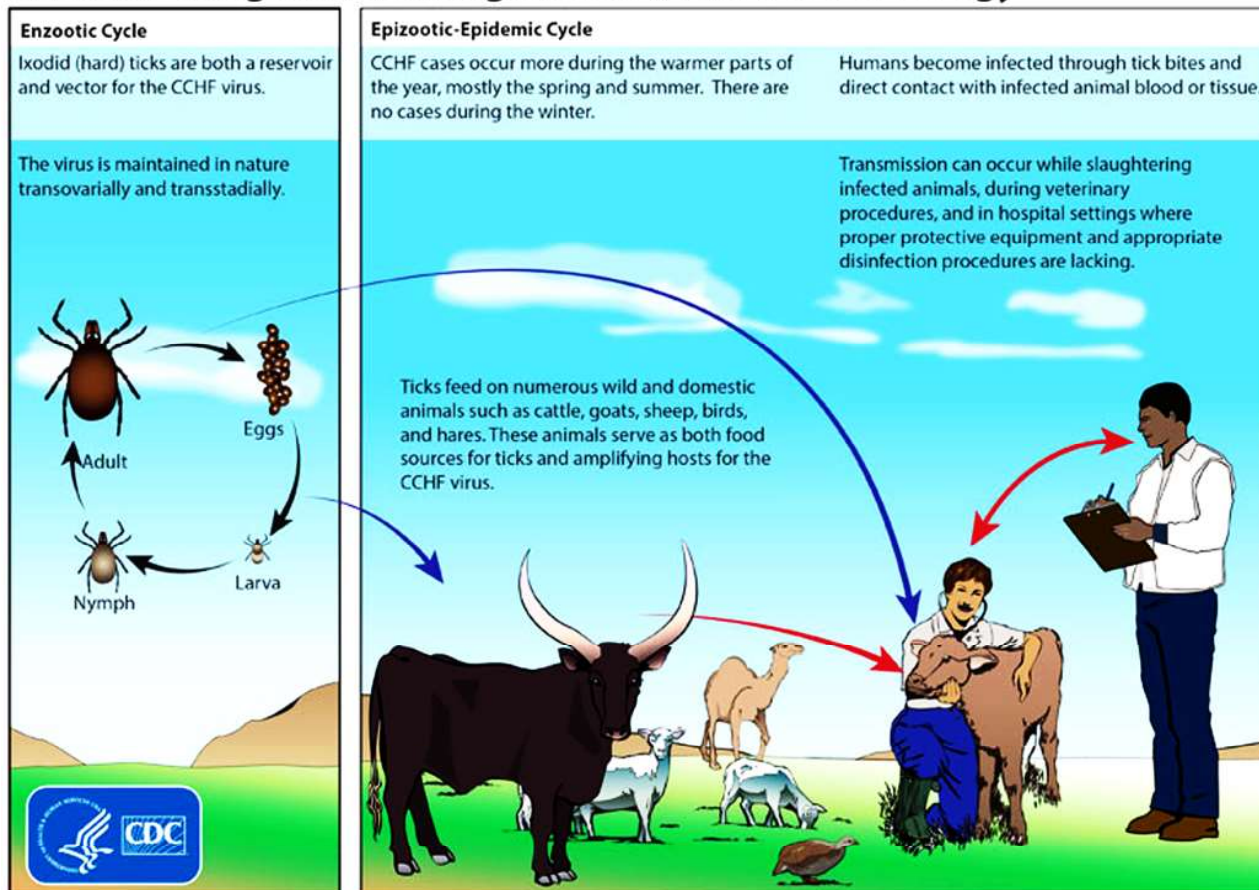

According to the WHO, "**the antiviral drug** ribavirin has been used to treat CCHF infection with apparent benefit."

How Climate Change contribute to spread of Viruses?

◉ As temperature patterns are disrupted, pathogens are thriving in geographies that traditionally had a climate hostile to them.

◉ Climate change contributes to the **spread of diseases in multiple ways, including**:

➤ Warmer temperatures expanding the **habitat of ticks and other insects** and giving them more time to reproduce;

➤ The habitat **offered by water undergoing changes**; and

➤ Animals moving to **newer areas and people coming into contact** with them.

Crimean-Congo Hemorrhagic Fever (CCHF) Virus Ecology

Enzootic Cycle

Ixodid (hard) ticks are both a reservoir and vector for the CCHF virus.

The virus is maintained in nature transovarially and transstadially.

Adult

Eggs

Nymph

Larva

Epizootic-Epidemic Cycle

CCHF cases occur more during the warmer parts of the year, mostly the spring and summer. There are no cases during the winter.

Ticks feed on numerous wild and domestic animals such as cattle, goats, sheep, birds, and hares. These animals serve as both food sources for ticks and amplifying hosts for the CCHF virus.

Humans become infected through tick bites and direct contact with infected animal blood or tissue.

Transmission can occur while slaughtering infected animals, during veterinary procedures, and in hospital settings where proper protective equipment and appropriate disinfection procedures are lacking.

