

**MONTHLY
CURRENT
AFFAIRS
MAGAZINE**



— Disclaimer —

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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(MAY, 2023)

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SECTION: A
(MAINS)

CURRENT AFFAIRS



KUTCH HARAPPAN GRAVEYARD: LIFE AND TIMES OF BURIED

Context: A shell bangle, pottery fragments, stone knives, and even human skeletal remains were discovered recently, on the borders of Khatiya village in Gujarat's Kutch district.

Key highlights:

- The 16-hectare burial site in Khatiya village in Gujarat is the largest pre-urban Harappan cemetery, with unexpected finds such as shell bangles, pottery shards, stones blades, and human skeletal remains.



Discovery of Harappan Graves:

- A multi-disciplinary international team of archeologists has discovered **500 graves** and **excavated 197** of them, but deep below.
- The graves were estimated **to be 5,000 years old, was a big human settlement or a common facility for a cluster of smaller settlements.**
- The cemetery is believed to be 5,000 years old and belongs to the '**pre-urban**' phase of the Harappan civilization.

Harappan Civilisation:

- The **Harappan civilisation**, one of the **oldest** in the world, **flourished along the banks of the river Indus from 5,000 BC to 1,000 BC.**
- The 2,500-year-long period from 5,000 BC to 2,600 BC is known as the '**pre-urban**' Harappan phase, while between 2,600 BC and 1,900 BC is the '**urban**' Harappan phase.
- The fragment of a shell bangle collected from the **Khatiya cemetery** was found to be dating back to 2,850 BC.
- The pottery found as burial goods at the **Khatiya site** was comparable to the **pre-urban Harappan pottery of Sindh, Balochistan and North Gujarat.**

About: Khatiya village of Gujrat

- The soil in Khatiya is acidic, making it **difficult to extract DNA** from samples excavated.
- This could help answer the mystery of the people buried in these graves and **where they came from.**

- Khatiya is located on the banks of the Gandi, a stream that drains into the **Great Rann of Kutch (GRK).**
- Dhoro Chhelo:** A pond was dug on the south-western periphery of the ancient burial site in 2016 as part of the government's initiative to harvest the water of Dhoro Chhelo.

Recent theory about Dholavira:

- Dholavira is a **UNESCO World Heritage Site** and one of the **biggest metropolises of the Harappan civilisation**, but it is 150 kilometres away from **Khatiya, making it unlikely that people in the urban settlements of Dholavira were buried there.**
- Harappan sites in western Kutch: Desalpar and Khirsara, Kotda Bhadli and Nadapa** are the other well-known Harappan sites in **western Kutch.**
 - But each of them is a site of urban and post-urban periods of the Harappan civilisation and more than **50 km away from Khatiya.**
 - Being a pre-urban Harappan cemetery, there is a possibility that either there was a big settlement in Khatiya or there were smaller settlements around Khatiya and the cemetery was a **common burial ground** for them.

Team of Archaeologists: The international team of collaborators included 27 archaeologists, DNA analysts, geologists and GIS specialists from Gujarat, Maharashtra, Kerala, Spain, USA, Japan and Sweden.

Practice Question:

- Q. What are some key characteristics and historical significance of Harappan sites, and how have archaeological findings contributed to our understanding of the Indus Valley Civilization?**
- Q. What are some notable architectural features and urban planning elements of the Harappan civilization that showcase the advanced skills and organization of its inhabitants?**



WASHINGTON DECLARATION

Context: Recently the South Korean President visited the U.S. to commemorate the 70th anniversary of U.S.-South Korea bilateral relations. Both the leaders adopted a new joint statement called the "Washington Declaration."

Background:

- The successful launch of North Korea's Hwasong-8 solid-fuel intercontinental ballistic missile (ICBM), a vital component for nuclear weapons delivery, seems to have triggered the U.S. visit of the South Korean President.
- Both countries wanted to advance the strategic partnership, drawing an alliance over an extended nuclear deterrence plan against the regional aggression of North Korea.

What does the Washington Declaration say?

- The agreement outlines cooperation towards deterrence.
- According to the declaration,
 - ▶ An American nuclear ballistic submarine would be deployed in the Korean peninsula
 - ▶ A nuclear consultative group would be formed to formulate principles of joint response tactics
 - ▶ South Korea would receive Intel from the U.S. regarding nuclear advancements
 - ▶ The U.S. will strengthen South Korea's nuclear deterrence capabilities through joint military training programs and an annual intergovernmental simulation.
- The declaration reaffirmed the non-proliferation Treaty implying that South Korea would not venture into the creation of its own independent nuclear capabilities and would instead focus on deterrence measures through an alliance-based approach.
- It also mandates the U.S. President as the only 'sole authority' to use the nuclear arsenal of the U.S. in the event of a nuclear confrontation.
- While the existence of the agreement is based on the security needs of South Korea, the policy reflects big power politics where the interest of the larger power (U.S.) takes precedence.

Non-proliferation Treaty:

- **The NPT is an international treaty to:**
 - ▶ Prevent the spread of nuclear weapons and weapons technology
 - ▶ Promote cooperation in the peaceful uses of nuclear energy
 - ▶ To further the goal of achieving nuclear disarmament and general and complete disarmament
- Entered into force in 1970, The Treaty represents the only binding commitment in a multilateral treaty to the goal of disarmament by the nuclear-weapon States.
- A total of 191 States have joined the Treaty, including the five nuclear-weapon States.

An upgradation to Manila Pact?

- President Yoon Suk Yeol mentioned that South Korea's new nuclear deterrence agreement with the United States should be understood as an "upgraded" version of the allies' 1953 Mutual Defence Treaty.
- Historically, The Allies' 1953 Mutual Defence Treaty, also known as the Manila Pact, was a collective defence agreement signed in 1951, between the United States, the Philippines, Australia, New Zealand, Thailand, and the United Kingdom.
- The treaty was designed to promote regional stability and prevent the spread of communism in Southeast Asia.

Why is the U.S. not keen on South Korea having a nuclear arsenal?

- Under significant pressure from the United States, South Korea's nuclear development programme was hindered and it signed the NPT in 1975.
- In the 1990s, the U.S. withdrew one hundred nuclear weapons from South Korea as part of their "**Strategic Arms Reduction Treaty**". The U.S. was hoping to make North Korea unarm itself.
- **Concerning progress of North Korea:** Secondly, the Nuclear Posture Review 2022 reflects a shift in the U.S. narrative where it is now concerned about the **progressing nuclear capacities of North Korea**.
- **Global control:** The U.S. wants to control **global nuclear arms production**. It has been reluctant to allow South Korea to develop their own nuclear arsenal as it would hinder the prolonged efforts of controlling nuclear production in the world.

Practice Question:

- Q. What is the significance and context of the Washington Declaration?
- Q. How have the relations between the United States and South Korea evolved over time, and what are the key aspects of their bilateral relationship?



CHINA'S MILITARY DIPLOMACY IN SOUTHEAST ASIA

Context: China is expanding its military outreach to Southeast Asian countries.

About:

- China is expanding its military outreach to Southeast Asian countries due to **geopolitical competition and security interests**.

- The PLA's global activities and influence campaigns are part of its reform process, and ASEAN has become a priority target for its military diplomacy.

What is the People's Liberation Army (PLA) currently undertaking?

- **Bilateral Military Exercise:**
 - ▶ The PLA and the Laotian People's Armed Forces (LPAF) have recently concluded their bilateral military exercise, **Friendship Shield 2023**.
 - ▶ The drills aim to **foster interoperability to effectively "counter transnational armed criminal groups based in jungles and mountains."**
- **Threat:**
 - ▶ China's threat perception of **expanding the United States military engagement** with countries in the **Asia-Pacific region**, especially those countries that China has disputes with in the **South and East China Seas region**.

India's engagement with Southeast Asia:

- **India's defence diplomacy** has been greatly **influenced by China's** continued hostility in the area, especially in the South China Sea.
- India has **increased cooperation** with various **Southeast Asian nations** in recent years.
- To counterbalance China and strengthen their marine security, they are also eager to **strengthen their security ties with India**.
- India's increasing defence diplomacy footprint from the **West to Southeast Asia** is symbolised by the Milan exercise's **growing participant** count and the **sophistication** of the drills.

Practice Question:

- Q. "What is the extent of China's military diplomacy in Southeast Asia, and how does it impact regional security dynamics and the balance of power in the region?"
- Q. "What is the significance of Southeast Asian countries in the global political, economic, and strategic landscape in Indian Ocean region?"

INDIA AMENDS ANTI-MONEY LAUNDERING LAW

Context: Widening the ambit of the Prevention of Money Laundering Act, the Finance Ministry has tightened the reporting norms for non-profit organisations and beneficial ownership rules.

A basic of India's Anti-money laundering (AML) regulations:

- The **Prevention of Money Laundering Act (PMLA), 2002** and its accompanying rules (PML Rules) serve as the **primary legal framework** for the prosecution of **money laundering in India**.
- **Applicability:** Anti-money laundering (AML) regulations in India apply to a range of entities, such as **companies, banks, crypto exchanges, foreign portfolio investors, trusts, and NGOs**.
- Financial transactions are included under the PMLA
 - ▶ Buying and selling any immovable property.
 - ▶ Managing client money, securities, or other assets.
 - ▶ Management of bank, savings, or securities accounts.
 - ▶ Organization of contributions for the creation, operation, or management of companies.
 - ▶ Creation, operation, or management of companies, limited liability partnerships or trusts, and buying and selling of business entities.

PML (Maintenance of Records) Amendment Rules, 2023:

- Earlier in March, 2023, the Prevention of Money Laundering (Maintenance of Records) Amendment Rules, 2023 were introduced by the **Department of Revenue** under the **Ministry of Finance**.
- These rules **widened the ambit of reporting entities** under money laundering provisions to incorporate more disclosures for non-governmental organisations and defined **politically exposed persons (PEPs)** under the PMLA in line with the recommendations of the **FATF**.
- The new rules require reporting entities like **financial institutions, banking companies, or intermediaries** to disclose beneficial owners in addition to the current KYC requirements through documents like registration certificates and PAN (Permanent Account Number).

What are the recent amendments to PMLA, 2002?

"PEPs are individuals who have been entrusted with prominent public functions by a foreign country, including the heads of States or Governments, senior politicians, senior government or judicial or military officers, senior executives of state-owned corporations and important political party officials".

- **Politically exposed person:** The amendment rules have introduced a new clause, which defines "Politically Exposed Persons" (PEPs).

- **Beneficial ownership:** In line with existing provisions of **The Income-Tax Act, 1961 and The Companies Act**, the amended rules have now lowered the threshold for identifying beneficial owners by reporting entities, where the client is acting on behalf of its beneficial owner.
 - ▶ **Bringing into reporting net:** Earlier, definition of "beneficial owner" included, among other things, the ownership of or right to more than **25 percent of the company's shares**, capital, or profits. This threshold of **25 percent** has been lowered to 10 percent, bringing more indirect players into the reporting net.
 - ▶ **Data:** The amendments require "reporting entities"- banks, other financial institutions, and businesses operating in the real estate and jewellery industries – to gather data on each person or organization that has a 10 percent ownership in their clients.
- **Due diligence and documentation:** The necessary due diligence documentation has now expanded beyond just getting the fundamental KYCs of clients; it now also involves the submission of information, such as the names of those in top management **positions, partners, beneficiaries, trustees, settlors, and writers.**
 - ▶ Moreover, clients must now provide information about their registered office and primary place of business to financial institutions, banks, or intermediaries.
- **Cryptocurrency and virtual digital assets (VDAs):** The new rules have brought crypto currency and VDAs under the ambit of **anti-money laundering law (AML).**
- **Transactions:** The transactions covered by the PMLA now include:
 - ▶ Converting virtual digital assets into fiat currencies and vice versa
 - ▶ Exchanging one or more forms of virtual digital assets
 - ▶ Transferring virtual digital assets
 - ▶ Securely storing or managing virtual digital assets
 - ▶ Providing financial services related to the sale of virtual digital assets by an issuer

Definition :
The notification defines **non-profit organisations** as entities or organisations that are registered as a trust or a society under the **Societies Registration Act, 1860**, or any similar state legislation, or a company registered under **Section 8 of the Companies Act, 2013.**

- **Non-profit organisations:** The new rules have also tightened the reporting norms for non-profit organisations.
- If the client is a non-profit organization, reporting entities must also register the client's information on the **NITI Aayog's DARPAN portal.**

Who needs to follow anti-money laundering regulations?

As of **May, 2023**, the following entities are subject to AML Compliance in India:

Entities Subject to AML Compliance in India			
Individuals	Beneficial owners	Companies	Trusts
Non face-to-face customers	Partnership firms	Foreign portfolio investors	NGOs
Politically exposed persons outside India	Banking intermediaries and financial companies	Intermediaries in the crypto ecosystem, such as crypto exchanges, wallets, service providers	Accounting professionals including CA, CS, CWA

Which authorities investigate and prosecute anti-money laundering offences in India?

- **Directorate of Enforcement (ED):** At the federal level, the **Directorate of Enforcement (ED)** is the principal legal entity in charge of looking into and prosecuting money laundering offences under the PMLA.
 - ▶ The ED comes under the **Department of Revenue** within the **Ministry of Finance.**
 - ▶ It has the authority to initiate proceedings for the seizure of property as well as proceedings in the

designated Special Court for money laundering crimes.

- **Financial Intelligence Unit – India (FIU-IND):** The **Financial Intelligence Unit – India (FIU-IND)**, which is a part of the **Department of Revenue and Ministry of Finance**, is the primary national body in charge of collecting, processing, assessing, and disseminating data about suspicious financial transactions to law enforcement authorities and foreign FIUs.
- **Economic Offences Wing, Central Bureau of Investigation (CBI):** The CBI is a specialized police

organization that's been established to investigate certain kinds of crimes, such as crimes involving public officials who have engaged in corruption, significant economic offences, fraud, and crimes that have implications for the country or multiple states.

- **Income Tax Department:** This department has the authority to impose taxes on undisclosed foreign income and assets held by Indian residents to prevent the crime of money laundering.
- **Registrar of Companies (RoC):** As per the new requirement under the **Companies Act 2013**, every Indian company, whether private and public, is mandated to file with the **RoC** a record of the company's significant beneficial owners.
- **Regulators** like the **Reserve Bank of India (RBI)**, **Securities & Exchange Board of India (SEBI)**, and **Insurance Regulatory & Development Authority of India (IRDAI)** are empowered to handle matters relating to money laundering activities and establish AML standards.

Practice Question:

- Q. "What are the key provisions and objectives of the Anti-Money Laundering Law, and how does it aim to combat illicit financial activities and ensure transparency in the global financial system?"
- Q. How the new rules under Anti-Money Laundering (Amendment) Act 2023 will bring more transparency and accountability?



MANIPUR VIOLENCE: WHAT IS A 'SHOOT AT SIGHT' ORDER?

Context: The Manipur government had earlier issued a "shoot at sight" orders as violence in the state had spread to capital Imphal.

What is a 'Shoot at Sight' Order?

- In India, shoot-at-sight orders are a **contentious** and uncommon type of law enforcement.
- The directives allow **police or other security forces** to shoot anyone who **defies the orders** without warning or even attempting to apprehend them.

When is a shoot and sight order issued?

- Authorities issue them when they believe there is an imminent **threat to public order or security** and that the use of lethal force is required to prevent it.

- Orders to 'shoot at sight' are typically granted for a **short time** and in **specific places** where there is a significant potential of violence.

What is the legal basis of such an order?

- Under **Sections 41-60 and 149-152** of the CrPC, 1973, a "shoot-at-sight" or shooting order may be issued in accordance with the **legislative authorities** relating to the arrest or prevention of offences or the disbandment of unlawful assemblies.
- **Section 46 (2) of CrPC:** It authorises the use of force during an arrest. The law states that if a person "forcefully resists the attempt to arrest him or attempts to evade the arrest, such police officer or other person may use all means necessary to effect the arrest."
- **Limitation: Section 46(3),** however, limits this executive power by stating that the provision does not grant the ability "to cause the death of a person who is not accused of an offence punishable with death or imprisonment for life".
- **Section 81 of the IPC:** "nothing is an offence merely by reason of its being done with the knowledge that it is likely to cause harm, if it is done without any criminal intention to cause harm, and in good faith for the purpose of preventing or avoiding other harm to person or property."
- **Section 144 of the CrPC:** It authorises the employment of **broad powers** in dealing with urgent cases of "apprehended danger" or nuisance by issuing orders.
- **Section 144(3) of the Act** authorises curfew orders to be issued in the case of a "specific individual," "persons residing in a particular place or area," or "the general public when frequenting or visiting a particular place or area." The executive frequently issues "shoot-at-sight orders" using the authority granted to it by Section 144.
- **Section 3(a) of the Armed Forces Special Powers Act of 1958,** as amended by the Armed Forces (Assam and Manipur) Special Powers Amendment Act of 1972, gives the armed forces the authority to use force in "disturbed areas."

About Meitei community:

- The Meitei are the **largest community in Manipur**. They are dominant in capital **Imphal** and are the ones commonly referred to as Manipuri.
 - According to the **last census of 2011**, they are **64.6 per cent** of the state population but occupy only about 10 per cent of the landmass of Manipur.

- **Other tribes:** On the other hand, there are the tribals known as the **Nagas and Kukis**, who account for nearly 40 per cent of the population but reside across 90 per cent of Manipur's land.
- While the Meiteis are mostly Hindu, the **Nagas** and **Kuki-Zomis** are mainly **Christian**. Manipur has nearly equal populations of Hindus and Christians, at around 41 per cent each, according to data from the **2011 census**.

Why Tribes against the ST status for Meitei?

- Tribals including **Nagas, Zomis, and Kukis** against the ST status for **Meitei**. They comprise around 40 per cent of the state's population.
- The Meitei community are already classified under **Scheduled Castes (SC) or Other Backward Classes (OBC)**, and are privy to opportunities that are afforded by that tag.
- The ST communities of Manipur fear the loss of job opportunities and other affirmative actions granted to STs by the Constitution of India to a much advanced community like the Meitei.
- Apart from being the majority community, **Meiteis** also have more representation in Manipur Assembly.
- That's because 40 of the 60 Assembly seats in the state are from the **Imphal Valley region** – the area that is mostly inhabited by the **Meiteis**.

Push for Scheduled Tribe status:

- As of today, 34 sub-tribes of the **Naga and Kuki-Zomi tribes** are on the government's list of Scheduled Tribes, but the **Meiteis** are not.
- However, the **Meiteis** have long been demanding for Scheduled Tribe status, arguing that it needs to be protected from the influx of outsiders and "infiltration".

Claims made by Meiteis Community:

- The Meiteis blame their troubles on "**large-scale illegal immigration**" from Myanmar and Bangladesh and have sought the ST status.

Practice Question:

Q. What are the fundamental rights that are being violated when individuals are subjected to shoot-at-sight policies, and what are the implications for human rights and due process in such cases?

Q. Individuals have the right to personal security which encompasses protection against arbitrary or unlawful violence. Discuss



THE LACK OF A DRUG RECALL LAW IN INDIA

Context: 'Abbot', a multinational pharmaceutical company, published a public notice in newspapers to alert people about a mislabelled batch of medicine that it had inadvertently shipped to the market.

So, what's the big deal?

Drug Recall:

A drug recall occurs when a prescription or **over-the-counter drug** is removed from the market because of its harmful or side effects. In some cases, **drug manufacturers** may voluntarily recall their drugs if they discover a problem with their drug.

- There is nothing special about this development as such recalls take place regularly in the U.S., including by Indian companies.
- However, such domestic or foreign pharmaceutical companies recall substandard or mislabelled drugs do not take place in India.

Why India is lacking behind?

- For a nation that seeks to claim the mantle of "**pharmacy to the world**," India is scandalously short on regulatory oversight.
- There exists no law in India that mandates such medicine be removed from the market to this day.
- Though the country has been mulling the creation of a mandatory recall law for substandard drugs since 1976. In 1976, the **Drugs Consultative Committee** discussed the issue of drug recalls, but no development.
- In 2012, certain recall guidelines were published by the CDSCO, but they lacked the force of law.

India's drug industry:

- India is the largest provider of generic medicines, producing **20% of the world's supply**, according to the government's Economic Survey.
- Its \$50 billion drug-manufacturing industry exports medicines to over 200 nations and makes 60% of all vaccines.
- It boasts "**the highest number**" of US Food and Drug Administration compliant plants outside America, and indeed, some of its generic pharmaceutical companies produce high-quality medicines.

How does it impact?

- People, including children, are probably likely dying or suffering from bad health consequences as a result of poor pharmaceuticals remaining on the market for too long.
- Hundreds of medications flunk random testing in government laboratories every month.

What happens when substandard drugs are not recalled?

- People, including children, are almost certainly dying or suffering from adverse health events because substandard drugs are not swiftly removed from the market.
- Every month, dozens of drugs fail random-testing in government laboratories. Ideally, these drugs will be necessarily recalled in a transparent manner, with the people being informed of the failures.
 - ▶ If this were to actually happen in India, the people would be flooded with alerts on an almost daily basis, which then would increase the pressure on drug regulators to institute extensive reforms.
 - ▶ If the bureaucracy's intention is to avoid accountability, it might prefer to keep quiet and let substandard drugs, even those with dangerous consequences for consumers, circulate in the market.
- This has been their modus operandi for decades, until recently, when drug failures overseas brought attention to this issue. Yet nothing has changed on the ground.

