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WEEK: 3 NOVEMBER 2023

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— 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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WESTERN ODISHA DEMANDING SEPARATE KOSHAL STATE

Context: The activists have been pressing for a separate Koshal state alleging neglect of the region by the Odisha government in various fields.

Historical Background of Koshala:

- Dakshinkoshalis part of kingdom of **lord Raama**, Later on it was given to his son Kush.

- Samudragupta in the 4th century defeated King **Mahendra of Koshala**, the kingdom that included Sambalpur.

- During the 5th and 6th centuries Sambalpur came under the rule of **Sarbhapuriyas**.

- Towards the 7th century it passed in to the hands of **Panduvansi king Trivaradeva**.

- Towards the close of 9th century king **Janmajaya I Mahabhavagupta** extended his empire which comprised the modern districts of **Sambalpur and Bolangir**.

- After the British occupied Orissa and bitterness between the British and Marathas ripened, the former found a convenient route via Sambalpur and annihilated the

- Sambalpur was occupied by the British on **2nd January, 1804**. Finally it passed on to the **British in 1817.**

Causes for demand:

- The modern orissa is consisting of three major area **kalinga, utkal and koshal**.

- The **Kosal state movement**is an effort by people of the Western Odisha region of India to secede from the state of Odisha.

- Prolonged underdevelopment and backwardness of this region.

- In the backward districts of **Kosal region—Boudh, Sonepur, Balangir and Nuapada** more than 60% of people live below the poverty line.

- Recurrent droughts, inadequate irrigation and uneven land distribution have made Kosal a "hunger belt" in Odisha since Independence.

- The region also experiences mining and environmental degradation and tribal displacement.

- The major language of the area is Sambalpuri. It is variously seen either as a dialect of Odiaor as a language in its own right.

Names of Odisha

Utkala	According to Mahabharata Utkala was a part of Kalinga.
Mahakantara	This name was found during Gupta period.
Udra	It was the kingdom which included coastal region of Odisha.
Odra	This name was given after Odra tribe.
Oddiyana	This name was mentioned in Buddhist texts.

Constitutional Provisions for States:

- **Article 2 is titled as:** Admission and establishment of new states.

- **Article 3 is titles as:** Formation of new states and alteration of areas, boundaries or names of existing states.

- **Article 4 is titled as:** Laws made under Articles 2 and 3 to provide for the amendment of the First and the Fourth Schedules and supplemental, incidents and consequential matters. I.e. a number of seats allotted in the RajyaSabha for each state.

- Constitution will not treat any such law altering existing States or creating a new State, as the amendment.

11 LAKH CHILDREN IN INDIA MISSED 1ST MEASLES SHOT IN 2022: WHO

Context: Estimated 11 lakh children in India missed their crucial first dose of measles vaccine in 2022.: Report by the World Health Organization and US Centres for Disease Control and Prevention (CDC).

Global Impact:

- **Immunization Decline:**Worldwide, measles immunization dropped to its lowest levels since 2008 during the pandemic.:- Resulting in an 18% surge in cases and a distressing 43% increase in deaths.

- **India's Scenario:**India, one of 37 countries experiencing large outbreaks, reported 40,967 measles cases in 2022:- Reflecting the repercussions of vaccination gaps exacerbated by the pandemic.

Challenges and Vulnerabilities:

- **Routine Immunization Dip:** Drastic declines in routine immunization occurred during 2020 and 2021 due to the pandemic, particularly affecting peri-urban areas and clusters.

- **Vulnerability Dynamics:** Missing even a single cohort of vaccination leaves individuals highly susceptible to measles, emphasizing the critical importance of maintaining routine immunization.

Measles Characteristics and Impact:

- **Vaccine Efficacy:** Two doses of the measles vaccine provide 97% protection for life, with a single dose offering weaker protection.

- **Clinical Manifestations:** Measles typically presents with high fever, cough, runny nose, and red rashes. Severe complications, including brain swelling, pneumonia, breathing difficulties, and severe diarrhoea, can lead to fatalities.

Global Response and Sensitivity in India:

- **Global Challenges:** Over 33 million children globally missed either one or both doses of the measles vaccine in 2022.

- **India's Performance:** Despite challenges, India demonstrated commendable sensitivity in measles surveillance, outperforming global benchmarks by three to four times.

Regional Outbreaks and Government Response:

- **Affected States:** Measles cases surged in five Indian states - Bihar, Gujarat, Haryana, Jharkhand, and Maharashtra.

- **Government Intervention:** Maharashtra, reporting 13 deaths in 2022, initiated an outbreak response immunization drive, vaccinating 13 lakh children between nine months and 15 years from affected states and neighbouring regions between November 2022 and May 2023.

The measles outbreaks underscore the fragility of global health systems during crises, emphasizing the need for sustained immunization efforts to prevent the resurgence of vaccine-preventable diseases.