CDC

❋ ❋ ❋ ❋

Section D [QUICK BYTE]

- Ker Puja
- Stitched shipbuilding method or 'Tankai' method
- African Union (AU)
- EC to issue online airtime vouchers
- India Climate Energy Dashboard (ICED) 3.0
- Extractive economy
- Air Independent Propulsion system for installation on Scorpenes
- India's largest radio telescope
- Solar Technology Application Resource Centre (STAR C) Initiative
- Income Tax Day
- National Broadcasting Day 2023
- World Fragile X Day

[PERSONALITY IN NEWS]

- Nawab Wajid Ali Shah
- Bal Gangadhar Tilak (1856-1920)
- Chandrashekhar Azad (1906-1931)
- Dadabhai Naoroji (1825-1917)

[SPECIES IN NEWS]

- Hoolock gibbon: India's only 'Ape'
- 'Cicada species' proved an Indian identity
- Gambusia
- Chinkara (Gazella bennettii)
- Salsola oppositifolia Desfontania
- Ospreys
- Atlantic menhaden
- White-rumped vulture (Gyps bengalensis)
- Bald Eagle (Haliaeetus leucocephalus)

[LOCATION IN NEWS]

- Sriharikota
- Sutlej River
- Black Sea
- Tel Tsaf site
- Gomti River
- West Bank city
- Chennai-Vladivostok Sea Route

Ker Puja

Ker Puja is a **Hindu religious festival and a state holiday in the north-eastern state of Tripura** celebrated every year in the month of July.

About:

- During this period, devotees worship Ker, the guardian deity of Vastu Devata.
- Ker Puja will continue for three days.
- It is an occasion of deep cultural and religious importance, with rituals and customs that have been passed down through generations.
- Pregnant women, elderly individuals, and those who are unwell are taken to nearby villages to ensure their safety.
- The head priest, or Chantai, holds the highest authority on this special day.
- A large price of bamboo curved in the symbolic shape of Ker is curved and swung during the celebration.
- Animal sacrifices and offerings are made as part of rituals during this lesser-known puja.

## Stitched shipbuilding method or 'Tankai' method

In a remarkable initiative to revive and preserve the **2000-year-old technique** of shipbuilding known as the '**stitched shipbuilding method**', the **Ministry of Culture** and the Indian Navy have entered into a **Memorandum of Understanding (MoU).**

About the method:

- The technique is known as '**Tankai'** method or the "stitched shipbuilding method".
- The stitched ship is made by **stitching wooden planks**.
- These ships are more durable as nails are not used.
- Also these ships caused less damage due to shoals and sandbars.
- For thousands of years they contributed to trade, cultural exchange, and exploration.

African Union (AU)
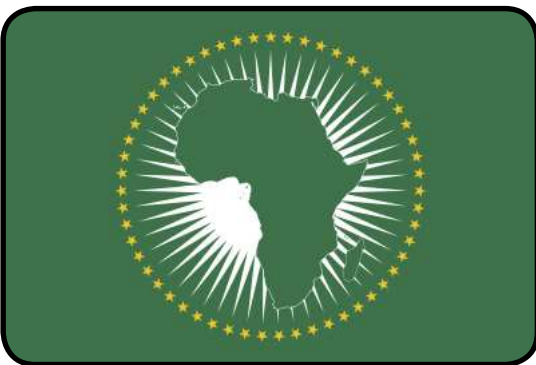
India is pushing for the African Union – a continental body comprising 55 member states – to join the **G20.**

About AU:

- The **African Union (AU)** is a regional intergovernmental organisation that replaced the Organisation of **African Unity (OAU).**
- AU is a continental organization consisting of 55 member states in Africa.

> Currently**, South Africa** is the only African country that enjoys member status in the G20.

- It was established on May 26, 2001, in **Addis Ababa, Ethiopia.**
- The organisation's main goal is to promote and accelerate the political and socio-economic integration of the continent.

EC to issue online airtime vouchers

Recently, the **Election Commission (EC)** has made the **process of allotting airtime** to **political parties** for campaigning on **Akashvani and Doordarshan** entirely online.

About:

- The **scheme for allotment of time on public broadcasters** during campaigning holds a statutory basis under **Section 39A** of the **Representation of People Act, 1951.**

- Till now, the **political parties** had to send their representatives to the commission's offices to collect the **time vouchers** during elections.

- After this initiative the political parties have to instead of collecting physical vouchers for the airtime, they will henceforth be issued digital time vouchers through an **Information Technology (IT) platform**.

- Under this scheme, an **equitable base time** is allotted to each national party and recognised State party uniformly on **DD and Akashvani** and the **additional time to be allotted to the parties** is decided on the basis of their performance in the last Assembly election or the Lok Sabha election.

- The actual date and time during which the telecasts and broadcasts would be made by the authorised representatives of any party is predetermined by the **Prasar Bharati** in consultation with EC and in the presence of party representatives.

India Climate Energy Dashboard (ICED) 3.0

Recently, NITI Aayog has released **the India Climate Energy Dashboard (ICED) 3.0.**

What is ICED 3.0?

- The ICED is the country's **one-stop platform** for near real-time data on the **energy sector, climate, and related economic datasets** based on government published sources.

- ICED 3.0 enables users to freely access and analyse datasets using an analytical engine.

- It will facilitate insights and enhance understanding about the energy and climate sectors while identifying the key challenges.

- The Portal will draw insights from the available data parameters and hence immensely useful in monitoring the progress of India's clean energy transition journey.

- This dashboard offers more than **500 parameters**, over 2000 infographics, and a number of interactive visualizations, allowing users to gain a holistic understanding of India's energy sector.