Practice Question:

Q. Why India is going forward for a nation that seeks to claim the mantle of "pharmacy to the world"?

Q. "What are the key drug-related laws in India, and how do they aim to address the issue of drug abuse, trafficking, and illicit drug trade within the country?"



BOOK HATE SPEECH CASES EVEN WITHOUT COMPLAINT: SC

Context: Calling hate speech a serious offence that can affect the secular fabric of India, the Supreme Court directed all states to *suo moto* register cases of such offences even if there is no formal complaint.

Key-highlights of the SC Order:

FOR LARGER PUBLIC GOOD

We don't have specific people in our mind. What we have in our mind is larger public good and are trying to ensure establishment of rule of law, so that things don't go out of our hand...

...It is undisputed that hate speeches are not like any other offence; it is capable to affect the very social fabric of the nation and affects the dignity of the individual

- Any hesitation to act will be viewed as contempt of the top court and appropriate action will be taken against the erring officers.
- All states and UTs shall ensure that immediately as and when any speech or any action takes place which attracts offences such as **Sections 153A, 153B and 295A and 505 of the IPC** etc., *suo motu* action will be taken to register cases even if no complaint is forthcoming and proceed against the offenders in accordance with law.

What comes under hate speech?

- There is **no international legal definition** of hate speech, and the notion of what constitutes "hateful" speech is debatable.
- Hate speech is defined as any form of communication, **whether spoken, written, or physical**, that criticizes or discriminates against a person or a group based on their **religion, ethnicity, nationality, race, colour, descent, gender**, or other identity factors.

Legal Provisions of Hate Speech in India:

- **Article 21:** Responsible speech is the essence of the liberty granted under **Article 21 of the Constitution**.
- **Article 19(2):** It guarantees freedom of speech and expression to all citizens of India.
 - ▶ **Exception:** Hate speech has not been defined in any law in India. However, legal provisions in certain legislations prohibit **select forms of speech** as an exception to **freedom of speech**.

Legislations around Hate speech: The Indian Penal Code, 1860 (hereinafter IPC);

- **Section 124A** IPC penalises sedition
- **Section 153A** IPC penalises 'promotion of enmity between different groups on grounds of religion, race, place of birth, residence, language, etc., and doing acts prejudicial to maintenance of harmony'.
- **Section 153B** IPC penalises 'imputations, and assertions prejudicial to national integration.

- **Section 295A** IPC penalises 'deliberate and malicious acts, intended to outrage religious feelings of any class by insulting its religion or religious beliefs'.
- **Section 298** IPC penalises 'uttering, words, etc., with deliberate intent to wound the religious feelings of any person'.
- **Section 505(1) and (2)** IPC penalises the publication or circulation of any statement, rumour or report causing public mischief and enmity, hatred or ill-will between classes

Practice Question:

- Q. What are the impacts of hate speech on individuals and society, and what measures can be taken to address and mitigate its harmful effects?**

**GOVERNOR CAN'T ENTER POLITICAL ARENA: SC**

Context: In relation to the Maharashtra political crisis, the Supreme Court held that decision taken by the Governor to call for a floor test based on the rebellion of Eknath Shinde-led faction and to direct then CM Uddhav Thackeray to prove his majority on the floor of the House was wrong.

Background:

- The former Maharashtra Governor **Bhagat Singh Koshyati** had sought a floor test following a rebellion by a section of Shiv Sena MLAs led by Eknath Shinde in June 2022.

Key-points made by the Supreme Court:

- **No solution to resolve disputes:** In its judgement, the Supreme Court said the "**floor test cannot be used as a medium to resolve internal party disputes or intra party disputes**".
 - ▶ The court noted that "**dissent and disagreement within a political party must be resolved in accordance with the remedies prescribed under the party constitution, or through any other methods that the party chooses to opt for**".
- But, the Supreme Court has ruled that the Governor's decision was incorrect as it was based on the rebellion of a faction led by Eknath Shinde and not on any material suggesting that Uddhav Thackeray had lost the majority in the assembly.

What is a floor test?

- A floor test or a "**No Confidence Motion**" is a legislative measure conducted on the floor of the House to check whether the executive has the majority support in the legislature with the confidence of **at least 51% of the members of the House**.
- It is called for when an incumbent government is suspected to have lost the majority in the house.
- Although the **constitution does not demarcate** any provision for a political party to be in absolute majority to form the government, the executive i.e., the ministers it is composed of must exercise the legislature's majority.
- Under the **Article 164** of the Indian Constitution, "**the council of ministers shall be collectively responsible to the Legislative Assembly of the State.**"
- If the majority is questioned and the incumbent government fails to qualify the trust vote, the executive falls and the concerned ministers are required to resign from their respective positions.
- A no-confidence motion can be only be passed in the Lower Houses at both state and central hierarchies in the **Lok Sabha and Vidhan Sabhas of states**.

Role of Governor:

- Governor can summon members of the Assembly and ask the Government to prove its majority by conducting a floor Test.
- **Article 174** confers on the Governor the power to summon, dissolve or prorogue any House of Legislative Assembly.
- **Article 175** gives the Governor the power to address any House of Legislative Assembly.

What are the implications of the development?

- The ruling by the Supreme Court is a significant development in the Maharashtra political crisis, which had led to **uncertainty and instability** in the state's governance.
- It is expected to have far-reaching implications for the **functioning of democratic institutions** in the country.
- Overall, the decision by the Supreme Court serves as a reminder that **constitutional principles and democratic norms** must be upheld at all times, even in the midst of political crises and upheavals.
- It is hoped that the ruling will help to restore public confidence in the functioning of the political system and strengthen the rule of law in the country.

Practice Question:

- Q. What powers and authorities does a governor possess in terms of executive, legislative, and judicial functions?
- Q. How does the role of a governor differ from that of a president or a prime minister in a country's governance structure?

**MODEL PRISONS ACT, 2023**

Context: The Centre announced the **Model Prisons Act, 2023**, aimed at reforming prison management and transforming inmates into law-abiding citizens who can be rehabilitated into society.

Background:

- The 2023 Act replaces **Prisons Act of 1894**, the British-era law and marks a significant step towards ensuring a more effective and comprehensive approach to prison management.

The prison population in India is one of the largest in the world, with over **4, 50,000** inmates housed in around 1,350 prisons.

- The Centre has reviewed '**The Prisons Act, 1894**', 'The Prisoners Act, 1900', and 'The Transfer of Prisoners Act, 1950' and incorporated relevant provisions from these Acts in the newly announced 'Model Prisons Act, 2023'.

Issues in the previous act

- Conspicuous omission of the correctional focus in the existing Act
- No provision for reform and rehabilitation of prisoners in the existing Act

What is in the Act?

- "Model Prisons Act, 2023" aims to address gaps in the **current Prisons Act** and provide holistic guidance for **prison management**.

Prisons in the country and 'persons detained therein' are a **State subject**.

- **Technology in prison management:** The new model act includes provisions for the use of technology in prison management, granting parole, furlough, and remission to encourage good conduct, ensuring the physical and mental well-being of prisoners, and focusing on their reformation and rehabilitation.
- The aim is to provide a guiding document for states to adopt in their jurisdictions and improve prison systems across the country.

- State Governments and Union Territory Administrations can benefit from the **Act** by adopting it in their jurisdictions, with such modifications which they may consider necessary, and repeal the existing three Acts in their jurisdictions.

Salient Features:**Right of Prisoners:**

- The rights of prisoners are covered under the Prison Act, 1894.
 - ▶ Right To Legal Aid
 - ▶ Right To Speedy Trial
 - ▶ Right Against Solitary Confinement And Protection From Torture

- ▶ **Security:** Provision for **security assessment and segregation of prisoners, individual sentence planning**, grievance redressal, prison development board, attitudinal change towards prisoners.
- ▶ **Accommodation:** Provision of **separate accommodation for women prisoners, transgender**, etc.
- ▶ **Technology:** Provision for use of technology in prison administration with a view to bring transparency in prison administration.
- ▶ Provision for video conferencing with courts, scientific and technological interventions in prisons, etc.
- ▶ Provision of punishment for prisoners and jail staff for use of prohibited items like mobile phones etc. in jails.
- ▶ **Open jail:** Provision regarding establishment and management of high security jail, open jail (open and semi open), etc.
- ▶ **Protection for society:** Provision for protecting the society from the criminal activities of hardened criminals and habitual offenders, etc.
- ▶ **Legal aid:** Provision for legal aid to prisoners, provision of parole, furlough and premature release etc. to incentivize good conduct.
- ▶ **Skill development:** Focus on vocational training and skill development of prisoners and their reintegration into the society.

Recent measures taken by the Government:

- Financial assistance for prisoners: In line with one of the announcements of the Union Budget, 'Support for Poor Prisoners', the scheme envisages financial support to poor persons.
- **E-Prisons Project:** The E-prisons project supplements the Prisoner Information Management system (PIMS) which provides a centralized approach for recording and managing prisoner information and generating different kinds of reports.

- **Model Prison Manual 2016:** The manual provides detailed information about the legal services (including free services) available to prison inmates. The **Ministry of Home Affairs** has issued an advisory to all States and UTs informing them about the legal aid facility available to under-trial prison inmates.
- **National Legal Services Authority:** It has launched a web application to facilitate the under trial prisoners with free legal services. The objective of the above application is to make the legal services system more transparent and useful.
- **Legal Aid and Awareness Scheme:** It is aimed at providing legal aid and awareness to prisoners across the country. The scheme includes the establishment of legal aid clinics in prisons, which provide prisoners with free legal advice and representation.
- **Prisons e-Library project:** It is a joint initiative between the Ministry of Home Affairs and the National Informatics Centre aimed at providing prisoners with access to digital learning resources.

Practice Question:

- Q. "Model Prisons Act, 2023" aims to address gaps in the current Prisons Act and provide holistic guidance for prison management. Evaluate
- Q. What are the provisions of Model Prison Act 2023? Also mention how it can address gender equality and social issues.



GAPS IN POSH ENFORCEMENT, MUST SECURE WOMEN'S WORK SPACE: SC

Context: Highlighting serious lapses in the implementation of the mandate of the **Prevention of Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013**, the SC on directed the Centre, states and UTs to verify if all departments had constituted committees under the Act.

What is PoSH Act?

- The **Protection of Women from Sexual Harassment at Workplace Act, 2013 (POSH Act 2013)** is a landmark legislation in India that seeks to protect women from sexual harassment.

Definition of sexual harassment:

Under the 2013 law, sexual harassment includes "any one or more" of the following "unwelcome acts or behaviour" committed directly or by implication:

- Physical contact and advances
- A demand or request for sexual favors
- Sexually coloured remarks
- Showing pornography
- Any other unwelcome physical, verbal or non-verbal conduct of sexual nature.

- The Act traces its origin from **Vishaka Judgment of Supreme Court** delivered in year 1997, which defined the term of Sexual Harassment and also laid down guidelines for working women irrespective of their employment in public sector or private sector.
- The horrible tragedy of 16th December, 2012 (Nirbhaya tragedy), escalated the changes in the Criminal law as well as led to enacting the **Sexual Harassment Act, 2013**.
- This Act makes it mandatory for employers to provide a safe and secure work environment to female employees.
 - ▶ It also requires employers to set up **Internal Complaints Committee (ICC)** in their organisations to address complaints of sexual harassment.

What are the issues in the implementation?

There are still several issues in its implementation. Some of these issues are:

- **Lack of awareness about the law among employers and employees**
- **Lack of compliance:** Even when organizations are aware of the law, there are instances where they fail to comply with its provisions. This is due to a lack of understanding of the requirements of the law or a lack of commitment to implementing the law.
- **Fear of retaliation:** Women who report incidents of sexual harassment often fear retaliation from their employers or colleagues.
- **Inadequate redressal mechanisms:** Despite the existence of the law, many organizations lack adequate redressal mechanisms to deal with complaints of sexual harassment.
- **Lack of accountability** on the part of the organization or a lack of effective enforcement mechanisms.

Practice Question:

- Q. The **Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act 2013 (PoSH Act)** in India aims to address and prevent sexual harassment in the workplace. Critically analyse.
- Q. "What are the key challenges and barriers to achieving gender equality in the workplace, particularly in relation to addressing and preventing harassment issues?"



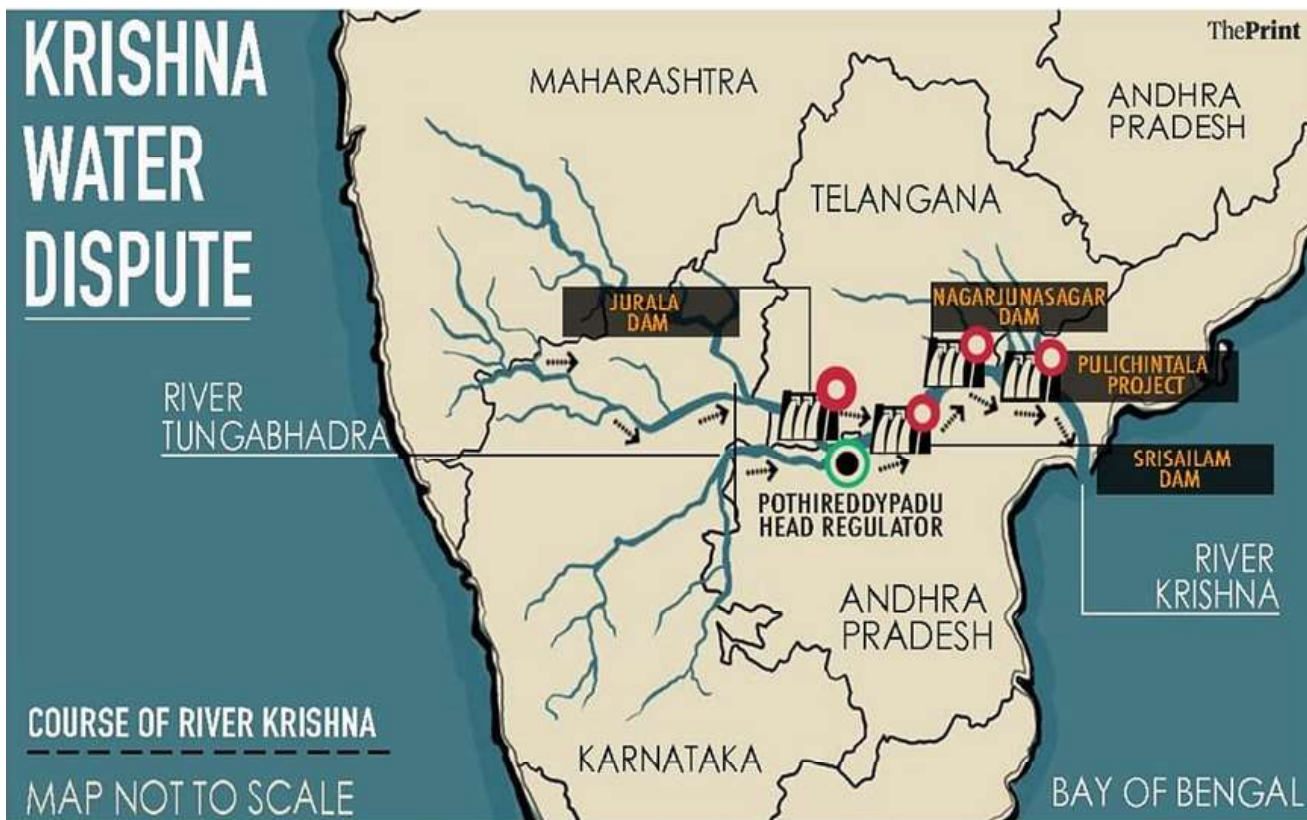
KRISHNA RIVER WATER SHARE OF TELANGANA AND ANDHRA PRADESH

Context: Telangana has made it clear that it will not accept the 34:66 (Telangana: Andhra Pradesh) ratio imposed on it since the partition for an additional year.

Key highlights:

- The **Special Chief Secretary (Irrigation) of Telangana** has stated that **Telangana is entitled to a 70% share in 811 tmcft allocated to combined AP by the KWDT-I Award.**

- But the erstwhile AP had apportioned it in 512:299 tmcft (Andhra Pradesh : Telangana) ratio without protecting the in-basin requirements in the fluoride and drought-affected areas of Telangana and considering the judicious needs of the region.
- The Board Chairman has placed it on record that the matter would now be referred to the Ministry of Jal Shakti for its intervention.
- Telangana authorities stated that they would not agree for anything less than 50:50 shares till finalisation of shares.
- The **Ministry of Jal Shakti** has failed to refer the matter of water shares to a Tribunal, new or existing, for over two years now, although Telangana had withdrawn its petition in the Supreme Court.



Background:

Krishna Water Disputes Tribunal (KWDT):

- The **Inter-State River Water Dispute Act, 1956**, established the Krishna Water Disputes Tribunal (KWDT) in 1969, and it delivered its report in 1973.
- In addition, it was stated that any time after May 31, 2000, a competent body or tribunal could review or alter the KWDT order.

Second KWDT:

- The second KWDT was instituted in 2004.

- It delivered its report in 2010, which made allocations of the Krishna water at 65 % dependability and for surplus flows as follows: 81 TMC for Maharashtra, 177 TMC for Karnataka, and 190 TMC for Andhra Pradesh.

Creation of Telangana:

- After the creation of Telangana, Andhra Pradesh has asked that Telangana be included as a separate party at the KWDT and that the allocation of Krishna waters be reworked among four states, instead of three.
- It is relying on **Section 89 of The Andhra Pradesh State Reorganisation Act, 2014.**

- For the purposes of this section, it is clarified that the project-specific awards already made by the Tribunal on or before the appointed day shall be binding on the successor States.

Constitutional Provisions:

- Article 262** of the Constitution provides for the adjudication of **inter-state water disputes**.
- Under this, Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution and control of waters of any inter-state river and river valley.
- The Parliament has enacted the two laws, the **River Boards Act (1956)** and the **Inter-State Water Disputes Act (1956)**.
- The River Boards Act provides for the establishment of river boards by the Central government for the regulation and development of Inter-state River and river valleys.
- The **Inter-State Water Disputes Act** empowers the Central government to set up an **ad hoc tribunal** for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.
- Neither the Supreme Court nor any other court is to have jurisdiction in respect of any water dispute which may be referred to such a tribunal under this Act.

About Krishna River:

- Source:** It originates near **Mahabaleshwar (Satara)** in Maharashtra. It is the second biggest river in peninsular India after the Godavari River.
- Drainage:** It runs from four states Maharashtra (303 km), North Karnataka (480 km) and the rest of its 1300 km journey in Telangana and Andhra Pradesh before it empties into the Bay of Bengal.
- Tributaries:** Tungabhadra, Mallaprabha, Koyna, Bhima, Ghataprabha, Yerla, Warna, Dindi, Musi and Dudhganga.

Practice Question:

- Q. What are the primary factors contributing to river water disputes between neighbouring regions in India? Also name some of them using as an example and Suggest measures to solve the same.**
- Q. What are the potential solutions and mechanisms for effective resolution and equitable sharing of water resources in India?**

**THE TUSSELE OVER 'SERVICES' IN DELHI**

Context: The Government of National Capital Territory of Delhi (Amendment) Ordinance, 2023 was passed by the President on May 19th to make a fresh claim of power over the services in the capital.

Key Highlights:

- It forms a "permanent" **National Capital Civil Service Authority (NCCSA)** with the Chief Minister as chairperson, the Chief Secretary and Principal Home Secretary as Member and Member Secretary respectively.
- The **NCCSA exercises authority over civil service officers** working in all **Delhi government departments except those in public order, police and land**.
- The Lieutenant Governor's decision, in case of a difference of opinion, would be final.
- The Ordinance is based on the argument that the **Supreme Court** has **acknowledged** the **superior authority of Parliament to make laws for the national capital**.

What was the judgment by the Supreme Court?

- The **court limited the role of the Lieutenant Governor (LG)** over bureaucrats in the capital to three specific areas - **public order, police and land**.
- Government of India:** The Centre turned the tables on the judgment and promulgated the Government of **National Capital Territory of Delhi (Amendment) Ordinance, 2023** to make a fresh claim of power over the services in the capital.
- Objective:** The aim of the **Ordinance** is to **balance the local and domestic interests of the people of Delhi** with the democratic will of the entire nation reflected through the President of India.

What does the Ordinance say?

- Power over the services:** It required the LG to consult the Chief Minister only at his "**discretion**".
 - The notification had excluded **Entry 41 (services)** of the State List from the scope of powers of the Delhi government.

- **National Capital Civil Service Authority (NCCSA):** The Ordinance forms a “**permanent**” National Capital Civil Service Authority (NCCSA) with the Chief Minister as chairperson, and the Chief Secretary and Principal Home Secretary as Member and Member Secretary, respectively.
- The NCCSA exercises authority over civil service officers working in all Delhi government departments except those in **public order, police and land**.
- It would decide **transfers, postings, prosecution sanctions, disciplinary proceedings, vigilance issues, etc., of civil service officers** deputed to Delhi government departments by majority of votes of the members present and voting.
- The Lieutenant Governor’s decision, in case of a difference of opinion, would be final.
- This throws open a scenario in which bureaucrats in the NCCSA could possibly veto the Chief Minister.
- The Ordinance explains that the Chief Secretary would represent “**the will of the officers of GNCTD**” (Government of the National Capital Territory of Delhi).