CASE COUNT IN FOUR YEARS

Year	Measles	Rubella
2022	1,804	175
2021	649	142
2020	1,251	514
2019	2,842	1,868

Vax details
- Three doses of MR vaccine is the best way to combat the infection
- First dose in nine months
- Second dose between 15 and 18 months
- Third dose between four and five years
- The roll-out on January 9 is aimed at covering all kids between the ages of nine months and 15 years, even if they have completed the vaccination

What is Measles?

A highly contagious viral infection caused by the measles virus (MeV). It primarily affects children, but individuals of any age can contract the virus.

- **Transmission:** Measles spreads through respiratory droplets and is highly contagious, making it one of the most infectious diseases known.

- **Symptoms:**
  - **Early Symptoms:** High fever, cough, runny nose, and red, watery eyes.
  - **Later Symptoms:** A characteristic red rash that starts on the face and spreads.

- **Complications:**
  - **Common:** Diarrhea, ear infections.
  - **Severe:** Pneumonia, encephalitis (brain swelling), and, in rare cases, death.

Impact of Measles:

- **Health Impact:**
  - **Severity:** While most recover fully, measles can be severe, especially in malnourished children or those with weakened immune systems.
  - **Fatalities:** Complications can lead to fatalities, particularly in populations with limited access to healthcare.

- **Economic Impact:**

MEDICAL NEWS TODAY

Chickenpox vs. Measles

Chickenpox
- fever
- headache
- tiredness or fatigue
- red spots first appear on the chest, face, and back
- decreased appetite
- spots turn into itchy blisters

Measles
- fever
- red, blotchy rash first appears on the forehead
- red, inflamed eyes
- runny nose
- hacking cough and sore throat
- Koplik's spots inside the mouth
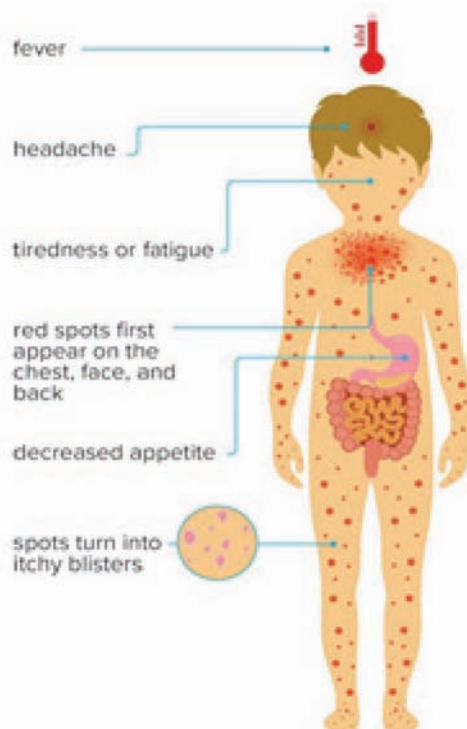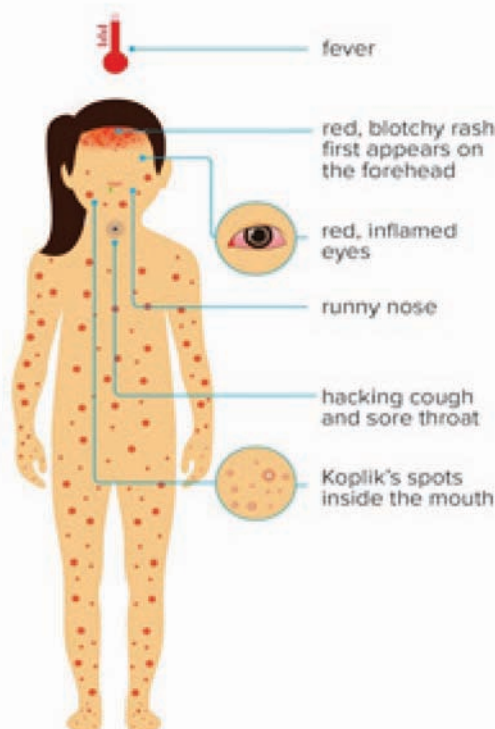
➤ The economic burden includes healthcare costs for treatment and complications.

➤ **Productivity Loss-**Parents may miss work to care for sick children.

◉ **Public Health Impact:**

➤ Measles is highly contagious, leading to outbreaks, especially in communities with low vaccination rates.

➤ High vaccination rates create herd immunity, protecting vulnerable populations.

Prevention and Control:

◉ **Vaccination:** The measles vaccine is highly effective and is usually administered in combination with vaccines for mumps and rubella (MMR).

◉ **Routine Immunization:** Routine immunization programs aim to achieve high population immunity and prevent outbreaks.