Extractive economy

In a veiled attack on China, External Affairs Minister S Jaishankar has said that India is not an "**extractive economy**" and does not pursue narrow economic activities solely for its benefit in the resource-rich African continent.
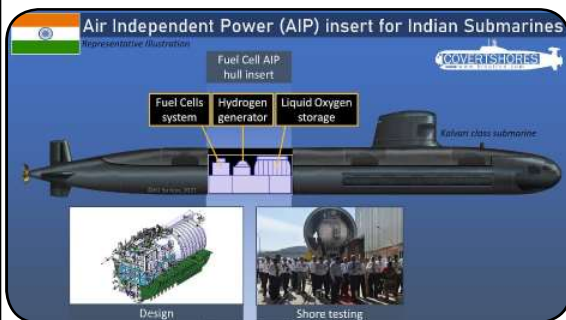
About:

- An extractive economy is a specific type of economic system that heavily relies on the extraction and exploitation of natural resources as a primary driver of economic activity.

- **Characteristics of an extractive economy include:**

  - ➤ Natural Resource Dependency

  - ➤ Limited Economic Diversification

  - ➤ Foreign Ownership and Control

  - ➤ Environmental Degradation

  - ➤ Social Inequality

Air Independent Propulsion system for installation on Scorpenes

Air Independent Power (AIP) insert for Indian Submarines

As India begins negotiations with France for three more Scorpene-class submarines, Naval Group has already working on qualifying the Defence Research and Development Organisation- developed (DRDO) **Air Independent Propulsion (AIP) system for installation on the Scorpenes.**

About:

- The Navy has drawn up plans to install **Air Independent Propulsion** (AIP) modules on all Scorpene submarines as they go for their refit beginning with **INS Kalvari** likely by end next year to enhance their endurance.

- The indigenous AIP module has been tested on shore and recently DRDO and Naval Group signed an agreement to integrate the AIP module on the Scorpene.

What is Air Independent Propulsion?

- AIP is mostly implemented as an auxiliary source, with the traditional diesel engine handling surface propulsion.

- Most of these systems generate electricity, which in turn drives an electric motor for propulsion or recharges the boat's batteries.

- AIP allows longer submergence than a conventionally propelled submarine.

India's largest radio telescope

Recently, an international team of astronomers from **India, Japan and Europe** has published the results from monitoring pulsars, called **'nature's best clocks'**, by using six of the world's most sensitive radio telescopes, including India's largest telescope, the **Pune-based 'uGMRT'.**

About:

- India's Giant **Metrewave Radio Telescope (uGMRT)** is among the world's six large telescopes that played a vital role in providing evidence confirming **the presence of gravitational waves using pulsar observations.**

- **Pulsars** are a type of rapidly rotating neutron stars that are essentially embers of dead stars which are present in our galaxy.

- A pulsar is like a cosmic lighthouse as it emits radio beams that flash by the Earth regularly akin to a harbour lighthouse.

- As these signals are accurately timed, there is a great interest in studying these pulsars and to unravel the mysteries of the Universe.
- In order to detect gravitational wave signals, scientists explore several ultra-stable pulsar clocks randomly distributed across our **Milky Way galaxy** and create an '**imaginary' galactic-scale gravitational** wave detector.

Solar Technology Application Resource Centre (STAR C) Initiative

India is considering expanding its solar STAR-C initiative, run by the International Solar Alliance, to a number of Pacific Island countries.

What is STAR C Initiative?

- The initiative is run by the **International Solar Alliance** in partnership with the **United Nations Industrial Development Organisation (UNIDO)**.
- The project is also funded by **France.**
- The programme aims to boost solar power ecosystems in the poorest countries.
- It aims to create a strong network of institutional capacities within ISA member states to enhance quality infrastructure for the uptake of solar energy products and services.

Significance:

- This move is part of India's efforts to expand its diplomatic footprint in the region, which has seen increased outreach by China.

> **International Solar Alliance (ISA)**
> - **Founded in**: 2015
> - ISA is a treaty-based intergovernmental organisation.
> - It works with governments to improve energy access and security worldwide and promote solar power as a sustainable transition to a carbon-neutral future.
> - **Members:** 114 Member and Signatory countries.

Income Tax Day

Income Tax Day, also known as Aaykar Diwas, is celebrated by the Income Tax Department every year on July 24.

About:

- The day is celebrated on July 24 as it was on this day in 1860 when Sir James Wilson introduced income tax for the first time in India.
- This step was taken to compensate the British government for the losses incurred during the First War of Independence in 1857.
- The **first Income Tax Day** in India was celebrated on **July 24, 2010**.

Income Tax department

- The **Income Tax department**, headquartered in New Delhi, is in charge of direct tax collection for the Government of India.
- It reports to the **Ministry of Finance's Department of Revenue** and is overseen by an apex body known as the **Central Board of Direct Taxes (CBDT).**

| National Broadcasting Day 2023 | National Broadcasting Day in India is marked on July 23 as symbolic of the Radio Club of Bombay. |

National Broadcasting Day 23 July

About Journey from IBC To Akashvani:

- Radio broadcasting services were introduced in India during British rule in 1923 as an initiative of the **Radio Club of Bombay**.
- India's first-ever radio broadcast commenced from Bombay Station under the **Indian Broadcasting Company** in 1927.
- On July 23, 1927, **All India Radio** was founded as a private company called "**Indian Broadcasting Company Ltd (IBC),"** and this date became the basis for celebrating **National Broadcasting Day, established in 1936.**
- Later, on June 8, 1936, IBC was transformed into **All India Radio (AIR)**.
- In 1956, the name "**Akashvani"** was officially adopted for AIR, inspired by **Rabindranath Tagore's 1938 poem titled "Akashvani,"** which translates to "voice or announcement from the skies."

| World Fragile X Day | The World Fragile X Day celebrated on July 22, raises awareness about the rare genetic illness — **Fragile X or Martin-Bell syndrome** — that causes **intellectual disability and autism.** |