The Top Court Say:

- The Supreme Court had envisaged a “**neutral civil service**” carrying out the day-to-day decisions of the Council of Ministers.
- The NCCSA attempts to bring civil service officers out of the administrative control of the elected Ministers, who embody the will of the people, and transform them into a power lobby.
- The NCCSA negates the **intrinsic link between government accountability and the principle of collective responsibility highlighted in the judgment**.
- The Ordinance, by creating the NCCSA, skirts the emphasis laid down in the judgment on the “triple chain of command” in the governance of Delhi.
- The court had held that the civil services were accountable to the Ministers of the elected government, under whom they function.
- The Ministers were in turn accountable to the legislature and the legislature ultimately to the people of Delhi.
- The chain of command was forged by the Supreme Court to **ensure democratic accountability**.
- The Ordinance also does not need the President’s own Transaction of Business Rules of the Government of National Capital Territory of Delhi, 1993.
- **K. Balakrishnan Committee:** The court had also dismissed the **K. Balakrishnan Committee’s** specific recommendation that the “**services**” should not

be included within the legislative and executive ambit of the NCTD.

- ▶ The court held that the committee report was not relevant as it preceded the insertion of **Article 239AA** - the provision that deals with the governance structure of Delhi, in the **69th Constitution Amendment, 1991**.

Does the Ordinance go against the Supreme Court judgment?

- Under the constitutional scheme envisaged in **Article 239AA (3)**, NCTD was given legislative power which though limited, in many aspects is similar to States.
- In that sense, with the addition of Article 239AA, the Constitution created an “**asymmetric federal model**” with the Union of India at the center, and the NCTD at the regional level.
- The court had held that the executive power of the Delhi government was “coextensive” with its legislative power.
- That is, the executive arm of the government covers all the subjects, including services, except public order, **police and land**, for which the legislative arm can make laws.

What does the Ordinance and the judgment say about the LG’s powers?

- The Ordinance has put the LG back in the driver’s seat by giving him the power to take a final call on any decision taken by the NCCSA regarding services.
- The **LG was bound by the aid and advice of the Council of Ministers under Article 239AA(4)** while exercising executive powers in relation to matters falling within the legislative domain of the legislative assembly of NCTD.
- The court had held that even the “**limited discretionary power**” afforded to the LG “ought to be exercised in a careful manner in rare circumstances such as on matters of national interest and finance.
- The Lieutenant Governor **could not refer every matter to the President**”.

Way ahead:

- An **Ordinance is not beyond judicial review of the apex court**. If the 2023 Ordinance is challenged separately, the Union would have to prove the “extraordinary or emergent situation” which necessitated it to promulgate an Ordinance merely days after a Constitution Bench settled the law.
- A Constitution Bench in **DC Wadhwa versus State of Bihar** had held that the power of the Executive to promulgate an Ordinance should not be “perverted to serve political ends”.

Practice Question:

- Q. What are the key issues and legal complexities surrounding the disputes between the Delhi Union Territory and the Governor regarding the control and administration of services?**
- Q. The Delhi government and the central government have disputes for control and jurisdiction of the police and land administration in Delhi. Discuss**

**GOVT'S POWER TO PROMULGATE, REPROMULGATE ORDINANCES**

Context: Recently, the central government promulgated an Ordinance that Aam Aadmi Party government of Delhi has control over the transfer and posting of officials in the National Capital Territory (NCT), except with regard to public order, police, and land.

Key highlights:

- The **Ordinance promulgated by the President of India** gave the Lieutenant Governor of Delhi power over services and established a **"National Capital Civil Service Authority" consisting of the Chief Minister and two senior IAS officials.**

Ordinance in Constitution:

- **Article 123:** Under Article 123 of the Constitution ("**Power of President to promulgate Ordinances during recess of Parliament**"), "if at any time, except when both Houses of Parliament are in session, the President is satisfied that circumstances exist which render it necessary for him to take immediate action, he may promulgate such Ordinances as the circumstances appear to him to require."
- **Ordinance:** An Ordinance "shall have the same force and effect as an Act of Parliament". But the government is required to bring an Ordinance before Parliament for ratification - and failure to do so will lead to its lapsing "at the expiration of six weeks from the reassembly of Parliament".
 - ▶ The **Ordinance may lapse earlier if the President withdraws it** - or if both Houses pass resolutions disapproving it.
 - ▶ **Lost majority:** Rejection of an Ordinance would, however, imply the government has lost majority.
 - ▶ Also, if an Ordinance makes a law that Parliament is **not competent to enact** under the Constitution, it shall be **considered void.**

- **Power of President:** Since the **President acts on the advice of the Council of Ministers**, it is in effect the government that decides to bring the Ordinance.
 - ▶ The President may return the recommendation of the Cabinet once if she feels it warrants reconsideration; if it is sent back (**with or without reconsideration**), she has to promulgate it.
- **Powers of the Governor:** **Article 213** deals with the broadly analogous powers of the Governor to promulgate/ withdraw an Ordinance when the state legislature is not in session.
- **Validity:** An Ordinance is valid for six weeks, or 42 days, from the date on which the next session starts.
 - ▶ If the two Houses start their sessions on different dates, the later date will be considered, say the explanations in **Articles 123 and 213.**

Supreme Court: Re-promulgation of Ordinance:

- **Krishna Kumar Singh and Another v. State of Bihar:** If, for whatever reason, an Ordinance lapses, the only option for the government is to reissue or repromulgate it.
 - ▶ In 2017, the Supreme Court examined a case where the **state of Bihar re-promulgated an Ordinance several times without placing it before the legislature.**
- The Supreme Court held that the **Governor's power to issue an Ordinance is an emergency power**, and that repeated re-promulgations without bringing the Ordinance to the legislature would usurp the legislatures function and be unconstitutional.
- This was in violation of the **SC judgment in Dr D C Wadhwa and Ors v. State of Bihar and Ors (1986).**
- A Constitution Bench of the Supreme Court headed by then CJI P N Bhagwati held that an Ordinance promulgated by the Governor to meet an emergent situation shall cease to be in operation at the expiration of **six weeks from the reassembly of the Legislature.**
- If the government wishes for the **Ordinance to continue in force beyond the six-week period**, it "has to go before the Legislature", which is the constitutional authority entrusted with law-making functions.

Practice Question:

- Q. What is the role of ordinances in local governance, and how do they differ from other forms of legislation? Furthermore, what are some common examples of ordinances, and how do they impact the daily lives of residents in a community?**

EXECUTIVE POWER UNDER ARTICLE 299 OF THE CONSTITUTION

Context: In a recent decision, the Supreme Court ruled that the government cannot claim immunity from the legal provisions of a contract entered into under the President's name under Article 299 of the Constitution.

Background:

- Articles 298 and 299 came after the Constitution came into effect and the government entered into contracts even in the pre-independence era.
- According to the **Crown Proceedings Act of 1947**, the Crown could not be sued in court for a contract it entered into.

What does Article 299 say?

- Article 299 of the Constitution:** It provides that "all contracts made in the exercise of the executive power of the Union or of a State shall be expressed to be made by the President or by the Governor of the State" and that all such contracts and "assurances of property made in the exercise of that power shall be executed" on behalf of the **President or the Governor**.
- Under **Article 299 (1)** means that there must be a deed or contract in writing and that it should be executed by a person duly authorised by the President or the Governor on their behalf.

What is the case?

- Glock Asia-Pacific Limited vs. Government of India:** The case dealt with an application filed by **Glock Asia-Pacific Limited**, a pistol manufacturing company, against the Centre regarding the appointment of an arbitrator in a tender-related dispute.

Other Constitutional provisions:



- Article 298:** The article grants the Centre and the state governments the power to carry on trade or business, acquire, hold, and dispose of property, and make contracts for any purpose, while Article 299 delineates the manner in which these contracts will be concluded.

Supreme Court's view:

- Arbitration and Conciliation Act, 1996:** The act says that notwithstanding any prior agreement, any person whose relationship with the parties or counsel of the dispute falls under any of the categories in the Seventh Schedule will be ineligible to be appointed as an arbitrator.
- As per the Seventh Schedule of constitution:** The Seventh Schedule includes relationships where the arbitrator is an employee, consultant, advisor, or has any other past or present business relationship with a party.
- Appointment of an Arbitrator:** The **246th Law Commission Report**, which dealt with the issue of contracts with government entities, the court observed that when the party appointing an arbitrator is the State, "the duty to appoint an impartial and independent adjudicator is even more onerous."
 - Thus, the court rejected the Centre's reliance on Article 299, saying, "**Article 299 only lays down the formality that is necessary to bind the government with contractual liability**" and not "the **substantial law relating to the contractual liability of the Government**", which is to be found in the **general laws of the land**."

Practice Question:

- Q. What is the significance and scope of Article 299 of the Indian Constitution, particularly in relation to government contracts and agreements?**
- Q. "Article 299 of the Indian Constitution shapes the legal framework for contractual obligations between the government and private entities". Critically evaluate**

CHILD WASTING IN INDIA

Context: Recently, **UNICEF** (United Nations Children's Fund), **WHO** (World Health Organization), **World Bank Group** have released a report titled- "**Levels and trends in child malnutrition: Joint Child Malnutrition Estimates (JME)**", stating that in 2020, 18.7 % of Indian children were affected by 'Wasting' caused by **poor nutrient intake**.

What is Joint Malnutrition Estimates (JME)?

- The JME group was created in **2011** to address the call for harmonized child Malnutrition estimates.
- Child malnutrition estimates for the indicators stunting, wasting, overweight and underweight describe the magnitude and patterns of **under- and over-nutrition**.
 - ▶ The **UNICEF-WHO-WB Joint Child Malnutrition Estimates** inter-agency group updates regularly the global and regional estimates in prevalence and numbers for each indicator.
- The key findings in the **2023 Edition** include **global and regional trends for all mentioned indicators** as well as country-level modelled estimates for stunting and overweight.

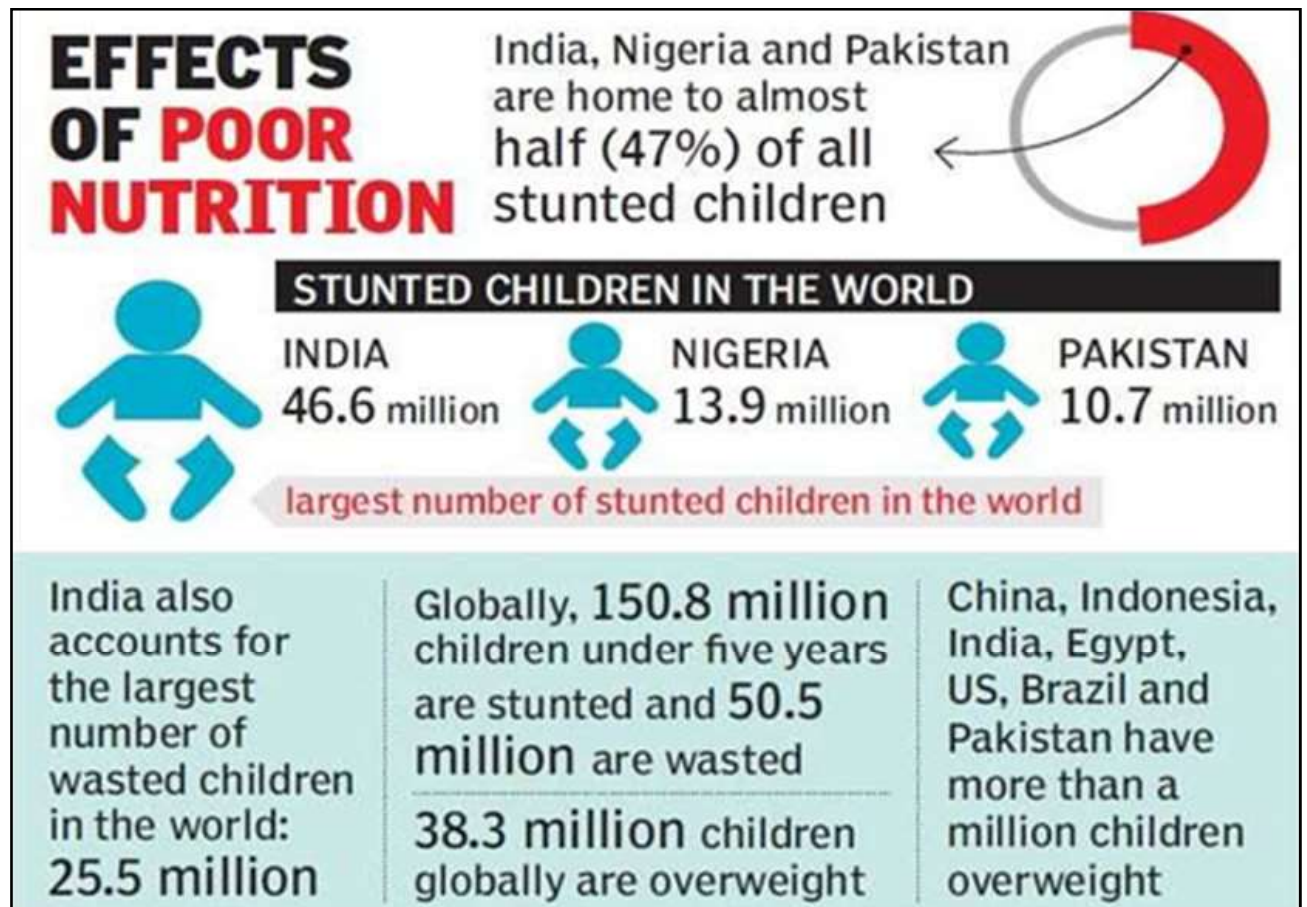
What is wasting?

- Wasting is defined as low **weight-for-height**.
- It often indicates **recent and severe weight loss**, although it can also persist for a long time.
- It usually occurs when a person has not had food of adequate quality and quantity and/or they have had **frequent or prolonged illnesses**.

- Wasting in children is associated with a **higher risk of death if not treated properly**.

What are the Findings of the Report?

- **Wasting:**
 - ▶ Half of all children with wasting in the world live in India.
 - ▶ In 2022, an estimated 45 million children **under five (6.8 %)** were affected by wasting globally, of which 13.6 million were suffering from severe wasting.
 - ▶ More than **three quarters** of all children with severe wasting live in **Asia** and another 22 % live in **Africa**.
- **Stunting:**
 - ▶ India had a stunting rate of **31.7 % in 2022**, down from **41.6 % in 2012**, a decade ago.
 - ▶ Some 148.1 million of children under age five worldwide, were affected by stunting in 2022.
 - ▶ Nearly all children affected lived in **Asia (52 % of the global share)** and **Africa**.
- **Overweight:**
 - ▶ There are **37 million** children under five who are **overweight globally**, an increase of nearly four million since 2000.
 - ▶ India had an overweight percentage of 2.8 % in 2022, compared to 2.2 % in 2012.



Progress:

- ▶ There is insufficient progress to reach the **2025 World Health Assembly (WHA) global nutrition targets** and UN-mandated **Sustainable Development Goal target 2.2**.
- ▶ **WHA global Nutrition Targets are:**
 - Reduce stunting by 40% in children under 5
 - Reduce the prevalence of anaemia by 50% among women in the age group of 19-49 years
 - Ensure 30% reduction in **low-birth weight**
 - Ensure no increase in childhood overweight;
 - Increase the rate of exclusive breastfeeding in the first six months up to at least 50%
 - Reduce and maintain childhood wasting to less than 5%.
- ▶ Only about a third of all countries are 'on track' to halve the number of children affected by stunting by 2030 and assessment of progress to date not being **possible for about one quarter of countries**.
- ▶ Even fewer countries are expected to achieve the **2030 target of 3% prevalence for overweight**, with just one in six countries currently 'on track'.
- ▶ An assessment of progress towards the wasting target is not possible for nearly half of countries.

Possible Causes:

- High levels of adult undernutrition affect one-third of the country's adults.
- High levels of child undernutrition, affect almost every second child.
- High levels of maternal undernutrition, lead to low birth-weight.
- Inappropriate and sub-optimal infant and young child feeding and caring practices.
- Issues relating to the prevention of illnesses and access to healthcare.
- Low awareness regarding nutrition and the use of local nutritious food including sources of nutrients.
- Inadequate attention to the health and nutrition of adolescent girls.
- Inadequate access to safe drinking water and proper sanitation facilities.

What are the Recommendations?

- Children suffering from severe wasting require **early detection and timely treatment** and care to survive.
- More intensive efforts are **required if the world is to achieve the global target** of reducing the number of children with stunting to 89 million by 2030.
- Gaps in the available data in some regions make it challenging to accurately assess progress towards global targets. Regular data collection is therefore

critical to monitor and analyze country, regional and global progress on child malnutrition moving forward.

About Malnutrition:

- Malnutrition refers to **deficiencies, excesses or imbalances in a person's intake** of energy and/or nutrients.
- The term malnutrition covers **two broad groups** of conditions:
 - ▶ **'Undernutrition'**—which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals).
- The other is **Overweight**, obesity and diet-related **non-communicable diseases (such as heart disease, stroke, diabetes and cancer)**.
 - ▶ Childhood overweight occurs when children's calorie intake from food and beverages exceeds their energy requirements.
- **Initiatives Related to Malnutrition:**
 - Mid-day Meal (MDM) scheme
 - POSHAN Abhiyaan
 - The National Food Security Act (NFSA), 2013,
 - Pradhan Mantri Matru Vandana Yojana (PMMVY)
 - Integrated Child Development Services (ICDS) Scheme
 - Aspirational District Programme

Practice Question:

- Q. What are the causes and consequences of child wasting, and what strategies can be implemented to address and prevent this form of malnutrition among children?**
- Q. What are the common nutrition-related problems affecting children, and what are their potential long-term effects on their growth, development, and overall well-being?**



DE-DOLLARISATION: THE RACE TO ATTAIN THE STATUS OF GLOBAL RESERVE CURRENCY

Context: Countries have tried to dethrone the dollar as the global reserve currency for many decades now for various reasons. But of late, attempts to de-dollarise have picked up pace in the aftermath of Russia's invasion of Ukraine last year.

What is 'reserve currency'?

- A **reserve currency** refers to any currency that is widely used in cross-border transactions and is commonly held as reserves by central banks.
 - ▶ It is the currencies of economic superpowers that have usually ended up being used as the global reserve currency.

De-dollarisation refers to the replacement of the U.S. dollar by other currencies as the global reserve currency.

What are the advantages for reserve currency?

- **Power over transactions:** Since international transactions carried out in the U.S. dollar are cleared by American banks, this gives the U.S. government significant power to oversee and control these transactions.
- **Privileges over others:** The global reserve currency status gives it unfair privileges over other countries.
- **Irresponsible expansion of money:** When a country's fiat currency enjoys reserve currency status, it gives the country the power to purchase goods and other assets from the rest of the world by simply creating fresh currency out of thin air.

What gives the US dollar the power in international trade?

- The U.S. dollar is not forced on anyone to be accepted as a medium of exchange for cross-border transactions.
- It is widely used in **international transactions** because people actually **prefer** to use the American currency over others for various economic reasons.
- Other currencies that have tried to compete against the U.S. dollar are not as popular as the greenback for carrying out international transactions.
- The global acceptability of the U.S. dollar has primarily been attributed to the
 - ▶ popularity of U.S. assets among investors
 - ▶ high level of trust of global investors in US

Why was the call for de-dollarisation renewed?

The profound economic disruption experienced by Iran, and more recently Russia (for invading Ukraine), after being disconnected from the international dollar-trading systems like **SWIFT**, prompted smaller countries to look for alternatives.

Example:

- India and Russia recently attempted to carry out trade between the two countries in **Indian rupees** rather than in U.S. dollars.
- However, it hit a roadblock because the **value of India's imports** from Russia far outweighs its exports to the country.
- This left Russia with excess rupees in hand which it was unwilling to spend on Indian goods or assets, and led to Russian demands for the settlement of bilateral trade in U.S. dollars.
- So, even Russia, a long-time friend of India and a long-time foe of the United States, preferred to carry out its trade with India using **U.S. dollars** since the dollar is far more widely acceptable than the Indian rupee.

Who can be the next?

- Currently, the Chinese Yuan is seen as the **primary alternative** to the U.S. dollar owing to China's rising economic power.
- Many countries like Russia, Brazil, and Argentina are increasingly exploring the use of the CNY.
- Beijing is now settling most of its international trade operations using the Chinese yuan.

How would it impact (if becomes reality)?

- **The positive side:**
 - ▶ De-dollarization can benefit local economies in a number of ways.
 - ▶ Trading in local currencies allow exporters and importers to balance risks, have more options to invest, to have more certainty about the revenues and sales.
- **The negative side:**
 - ▶ De-Dollarisation could potentially undermine the economic power of the US, but it also presents challenges and potential costs for developing countries.
 - ▶ Moving away from an established currency like dollar will impact a country's networking effect and create substantial barriers.
 - ▶ US dollar is the cheapest means of access to acquire nominally risk-free US Treasury instruments.

Practice Question:

- Q. What is the concept of de-dollarization and what are the reasons and potential implications for countries pursuing de-dollarization policies?
- Q. What are some strategies and challenges involved in reducing reliance on the US dollar in a country's financial system?

REFOCUS ON GIG WORKERS

Context: The recent strike by Zomato-owned Blinkit delivery agents has once again brought to the forefront the issues plaguing the gig economy in the country and the reforms required to stop the exploitation of such workers.

Who is a 'gig worker'?

- Gig workers refer to workers **outside of the traditional employer-employee relationship**.
- There are two groups of gig workers—
 - ▶ **Platform workers:** When gig workers use online algorithmic matching platforms or apps to connect with customers, they are called platform workers
 - ▶ **Non-platform workers:** Those who work outside of these platforms are non-platform workers, including construction workers and non-technology-based temporary workers.