Elimination target:

THE REPORT comes at a critical juncture as India, along with other countries in the WHO South-East Asia Region, adopted the goal of measles elimination by 2023. While the government has tried to catch up after the pandemic with Indradhanush to achieve the elimination target, India would need to vaccinate 95% of the children

IPEF AGREEMENT: IN SYNC WITH INDIA'S DOMESTIC LAWS

Context: **Government of India has clarified that being the member of Indo-Pacific Economic Framework for Prosperity (IPEF) will not impose restrictions on India's policy making.**

What is IPEF Agreement?

◎ The IPEF is an economic framework proposed by the United States as an alternative or complement to RCEP.

What is Regional Comprehensive Economic Partnership (RCEP)?

RCEP is a trade agreement involving 15 countries in the Asia-Pacific region, namely the 10 member states of the Association of Southeast Asian Nations (ASEAN) — Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam — as well as China, Japan, South Korea, Australia, and New Zealand.

◎ The purpose of the IPEF is to promote economic cooperation, trade, and investment among participating countries in the Indo-Pacific region, with the United States taking a leading role.

◎ The article highlights that the IPEF focuses on non-tariff areas such as intellectual property, services, investment, domestic regulations, digitalization, labor, and environmental standards.

◎ Unlike traditional trade deals that primarily address tariffs, the IPEF seems to emphasize these broader aspects of economic integration.

IPEF's four Pillars:

◎ **Trade**: This pillar focuses on facilitating trade and reducing barriers among the participating countries. While India has not joined the trade pillar, there may be pressure for it to do so.

◎ **Supply Chains:** This pillar aims to establish integrated and efficient supply chains within the participating countries. It likely involves promoting cooperation and coordination in areas such as logistics, infrastructure, and connectivity to facilitate smooth trade flows.

◎ **Clean Economy**: The clean economy pillar focuses on promoting sustainable development, environmental conservation, and green technologies. It likely involves commitments and cooperation to address climate change, reduce emissions, and promote clean energy and sustainable practices.

◎ **Fair Economy:** The fair economy pillar aims to establish a fair and level playing field for businesses and promote inclusive economic growth. It likely includes provisions related to competition policy, fair trade practices, and addressing inequalities within and among the participating countries.

INDIA- EU TRADE DISPUTE

Context: **India is close to resolving its most contentious trade dispute, involving Information communications technology (ICT) products, with its second largest trade partner, the European Union (EU).**

Background:

◎ New Delhi was dragged in to the **WTO's dispute settlement mechanism in 2019** challenging its levying of **import duty on a wide range of ICT products.**

◎ Items include mobile phones and components, base stations, integrated circuits and optical instruments.

◎ **Claim by EU**: The duty was inconsistent with global trade norms and was hurting **600 million Euros** worth of its **tech exports to India.**

◎ The dispute assumes significance as it was feared to affect India's efforts to boost electronic products manufacturing — a strategic sector in which India is trying to cut its reliance on **China.**

On April 17, 2023, the dispute settlement panel of the WTO, in **three separate** disputes filed by the **EU, Japan and Chinese Taipei** against India's import duties on **certain ICT products**, had ruled that the tariffs violated its commitment under **multilateral trade rules** and needed to be corrected.

ELECTRONIC GOODS EXPORTS UP 50% IN FY23

Financial year	Electronic goods exports (in $ bn)
FY23	23.57
FY22	15.58
FY20	11.7
FY19	8.82
FY18	6.39

Source: Ministry of Commerce & Industry, Note: Data for FY21 is not available

About the information:

◎ The mutual settlement follows the high-level **Trade and Tech Council (TTC) meeting** between India and the EU that was set to discuss a number of outstanding issues between the two countries in the absence of a functional dispute resolution mechanism at the WTO.

◎ TTC with the EU assumes significance as the EU has a TTC only with the US.

◉ The council aims at forging technology partnerships with like-minded countries amid rising tensions with China.

India-EU export duty on ICT products:

◉ India imposed higher duties on ICT products as it looks to boost the manufacturing of electronic products with the help of the **production-linked incentive (PLI) scheme**.

◉ The current strategy has also paid off as India's electronic products have been on the rise even as broader goods exports have declined during the current fiscal.

What are ICT products?

◉ UNCTAD has defined ICT-enabled services as "**Services delivered remotely over ICT networks**".

◉ As in **2016- 17**, this definition has been used for the purpose of collection of information in the present survey.

The following **10 categories** of services are identified as potentially **ICT-enabled services**:

◉ Telecommunications

◉ Computer Services (including computer software)

◉ Sales and marketing services, not including trade and leasing services

◉ Information services

◉ Insurance services

◉ Financial services

◉ Management, administration and back office services

◉ Licensing services

◉ Engineering, related technical services and R&D

◉ Education and training services.