About the disease:

- Fragile X syndrome is the leading cause of inherited intellectual disabilities like autism.
- There are behavioural, physical, intellectual and mental health symptoms. Females have milder symptoms than males.
- FXS is **not life-threatening** and although there is no cure, medication and therapy can help manage the symptoms.
- FXS is one of three syndromes in the fragile X family. The other two syndromes are:
  - **Fragile X-associated tremor/ataxia syndrome (FXTAS).** Symptoms include balance problems, shaky hands, unstable mood, memory loss, cognitive problems and numbness in the hands and feet.
- **Fragile X-associated primary ovarian insufficiency (FXPOI).** Symptoms include reduced fertility, infertility, missing or unpredictable menstrual periods and premature menopause.
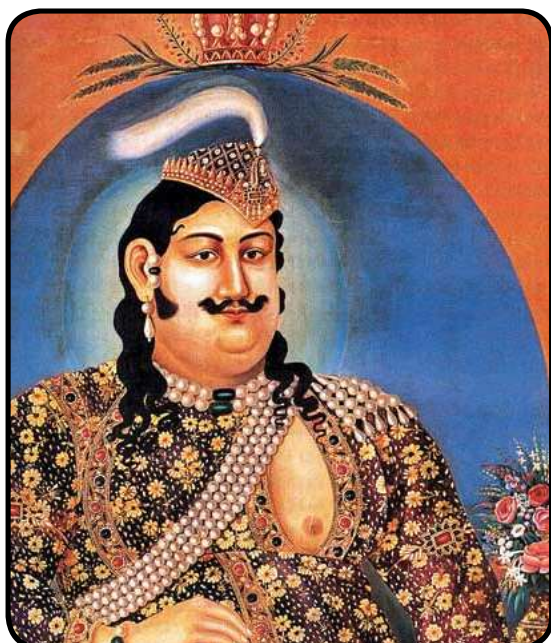

PERSONALITY IN NEWS

| Nawab Wajid Ali Shah | **Context:** The year 2023 is going to mark the **bicentenary** of **Nawab Wajid Ali Shah**, the **last king of Awadh**. |

About Nawab Wajid Ali Shah:

- 'Wajid Ali Shah', the twelfth and **final King of Awadh**, reigned for nine years, from **February 13, 1847**, until **1856.**

- His realm, which had been safeguarded by the **East India Company (EIC)** under contract for many years, was acquired by the East India Company on February 11, 1856, two days before his coronation.

- This was in line with **Dalhousie's Doctrine of Lapse**, in which the British would take over a kingdom if there was misrule also.

> **Doctrine of Lapse:** The doctrine of lapse was a policy of annexation followed by the British Empire in India.
>
> - This policy stated that any territory not under direct British rule would be automatically annexed to the empire.
>
> - As a result, many Indian states were annexed into the British Raj, including **Hyderabad and Junagadh.**

- The Kingdom of Awadh was annexed in **February 1856**.

- The Nawab was banished to Garden Reach, then a suburb of Kolkata, where he received a substantial annuity for the remainder of his life.

- Despite the reality that Wajid Ali Shah was a capable ruler, British authorities erroneously misrepresented his inability.

Major Contributions:

- He was a **poet, writer, dancer, and a patron of the arts.**

- He is recognized for reviving **Kathak** as a significant genre of Indian classical dance.

- He was also greatly interested in architecture.

- He started building the **Qaiser bagh palace** complex as soon as he came to the throne.

- **Paintings**:

  - Awadh style of painting is created on paper using watercolours. Some other paintings famous were;

  - **Miniature Painting:** Miniatures were originally painted on palm leaves, so the work had to be small enough to fit. These paintings often illustrated religious texts such as the Holy Quaran, as well as ancient myths.

  - It originated in India around **750 AD**, during the rule of **the Pala Empire.**

  - **Mughal Painting:** Mughal also spelled Mogul, style of painting, confined mainly to book illustration and the production of individual miniatures that evolved in India during the reigns of the Mughal emperors (16th–18th Century).

- He enriched the **light classical form of thumri**.

- He had received vocal training under great **Ustads like Basit Khan, Pyar Khan and Jafar Khan.**

> **Pyar Khan, Jafar Khan and Basit Khan** were the direct descendants of **Mian Tansen.**

Context: Lokmanya Bal Gangadhar Tilak, one of the freedom fighters and the strongest proponent of **'Poorna Swaraj'** or **'total self-rule',** Lokmanya Bal Gangadhar Tilak's **150th birth anniversary** was recently observed on **23rd July**, **2023.**

About Bal Gangadhar Tilak:

- He was born on **July 23, 1856 in Maharashtra.**

- **Tilak's Ideology**: "*Swaraj is my birth right and I shall have it*".

- Bal Gangadhar Tilak was called **'father of the Indian unrest**" by British colonial rulers.

- **Education:** Lokmanya Tilak received his education at the **Deccan College in Pune** and he earned his Bachelor's degree in 1876, in mathematics and Sanskrit. Later he also studied law at the **University of Bombay**.

- **Major Contributions**

  ➤ **Educating Commons:** He founded the **Deccan Education Society in 1884** with an aim to educate common people in English.

  ➤ **Publications:** He founded and edited two newspapers - **Kesari in Marathi** and The **Mahratta in English**. He used his pen as a weapon to **criticise the colonial rulers**.

  ➤ **Popularization of mass movement:** He popularised **mass mobilisation programmes** like the celebration of **Ganesh chaturthi and Shivaji Jayanti** to aid to **national awakening against the British.**

  ➤ **Swadeshi movement:** It was under the leadership of Lal-Bal- Pal, **Swadeshi movement** gained momentum across the country.