A 2022 report by NITI Aayog estimates that nearly **23.5 million workers** will be engaged in the gig economy by 2029.

Are gig workers 'employees' or 'independent contractors'?

- Whether gig workers should be categorised as 'employees' or as 'independent contractors' has been a frequent debate.
- However, given the unique nature of gig work, gig workers display characteristics of both employees and independent contractors and thus do not squarely fit into any rigid categorisation.
- As a result, gig workers have limited recognition under current employment laws and thus fall outside the ambit of statutory benefits.

Benefits available to Employees and Contract Labourers:

- **Employees** are entitled to a host of benefits under statutes such as the
 - ▶ Minimum Wages Act, 1948
 - ▶ Employees' Provident Fund and Miscellaneous Provisions Act, 1952 (EPFA)
 - ▶ Payment of Bonus Act, 1965
- **Contract labourers** are governed under the
 - ▶ Contract Labour (Regulation and Abolition) Act, 1970
 - ▶ They are also entitled to benefits such as provident funds in accordance with the EPFA

What is the proposed law for gig workers?

- In keeping with the **National Commission on Labour's** recommendation to **consolidate central labour laws**, the **Ministry of Labour and Employment** introduced the **Code on Social Security, 2020** which brings gig workers within the **ambit of labour laws** for the first time.
- **Definition:** Under **Section 2(35)** of the Code, a 'gig worker' is defined as 'a person who performs work or participates in a work arrangement and earns from such activities outside of a traditional employer-employee relationship'.
- **Benefits:** Although the Code recognises '**gig workers**' including platform workers, it distinguishes between such workers and employees.
 - ▶ While employees have benefits such as gratuity, employee compensation, insurance, provident fund, and maternity benefits, the Code **only stipulates** that Central and State Governments **must frame suitable social security schemes for gig workers** on matters relating to health and maternity benefits, old age security, education, provident funds, accident benefits, life insurance, disability insurance among others.
- **Compulsory registration:** The Code also mandates the compulsory registration of all gig workers to avail of benefits under social security fund for gig workers.
 - ▶ **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.

What are the major concerns?

- **Exclusion from major security codes:** Out of the **four new labour codes** proposed, gig work finds reference only in the **Code on Social Security**. As a result, gig workers remain excluded from vital benefits and protections offered by other Codes such as **minimum wages, occupational safety and health benefits, and overtime pay**.
- **Limited rights:** They **cannot create legally recognised unions** and access a **national minimum wage** that applies to all forms of employment.
- **No guarantee on minimum wages:** The proposed law does not guarantee minimum wages for gig workers.
- **No remedy for grievances:** Gig workers also remain excluded from accessing the specialised redressal mechanism under the **Industrial Disputes Act, 1947**, thus denying them an effective remedy for grievances against their employers.

Global Examples:

- **UK Supreme Court:** In 2021, in a landmark judgment, the UK Supreme Court classified Uber drivers as 'workers' under the **UK Employment Rights Act 1996**, thus entitling them to various benefits like paid holidays and minimum wages.
- **Dutch High Court** also handed down a similar ruling, stating that the legal relationship between Uber and the drivers meets all the characteristics of an employment contract, making them entitled to workers' rights under local labour laws.
- **The Superior Court of California** struck down a **2020 ballot measure known as Proposition 22** that excluded gig workers from labour laws by declaring them 'independent contractors'.
- **Germany's Temporary Employment Act** provides for equal pay and equal treatment of gig workers.

Practice Question:

- Q. What are the key characteristics and challenges faced by gig workers in the contemporary labor market?**
- Q. What are some potential policy approaches to ensure their fair treatment, protection, and access to benefits?**

**RBI TELLS BANKS TO COMPLETE TRANSITION FROM LIBOR**

Context: The Reserve Bank of India (RBI) has asked banks and financial institutions to adopt by July 1 a widely accepted Alternative Reference Rate, such as the Secured Overnight Financing Rate (SOFR), to complete the transition from the scandal-hit London Interbank Offered Rate (LIBOR) and Mumbai Interbank Forward Outright Rate (MIFOR).

About:

- LIBOR was being used as the benchmark rate for raising funds abroad.
- It was a key benchmark for setting the interest rates charged on adjustable-rate loans, mortgages and corporate debt.

**LIBOR: Why is it being retired?**

- ▶ LIBOR is being phased out because of the role it played in worsening the **2008 Financial Crisis**, as well as scandals involving LIBOR manipulation among rate-setting banks.
- ▶ In 2012, investigations into the way LIBOR was set uncovered a widespread, long-lasting scheme among multiple banks to manipulate rates for profit.

What's the alternate?

- In place of LIBOR, the **Secured Overnight Financing Rate (SOFR)** serves as the **benchmark interest rate** for loans and derivatives denominated in dollars.
- New transactions are now predominantly undertaken using SOFR and the **Modified Mumbai Interbank Forward Outright Rate (MMIFOR)**.
- SOFR is a **broad measure** of the cost of borrowing cash overnight collateralized by Treasury securities.
- **Accuracy:** Unlike LIBOR, SOFR is based on actual transactions — namely, overnight transactions in the Treasury repo market. Thus, SOFR is a more accurate means of measuring the cost of borrowing money. Because these transactions can be observed by anybody, it's also less easily manipulated.
- **Risk:** SOFR is based off of overnight Treasury transactions, it's considered to be a risk-free rate.
- **Utilization:**
 - ▶ **Finalization of loan cost:** Financial institutions utilize SOFR as a benchmark when determining the cost of consumer and business loans.
- In addition, it is essential in **trading derivatives**, especially **interest-rate swaps**, which businesses and other parties use to manage **interest-rate risk** and speculate on changes in borrowing costs.

What is Overnight Rate?

- The benchmark interest rate that depository organizations like banks and credit unions charge one another for lending money for a single night is the Overnight Rate.
- It is closely related to banking operations and liquidity issues. This rate has different names depending on the country.
 - ▶ **For example**, it is referred to as the **Marginal Standing Facility Rate** in India.

What is the impact of change in the Overnight Rate?

- **Direct influence on economy (high rate):** The **Overnight Rate** may indirectly affect **mortgage rates** if it rises. When the Overnight Rate is high, it is

expensive for banks to pay off their debts. Thus, they raise the rates on long-term loans to **make up for the high Overnight Rates**, which in turn directly impact the **country's employment, economic growth, and inflation**.

- **Economic expansion (low rate):** On the other hand, when the rate is low, banks and other financial organizations can lend and borrow more frequently, promoting economic expansion.
 - ▶ Also, lower Overnight Rates suggest that consumers and businesses will have easier access to loans. As a result, the commercial sector expands due to the additional cash business expansion and investor attraction. The purchasing power of consumers likewise rises when commercial activity expands.

Practice Question:

Q. "What is the role of the LIBOR (London Interbank Offered Rate) and how is it used in financial markets? Additionally, what is the impact of the RBI's (Reserve Bank of India) transition away from LIBOR and its implications for the Indian financial system?"



RBI ANNUAL REPORT: INDIA'S GROWTH MOMENTUM

Context: According to the Reserve Bank of India Annual Report 2022-23, the Indian economy will be supported by effective macroeconomic policies, lower commodity prices, and a strong banking sector, among other things.



Key highlights of the RBI's Annual Report 2022-23:

- India's growth momentum is likely to be sustained in 2023-24 in an atmosphere of **easing inflationary pressures**.
- **Economy Dependency:** The economy will be supported by sound **macroeconomic policies**, **softer commodity prices**, a **robust financial sector**, **continued fiscal policy thrust on quality of government expenditure**, and **new growth opportunities** stemming from **global realignment of supply chains**.
- **Growth Rate:** The slowing global growth, protracted geopolitical tensions and a possible upsurge in financial market volatility following new stress events in the global financial system could pose downside risks to growth. It is important, therefore, to sustain structural reforms to improve India's medium-term growth potential.
- **Domestic Economy:** While emphasizing that domestic economic activity does face challenges from an uninspiring global outlook going forward, resilient domestic macroeconomic and financial conditions, expected dividends from past reforms and new growth opportunities from global geo-economic shifts place India in an advantageous position.
- **Inflation:** The risks to inflation have moderated with downward corrections in global commodity and food prices and easing of the pass-through from high input cost pressures of last year.
- **Repo Rate:** The cumulative increase in policy repo rate by **250 bps** last year would steer the disinflationary process, along with supply side measures to address transient demand-supply mismatch due to food and energy shocks.
- **Monetary Policy:** It remains focused on withdrawal of accommodation to ensure that **inflation progressively** aligns with the target, while **supporting growth**.
- **Global Supply Chains:** As per the Annual Report the realignment of global supply chains, transition to green energy and ongoing technological advancements provide a congenial environment for a pick-up in investment activity and raising productivity.
- **Balance sheets of Corporates and Banks:** Robust balance sheets of corporates and banks, coupled with high capacity utilization, would aid in strengthening the momentum in private investment.
- **Household Demand:** Burgeoning credit growth, especially housing and personal loans, reflects steady domestic household demand. This is also mirrored in several high frequency indicators of rural and urban demand.
- **Agriculture Production:** Robust agriculture production buoyed by expectation of a bountiful Rabi harvest and resilience in allied sector activity is also brightening the outlook for rural demand.
- **Manufacturing:** Traction in construction activity is likely to be sustained as reflected in steady expansion in its proximate indicators: steel consumption and cement production.

- **Transportation:** Port cargo traffic and railway freight traffic movements also point to industrial activity picking up amidst gradual easing of input cost pressures.
- **Agriculture and allied activities:** They were **resilient in 2022-23**, with **gross value added (GVA)** registering a growth of 3.3%.
- **Industrial Sector:** The manufacturing activity withstood global spillovers, while electricity generation exhibited robust growth, and mining recorded steady activity. Sustained momentum was seen in construction activity, while infrastructure and capital goods production benefitted from the government-led investment in infrastructure.
- **Estimated Growth:** The Indian economy is expected to have recorded a growth of 7.0% in real GDP in 2022-23.

About Reserve Bank of India (RBI):

- The Reserve Bank of India was established on **April 1, 1935**, in accordance with the provisions of the Reserve Bank of India Act, 1934 based on the recommendation of **Hilton Young Commission Report (1926)** with a share capital of Rs. 5 crores.
- The Central Office of the Reserve Bank was initially established in Kolkata but was permanently moved to Mumbai in 1937.
- Though originally privately owned, since its nationalization in 1949, the Reserve Bank is fully owned by the Government of India.

Practice Question:

- Q. "What does the latest RBI Annual Report reveal about India's growth momentum, including key factors contributing to economic expansion, potential challenges, and the outlook for future growth?"
- Q. How does RBI contribute to the stability, regulation, and development of the banking sector, currency management, and overall monetary policy in the country?



OPEN NETWORK FOR DIGITAL COMMERCE

Context: The Open Network for Digital Commerce (ONDC) aims to "democratise e-commerce" and "provide alternatives to proprietary e-commerce sites," is expected to be officially launched by the Union government this year.

Key Highlights:

- While it has invited businesses to join the ONDC platform, large **e-commerce giants** such as **Amazon and Flipkart** have been hesitant to participate.
- The Indian Commerce Minister has requested that these enterprises join ONDC as soon as possible or risk being left behind.

What is the ONDC?

- The government wants to **change the fundamental structure** of the **e-commerce market** from a platform-centric model to an **open-network model**.
- The **ONDC is modelled after the Unified Payments Interface (UPI) project**, which **allows people to send or receive money irrespective of the payments platforms on which they are registered**.
- To make such transactions a reality, the government has ordered companies to list themselves on the ONDC.
- The pilot version of the ONDC was launched last year in a few major cities and thousands of sellers have already been on-boarded onto the platform, but **Amazon and Flipkart have not yet on-boarded** their main shopping platforms onto the ONDC network.

Why is the Centre pushing for it?

- The government believes that the **ONDC will end the domination of the e-commerce market** by a few large platforms.
- **Amazon and Flipkart** have been accused of promoting seller entities in which they **hold indirect stakes**, and food delivery apps such as **Swiggy and Zomato** have been accused of **charging high commissions from sellers**.
- With an **open network like ONDC**, the government hopes to level the playing field and **make private platforms redundant**.

Practice Question:

- Q. What are the advantages and challenges associated with implementing an open network model in various industries, and what potential implications does it have for innovation, collaboration, and competition?
- Q. "What are the key elements and technologies involved in digital commerce, and how has it transformed the way businesses and consumers engage in transactions? Additionally, what are some of the emerging trends and challenges in the field of digital commerce?"

WHY IS THE 1.5 DEGREE CELSIUS TARGET CRITICAL?

Context: The World Meteorological Organization (WMO) recently published two studies named "Global Annual to Decadal Climate Update 2023-2027" and "State of Global Climate 2022".

- In 2022, it was **1.15 degrees** above the baseline.



Key highlights of the report:

- The WMO has made decadal estimates that between 2023 and 2027, the annual mean global surface temperature will be 1.1–1.8 degrees Celsius higher than the baseline temperature of 1850–1900 or pre-industrial levels.
- The average will **surpass 1.5 degrees by 2027**, which will mark a turning point beyond which there may be no turning back.

What is the 1.5 degree Celsius target?

- The 1.5 degree Celsius target is a global climate target that aims to limit warming by 2100.
 - ▶ It was initially seen as **unrealistic and unachievable**, but was accepted by small island countries.
- In 2010, the Cancun COP16 agreed to limit the global average warming to **below 2 degree Celsius**.
- In 2015, the Paris Agreement pledged to limit the average temperature rise to below 2 degree, while actively aiming for 1.5 degree above pre-industrial levels.
- This was endorsed as a global target by the **Intergovernmental Panel on Climate Change (IPCC)** in 2018.

Why is the 1.5 degree target critical?

- The Intergovernmental Panel on Climate Change (IPCC) released a special report in 2018 on the impact

of global warming when temperature **reaches 1.5 degree Celsius above baseline**.

- ▶ It estimated that anthropogenic activities would have caused 1 degree of warming, likely to reach 1.5 degree between 2030 and 2052 at the current rate.
- However, regional differences and vulnerability factors make it more urgent for climate action to limit the **average planetary warming to 1.5 degree**.

Why are we missing the target?

- The **Climate Performance Index** has shown that developed countries have made little progress in meeting their **pledges to reduce GHG emissions**.
- **Polluters like China, Iran and Saudi Arabia rank low in climate performance**.
- The pandemic has pushed the world into a **socio-economic crisis**, but there is little consideration for building-back in a sustainable manner.
- The Ukraine conflict has further added to the woes and sparked an **energy crisis, threatening climate goals**.

Are extreme weather events linked to the global rise in temperature?

- **Effect of Heat Wave:** The most important details in this text are the predictions of precipitation anomalies and an **increase in marine heat waves**, the **El Nino**, the **shrinking Cryosphere**, and the **melting of the Greenlandic ice sheet**.
- **Climate Change:** Climate risks and hazards impact human population and the ecosystem, such as **food insecurity, displacement, and deaths**.
- **Food Scarcity:** Climate change has been affecting crop yield negatively and the risks posed by agricultural pests and diseases have also increased.
- Countries like **Ethiopia, Nigeria, South Sudan, Somalia, Yemen, and Afghanistan** are facing acute **food shortages** due to the complex interaction of climate conditions with other factors such as droughts, cyclones, and political and economic instability.
- **Extreme Weather Anomalies:** It caused the deaths of two million people and incurred **\$4.3 trillion** in economic damages over the past fifty years. In **2020-2021**, 22,608 disaster deaths were recorded globally.

How is India impacted?

- India has been facing the brunt of climate change, with February 2023 being the **hottest month** since record-keeping began in 1901. Last year, Indian monsoons were wetter than usual, leading to wildfires and acute food shortages.

- India is attempting to balance its development needs with ongoing climate action both at the domestic and international levels.
- Reducing Emissions:** Domestic measures such as the **Green Hydrogen Mission** and the introduction of green bonds are performing fairly well despite contributing only a miniscule to cumulative GHG emissions.
- Efforts:** At the international level, India can prove to be a responsible climate player through the **International Solar Alliance and Coalition for Disaster Resilient Infrastructure**.
- Target:** The 1.5 degree Celsius target is the global climate target that aims to limit warming to said level by 2100, to prevent the planet from slipping into further climate crises.
- Climate risks and hazards impact human population and the ecosystem depending on exposure, vulnerability, and adaptive capacity, and have exacerbated food insecurity, displacement, and deaths.

According to the **Climate Change Performance Index 2023**, India ranked eighth with a high-performance after Denmark, Sweden, Chile, and Morocco.

Practice Question:

- Q. Why is the 1.5-degree Celsius target considered critical in the context of global climate change mitigation?**
- Q. "What are India's climate targets and commitments, as outlined in its nationally determined contributions (NDCs) or other relevant climate agreements?"**



THE WORLD NEEDS TO SHIFT TO A CIRCULAR ECONOMY: UNEP

Context: **Global plastic pollution can reduce by 80 per cent by 2040 if countries and companies make deep policy and market shifts using existing technologies and shift to a circular economy, according to a new report launched by United Nations Environment Programme (UNEP).**

Key-highlights of the Report:

- Title:** "Turning off the Tap: How the world can end plastic pollution and create a circular economy."
- Circular economy approach:** The report urged governments and businesses alike to adopt a **circular economy approach** for tackling the problem of plastic pollution.
- Cut down on plastic:** Countries need to eliminate unnecessary and problematic plastic uses.
- Shift:** They need to make three market shifts — **reuse, recycle, and reorient** and diversify.
- Even with the above measures, 100 million tonnes of plastics from single-use and short-lived products will still need to be safely dealt with annually by 2040 — together with a significant legacy of existing plastic pollution.
- However, any delays in executing the necessary shifts will mean higher costs and an additional 80 million tonnes of plastic pollution by 2040.

Environmental Benefits	Economic Benefits	Social Benefits
<ul style="list-style-type: none"> Reduced Resource Extraction and Pollution Preservation of Biodiversity Mitigation of Climate Change 	<ul style="list-style-type: none"> Cost Savings and Increased Efficiency Job Creation and Local Economic Development Enhanced Business Resilience and Competitiveness 	<ul style="list-style-type: none"> Access to Affordable and Quality Goods Improved Working Conditions and Labor Rights Community Engagement and Empowerment

How would this shift benefit the economy?

- Savings:** Overall, the shift to a circular economy would result in \$1.27 trillion in savings, considering costs and recycling revenues.
- Reduced expenditure on externalities:** A further \$3.25 trillion would be saved from avoided externalities such as health, climate, air pollution, marine ecosystem degradation, and litigation-related costs.
- Increased employment opportunities:** This shift

could also result in a net increase of 700,000 jobs by 2040.

What is Circular economy?

- Circular economy is an economic model that aims to minimize waste and maximize resource efficiency by keeping products, materials, and resources in use for as long as possible.
- It is a departure from the traditional linear economy, which follows a "take-make-dispose" pattern.

- In a circular economy, resources are kept in circulation through strategies such as recycling, reuse, remanufacturing, and sharing, creating a closed-loop system.

Government recent initiative to promote circular economy and sustainable growth

- The **Union Budget 2023-24** has put the focus on sustainable development and a circular economy
- **GOBARdhan**: The scheme aims to promote a circular economy by setting up 500 "waste-to-wealth" plants across the country, including 200 compressed biogas (CBG) plants and 300 community-based plants. The goal is to convert waste into valuable resources, reducing the country's carbon footprint and promoting sustainability.
- **Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI)**: MISHTI aims to preserve and restore the mangrove ecosystem and provide livelihood opportunities for local communities.
- **Promoting Conservation Values: Amrit Dharohar**: It aims to promote the conservation of wetlands in the country.
- **Plastic Waste Management (Second Amendment) Rules, 2022**: They mandate to increase in the thickness of plastic carry bags to over 120 microns, and the phase-out of some single-use plastic products.

Limited Infrastructure and Technology

- Complex Supply Chains
- Policy and Regulatory Hurdles
- Consumer Mindset and Behaviour

Practice Question:

- Q. Evaluate world development report examines key global development challenges, trends, and policies, offering recommendations for governments, policymakers, and stakeholders.
- Q. Does the criteria of Gross Domestic product (GDP) alone is sufficient to measure the growth and development in a country? Put your argument for this in lines with the World development report 2023.

GUJARAT WORKING TO BECOME INDIA'S GREEN HYDROGEN HUB

Context: Gujarat is initiating the process to establish itself as India's primary hub for green hydrogen production, aiming to maintain its leading position in the industrial sector.

Types of Hydrogen (based on extraction methods):

- **Grey Hydrogen**: It is produced via coal or lignite gasification (black or brown), or via a process called steam methane reformation (SMR) of natural gas or methane (grey).
- **Blue Hydrogen**: It is produced via natural gas or coal gasification combined with carbon capture storage (CCS) or carbon capture use (CCU) technologies to reduce carbon emissions.
- **Green Hydrogen**: It is produced using electrolysis of water with electricity generated by renewable energy.

Color	GREY HYDROGEN	BLUE HYDROGEN	TURQUOISE HYDROGEN*	GREEN HYDROGEN
Process	SMR or gasification	SMR or gasification with carbon capture (85-95%)	Pyrolysis	Electrolysis
Source	Methane or coal	Methane or coal	Methane	Renewable electricity

Note: SMR = steam methane reformation
* Turquoise hydrogen is an emerging decarbonisation option.

Why the focus is on 'green hydrogen'?

- India has set its sight on becoming energy independent by 2047 and achieving **Net Zero by 2070**.
- To achieve this target, increasing renewable energy use across all economic spheres is central to **India's Energy Transition**.
- Green Hydrogen is considered a promising alternative for enabling this transition.
- Hydrogen is the simplest and smallest element in the periodic table. No matter how it is produced, it ends up with the same carbon-free molecule.
- **Hydrogen can be utilized for:**
 - ▶ long-duration storage of renewable energy
 - ▶ replacement of fossil fuels in industry
 - ▶ clean transportation
 - ▶ decentralized power generation, aviation, and marine transport

India's Target:

- Under the **Nationally Determined Contributions (NDC)**, India has set a target of becoming a **net-zero emissions country** by 2070.
- The country also aims to reduce its carbon emissions by 45% by 2030 by sourcing 50% of its energy from renewable sources.

National Green Hydrogen Mission:

- The **National Green Hydrogen Mission** was approved by the Union Cabinet on 4 January 2022, with the intended objectives of:

- ▶ Making India a leading producer and supplier of Green Hydrogen in the world
 - ▶ Creation of export opportunities for Green Hydrogen and its derivatives
 - ▶ Reduction in dependence on imported fossil fuels and feedstock
 - ▶ Development of indigenous manufacturing capabilities
 - ▶ Attracting investment and business opportunities for the industry
 - ▶ Creating opportunities for employment and economic development
 - ▶ Supporting R&D projects
- In April 2022, the government launched the country's only pure green hydrogen pilot plant with an installed capacity of 10kg per day at its **Jorhat pump station in Assam**.
 - In January this year, the government commissioned India's first green hydrogen blending project in the piped natural gas network.

Practice Question:

Q. What is the concept of India's green hydrogen hub, and what are the objectives, potential benefits, and challenges associated with establishing such hubs in the country?

Q. What are the government's initiatives and policies to promote the development and adoption of green hydrogen technology in India?

**UNDERSTANDING A HUMAN PAN-GENOME MAP**

Context: A new study published in the *journal Nature* describes a 'pan-genome reference map' created utilising genomes from 47 anonymous individuals (19 men and 28 women), mostly from Africa but also from the Caribbean, Americas, East Asia, and Europe.

What is a genome?

- The genome is the **blueprint of life**, a collection of all the genes and regions between the genes contained in our **23 pairs of chromosomes**.
- Each chromosome is a contiguous stretch of **DNA string** composed of millions of individual **building blocks called nucleotides or bases**.
- **Genome sequencing is the method used to determine the precise order of the four letters and how they are arranged in chromosomes.**

- Sequencing individual genomes **helps us understand human diversity at the genetic level and how prone we are to certain diseases**.
- To circumvent this, one can have a collective identity card, such as a **single genome identity card** for everyone living in a region.

What is a reference genome?

- The making of the first reference **genome in 2001** was a scientific breakthrough, helping scientists discover thousands of genes linked to various diseases and design novel diagnostic tests.
- However, the reference genome was 92% complete and contained many gaps and errors.
- Since then, the reference genome map has been refined and improved to have complete **end-to-end sequences of all 23 human chromosomes**.
- However, the finished **reference genome map does not represent all of human diversity**.
- This new study published in Nature changes this, describing the making of the pangenome map, the genetic diversity among the 47 individuals, and the computational methods developed to build the **map and represent differences in those genomes**.

What is a pan-genome map?

- The pan-genome is a **graph of each chromosome**, with nodes where sequences of all 47 individuals converge and internodes representing genetic variations.
- To create complete and contiguous chromosome maps, researchers used long-read **DNA sequencing technologies**, which produce strings of contiguous DNA strands of tens of thousands of nucleotides long.
- This **helps assemble the sequences with minimum errors and read through repetitive regions of the chromosomes**.

Why is a pan-genome map important?

- The human genome consists of **3.2 billion individual nucleotides**, with a 0.4% difference between any two individuals.
- A complete and **error-free pan-genome map will help us understand these differences and explain human diversity better**.
- It has added nearly **119 million new letters** and aided the discovery of **150 new genes** linked to autism.
- Future **pan-genome maps that include high quality genomes from Indians will shed light on disease prevalence, help discover new genes for rare diseases, design better diagnostic methods, and help discover novel drugs**.

Practice Question:

- Q. What are the significance and potential implications of creating a human pan-genome map, and how does it contribute to our understanding of genetic diversity, personalized medicine, and population health?"
- Q. What are ethical considerations, and potential implications of genome sequencing?



TRANSFORMER, THE ML MODEL THAT POWERS CHATGPT

Context: The Transformer, the machine learning model that powers ChatGPT, has gained significant attention and is making headlines.

What is Machine Learning (ML)?

- Machine learning (ML), a subset of **artificial intelligence**, trains computers to perform tasks using **structured** data, language, audio, or images by presenting examples of inputs and their corresponding desired outputs.
 - ▶ Unlike **traditional computer programming** that relies on explicit instructions, ML models learn to generate desired outputs by adjusting numerous parameters, often in the millions.
- This enables the model to **generalize its knowledge** and make **predictions or generate responses** based on new inputs.
- ML's ability to learn from data and adapt its behaviour makes it a powerful tool for solving complex problems and handling diverse types of information.

What is 'attention'?

- Attention is a **fundamental concept** in machine learning that enables a model to determine the importance of different inputs.

- ▶ **For example**, in translation tasks, attention allows the model to select and weigh words from its memory bank, aiding in the decision of the next word to generate. Similarly, when describing an image, attention helps the model focus on relevant parts of the image while generating subsequent words.

How does it learn?

- For an image of a "**bird flying above water**", the model is never told which region of the image corresponds to "bird" and which "water".
 - Instead, by training on several image-caption pairs with the word "bird", **it discovers common patterns in the image to associate the flying thing with "bird"**.
- One captivating aspect of attention-based models is their ability to discover meaningful patterns and relationships through extensive data analysis.
 - **Transformers** are attention models on steroids. They employ multiple attention layers within both the encoder and decoder components.
 - ▶ This architecture enables transformers to establish significant contextual understanding across input sentences or images in the encoder, and facilitate effective communication from the decoder to the encoder during tasks such as generating translated sentences or describing images.
 - ▶ Transformers take attention to new heights, allowing for enhanced performance and comprehensive learning in a wide range of machine learning applications.

Practice Question:

- Q. The ChatGPT language model, powered by machine learning, has revolutionized the field of natural language processing. Explain the key components and architecture of the machine learning model that drives ChatGPT.
- Q. Evaluate the ethical considerations associated with deploying AI-powered chatbots and the potential risks of bias or misinformation.



SECTION: B
(CONTEMPORARY ISSUES
BASED ESSAY)



TRUE RELIGION CANNOT BE MISUSED

Religion, throughout history, has been a powerful force in shaping societies, guiding individuals, and providing a framework for moral values and spiritual growth. However, like any powerful tool, religion can be susceptible to misuse and manipulation. While individuals and groups may distort religious teachings for personal gain or to further their own agendas, it is essential to recognize that true religion, rooted in genuine faith and moral principles cannot be misused. So let us explore why true religion resists manipulation and emphasizes the importance of understanding and practicing religion in its authentic form.

True religion is founded on fundamental principles that transcend personal interests and agendas. It promotes love, compassion, justice, and respect for all living beings. The core teachings of various religions encourage kindness, forgiveness, and selflessness. These principles serve as a moral compass and guide individuals to lead virtuous lives, fostering harmony and understanding among people.

One distinguishing aspect of true religion is its emphasis on universal values and ethics. Regardless of cultural or religious background, the principles of honesty, integrity, empathy, and fairness are recognized and valued. True religion transcends narrow boundaries and aims to promote the well-being of humanity as a whole. It encourages believers to treat others with respect and dignity, irrespective of their beliefs or backgrounds.

While true religion stands on a firm foundation, it is not immune to misuse. Throughout history, religious doctrines have been exploited by individuals and groups for personal gain, power, or to incite hatred and violence. Manipulation of religious beliefs to justify acts

of intolerance, discrimination, or violence is a distortion of the genuine teachings. It is crucial to differentiate between the misuse of religion and the essence of true faith.

One of the reasons for the misuse of religion is the misinterpretation of scriptures or the imposition of cultural biases onto religious teachings. Cultural and societal influences can shape the understanding of religious texts, leading to interpretations that deviate from the core message. True religion calls for critical thinking, open-mindedness, and a deep understanding of historical contexts to avoid misinterpretation and manipulation.

In the face of religious manipulation, individuals bear the responsibility to discern between true religion and its misuses. It is crucial to question and challenge interpretations that contradict the core principles of love, compassion, and justice. True believers understand that their faith requires them to act ethically and responsibly, promoting peace and harmony rather than division and conflict.

True religion, founded on universal values and ethics, remains resilient against misuse and manipulation. Its teachings promote love, compassion, justice, and respect for all living beings. While individuals and groups may attempt to distort religious doctrines, genuine faith and understanding enable believers to recognize and resist such manipulations. It is incumbent upon individuals to develop a deep understanding of their faith, question misinterpretations, and strive to practice religion in its true form. By doing so, we can uphold the positive aspects of religion and contribute to a more compassionate and harmonious world.



SECTION: C

(PRELIMS)

CURRENT AFFAIRS

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HISTORIC 'SENGOL' TO BE INSTALLED IN NEW PARLIAMENT BUILDING

Context: The current Indian Prime Minister plans to install the 'Sengol,' a historical sceptre from Tamil Nadu, in the new Parliament building.

Background:

- The 'Sengol' was received by Independent India's first Prime Minister, Jawaharlal Nehru, from Lord Mountbatten to symbolically represent the **transfer of power** from the British and was later kept in a **museum in Allahabad**.
- On August 14, 1947, **Jawaharlal Nehru received the Sengol from the Adheenams of the Thiruvaduthurai Adheenam (Mutt) in Tamil Nadu**.
- The incident was recently recalled in a policy note prepared by the **Hindu Religious and Charitable Endowment Board, Government of Tamil Nadu**.
- The transfer of power is not merely a handshake or **signing of a document**, but must remain connected with local traditions.



When C. Rajagopalachari suggested a Cholera ceremony?

- Nehru consulted **C. Rajagopalachari**, also known as Rajaji, who went on to become India's final Viceroy.
- Rajaji identified the **Chola paradigm**, in which power was transferred from **one monarch to another** after it was sanctified and blessed by a high ruler.
- **The 'sengol' or sceptre was passed from one monarch to his successor as a symbol**.
- Vummidi Bangaru Chetty, a well-known goldsmith in the Madras Presidency, created a **golden sceptre**.
- **All 20 Adheenams invited for new Parliament building inauguration:** The historic plan has been prepared in consultation with the presidents of Adheenam, with all 20 presidents present.
 - **Vummidi Bangaru Chetty ji**, associated with its creation, will also participate in the ceremony.
 - **Sri La Sri Ambalavana Desika Paramacharya Swamigal** will hand over the sceptre to Mr. PM on the day of the inauguration of the new Parliament building.

Sengol:

- The Sengol gets its name from the **Tamil word 'semmai'**, meaning righteousness.
- Sengol is an important historical symbol associated with the independence of India.
- The sceptre is about five feet in length and features a 'nandi' bull at the top, representing the concept of justice and fairness.

THRISSUR POORAM 2023

Context: Kerala celebrated the 36-hour-long Thrissur Pooram temple festival, known as the mother of all poorams.

About:

- Thrissur Pooram is an important temple festival in Kerala that dates back **over 200 years**.

Prior to Thrissur Pooram, Arattupuzha Pooram was the most significant temple festival in Kerala.

- The festival was founded by **Shakthan Thampuran**, the ruler of the **Kingdom of Cochin** from **1790 to 1805**.
- It is an impressive exhibition of cultural customs and traditions, featuring adorned elephants, colourful umbrellas, and percussion music.
- The festival is a splendid blend of Kerala's spiritual and cultural heritage and is held in the **Thekkinkadu Maidanam** in Thrissur during the Malayalam month of **medam**, which falls in **April-May**.

Historical Belief:

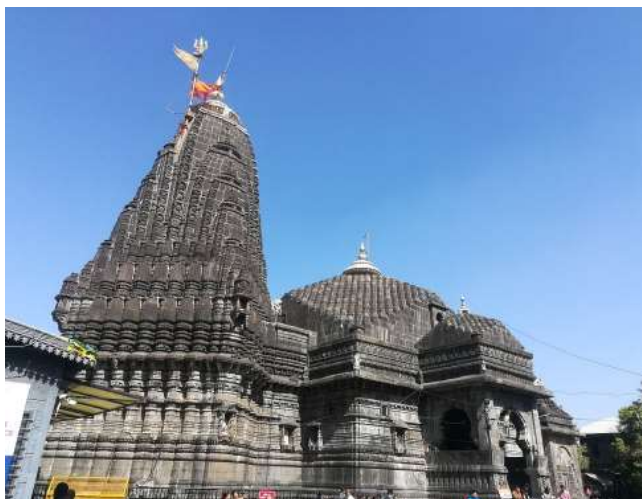
- The festival's origin dates back to **1796**, when a group of temples was prohibited from attending the **Arattupuzha Pooram festival** due to heavy rainfall.
- Upon hearing their grievances, **Shakthan Thampuran** decided to organise his own festival, which eventually became the **Thrissur Pooram** celebrated on the same day in May.

TRIMBAKESHWAR SHIVA TEMPLE

Context: Trimbakeshwar Temple is an ancient temple of Lord Shiva and identified as one of the divine 12 Jyotirlinga.

About:

- The present Trimbakeshwar temple was constructed by third Peshwa Balaji Bajirao (1740-1760) on the site of an old temple.
- It is dedicated to the god Trimbakeshwar (the supreme deity, Lord Shiva).
- It is one of the 12 Jyotirlingas in Trinetra, which honours Lord Shiva, as the three symbols of **Lords Brahma, Vishnu, and Shiva**.

**About Jyotirlingas:**

- Jyotirlingas are sacred shrines of Lord Shiva; it is believed that Lord Shiva himself visited these places.
- There are **12 of them in India**.
- Jyotirlinga means '**column or pillar of light**'.
- The 'stambha' symbol represents that there is no beginning or end.

12 jyotirlinga sites:

- Somnath in Gujarat
- Dwarka's Nageswar in Gujarat
- Mallikarjuna at Srisailem in Andhra Pradesh
- Omkareshwar in Madhya Pradesh
- Shri Mahakaleswar Corridor in Madhya Pradesh
- Kedarnath in Uttarakhand
- Bhimashankar in Maharashtra
- Triambakeshwar in Maharashtra
- Aurangabad's Grishneshwar in Maharashtra
- Viswanath at Varanasi in Uttar Pradesh
- Baidyanath Temple in Jharkhand's Deoghar
- Rameshwar at Rameswaram in Tamil Nadu

**ARAB LEAGUE READMITS SYRIA
AFTER 12-YEAR SUSPENSION**

Context: Arab League foreign ministers voted to readmit Syria into the organisation, after a suspension that lasted over a decade due to the region-wide condemnation of President Bashar Assad's crackdown on the 2011 protests-turned-civil-war.

Brief Background:

- The **22-member group** had suspended Damascus' participation in November 2011 due to the nation's actions against peaceful protests that started earlier that year.
- These protests turned into a civil conflict and resulted in the death of over 500,000 individuals, the displacement of millions, and significant damage to the country's infrastructure and industry.

**About Arab League:**

- Founded in 1945, the Arab League is a loose alliance of Arabic-speaking countries in the Middle East and North Africa that have pledged to cooperate on economic and military affairs, among other matters.
- **Founding members:** Egypt, Iraq, Lebanon, Saudi Arabia, Syria, Transjordan, and Yemen.
- **Headquarters:** Cairo
- **Composition:** The League is made up of **22 member states** and four observer nations.
 - ▶ **Members:** Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestinian Authority, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates and Yemen.
 - ▶ **Observer nations:** Brazil, Eritrea, India, and Venezuela
- The USD 60 billion CPEC aims to connect **Pakistan's Gwadar port** in Balochistan with China's Xinjiang

province. India has objected to the CPEC as it traverses through **Pakistan-occupied Kashmir (PoK)**.

- The CPEC is officially regarded as the flagship project of **China's multi-billion-dollar Belt and Road Initiative (BRI)** – the pet project of President Xi Jinping.

INDO-PACIFIC ECONOMIC FRAMEWORK (IPEF) AGREEMENT

Context: Fourteen countries have been engaged in negotiations in Singapore over the third round of the Indo-Pacific Economic Framework (IPEF) Agreement.

What is IPEF?

- In regular trade agreements, all members prepare and exchange the negotiating texts. In IPEF, the US alone has chosen the negotiating subjects and prepared the texts. Member countries are negotiating around these.
- The IPEF was launched by **US President Joe Biden** in May 2022.
- **Four pillars of the Framework:**
 - ▶ Trade
 - ▶ Supply Chains
 - ▶ Clean Economy
 - ▶ Fair Economy
- **Members:** Australia, Brunei, Fiji, India, Indonesia, Japan, Malaysia, New Zealand, the Philippines, Singapore, South Korea, Thailand, the US and Vietnam. These nations account **for 40% of the world's GDP**.
- The IPEF partners aim to contribute to cooperation, stability, prosperity, development, and peace within the region.
- The framework helps partners boost their economic activity and investment, promote sustainable and inclusive economic growth, and benefit workers and consumers across the region.
- The IPEF is not just limited to economic domain and spans into international politics and security – **QUAD**.

Issues with India:

- India is **not a full member** of this group yet due to differences over data and privacy.
- India and the US are in agreement over **three pillars** of the IPEF which includes **tax, anti-corruption and clean energy**.

INDIA-MYANMAR KALADAN WATERWAY

Context: Fifteen years after it was approved, the waterway component of the Kaladan Multimodal Transit

Kaladan Multi Modal Transit Transport Project



Transport project (KMTTP) is set to become operational.

- The **deep-water port** at **Sittwe** is part of the Rs.3, 200 crore **Kaladan Multi-Modal Transit Transport Project (KMTTP)**.

Sittwe, which was one of the busiest rice-exporting ports in the **late 19th century**, is located at the mouth of the Kaladan in Myanmar's Rakhine state.

- Piloted by the **Ministry of External Affairs** and first approved in 2008, the project is aimed at boosting trade and commerce between **India and Myanmar** and easing access to other **South Asian countries**.
- Once ready, it will also provide a strategic alternate link connecting the landlocked **northeastern states** to the rest of India and easing the pressure on the existing narrow **Siliguri corridor**.
- Developed by the **Inland Waterways Authority of India (IWAI)** — an autonomous organisation under the Union shipping ministry — the construction of the **Sittwe port** was completed way back in 2018.
- But it could not be operationalised because of several obstacles, including delays in getting approvals and licenses because of the political turmoil in Myanmar and intense conflict in the **Chin and Rakhine state**.

The KMTTP Route:

- KMTTP connects **Kolkata to Sittwe** port, which is further linked to **Paletwa** in Myanmar through a waterway route along the river **Kaladan**.
- Both the **port at Sittwe** and the inland water **terminal at Paletwa**.
- From Paletwa, a 110 km road is being built to connect to Zorinpui at Mizoram on the Indo-Myanmar border.
- Zorinpui is further connected to Lawngtlai through a 100 km road.
- From Lawngtlai, an existing highway connects it to Aizawl, which in turn is linked to other north-eastern cities including Guwahati.



BAKHMUT DISPUTE BETWEEN RUSSIA-UKRAINE

Context: Bakhmut, in Ukraine's Donetsk province, has been the scene of heavy battle between Russian and Ukrainian forces for more than nine months.

Key Highlights:

- The president of Ukraine refuted claims made by Russia and the mercenary Wagner Group that they had taken control of the Ukrainian city of Bakhmut.

What is the significance of Bakhmut?

- Bakhmut is a **small mining town** in Eastern Ukraine with a pre-war population of 70,000-80,000.
- It does not have any militarily important industry or strategic location, but is proximate to **multiple important roads which may have strategic value to the Russian advance**.



- Its significance is more symbolic than anything else, as it was a political choice to gain a victory after months of sending their army in an offensive.
- Moscow needs to capture **Kramatorsk and Sloviansk** to complete its "liberation" of Donetsk, and **Bakhmut** could help them advance in **Chasiv Yar**.



FIPIC SUMMIT IN PAPUA NEW GUINEA

Context: Recently, Prime minister of India meets with Pacific Island nation leaders on sidelines of FIPIC Summit in Papua New Guinea.

Key highlights:

- The third forum for **India-Pacific islands co-operation (FIPIC Summit)**, which was held recently at Port Moresby was jointly hosted with Papua New Guinea.
- India's engagement with the **14 Pacific Island Countries (PICs)** is part of New Delhi's **Act East Policy**.
- Prime minister of India co- chaired the summit with PM of Papua New Guinea.



- The discussions encompassed various areas of cooperation, including **commerce, technology, healthcare, and climate change**.

About FIPIC:

- Forum for India-Pacific Island cooperation (FIPIC) is a **multinational grouping for cooperation between India and 14 Pacific Islands nations**.
- It include 14 islands named- **Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Samoa, Solomon Islands, Palau, Papua New Guinea, Tonga, Tuvalu and Vanuatu**.
- The FIPIC initiative marks a serious effort to expand India's engagement in the Pacific region.
- A major part of India's engagement with these countries is through development assistance under **South-South Cooperation**, mainly in capacity building (**training, scholarships, grant-in-aid and loan assistance**) and **community development projects**.