  ➤ **Strong voice against Bengal partition**: The trio also mobilised Indians against the **Bengal partition.**

  ➤ **Gita Rahasya:** He was imprisoned a number of times including a long stint at **Mandalay in Myanmar**. During his years in prison, he spent his time reading and writing. He wrote the famous **'Gita Rahasya'** - an analysis of the Karma Yoga which finds its source in **The Bhagavad Gita.**

  ➤ **Home Rule Movement:** Tilak was involved in the **Home Rule Movement** and joined **Anne Besant's Home Rule League**. In 1918, he visited England to popularise the Home Rule Movement.

- While Jawaharlal Nehru called him the **'father of Indian revolution'**, Mahatma Gandhi described him as **'the maker of modern India'**.

Lal-Bal-Pal:

- Tilak who along with Bipin Chandra Pal and Lala Lajpat Rai constituted the 'Lal-Bal-Pal' trio of **extremist leaders.**

Chandrashekhar Azad (1906-1931)
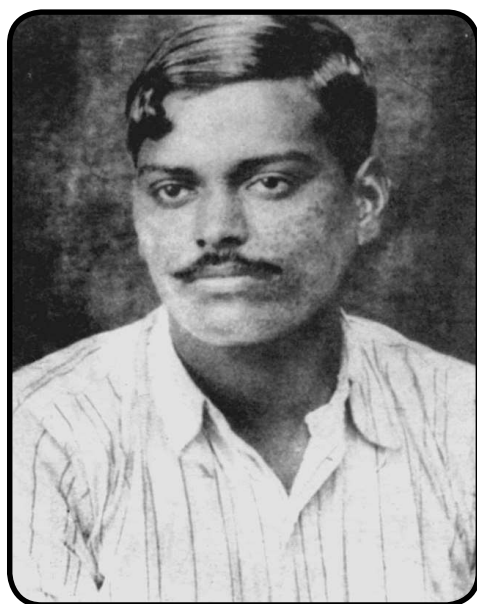
Context: Prime Minister Modi paid tributes to freedom fighter, **Chandra Shekhar Azad** on his Jayanti.

About Chandrashekhar Azad:

- Chandrashekhar Azad (1906-1931) was a fearless revolutionary who played a pivotal role in the Indian freedom struggle.

- **Major Contributions:**

  ➤ He reorganised the **Hindustan Republican Association (HRA)**. It was a revolutionary organisation formed by **Ramprasad Bismil.**

  ➤ **1921:** When Mahatma Gandhi launched the Non-Cooperation Movement in December 1921, Azad, then a teenager took part in it. He was arrested by the British during a demonstration.

  ➤ **1925:** He participated in the **Kakori train robbery** and assassination of British police officer **John Saunders.** While most of the participants were arrested, Azad escaped to Jhansi.

  ➤ **1928:** Helped by Bhagat Singh and Sukhdev, they formed the **Hindustan Socialist Republican Association (renamed from HRA).**

  ➤ The first task of the HSRA was to shoot JP Saunders at Lahore in 1928 to avenge the death of Lala Lajpat Rai.

  ➤ The second task was to bomb the Central Assembly to protest against the Public Safety Bill and the Trade Disputes Bill.

  ➤ Following the arrest of Bhagat Singh after the bombing of the Central Assembly, Azad tried to get him out of prison.

  ➤ On February 27, 1931, Azad was surrounded by the police when he went to **Alfred Park** to meet one of his contacts.

  ➤ He refused to surrender and bravely fought the police battalion for hours before shooting himself in the head, staying true to his resolve to **remain 'azad' (free).** His **Colt pistol** is displayed at the **Allahabad Museum.**

Dadabhai Naoroji (1825-1917)

June 30 is the observed as **death anniversary** of **Dadabhai Naoroji.**

About:

- **Dadabhai Naoroji (1825-1917)** was born in **Mumbai** in a Gujarati-speaking Parsi family.

- In 1855 he was appointed **Professor of Mathematics and Natural Philosophy** at Elphinstone College in Mumbai.

- The first Indian to be given an academic appointment, he was called '**The Promise of India'** by another professor at the institution.

- He opened his **own cotton trading company**, Dadabhai Naoroji & Co.
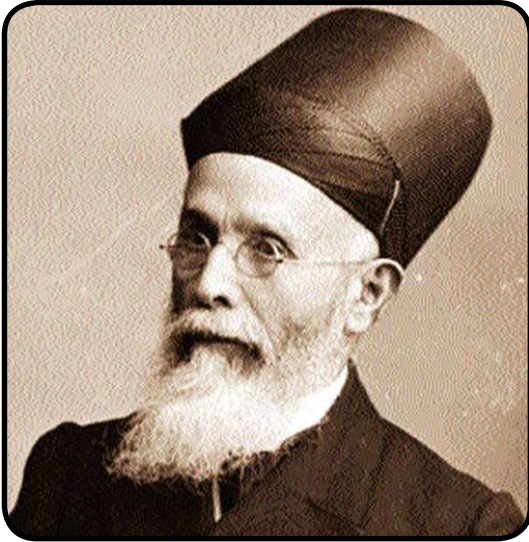
- Known as the '**Grand Old Man of India'**, Naoroji became a well-known public figure.

Contributions in Indian freedom struggle:

- He took an active part in the **political mobilization** against the British rule.

- He was instrumental in the formation of **the 'London Indian Society' in 1865.** The aim of the Society was to deliberate on Indian social, political and other scholarly subjects.