- In 2015, FIPIC Trade Office at Federation of Indian Chambers of Commerce & Industry (FICCI) to **promote Trade & Investment opportunities between India & Pacific Island Countries**.



GANHRI DEFERS ACCREDITATION OF NHRC

Context: For the second time in a decade, Global Alliance of National Human Rights Institutions (GANHRI) deferred the accreditation of National Human Rights Commission (NHRC), citing objections like political interference in appointments among others.

About:

- The GANHRI had granted '**A**' status of accreditation to NHRC in 2017, after deferring it the year before — the first such instance since NHRC was established (1993).
- Without the accreditation, NHRC will be unable to represent India at the **UN Human Rights Council**.

What is GANHRI?

- GANHRI is recognised and a trusted partner, of the **United Nations**.
- It was established in 1993 as the **International Coordinating Committee of National Institutions** for the promotion and protection of human rights (ICC).
- It has been known as the Global Alliance of National Human Rights Institutions (GANHRI) since 2016 and is a member-based network organization that gathers NHRIs from all around the world.
- It is composed of 120 members, **India also is a member of GANHRI**
- Its secretariat is situated in **Geneva, Switzerland**.

What is NHRC?

- NHRC of India is an **independent statutory body established on 12th October, 1993** as per provisions of **Protection of Human Rights Act, 1993**, later amended in 2006.
- It is the watchdog of human rights in India, i.e. the **rights related to life, liberty, equality and dignity of the individual guaranteed** by Indian Constitution or embodied in the international covenants and enforceable by courts in India.
- It was established in conformity with the **Paris Principles, adopted for the promotion and protection of human rights in Paris (October, 1991)** and endorsed by the on 20 December, 1993.

Why are the Reasons for Deferment?

- The GANHRI cited reasons such as:
 - ▶ Lack of diversity in staff and leadership
 - ▶ Insufficient action to protect marginalized groups
 - ▶ Involving the police in probes into human rights violations
 - ▶ Poor cooperation with civil society
- The GANHRI said the NHRC has repeatedly failed to deliver its mandate, in particular to protect the rights of people from marginalized communities, religious minorities, and human rights defenders.
- NHCR's lack of independence, pluralism, diversity and accountability are contrary to the U.N.'s principles on the status of national institutions (the 'Paris Principles').

What are the Paris Principles and 'A' Status?

- The United Nations' Paris Principles, adopted in 1993 by the UN General Assembly provides the international benchmarks against which National Human Rights Institutions (NHRI) can be accredited.
- The Paris Principles set out six main criteria that NHRIs are required to meet. These are:
 - ▶ Mandate and competence
 - ▶ Autonomy from government
 - ▶ Independence guaranteed by a statute or Constitution
 - ▶ Pluralism
 - ▶ Adequate resources
 - ▶ Adequate powers of investigation.
- The GANHRI is a group of 16 human rights agencies – 4 from each region; the Americas, Europe, Africa, and the Asia-Pacific – that have the Highest Rating ('A') for following the Paris Principles.
- The 'A' rating also lets them join the work of the GANHRI and the UN on human rights issues.
 - ▶ The NHRC got its 'A' rating in 1999 and kept it in 2006, 2011, and 2017 after a delay. The GANHRI had delayed it because of some problems with the NHRC's staff and appointments.
 - ▶ The NHRC is led by Justice Arun Mishra, who used to be a Supreme Court judge.

CENTRE LAUNCHES 'POSHAN BHI PADHAI BHI'

Context: The government has launched the 'Poshan Bhi Padhai Bhi', with an objective to ensure that India has a high-quality preschool network.

About Poshan Bhi Padhai Bhi:

- 'Poshan Bhi Padhai Bhi' is Ministry of Women and Child Development's (MCWD) latest endeavour for strengthening Early Childhood Care and Education (ECCE).

ECCE is a significant component of Mission Saksham Anganwadi and Poshan 2.0 (Mission Poshan 2.0) and is envisaged under the National Education Policy.

- It aims to ensure that India has the world's largest, universal, high-quality pre-school network, as suggested by the National Education Policy.
- **Target:** The scheme aims to target the development of children in every domain that is mentioned in the National Curriculum Framework, which includes- physical and motor development, cognitive development, and socio-emotional-ethical development, among others.

India's Anganwadi centres playing crucial role in child development:

- India Anganwadi centres are an integral part of India's Integrated Child Development Services (ICDS) program.
- The centres provide supplementary nutrition, early care, and education to around 8 crore beneficiary children under the age of 6 years across the country.
- Given the huge network of around 13.9 lakh operational centres, the Anganwadi eco-system becomes a critical access point for building a solid foundation for children in order to secure their future.

PROGRAMME FOR NON-COMMUNICABLE DISEASES RENAMED

Context: The Union health ministry has decided to rename its national programme and portal aimed at tackling the rising challenge of non-communicable diseases.

The need:

- In the last few years, many new diseases or disease groups or new initiatives have been added to the programme such as non-alcoholic fatty liver disease, chronic kidney disease, STEMI among others".
- There was a need that scheme in its present form may subsume all types of non-communicable diseases (NCDs) under a new name.

Non-communicable diseases (NCD):

- NCDs refer to chronic diseases that are not passed from person to person. It includes **heart disease, stroke, cancer, diabetes, and chronic lung diseases**.
- Non-communicable diseases (NCDs) kill 41 million people each year worldwide, equivalent to 71% of all deaths globally.

The Previous Programme:

- Earlier the programme on **non-communicable diseases** included **diabetes, cardiovascular diseases, cancer, and stroke**, and hence it was known as the **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)**.
 - ▶ NPCDCS was being implemented under the **National Health Mission (NHM)** across the country.

The new programme:

- The **Ministry of Health and Family Welfare** has decided to rename 'NPCDCS' as the **National Programme for Prevention & Control of Non-Communicable Diseases (NP-NCD)**.

National NCD Portal:

- The government has also renamed the portal which enables population enumeration, risk assessment, and screening for five common NCDs, including hypertension, diabetes, and oral, breast and cervical cancer of the population aged above 30 years.
 - ▶ While earlier, the application or software called **Comprehensive Primary Healthcare Non-Communicable Disease (CPHC NCD IT)** was rolled out under the programme for screening and management, now it will also be renamed **National NCD Portal**.



DIMASA REBEL GROUP SIGNS PEACE PACT WITH CENTRE

Context: In a latest development, **Dimasa National Liberation Army (DNLA)/ Dimasa People's Supreme Council (DPSC)**, an **Assam-based insurgent group**, signed a **peace agreement with the State Government and the Centre**.

What is in the agreement?**Who are Dimasa?**

- The Dimasa was a major, late medieval, or an early modern kingdom in Assam-ruled by Dimasa kings, also called **Timisa in the Ahom Buranjis**.
- They now live in **Dima Hasao, Karbi Anglong, Cachar, Hojai and Nagaon** districts of central and southern Assam, as well as parts of Nagaland.



- **Surrender and no violence:** Under the agreement, the DNLA representatives have agreed to give up violence, surrender including the surrender of arms and ammunition, disband their armed organisation, vacate all camps occupied by DNLA cadres and join the mainstream.
 - ▶ As a result of this agreement, more than 168 armed cadres of DNLA surrendered with their weapons and joined the mainstream.
- **Setting of Dimasa Welfare Council:** Dimasa Welfare Council will be set up by the Government of Assam to protect, preserve and promote a social, cultural, and linguistic identity to meet political, economic and educational aspirations.
 - ▶ It will ensure speedy and focused development of the Dimasa people residing outside the jurisdiction of the Autonomous Council.
- It also provides for the appointment of a Commission under the **Sixth Schedule** to the Constitution of India to examine the demand for the inclusion of additional villages contiguous to the **North Cachar Hills Autonomous Council (NCHAC)** with the Council.

Significance of the agreement:

- **End to insurgency:** The agreement will bring a complete end to the insurgency in the Dima Hasao district of Assam.

Dimasa National Liberation Army (DNLA):

- The DNLA was established in 2019 seeking a sovereign territory for the **Dimasa tribals** and launched an armed insurgency to achieve its goal.
- **Area of operation:** Dima Hasao district

WORLD'S LARGEST GRAIN STORAGE PLAN

Context: Recently, the Union Cabinet approved the constitution and empowerment of an Inter-Ministerial Committee (IMC) for facilitation of the "world's largest grain storage plan in cooperative sector" by convergence of various schemes of the Ministries of Agriculture and Farmers Welfare, Consumer Affairs, Food and Public Distribution and Food Processing Industries.

Key Highlights:



- The **Ministry of Cooperation** is implementing a pilot project in at least 10 selected districts of different States to ensure timely and uniform implementation of the plan in a professional manner.
- The committee will lay guidelines for creating infrastructure such as godowns, for agriculture and allied purposes, at selected 'viable' **Primary Agricultural Credit Societies (PACS)**.
- The plan will be implemented by utilising the available outlays provided under the identified schemes of the respective Ministries.
- Lack of agricultural storage capacity leads to wastage of food grains and farmers are forced to sell their crops at low prices.
- This plan will enable PACS to provide storage facilities and undertake many other activities, such as Fair Price Shop and Custom Hiring Centres.
- Farmers could sell their crops to PACS by receiving some advance payment at the Minimum Support Price, and get the balance after the PACS sold the food grains in the market.

EXPECTED CREDIT LOSS (ECL)

Context: The Reserve Bank of India (RBI) is preparing for a major change in the banking system and will implement expected credit loss (ECL) on banks soon.

What is Expected Credit Loss (ECL)?

- ECL is a **method of accounting** for **credit risk** based on the loss likely to occur on a loan or portfolio of loans.
- It is used to get an understanding of the potential future losses on financial assets and how those losses can be identified and addressed in the financial statements.

Public sector Banks have travelled a long distance since 2017 when they posted a net loss of Rs 85,390 crore to a profit of Rs 66,539 crore in FY22

- The percentage loss that is expected to occur if the borrower defaults through ECL, banks can estimate the forward-looking probability of default for each loan, and then by multiplying that probability by the likely loss given default, the bank gets
- The resulting value multiplied by the likely exposure at default is the expected loss for each loan, and the sum of these values is the expected loss for the entire portfolio.
- **Significance:** The new mechanism will recognise problems ahead of time and make the banking system more resilient in the long run.

SEBI TO BRING NEW MUTUAL FUND REGULATIONS FOR PASSIVE FUNDS

Context: The Securities and Exchange Board of India (SEBI) is planning to bring new mutual fund regulations for passive funds.

About Passive Fund:

- A passive fund is an **investment vehicle** that tracks a **market index**, or a **specific market segment**, to determine what to invest in.
- Unlike with an **active fund**, the fund manager does not decide what securities the fund takes on.

- This normally makes passive funds **cheaper** to invest in than active funds, which require the fund manager to spend time researching and analysing opportunities to invest in.
- **Common type of passive funds are:**
 - ▶ Index Funds
 - ▶ ETFs or Exchange-Traded Funds
 - ▶ Fund of Funds

INDIA EXPRESSES CONCERNS OVER EU'S CARBON TAX

Context: India has expressed its apprehensions to the European Union regarding the Carbon Border Adjustment Mechanism (CBAM).

Key-highlights:

- The issue was discussed at the **India-EU Trade and Technology Council's** ministerial meeting in Brussels.
- The meeting also saw India and the EU agreeing to ink a Memorandum of Understanding for cooperation in the semiconductor sector.
 - ▶ India and the United States had on March 10 signed MoU to pave the way for joint projects and technology partnership for manufacturing semiconductors.

India-EU:

- India-EU trade reached a historical high, with €120 billion worth of goods traded in 2022.
- India and the European Union have set ambitious goals of achieving net zero emissions by 2070 and 2050, respectively.
- They have also made commitments to halt and reverse biodiversity loss by 2030 and to promote a circular economy.

Brief of CBAM:

- The CBAM initiative proposed by the EU aims to levy 20%-35% taxes on carbon-intensive goods exported to any of its 27 member nations starting from January 2026.
- It imposes importers and non-EU manufacturers to pay for the carbon emission linked to the goods they sell within EU limits.
- Starting January 2026, the Indian steel, cement, aluminium, and fertiliser industries will pay steep Carbon Border Tax (CBT) imposed by the European Union (EU).

- The CBAM will walk on the footprints of ETS, i.e., importers will be required to purchase carbon import certificates/ permits for each metric ton of CO₂ brought into the EU through specified goods.

KALAINGAR PEN MONUMENT PROJECT CLEARED

Context: The Expert Appraisal Committee (EAC) of the Union Ministry of Environment, Forest and Climate Change has recommended the proposal to construct Muthamizh Arignar Dr. Kalaingar pen monument in the Bay of Bengal, off the Marina beach, for coastal zone clearance with nearly 15 conditions.

Muthamizh Arignar Dr. Kalaingar (1924-2018)

- Born on June 3, 1924 in Thirukkuvilai village, M Karunanidhi had many achievements registered under his name.
- Beginning his political career as a 14-year-old activist in the anti-Hindi agitation of the late 1930s, he quickly became the voice of the surging Dravidian movement.
- In 1953, His involvement in the Kallakudi agitation in Kallakudi made him gain ground in Tamil politics. Karunanidhi has contested 12 Assembly elections and not even lost once.

About:

- The pen monument is to honour **DMK patriarch M Karunanidhi**.



- The 42-metre-tall pen monument is proposed to be constructed 360 metres from the shoreline with a bridge linking the monument and the beach at Rs 80 crore.
- The proposed site falls under **CRZ-1A, CRZ-II and CRZ-IVA areas** and green signal has been given by the State level authorities.

What is Coastal Regulation Zones (CRZ)?

- Coastal Regulation Zones (CRZ) are the areas along the 7,500 km-long coastal stretch of India.
- The coastal land up to 500m from the High Tide Line (HTL) and a stage of 100m along banks of creeks, estuaries, backwater and rivers subject to tidal fluctuations, is called the **Coastal Regulation Zone**.
- The development of buildings, tourism infrastructure and other facilities is regulated in these areas by the Government of India.
- **Coastal areas are of four categories as CRZ-1, CRZ-2, CRZ-3 and CRZ-4.**
 - ▶ **CRZ-1:** These are ecologically sensitive areas which are essential in maintaining the ecosystem of the coasts. These include national parks/marine parks, sanctuaries, reserve forests, wildlife habitats, mangroves and corals/coral reefs.
 - ▶ **CRZ-2:** The areas that have already developed up till the shoreline of the coast are included in this zone. Construction of unauthorised structures is prohibited in this zone.
 - ▶ **CRZ-3:** Rural and urban localities that are relatively undisturbed and do not belong to the first two categories are included under CRZ-3. Only specific activities related to agriculture or some public facilities are allowed in this zone.
 - ▶ **CRZ-4:** These areas include the coastal stretches in **Lakshadweep, the Andaman and Nicobar Islands** and some other small islands, except those termed as CRZ-I, CRZ-II, or CRZ-III. These areas reside in the aquatic region up to the territorial limits.

**RARE MELANISTIC TIGER FOUND DEAD IN ODISHA'S SIMILIPAL TIGER RESERVE**

Context: A rare melanistic tiger was found dead in Odisha's Simlipal National Park (STR) in Mayurbhanj district.

About Similipal Tiger Reserve:

- Similipal Tiger Reserve is the only place in the world to house the **rare black tigers**.



Representative Image

- STR was declared one of the nine Tiger Reserves of India in 1973, it is the second-largest biosphere reserve in Asia and is listed under the **UNESCO network of biosphere reserves**.
- **Tigers:**
 - ▶ The Similipal reserve had three adult melanistic tigers, according to the 2016 all-India tiger survey.
 - ▶ Similipal tigers are part of a distinct lineage of central Indian tigers that occasionally includes

melanistic tigers. These melanistic tigers have no other home in the world.

- ▶ Tigers are pseudo-melanistic, because they have black and yellow stripes on their bodies.

**CHYTRIDIOMYCOSIS OR CHYTRID**

Context: For the past 40 years, a devastating fungal disease, called chytridiomycosis or chytrid, has been ravaging frog populations around the world, wiping out 90 species. This is a "panzootic" – a pandemic in the animal world.

- Transboundary and Emerging Diseases, a multinational study has developed a method to detect all known strains of this disease, caused by the amphibian chytrid fungus.

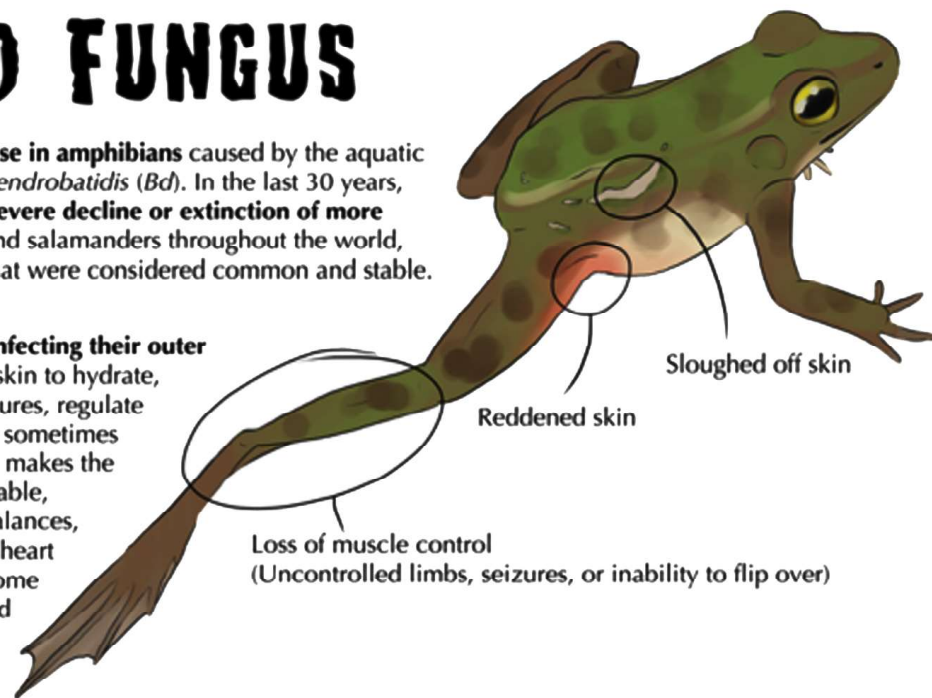
About:

- Chytrid infects frogs by reproducing in their skin, affecting their ability to balance water and salt levels, and eventually leading to death if infection levels are high enough.
- The high mortality rate and the high number of species affected make chytrid unequivocally the deadliest animal disease known to date.
- **Origin:**
 - ▶ Chytrid originated in Asia and was unwittingly spread to other continents through global travel and trade in amphibians.

CHYTRID FUNGUS

Chytridiomycosis is a disease in amphibians caused by the aquatic fungus *Batrachochytrium dendrobatidis* (*Bd*). In the last 30 years, *Bd* has been linked to the **severe decline or extinction of more than 200 species** of frogs and salamanders throughout the world, including several species that were considered common and stable.

Bd attacks amphibians by **infecting their outer skin layers**. Frogs use their skin to hydrate, control their body temperatures, regulate minerals and nutrients, and sometimes even breathe. The infection makes the skin thicker and less permeable, resulting in electrolyte imbalances, loss of muscle control, and heart failure. Frogs may also become lethargic and have reddened or sloughed off skin.



Several treatments have shown promise but there is currently **no cure**. One key may lie in figuring out why some species are more susceptible than others — some species are resistant while others experience **85-100% fatality**.

◦ Infection:

- ▶ Chytrid has been devastating frog populations for the past 40 years, wiping out 90 species, including seven in Australia, and causing severe declines in over 500 frog species.
- ▶ Many species' immune systems were simply not equipped to defend against the disease, and mass mortalities ensued.
- ▶ In the 1980s, amphibian biologists began to notice sharp population declines, and in 1998, the chytrid fungal pathogen was finally recognized as the culprit.

- The **World Meteorological Organisation (WMO)** in the Collaboration with WHO also framed **2023-2033 Implementation Plan for Advancing Climate, Environment and Health Science and Services** to manage the impact of Climate Change.

What is the World Meteorological Organization (WMO)?

- The WMO is an intergovernmental **organization with a membership of 192 Member States and Territories**.
 - ▶ India is a **member of WMO**.
- It originated from the **International Meteorological Organization (IMO)**, which was established after the **1873 Vienna International Meteorological Congress**.
- Established by the ratification of the **WMO Convention on 23rd March 1950**, WMO became the **specialized agency of the United Nations** for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- WMO is headquartered in Geneva, Switzerland.

What is the Greenhouse Gas Watch (G3W)?

- **About:**
 - ▶ It will establish internationally coordinated top-down monitoring of greenhouse gas fluxes to support the provision of actionable information to the **UNFCCC Parties** and other stakeholders.



WMC APPROVES GLOBAL GREENHOUSE GAS WATCH

Context: Recently, the **19th World Meteorological Congress (WMC)** has approved the **Global Greenhouse Gas (GHG) Watch (G3W)**, a **GHG monitoring initiative, to reduce the heat-trapping gases and combat Climate Change**.

Note: The Nineteenth World Meteorological Congress (Cg-19) is currently taking place from 22 May to 2 June 2023 at the **International Conference Centre of Geneva (CICG)**. It is the supreme body of the World Meteorological Organization (WMO).

- ▶ The GHG watch will fill critical information gaps and provide an **integrated and operational framework**. The framework will bring all space-based and surface-based observing systems, as well as modelling and data assimilation capabilities, under one roof.
- **Implementation:**
 - ▶ The monitoring infrastructure will build on and expand WMO's long-standing activities in GHG monitoring, implemented as part of the **Global Atmosphere Watch (GAW)** and via its **Integrated Global GHG Information System (IG3IS)**.
 - ▶ IG3IS aims to coordinate an integrated global GHG information system, **linking inventory and flux model based information with atmospheric observations** and modelling, to provide the best possible estimates of greenhouse gas emissions at the national and urban scales.
- **Components:**
 - ▶ Surface-based and satellite-based observations
 - ▶ Prior estimates of the GHG emissions based on activity data and process-based models
 - ▶ Global high-resolution Earth System models representing GHG cycles
 - ▶ Data assimilation systems associated with models to generate products of higher accuracy

Significance:

- At present, **there is no comprehensive, timely international exchange** of surface and space based GHG observations or modelling products.
- GHG monitoring infrastructure will help improve understanding of the carbon cycle. Understanding the full carbon cycle is **vitaly important for the planning of mitigation activities**.
- Globally consistent, gridded information on GHG and their fluxes with appropriate time resolution **will help in the improved evaluation of sources** and sinks of GHG and indicate their association with the biosphere, the ocean and the permafrost areas.



NICOBAR PROJECT VIOLATES TRIBAL RIGHTS: ST PANEL

Context: The National Commission for Scheduled Tribes (NCST) has now flagged alleged discrepancies with respect to the forest clearance granted for the ₹72,000-crore Great Nicobar Island (GNI) Project.

The project:

- The Rs 72,000-crore project titled '**Holistic Development of Great Nicobar Island at Andaman and Nicobar Islands**' is being implemented by the **Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO)**.
- **The project has four components –**
 - ▶ an International Transshipment Port (ITP)
 - ▶ Greenfield International Airport
 - ▶ a power plant
 - ▶ a new township that could constitute a Special Economic Zone
- These four interlinked projects form the core of the new city and the holistic master plan.

What are the issues?

- **No recognition of rights of tribals:** Months after the project was granted forest clearance, implementation reports prepared by the **Ministry of Tribal Affairs** show that the island administration **neither recognised nor granted ownership** of any forest land to local tribespeople as per **FRA**, a requisite step under the **Forest Conservation Rules, 2017, before Stage-I clearance is granted**.
 - ▶ The Stage-1 clearance for the project was granted in October 2022, two years after the application was received.

Claims made by the government:

- The government has said that the project intends to use about 7.114 sq. km of tribal reserve forest land, where the **Shompen, a Particularly Vulnerable Tribal Group (PVTG), and the Nicobarese reside**.
- It insisted that locals will not be displaced for the project.



TOXIC GAS KILLS 11 IN LUDHIANA

Context: At least 11 people have died following a gas leak in Ludhiana, Punjab. The death is due to inhalation of neurotoxic gas.

What is Neurotoxicity?

- Neuro-toxicity occurs when the **exposure to natural or manmade toxic substances (neurotoxicants)** alters the normal activity of the nervous system that includes brain, spinal cord, and nerves.

- Nerve cells, or neurons, communicate with each other through a series of electrical and chemical signals and are at the greatest risk of damage from neurotoxins because of their high metabolic rate.
- **Neuro-toxic substances** can damage nerve cell function by modifying the structure of the cell membrane, which controls the passage of ions into and out of the neuron.
- As a result, the electrical activity of the neuron may change.
- Furthermore, neurotoxins can prevent neurotransmitters from being released or taken up by other neurons, thereby preventing their production or release.
- Neurotransmitters are responsible for **signal transmission** between neurons.

Industrial gas leaks in India:

Industrial gas leaks are **not rare** in India.

- Three years ago a gas leak at a chemical plant killed at least 12 people in the city of **Visakhapatnam, Andhra Pradesh**.
- In 1984 a chemical leak in a pesticide plant at the central city of **Bhopal** killed thousands of people, in what is acknowledged to be the world's worst industrial disaster.

GREEN OPEN ACCESS RULES 2022

Context: In an attempt to enable open access to green power in the country, the government has asked the industry to set targets under Green Open Access Rules 2022.

What are Green Open Access Rules?

- The Green Open Access Rules were notified in June 2022 to further accelerate India's renewable energy programmes. These rules were notified for promoting generation, purchase and consumption of green energy including through waste-to-energy plants.
- It also enables a simplified procedure for the open access to green power.
- Green Energy Open Access Rules, 2022 are in line with **NDC (nationally determined contribution) target for 2030**.
 - ▶ The government has been targeting to cut emissions in India to **net zero by 2070** and aims to achieve 500 GW renewable power capacity,

reduce emissions by one billion tonnes and an emissions intensity of the GDP by 45 percent by 2030.

India's renewable energy capacity:

- In March 2023, India had a renewable energy capacity of 168.96 GW, with 82 GW at different stages of implementation and 41 GW under the tendering stage.
- This included **10.77 GW of bio power, 51.79 GW of hydel power, 64.38 GW of solar power** and 42.02 GW of wind power.
- As per the **REN21 Renewables 2022 Global Status Report**, India ranked 4th globally in Renewable Energy Installed capacity, wind power capacity and solar power capacity.

DEEP OCEAN MISSION

Context: India has identified 11 potential sites for exploration of hydrogen sulfide and a dedicated multi-purpose vessel is being acquired to carry out detailed surveys as part of the Deep Ocean Mission.

What is Deep Ocean Mission?

- **Launched in:** June 2021
- The Deep Ocean Mission is a **high-level multi-ministerial, multi-disciplinary programme** for better understanding of the deep sea living and non-living resources of the Indian Ocean.
- It aims to aid in India's efforts to attain the **Blue Economy status**.
- **Nodal ministry:** Ministry of Earth Science
- The **Mission Steering Committee (MSC)** is the highest Policy making body constituted under the **Deep Ocean Mission (DOM)**.
- **Themes:** The Deep Ocean Mission consists of **6 themes**:
 - ▶ Development of Technology for deep sea mining, manned submersible and underwater robotics
 - ▶ Development of Ocean and climate change Advisory services
 - ▶ Technology innovations for exploration and conservation of deep sea biodiversity
 - ▶ Deep Ocean survey and exploration
 - ▶ Energy and Freshwater from the Ocean
 - ▶ Advanced marine station for Ocean Biology

Government initiatives to maintain Blue Economy Status

The Indian government has been taking several steps to maintain its Blue Economy status, including:

- **National Maritime Development Programme:** The programme aims to promote sustainable development of India's maritime sector. The programme aims to enhance port infrastructure, modernize the shipping sector, and promote coastal shipping and inland water transport.
- **Sagarmala Programme:** It aims to promote port-led development in the country. The programme aims to develop new ports and modernize existing ones, improve connectivity between ports and the hinterland, and promote coastal shipping.
- **Blue Economy Vision Document:** In November 2021, the government released the Blue Economy Vision Document, which outlines a roadmap for sustainable development of India's Blue Economy.



ISRO SUCCESSFULLY STARTS TESTING ITS SEMI-CRYOGENIC ENGINE

Context: The Indian Space Research Organisation (ISRO) has successfully begun testing of its semi-cryogenic engine those will power future launch vehicles.

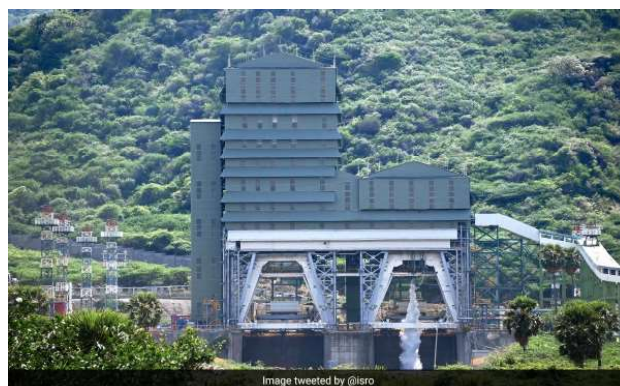
Key-highlights:

- ISRO has initiated the series of tests required for qualifying and validating its most-powerful **liquid-fuelled engine** yet, one that is powered by special refined kerosene (**dubbed as 'ISROsene'**) and super-cooled liquid oxygen.
- Once ready, this **2000kN Semicryogenic Engine** and its stage (associated components, fuel tanks etc.) will be replacing the current **L110 (core stage)** of India's largest rocket - **Launch Vehicle Mark 3(LVM3)**.
- This is meant to significantly add to the lifting power of the LVM3 rocket.

Why ISRO is focusing on Semi-Cryogenic Engine?

- The semi-cryogenic engine is advancement in rocket technology over the cryogenic engine, which ISRO currently uses for the **Geosynchronous Satellite Launch Vehicle (GSLV)** which can carry up to 4 tonnes of payload into higher earth orbit.

- For increased payload, a cryogenic engine would not be enough and hence the development of semi-cryogenic engines is a key stage in India's space programme.



- **Disadvantages posed by cryogenic engines:**
 - ▶ The use of liquid hydrogen at extremely low temperatures is very difficult to store being the smallest gas
 - ▶ The cost of using liquid hydrogen is a prohibitive
- **Benefits of Semi-Cryogenic Engine:**
 - ▶ **Better fuel:** A semi-cryogenic engine uses refined kerosene instead of liquid hydrogen. It uses liquid oxygen as an oxidiser.
 - ▶ Kerosene is much lighter than liquid fuel and can be stored at a normal temperature. The Kerosene combined with liquid oxygen provides more thrust to the rocket. **Compressed Natural Gas (CNG)** can also be used as fuel.
 - ▶ **Less space:** It also occupies less space which makes it possible to have more propellant in the fuel compartment or tank.
 - ▶ It is more **environment-friendly, cost-effective** and more powerful compared to a cryogenic engine. It can carry a huge weight to a higher altitude. Moreover, the payload can be increased since the weight of the fuel will come down by 500kg.



HYSTERECTOMIES

Context: The Union Health Ministry recently urged State Governments to audit hysterectomy trends in public and private hospitals.

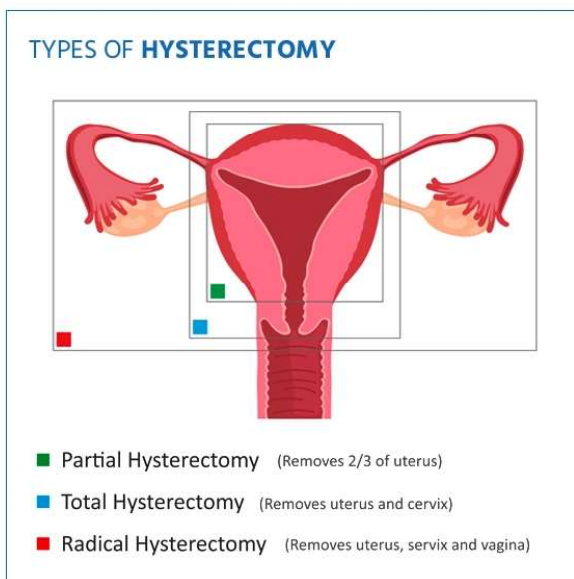
What is Hysterectomy?

- A hysterectomy is a surgical procedure that involves the removal of the uterus (womb), the organ in

a woman's body where a baby develops during pregnancy.

Types:

- ▶ When only the uterus is removed, it is called a **partial hysterectomy**.
- ▶ When the uterus and cervix are removed, it is called a **total hysterectomy**.
- ▶ When the uterus, cervix, part of the vagina, and a wide area of ligaments and tissues around these organs are removed, it is called a **radical hysterectomy**.



About the issue:

- A Supreme Court petition claims that women from underserved areas are vulnerable to unwarranted hysterectomies performed for **financial gain and exploitation**.
- The top Court handed States and Union Territories a **three-month deadline** last month to execute these **Health Ministry directives**.
- Women who had needless hysterectomies have had their fundamental rights gravely violated.

What are the criteria for getting a hysterectomy?

- After caesarean births, **hysterectomies** are the second most common operation among women of **reproductive age**.
- **Hysterectomies** should be performed at the latter stages of a woman's reproductive life, or as an emergency intervention.
- Fibroids (growths surrounding the uterus), abnormal

uterine bleeding and uterine prolapse, chronic pelvic pain, and premalignant and malignant **tumors** of the uterus and cervix are all medical reasons for removing a uterus.

- In some situations, **oophorectomy**, or the **removal of the ovaries** (the primary source of oestrogen), is also performed, which is a type of **surgical menopause** and has been related to a number of **chronic illnesses**.

NFHS-5 Data: The highest percentage of hysterectomies (51.8%) were to treat excessive menstrual bleeding or pain; 24.94% for fibroids; 24.94% for cysts; 11.08% for uterine disorder or rupture.

Health Concern:

- **Removal of Ovaries:** A 2022 review of **29 studies** found a correlation between hysterectomy and chronic diseases including an increased **risk of cardiovascular events, cancers, depression, metabolic disorders, and dementia**.
 - ▶ In India, hysterectomies in women above 45 years of age were associated with hypertension, high cholesterol, diabetes, and bone disease.

- According to a report by the **Maharashtra Legislative Council**, More than 45% of the 13,861 women in Beed, Maharashtra who had undergone hysterectomies experienced aching joints, back pain, depression, and insomnia, among other side effects, impairing their health and ability to work.

What measures has the government taken so far?

- Under the **Clinical Establishments (Registration and Regulation) Act, 2010**, hospitals and healthcare facilities found to have coerced women into hysterectomies without informed consent can be blacklisted.
- **Lack of awareness of gynaecological issues:** The gap thrives in a culture where gynaecological care and disorders - outside of pregnancy - exist in oblivion.

NFHS data on hysterectomies:

- 3.3% of Indian women have had hysterectomy surgical procedures
- Hysterectomy surgeries were found to be higher among women in rural India (3.6%) than in urban India (2.5%)
- The majority of hysterectomies occurred in **Andhra Pradesh (8.7%)**, followed by **Telangana (8.2%)**, **Bihar (6%)**, **Gujarat (3.9%)**, **Ladakh (3.6%)** and **Punjab (3.2%)**.



SECTION: D
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CURRENT AFFAIRS

Kudumbashree



Kudumbashree is the largest network of women in Kerala for empowerment and poverty eradication, which is **completed 25 years** recently.

About: Kudumbashree Initiative

- Kudumbashree is the **poverty eradication and women empowerment programme** implemented by the **State Poverty Eradication Mission (SPEM) of the Government of Kerala**.
- The name Kudumbashree in Malayalam language means '**prosperity of the family**'.
- The name represents '**Kudumbashree Mission**' or SPEM as well as the Kudumbashree Community Network. What is commonly referred to as 'Kudumbashree' could mean either the Kudumbashree Community Network, or the Kudumbashree Mission, or both.
- Kudumbashree was **set up in 1997** following the recommendations of a three member **Task Force appointed by the State government**.
- Its formation was in the context of the **devolution of powers** to the **Panchayat Raj Institutions (PRIs) in Kerala**, and the Peoples' Plan Campaign, which attempted to draw up the Ninth Plan of the local governments from below through the PRIs.

Data Governance Quality Index



The **Data Governance Quality Index (DGQI)** has been recently released by Niti Aayog.

Key-findings:

- The Ministry of Ports, Shipping and Waterways (MoPSW) has scored 4.7 out of 5 and excelled in data governance.
 - ▶ The National Technology Centre for Ports, Waterways, and Coasts at IIT Madras has assisted the ministry to improve the management information system.
 - ▶ NTCPW functions as the assistant organisation for MoPSW in facilitating the technology.

What is Data Governance Quality Index (DGQI)?

- **Conducted by:** Development Monitoring and Evaluation Office (DMEO), NITI Aayog
- The DGQI survey aims to measure the maturity level of administrative data systems and their use in decision-making of various Ministries and Departments on the implementation of Central Sector Schemes (CS) and Centrally Sponsored Schemes (CSS).
- **Themes:** The DGQI assessment encompasses six pivotal themes, including Data Generation, Data Quality, Use of Technology, Data Analysis, Use and Dissemination, Data Security and HR Capacity, and Case Studies.

Millets Experience Centre



National Agricultural Cooperative Marketing Federation of India in collaboration with the **Ministry of Agriculture and Farmers Welfare (MoA&FW)** established the **Millets Experience Centre** with an aim to raise awareness on Millets and encourage their adoption among the general public

About MEC:

- The setting up of the MEC is a step in becoming a '**Global Hub**' for Millets.
- The ministry-led initiative of establishing a consumer-oriented 'Millets Experience Centre' would not only **promote the dietary benefits of the ancient grain** but also **popularize millets or Shree Anna as a nutritional powerhouse**.

International Year of Millets (IYM 2023)

- Acting upon India's proposal supported by 72 countries, the United Nations General Assembly declared the year 2023 as the **International Year of Millets (IYM 2023)**.
- The declaration positioned India at the forefront of the celebrations and the Government of India has been working on 'mission mode' to champion millets as a crop good for farmers, the environment, and consumers.

Group of Seven (G7) Meet



Leaders of the world's wealthiest countries decided to toughen **sanctions on Russia** and to **limit reliance on trade with China**.

Key highlights of the summit:

- **Concerning Russia:** The leaders of the Group of Seven (G7) vowed to **ban any exports to Russia** that could aid it in its 15-month invasion of Ukraine.
 - ▶ This includes exports of industrial machinery, tools, and other technology that Russia uses to rebuild its war machine.
- **Concerning China:** The G7 countries increasingly perceive as a danger to economic security, they were to agree to **reduce excessive reliance** in vital **supply chains** and to **combat malicious practises in technology transfer and data sharing**.
 - ▶ It reiterated the importance of peace and stability in the **Taiwan Strait** and urged China to put pressure on Russia to halt its aggression in Ukraine.
- The G7 countries are the **United States, Japan, Germany, the United Kingdom, France, Italy, and Canada**.

Background of Site

- Hiroshima was destroyed 78 years ago by US nuclear strikes that concluded World War II.
- Hiroshima, Japan, was chosen for the global assembly to draw emphasis on arms control.

Shifting Objective

- The objective of **net-zero emissions by 2050** at the latest, but it also noted what it saw as the continued role of **liquefied natural gas** as **reliance on Russian energy was reduced**.

Indian Ocean Conference



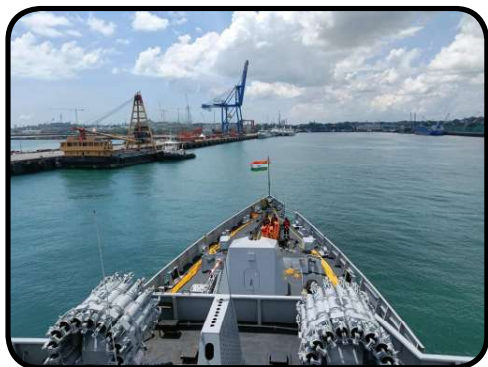
The 6th **Indian Ocean Conference** took place in Dhaka, Bangladesh.

About:

- The Indian Ocean Conference is a flagship consultative forum of the Indian Ocean countries to deliberate upon the prospects of regional cooperation for **Security and Growth for All in Region (SAGAR)**.
- This process began in 2016.

Bangladesh recently released its **Indo-Pacific Outlook**. Thus, Bangladesh has joined several other countries in the world that are supporting a **Free, Open, and Inclusive Indo-Pacific (FOIP)**.

India-Indonesia bilateral exercise 'Samudra Shakti-23'



The 4th edition of the India-Indonesia Bilateral exercise, **Samudra Shakti-23**, is scheduled from 14-19 May 2023.

Exercise 'Samudra Shakti'

- Exercise 'Samudra Shakti' was conceived in 2018 as a bilateral **Indian Navy-Indonesian Navy exercise** in pursuance of **India's Act East Policy**.
- The exercise has matured in complexity over the last three editions and involves the conduct of complex maritime operations including Military Interdiction Operations (MIO), Cross Deck Landings, Air Defence serials, Practice Weapon Firings, Replenishment Approaches and Tactical Manoeuvres.
- The 3rd edition of 'Samudra Shakti' was conducted off the approaches to **Sunda Strait**, Indonesia in September 2021.

International Organization for Migration



The U.N. **migration agency** elected Amy Pope of the United States as its director general. She will be the **first woman to head the International Organization for Migration**.

About:

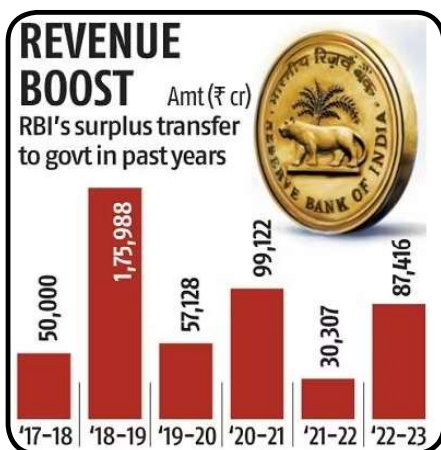
- **Established in:** 1951
- IOM is the leading intergovernmental organization in the field of migration and is committed to the principle that **humane and orderly migration benefits migrants and society**.
- IOM is part of the **United Nations system**, as a related organization.

RBI Surplus Transfer

The **Reserve Bank of India** has approved the transfer of Rs 87,416 crore as surplus to the Union Government for fiscal year 2022-23, offering a significant boost to its fiscal position.

About RBI's Surplus:

- This represents the amount **RBI transfers to the government**.



- There are two unique features about RBI's financial statements.
 - ▶ It is not required to pay income tax
 - ▶ It has to transfer to the government the surplus left over after meeting its needs
- RBI's income comes mainly through interest on the securities it holds and in 2017-18 the largest component of expenditure was a provision of about Rs.14,200 crore it made to the **contingency fund**.
- **Liquidity** refers to the ease with which an asset, or security, can be converted into ready cash without affecting its market price.