- He helped establish the **'East India Association' in 1867**, which aimed to expose the British people to the Indian perspective.

- Dadabhai Naoroji also formed the **Bombay Presidency Association**, which became the predecessor of the **Indian National Congress as well as the Indian National Congress.**

- He also founded the **Gyan Prasar Mandali** for Women's Education.

- Through his publications such as '**Rasta Goftar'**, he shaped the various reforms (such as simultaneous examinations, reorganization of legislative councils, and the election of Indian parliamentarians to the British Parliament) proposed by the **Congress towards a broader sound political goal of self-government.**
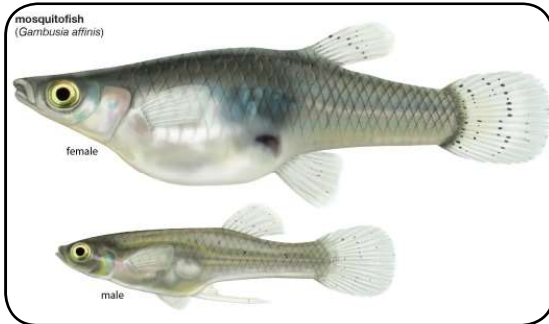
SPECIES IN NEWS

Recently, as the meeting of **Global Gibbon Network (GGN)** held in China**,** the conservation status of **India's only ape** was a cause for concern at a **global event on gibbons**.

About the Species:

- Gibbons, the **smallest and fastest of** all apes, live in **tropical and subtropical forests** in the south-eastern part of Asia.

- The hoolock gibbon, unique to India's northeast, is one of **20 species of gibbons on Earth.**

- The estimated population of **hoolock gibbons is 12,000.**

- The current conservation status of gibbon species is alarming – all 20 species are at a high risk of extinction.

- **Western Hillock Gibbon**:

  ➤ Its range extends into **seven states** covering **Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura.**

  ➤ **Protection Status**: The western hoolock gibbon is '**Endangered'** according to the IUCN Red List found in India.

- **Eastern hoolock gibbon:**
  - ➤ It inhabits specific pockets of **Arunachal Pradesh and Assam** in India, and in southern China and north-east Myanmar outside India.
  - ➤ It is listed **as Vulnerable** under the **IUCN Redlist.**
- In India, both the species are listed on **Schedule 1 of the Indian (Wildlife) Protection Act 1972.**

'Cicada species' proved an Indian identity

According to the research led by Travancore Nature History Society, the discovery that involved correcting the mistaken identity of *Purana cheeveeda* with *Purana tigrina* (indigenous to India) has been corrected.

- Approximately **250 kinds of cicadas** are known to occur in India. They are distributed across many genera and Rustia is only one of them.

Historical background:

- Purana tigrina was first described in 1850 from the **Malabar Coast** of south-western India by the **English entomologist Francis Walker.**
- It occurs in primary lowland rainforest but is more often found in secondary forest, **felled areas, parks and gardens.**

> **Do you know?**
> - **Cicada species** make their sound by expanding and contracting a membrane called a **tymbal.**
> - They use their sound to attract females.

About the Species:

- Purana tigrina is a species of cicada found in **Southeast Asia**.
- It was described from **Malabar, South India.**
- It is a common species in the Malayan Peninsula and on Bunguran Island in the South China Sea.
- The body length of a male is **22.5–29 mm** and that of the female somewhat less at 18–23 mm.
- They have a **greenish-ochraceous head and thorax**, and brownish-ochraceous abdomen.
- The head and thorax are marked in black.

Gambusia

Recently, **Andhra Pradesh** has releases **10 million Gambusia fish (mosquitofish)** in waterbodies to control malaria, dengue.

About the Species:

- *Gambusia affinis (Gaffinis)* is native to the waters of the south-eastern United States and a single full grown fish eats **about 100 to 300 mosquito** larvae per day.

- Mosquitofish has been part of various malaria control strategies in India since 1928, including the **Urban Malaria Scheme**.
- The fish are generally understood to be a **good biological control method** against mosquito breeding but is not a sole solution to control Malaria.
- Multiple countries, including India have listed '**Gambusia'** as **invasive species**.
- However, the fish continues to be a prominent part of the country's malaria control programmes and the fish continue to be released into freshwater bodies across the country, like **Andhra Pradesh, Chandigarh and Uttar Pradesh.**

Chinkara (*Gazella bennettii*)

Rajasthan court awards informer half of fine in Chinkara killing case.

About Chinkara or Indian gazelle (*Gazella bennettii*):

- Chinkara or Indian gazelle is the **State animal of Rajasthan**.
- **Geographic Range:** Indian gazelles, Gazella bennettii, are primarily found in the north-western region of India in the state of Rajasthan.
- **Habitat:** Dry deciduous forests, open woodlands, and dry areas such as sand dunes, semi-arid deserts, and arid valleys.
- **Conservation Status:**
  ➤ *Gazella bennettii* is considered a species of least concern by the **International Union for Conservation of Nature (IUCN).**
- They are included in the **CITES Appendix III.**

Salsola oppositifolia Desfontania

A team of researchers from Gandhinagar-based **Gujarat Ecological Education and Research (GEER)** Foundation has discovered a new species of saltwort called **Salsola oppositifolia Desfontania.**

About:

- Salsola oppositifolia Desfontania is a **perennial shrub** that grows in saline, arid to semi-arid environments of the Kutch district.
- The species belongs to the family of **Amaranthaceae**.
- It is **rarely prostrate** and unlike other species of Salsola, does not have any hairs. As the name **oppositifolia** suggests, the leaves of this plant grow opposite each other in the stem.
- It is a **halophyte —** a plant adapted to growing in saline conditions.
- This species, earlier known from **Italy, Northern Africa, Palestine, Spain and Western Sahara**, has been reported for the first time from India.