Liberalised Remittance Scheme



Spending in foreign exchange through international credit cards will be covered under the RBI's liberalised remittance scheme (LRS).

Under this resident can remit money abroad up to a maximum of \$2.50 lakh per annum without the authorisation of the Reserve Bank, as per a Finance Ministry notification.

About: LRS

- The RBI introduced the LRS scheme or Liberalised Remittance Scheme to facilitate hassle-free foreign exchange. Under this scheme, an Indian resident can transfer funds of up to USD 250,000 in a financial year outside India.
- Indian residents, apart from corporates, partnership firms, HUFs, etc., are eligible for LRS. Even minors are eligible for LRS, given that their guardian signs Form A2.



The Insurance Regulatory and Development Authority of India (IRDAI) is pushing to implement two high tech projects - **Health Claims Exchange and Bima Sugam**, to deepen insurance penetration and simplify the claim procedures.

Key highlights:

- **IRDAI is setting up the Health Exchange platform, which will digitize and simplify the process of filing health insurance claims.**
- It will **reduce the cost per claim to the insurer and enable automatic fund transfer of the claim amount.**
- The proposed exchange will help insurers to have a unified platform for claims and policyholders' **medical history, reducing the number of insurance frauds.**
- NHA has invited contributors and developers from the open community to test, contribute and become a participant in the **Health Claims Exchange ecosystem.**
- **Bima Sugam is a revolutionary step with ambitions of becoming the largest online market for insurance products and services.**
- The overall budget for Bima Sugam has been hiked to Rs 200 crore.

Cabinet Approves revision in Nutrient Based Subsidy (NBS) rates



The Union Cabinet revised the **Nutrient Based Subsidy (NBS) rates** for various nutrients i.e. **Nitrogen (N), Phosphorus (P), Potash (K) and Sulphur (S) for Rabi Season 2022-23** (from 01.01.2023 to 31.03.2023) and approved NBS rates for **Kharif Season, 2023** (from 1.4.2023 to 30.09.2023) for **Phosphatic and Potassic (P&K) fertilizers**.

About:

- The Subsidy on P&K fertilizers is governed by **Nutrient Based Subsidy (NBS) Scheme**.
- Government will be providing a subsidy of Rs. 38,000 crores for the Kharif 2023 to fulfil its commitment of providing quality and subsidized P&K fertilizers to farmers.
- Benefits:
 - ▶ ensuring availability of DAP and other P&K fertilizers to farmers at subsidized, affordable and reasonable prices during Kharif season
 - ▶ ensure rationalization of subsidy on P&K fertilizers

- **Kharif crops** include rice, maize, sorghum, sugar cane, millet/bajra, finger millet/ragi (cereals), arhar (pulses), soyabean, paddy, groundnut (oilseeds), cotton, etc.
- **Rabi crops** include wheat, barley, oats (cereals), chickpea/gram (pulses), linseed, mustard (oilseeds) etc.

Un-sponsored depository receipts (UDRs)



The **International Financial Services Centre Authority (IFSCA)**, the regulatory body overseeing **GIFT City's** international financial services centre, is considering permitting **un-sponsored depository receipts (UDRs)** for Indian shares.

About:

- Depository receipts allow investor's exposure to equities of foreign companies, with custodian banks facilitating the transactions by purchasing shares and issuing receipts.
- These receipts can be traded on designated stock exchanges, similar to regular shares.
- Sponsored depository receipts are initiated by companies themselves, while third parties introduce un-sponsored depository receipts.

Global Financial Innovation Network (GFIN)

The **Reserve Bank of India** has opened the application window for all India based firms and innovators to participate in Global Financial Innovation Network (GFIN)'s **first ever Greenwashing TechSprint**.

Key-highlights:

- RBI will be among the 13 international regulators taking part in **GFIN's Greenwashing TechSprint**.
- The TechSprint will bring together 13 international regulators alongside firms and innovators to address GFIN's priority on environmental, social and governance (ESG) and sustainable finance.



Global Financial Innovation Network (GFIN)

- **Launched in:** 2019
- GFIN is a network of over **70 organisations** committed to **supporting financial innovation in the interests of consumers**.
- It seeks to provide a more efficient way for innovative firms to interact with regulators, helping them navigate between countries as they look to scale new ideas.
- The GFIN also aims to create a new framework for co-operation between financial services regulators on innovation related topics, sharing different experiences and approaches.

Centre for Processing Accelerated Corporate Exit (C-PACE)



The **Ministry of Corporate Affairs (MCA)** has set up the **Centre for Processing Accelerated Corporate Exit (C-PACE)** to centralise the process of striking off companies from the Ministry of Corporate Affairs (MCA) Register.

- **Set up by:** Ministry of Corporate Affairs
- **Location:** Indian Institute of Corporate Affairs (IICA) in Manesar, Haryana.
- The establishment of C-PACE is part of MCA's efforts towards **ease of doing business and ease of exit for companies**.
- The C-PACE institution will be operational through the **Registrar of Companies (RoC)** for the purpose of processing and disposal of applications.
- The C-PACE will help keep the registry clean and provide stakeholders with more meaningful data.
- With the establishment of the C-PACE, companies can look forward to a **hassle-free exit process**.

RBI launches G20 TechSprint



The Reserve Bank of India (RBI) launched **G20 TechSprint**, a global technology competition for developing innovative solutions to improve cross-border payments.

About:

- It is jointly launched by the **RBI** and the **BIS Innovation Hub (BISIH)**.
- **Focus area:** The 2023 TechSprint will focus on solutions for three challenges cross-border payments face.
 - **Anti-Money Laundering and Sanctions technology solutions** to reduce illicit finance risk
 - **Foreign exchange and liquidity technology solutions** to enable settlement in **emerging market and developing economy (EMDE) currencies**.
- Technology solutions for multilateral cross-border **Central Bank Digital Currency (CBDC)** platforms

Transition bond



To facilitate transparency and informed decision-making among the investors, markets regulator SEBI mandated additional requirements for the issuance and listing of **transition bonds**.

About

- Transition bond is one of the sub-categories of '**green debt security**'.
- These bonds are generally used for raising funds for transitioning to a **more sustainable form** of operations in line with **India's intended nationally determined contributions**.

Front-running



The **Securities and Exchange Board of India (Sebi)** has barred five entities, including an employee of Life Insurance Corporation of India (LIC), in a case pertaining to **front-running** the trades of the insurer.

About Front-running

- Front-running is when a broker or an investor joins a trade because they have **foreknowledge of a large confidential deal** which will impact the asset's price.
- Front-running is also known as **forward-trading or tailgating**.
- Front-running is **illegal** in India.

Greater Flamingo



A greater flamingo was rescued from **Najafgarh wetland**, bordering Haryana.

About:

- Out of the six species of flamingo on our planet, the **Greater Flamingo (*Phoenicopterus roseus*)** is the most common and widespread member of the flamingo family.
- The Greater Flamingo is an easily identifiable, colorful wading bird and is often found flocking together with the Lesser Flamingo in the great salt lakes across Africa.
- These famous pink birds can be found in warm, watery regions on many continents and also occur in Asia in the coastal regions of **India and Pakistan, Central America, South America, the Caribbean and in Southern Europe**.
- The closest relatives to the Greater Flamingo are the **Chilean Flamingo, Caribbean Flamingo** and the **Lesser Flamingo**. There are no subspecies of the Greater Flamingo.
- The flamingo's pink coloration comes from its diet of Shrimp and other pink crustaceans.

Jwala: A cheetah's cub



The latest fatality took the toll of cheetahs in Kuno National Park to four in the last two months, including three felines translocated from African countries.

Key highlights:

- One more cheetahs, this time **a cub**, has died at the **Kuno National Park (KNP) in Madhya Pradesh**.
- The two-month-old cub was one of four born to the cheetah, **Jwala**, who was among the **set of eight animals imported from Namibia**.
- The likely cause of death was from weakness.
- **Survival Rate of Cheetah:** Literature and experience from Africa suggests that cheetah cubs, in the wild, have a survival rate of 10%, and roughly the same fraction make it to adulthood, the government's press release noted.
- This is the fourth cheetah to have died in India since 20 of the animals were relocated from Namibia and South Africa respectively to KNP, in an experiment at establishing a community of cheetahs, the only large cat to have gone extinct from India.

Palak Lake



As part of the mass mobilisation of public participation in the **Lifestyle for the Environment (LiFE)**, a nature walk was organized along the **Palak Lake**.

- The **Palak Wetland Reserve** is located in Mizoram, and falls under the **Indo-Burma biodiversity hotspot**.

Indo-Burma biodiversity hotspot:

- The Indo-Burma biodiversity hotspot spans across parts of **India, Myanmar, Thailand, Laos, Cambodia, Vietnam, and China**.
- **Endangered species in the region:** Bengal tiger, Asian elephant, Javan rhinoceros, and Mekong giant catfish.

Thawing permafrost in the Arctic



With rising global temperatures, thawing permafrost is likely to destabilise thousands of industrial sites in the Arctic, which could result in the spread of toxic substances across the region, according to a new study.

About

- Permafrost is essentially any ground that stays frozen — 0 degree Celsius or lower — for at least two years straight.
- Permafrost is composed of "a combination of soil, rocks and sand that are held together by ice."
- The soil and ice in permafrost stay frozen all year long.
- These permanently frozen grounds are often found in **Arctic regions such as Greenland, Alaska (the United States), Canada, Russia and Eastern Europe**.

Gharial seen in Pakistan's Punjab



A **gharial** (*Gavialis gangeticus*) has been seen in Pakistan's Punjab province for the first time after three decades.

About:

- The gharial (*Gavialis gangeticus*), is a crocodylian in the family Gavialidae, native to sandy freshwater river banks in the plains of the northern part of the Indian subcontinent.
- Gharials are critically **endangered** in the **International Union for Conservation of Nature Red List of Species**.
- The species is also listed under **Schedule I** of the **Wild Life (Protection) Act, 1972**.
- **Chambal River** in **National Chambal Sanctuary** is the natural habitat of gharial.

Rare Black Tiger in Similipal Tiger Reserve



Recently, the death of a **Rare Black Tiger** was reported in the **Similipal Tiger Reserve** in Odisha.

About:

- Tigers bear a distinctive dark stripe on a light background — either golden or white.
- A rare variation in pattern, distinguished by broad stripes fused together, has also been observed among both captive and wild tiger populations.

Pseudo-melanism:

- This **pseudo-melanism**, unlike **true melanism**, is characterised by unusually high melanin deposition.
- **Pseudo-melanism** is linked to only one mutation in **Transmembrane Aminopeptidase Q (Taqpqp)**.
- This is the same gene that is responsible for similar traits in other cat species.
- **Pseudo-melanism** is caused by a hidden or recessive gene.
- A cub gets from both parents two copies of each gene — the recessive gene manifests itself only if the dominant one is absent.
- This means two tigers with normal patterns carrying the recessive gene will have to breed for a one-in-four probability of birthing a black cub.
- Recessive genes are, however, rare. As a result, it is unlikely that two unrelated tigers will carry the same gene and then pass it on to a cub together.
- A black tiger may succeed in a small founding population forced for generations to inbreed in isolation, offering the recessive gene a far higher chance to show up.

GSK's Arexvy, world's first RSV vaccine



The **Food and Drug Administration (FDA)** approved **Arexvy** from GSK, making the British pharma giant's product the **first U.S.-cleared shot for respiratory syncytial virus (RSV)**.

About respiratory syncytial virus (RSV).

- RSV is a **highly contagious virus** that causes infections of the lungs and breathing passages in individuals of all age groups.
- RSV is a common cause of **lower respiratory tract disease (LRTD)**, which affects the lungs and can cause life-threatening **pneumonia and bronchiolitis** (swelling of the small airway passages in the lungs).
- Older adults are at **high risk** for severe disease due in part to **age-related decline in immunity**.
- **Arexvy** is indicated for those aged 60 years and older to prevent lower **respiratory tract disease** caused by RSV.

IBM unveils 'Watsonx Platform'



IBM has unveiled the **'Watsonx Platform'** to power next-generation foundation models for Business.

About:

- Watsonx is a new platform to be released for foundation models and **generative AI**, offering a studio, data store, and governance toolkit.

Generative AI is a type of artificial intelligence technology that can produce various types of content, including text, imagery, audio and synthetic data.

Dhruv Helicopters Grounded



A government regulatory body has called for a design review of a "safety-critical system" on the **Dhruv advanced light helicopter**.

About:

- **Built by:** Hindustan Aeronautics Limited (HAL)
- The Dhruv ALH is a **multi-mission helicopter** in the 5.5-tonne class.
- **Advanced Light Helicopter or ALH-DHRUV** is an **indigenously developed utility aircraft** with a twin-engine.
- It has a **multi-role, multi-mission** dimension to it.

India's 1st Supersonic Fighter set to 'Hang Its Boots'

An **Indian Air Force (IAF) MiG-21** recently crashed in Rajasthan's Hamumangarh district.

- The incident, the latest in a long list of MiG-21 tragedies, brought back questions that have been haunting the Indian Air Force for years now.

About MiG-21

- The **Mikoyan-Gurevich MiG-21** is India's longest-serving fighter plane.



- India got its **first single-engine MiG-21** in 1963, since then, the country has sourced **874 MiG-21s**.
- The aircraft was originally designed for high-speed and high-altitude air defence operations.
- **Variants:** After the first MiG-21s, six **MiG-21PFs (Type 76)** were inducted in 1965.
 - ▶ Another 250 machines of the **MiG-21 FL (Type 77) variant** were added
 - ▶ The plane saw other variants called **MiG-21M/MFs (Type 96)**.
 - ▶ The most recent variants is **MiG-21 Bis (Type 75)**.
- It has earned the aircraft grim epithets like '**flying coffin**' and '**widowmaker**'.

- 874 MiG-21s sourced since 1963
- 657 of these licence-produced by HAL
- 491 jets involved in accidents or crashes
- 170 pilots killed
- 50 MiG-21s continue to be in service

StarBerrySense



The **Indian Space Research Organization (ISRO)** launched a **low-cost star sensor** called **StarBerrySense** on board its **Polar Satellite Launch Vehicle (PSLV) C-55 rocket** recently.

About:

- **Developed by:** Indian Institute of Astrophysics (IIA).
- **Objective:** StarBerrySense's primary objective is to image the field of view, identify stars, and calculate the spacecraft's pointing direction.
- The StarBerrySense sensor calculates the pointing direction by identifying the stars in its field of view.
- The sensor captures images of the stars and uses them to determine the spacecraft's attitude and orientation.
- This information is crucial for controlling the spacecraft's movement and keeping it on the right path.

INS Tarkash deployed for Operation Kaveri

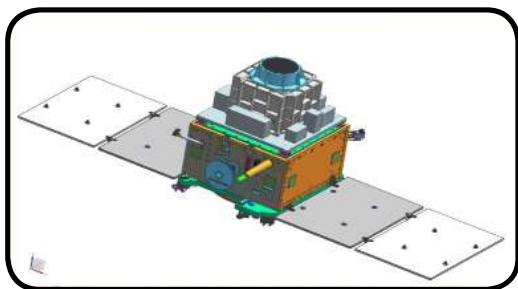


India has deployed its third warship INS Tarkash under the ongoing **Operation Kaveri** to evacuate all the Indians stuck in war ravaged **Sudan**.

About INS Tarkash:

- INS Tarkash is a **state-of-the-art stealth frigate** of the Indian Navy equipped with a versatile range of weapons.
- It has a **weapon-sensor fit** that enables her **address threats in all dimensions**.
- The ship is part of the **Indian Navy's Western Fleet**.

X-Ray Polarimeter Satellite (XPoSat)



Context: The Indian Space Research Organisation is collaborating with the **Raman Research Institute (RRI)**, Bengaluru, and an autonomous research institute, to build the **X-Ray Polarimeter Satellite (XPoSat)** that is scheduled to be launched later this year.

About:

- XPoSat (X-ray Polarimeter Satellite) is India's first dedicated polarimetry mission **to study various dynamics of bright astronomical X-ray sources in extreme conditions.**
- The spacecraft will carry two scientific payloads in a **low earth orbit.**

Indian Space research Organisation (ISRO):

- ISRO or Indian Space Research Organisation is India's space agency founded in 1969 to help develop an indigenous Indian space program.
- It is one of the **6 largest space agencies** in the world today.
- ISRO maintains one of the biggest fleets of remote **sensing (IRS) and communication (INSAT) satellites** catering to the needs of the nation through a network of centres, offices, and research institutes in different parts of the country.
- **ISRO functions in the following areas:** broadcasting, weather forecasting, disaster management, geographic information systems, navigation, cartography (maps), and telemedicine, distance education satellites, etc.

Discovery of Exoplanet



Context: According to the Indian Space Research Organization, an exoplanet was discovered using the indigenously made **PRL Advanced Radial-velocity Abu-sky Search spectrograph (PARAS)** at PRL's 1.2 m telescope at its **Gurushikhar Observatory** in **Mt. Abu** by precisely measuring the planet's mass.

Key highlights:

- This discovery marks the third exoplanet discovery by India, and by the PRL scientists using PARAS spectrograph and the **PRL 1.2m telescope**, following the discoveries in 2018 (K2-236b) and 2021 (TOI-1789b).
- A new **Jupiter-size exoplanet** with the highest density known till this date and **mass 13 times** than that of Jupiter.
- Has been discovered by an international team of scientists led by **Prof. Abhijit Chakraborty** at the **Exoplanet Research Group of the Physical Research Laboratory (PRL)**, Ahmedabad.
- The exoplanet is found around the star called **TOI4603 or HD 245134.**
- NASA's The **Transiting Exoplanet Survey Satellite (TESS)** initially declared **TOI4603** as a possible candidate to host a secondary body of unknown nature.
- The newly discovered exoplanet **TOI 4603b** is one of the most massive and densest giant planets that orbits very close to its host star at a distance less than **1/10th** the distance **between our Sun and Earth.**

Open Radio Access Network (ORAN)

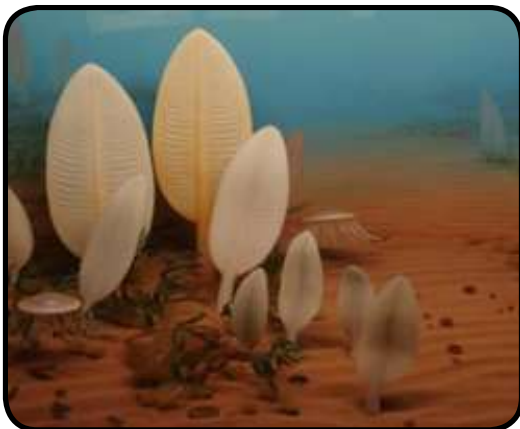


Open Radio Access Network (ORAN) test bed project was recently launched for conformance, certification and interoperability testing of O-RAN based solutions in New Delhi.

About:

- An Open Radio Access Network (ORAN) is a **nonproprietary version** of the **Radio Access Network (RAN) system** that allows interoperation between cellular network equipment provided by different vendors.
- In the traditional set-up, **Radio Access Network** is provided as an integrated platform of both hardware and software.
- Therefore, it is difficult to mix vendors for the radio and baseband unit, and in most cases, they come from the same supplier.
- The idea of Open RAN is to change this, and enable operators to mix and match components.
- It goes a step further by opening the interfaces inside the base station. The Open RAN architecture allows for the separation - or disaggregation - between hardware and software with open interfaces.

Radiometric Dating



Scientists have suggested using **Calcium-41** for Radiometric Dating as an alternative to **Carbon-14** for determining the age of fossilized bones and rocks.

About: Calcium-41 for Radiometric Dating

- Calcium-41 (Ca-41) is a **radioactive isotope of calcium** that can be used in radiometric dating methods. It undergoes radioactive decay and transforms into Argon-40 (Ar-40) over time.
- The ratio of Ca-41 to Ar-40 in a sample can be measured, and by knowing the half-life of Ca-41, the age of the sample can be determined.
- Ca-41 dating is not commonly employed in dating methods involving carbon-based materials like charcoal and bone, as mentioned in option D. Carbon dating methods, which rely on the decay of Carbon-14 (C-14), are specifically designed for dating organic materials. Therefore, option D is incorrect.
- In summary, Calcium-41 (Ca-41) decays into Argon-40 (Ar-40), and the ratio of Ca-41 to Ar-40 can be used to calculate the age of rocks and minerals.
- It is not suitable for dating organic materials, has a half-life of approximately 100,000 years, and is commonly applied in geological dating rather than **carbon-based dating methods**.

Arsenic Consumption



In a recent study it has been found that even low levels of '**arsenic consumption**' may impact cognitive function in **children, adolescents, and young adults**.

About: Arsenic

- Arsenic is a natural component of the earth's crust and is widely distributed throughout the environment in the **air, water and land**. It is highly toxic in its inorganic form.
- Arsenic exposure is a serious public health concern due to its toxic nature.
- Arsenic can enter the body through various routes, but one of the major sources of exposure is through contaminated drinking water.
- Long-term exposure to inorganic arsenic, mainly through **drinking-water and food**, can lead to chronic arsenic poisoning. Skin lesions and skin cancer are the most characteristic effects.
- Arsenic exposure through inhalation of contaminated air is relatively rare and usually associated with occupational settings or specific environmental incidents.

Source:

- Ingestion of contaminated water or food is the most common route of arsenic exposure for the general population.