Ospreys

According to recent findings, there has been lowest reproductive number in more than 50 years of monitoring the local population of the Ospreys 'a raptor'.

About Ospreys:

- Ospreys are very large, distinctively shaped hawks. Despite their size, their bodies are slender, with long, narrow wings and long legs.
- Ospreys are brown above and white below, and overall they are whiter than most raptors.
- From below, the wings are mostly white with a prominent dark patch at the wrists.
- The head is white with a broad brown stripe through the eye.
- Juveniles have white spots on the back and buffy shading on the breast.
- Ospreys reside around nearly any body of water: **saltmarshes, rivers, ponds, reservoirs, estuaries, and even coral reefs.**
- Their conspicuous stick nests are placed in the open on **poles, channel markers, and dead trees, often over water.**

Atlantic menhaden

The recent decline in **Ospreys** has happened due to shortage of fish species named '**Atlantic menhaden'** and food for them.

About:

- These fishes are found in **coastal and estuarine waters** from Nova Scotia to northern Florida, Atlantic menhaden play many important roles.
- They are filter feeders, primarily consuming **phytoplankton and zooplankton** in the water column. Menhaden support an important commercial fishery.
- They constitute the largest landings, **by volume, along the Atlantic Coast of the United States**.
- Menhaden are harvested for use as **fertilizers, animal feed, and bait for fisheries including blue crab and lobster.**
- They are a major source of **omega-3 fatty acids**, so they are also used to develop human and animal supplements.
- In estuaries like the **Chesapeake Bay,** they are food for striped bass and other fish, as well as for predatory birds, including **osprey and eagles**.

White-rumped vulture (*Gyps bengalensis*)

Even with protective measures in place, the future of the critically endangered white-rumped vulture (Gyps bengalensis) in the Sigur plateau of the Nilgiris remains highly precarious.

About

- The **white-rumped vulture (*Gyps bengalensis*)** is an **Old World vulture** native to South and Southeast Asia.
- It is the **smallest of the Gyps vultures**, but is still a very large bird.
- A medium-sized vulture with a silvery bill, a dark body, a grayish shine on the wings, a white back, and a distinctive white collar on the neck.
- It has been listed as Critically Endangered on the IUCN Red List since 2000.
- It is closely related to the **European griffon vulture (Gyps fulvus).**

Bald Eagle (*Haliaeetus leucocephalus*)

The population of **American bald eagle**, removed from the United States' list of endangered species in 2007, has quadrupled since 2009.

About:

- The bald eagle is a **sea eagle (*Haliaeetus* species).**

> **Dichloro-diphenyl-trichloroethane (DDT)** had a catastrophic impact on the bald eagle population in 1940s.

- It is the national bird of USA and a **classic icon**, standing for strength, courage, and freedom.
- Bald eagles are **large, predatory raptors** that are recognizable for their brown body and wings, white head and tail, and hooked yellow beak.
- Their feet, which are also yellow, are equipped with sharp black talons.
- Bald eagles grow to about 2.5 to 3 feet (0.7 to 0.9 meters) in height, and they have an impressive wingspan of 6.5 feet (two meters).
- **Female bald eagles** are larger than the males, but share the same coloration.
- **IUCN Status:** Least Concern

> **Eagle**
> - Eagle is the large birds of prey that belong to the *Accipitridae* family.
> - There are 24 species of Eagle found in India.

LOCATION IN NEWS

Sriharikota

India's third lunar, the **Chandrayaan-3**, took off from the Satish Dhawan Space Center (SDSC) **in Sriharikota** — a **spindle-shaped island** on the east coast of Andhra Pradesh.

About the location:

- Sriharikota is a **barrier island** off the Bay of Bengal coast located in the Shar Project settlement of Tirupati district in Andhra Pradesh, India.
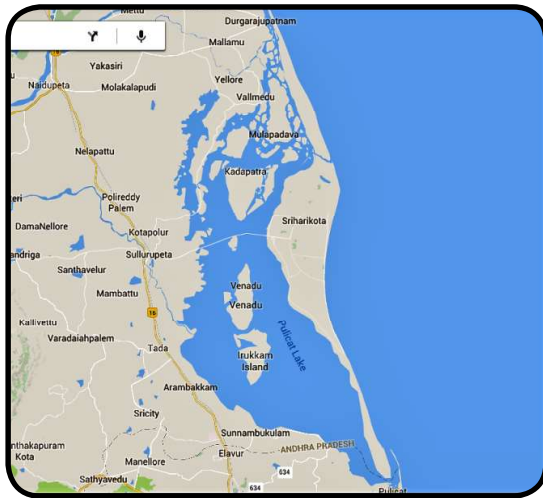
- It houses the Satish Dhawan Space Centre, one of the two satellite launch centres in India (the other being Thumba Equatorial Rocket Launching Station, Thiruvananthapuram).

- Sriharikota separates the **Pulicat Lake** from the Bay of Bengal and is where the town of Pulicat is located.

Reasons to choose the location:

There are two primary reasons for selecting **Sriharikota as the launch site.**

- One, it is on the **east coast** which facilitates the launching of the rockets in an easterly direction.

- Two, **its proximity to the equator**.

- By launching a rocket eastwards, one can take **advantage of Earth's rotation**.

- For a launch site close to equator the magnitude of the velocity imparted due to Earth's rotation is **about 450 m/s,** which can lead to substantial increase in the payload for a given launch vehicle.

Sutlej River

Moderate flood in Sutlej River

About:

- **Origin:** The Sutlej River originates from the **Rakshastal Lake** in Tibet, which is situated near the sacred **Mount Kailash.**

- It emerges from the Himalayas in the south-western region of Tibet, near the **India-China border**.

- After entering India, it passes through **Himachal Pradesh and Punjab** before eventually joining the Indus River in Pakistan.

Black Sea

A deal allowing Ukraine to export grain via the **Black Sea** expires on July 17 and with Moscow saying it sees no grounds for an extension there are fears it may collapse.

About:

- The Black Sea is located in **Southeastern Europe.**

- It is bordered by several countries.

  ➤ **North:** It is bounded by Ukraine, Russia, and a small portion of Belarus.

  ➤ **East:** It is connected to the Sea of Azov through the Strait of Kerch.

  ➤ **South**: Turkey

  ➤ **West:** Bulgaria and Romania

- **Surrounding Countries**: Ukraine, Russia, Georgia, Turkey, Bulgaria, and Romania.

- **Connected Waterways:** The **Bosporus Strait,** located in Turkey, connects the Black Sea to the Sea of Marmara, which then leads to the Mediterranean Sea.

Tel Tsaf site	According to a paper published in **Israel in 2022**, records from the **Tel Tsaf site** shows cotton fibers originated in the **Indian subcontinent** around **5200 BCE**.

EARLY STATES OF THE OLD WORLD

Tel Tsaf site:

- Tel Tsaf, a **Middle Chalcolithic site**, is located in the **central Jordan Valley**.
- Cotton fibres found at Tel Tsaf are younger than the cotton strings found at **Mehrgarh copper beads**.
- Excavations unearthed have **four architectural complexes** where each consists of a closed courtyard with round or rectangular rooms and numerous rounded silos.
- Burials were found within or adjacent to silos.
- Common findings include- **flints, pottery, animal bones, 150 clay sealings (bullae) and imported items like artifacts of basalt and obsidian, beads, sea shells, Nilotic shell and pottery items of Ubaid culture of north Syria.**

| **Gomti River**	The declaration of the River Gomti as a **"non-perennial river"** in 2020 by the Irrigation department of the Uttar Pradesh has become an issue now.

About the River:

- River Gomti starts from **Gomat Taal** which is famous because of **Fulhaar jheel** that is close to **Madho Tanda** situated in Pilibhit, India.
- This river covers about 900 kilometers which is about 560 miles and it flows through Uttar Pradesh and joins the Ganges close to Saidpur, Kaithi in Ghazipur.
- This river starts at its origin and after crossing 20 kilometers, it joins the small river and the name is Gaihaaee.
- This river is very lean until it arrives at Mohammadi Kheri which is about 100 kilometers from its starting point.
- It is a tehsil of Lakhimpur Kheri district and at this district; the river meets some other tributaries.
- **Tributaries:** The tributaries and sub-tributaries of Gomti are-
  ➤ Sukheta
  ➤ Choha
  ➤ Andhar Choha

West Bank city	Israeli forces launched its largest military operation in the occupied West Bank city of Jenin in more than 20 years, killing at least nine people and injuring about 100 others.
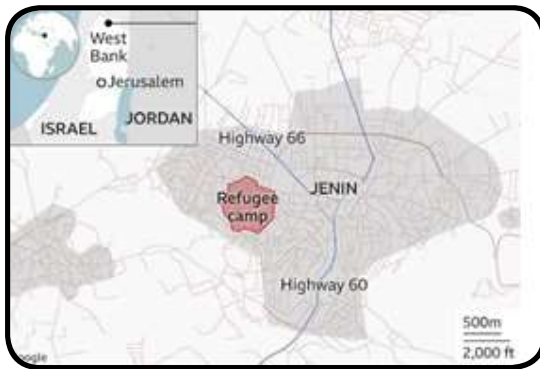
About:

- The West Bank is a chunk of land east of Israel.

- The West Bank stretches across the eastern border of Israel along the west banks of the Jordan River and most of the Dead Sea, thus how it received its name.

- The holy city of Jerusalem is considered by international law as part of the West Bank, with East Jerusalem being claimed as the capital by both Israelis and Palestinians.

- It is home to nearly three million Palestinians, and would make up the heart of any Palestinian state.

- Israel took control of it in 1967 and has allowed Jewish settlers to move in, but Palestinians (and most of the international community) consider it illegally occupied Palestinian land.

Chennai-Vladivostok Sea Route

India and Russia have scheduled a stakeholder meeting in September 2023 to work out the details for operationalising the '**Chennai-Vladivostok maritime route'**.

About the route

- The Chennai-Vladivostok Maritime route connects Chennai on **India's east coast** with **Vladivostok, Russia's eastern port city**, opening a plethora of opportunities for trade and investment for both countries.

- Vladivostok is the end point of the **Trans-Siberian Railway**, the fourth in terms of cargo turnover, and the first free seaport of the Far East.

- The **Vladivostok-Chennai route** passes through the **Sea of Japan** past the **Korean peninsula, Taiwan and the Philippines** in the **South China Sea**, past Singapore and through the **Strait of Malacca**, to emerge into the **Bay of Bengal** and then cuts across through the **Andaman and Nicobar** archipelago to Chennai.

- This sea route covers a distance of approximately 5,647 nautical miles or about 10,500 km

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