WTO's mechanism for resolution of trade disputes:

◉ Ideally disputes are resolved through negotiations. If this is not possible, WTO Members can request the establishment of a **panel to settle the dispute**.

◉ The panel will issue a report, which can subsequently be appealed before the **WTO's Appellate Body** on questions of law.

The Appellate Body is a **standing body of seven persons** that hears appeals from reports issued by panels in disputes brought by WTO members.

◉ The Appellate Body can **uphold, modify or reverse** the legal findings and conclusions of a panel.

◉ If a WTO member does not comply with recommendations from dispute settlement, than trade compensation or sanctions, for example in the form of **increases in customs duties**.

◉ Many WTO members, including the EU, make active use of this system so that violations of trade rules are corrected.

◉ However, the EU only initiates a dispute settlement case where other ways of finding a solution have not been productive.

VOICE OF GLOBAL SOUTH SUMMIT

Context: Recently, the Prime Minister inaugurated the second Voice of Global South Summit.

What is the Voice of Global South Summit (VoGS)?

◉ The VoGS Summit is an Indian initiative that has been designed to provide a common platform for the countries of the Global South to share their perspectives and priorities on several major issues.

◉ It aims to find out solutions for common challenges faced by developing countries through talks.

◉ Inspired by PM's vision, **'Sabka Saath, Sabka Vikas, Sabka Vishwas, aur Sabka Prayas'**, the summit follows India's philosophy of Vasudhaiva Kutumbakam.

How did the summit start?

◉ The foundation of this unique initiative was laid considering the recent global developments that have severely impacted the developing world.

◉ These include events such as COVID pandemic, mounting debt, on-going Ukraine conflict, and challenges of food, energy security and others.

◉ Often, the worries of developing countries do not gain adequate attention and space on the global stage.

◉ The relevant existing platforms have proven to be deficient in handling the challenges and concerns of the developing nations.

About Global South:

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

- It's a term used to categorize countries based on economic development and historical factors.

Features of Global South:

- Mostly lower-income countries, often with colonial histories.
- Not strictly limited to the Southern Hemisphere; many are in the Northern Hemisphere.
- Used as a value-free alternative to "**Third World."**
- Major countries like Brazil, China, India, Indonesia, and Mexico are part of the Global South.

Need for Classification:

- Helps describe economic and geopolitical differences.
- Overcomes the limitations of East/West or First/Second/Third World classifications.
- Recognizes the shared history of colonization.
- Acknowledges the emergence of economically powerful South countries.

Indian Context:

- India aims to represent the underrepresented Global South in international forums.
- Calls for reform in multilateral institutions like the UNSC, UN, and IMF.
- Emergent economies like India and China seek cooperation with other Global South countries.
- Challenges the dominance of the Global North in international affairs.

Criticism of Classification:

- Some find the term too broad and vague.
- Questions about whether elites of the Global South aim to challenge global capitalist structures.
- Concerns about the neglect of Africa in the rise of Asia.

Significance of Global South:

- India aims to unite Global South nations to address common concerns.
- Potential for technical and idea exchanges and cooperation in various areas.
- Highlighting shared concerns like energy security and sustainable development.

Challenges for Consolidation:

- Debate over climate reparations and exclusion of India and China.
- Impact of the Russia-Ukraine War on Least Developed Countries.

- China's increasing influence in the Global South through initiatives like the Belt and Road.

Way Forward:

- India needs active engagement in regional politics within the Global South.
- Recognize differentiation within the Global South in terms of wealth, needs, and capabilities.

G-2 (US AND CHINA): A MYTH

Context: Meeting between President Joe Biden of the United States and Chinese President Xi Jinping met for the first virtual bilateral meeting in recent times.

Points Discussed:

- **Concerns of US with respect to China:**
  - **Human Rights Violations**: US raised concerns about the human rights violation practices in **Xinjiang, Tibet, and Hong Kong**.
  - **Trade War**: US' trade deficit with China was around **USD 375 billion** for 2017. Due to this, former US President Donald Trump imposed import duties on Chinese exports to the US
  - The US president held that the need is to protect American workers and industries from China's unfair trade and economic practices.
  - The US Treasury Department has declared China as a currency manipulator.
  - **Free and Open Indo-Pacific:** China's assertiveness in South China Sea, claiming the majority of sea as its territory, has prompted the US to reiterate the importance of freedom of navigation and safe over flight to the region's prosperity.
  - **Taiwan:** China and Taiwan separated amid civil war in 1949 and China considers Taiwan part of its territory to be taken control of by force if necessary. However, Taiwan's leaders say that Taiwan is a sovereign state.

The US remains committed to the 'One China' policy. However, it "**Strongly opposes unilateral efforts to change the status quo or undermine peace and stability across the Taiwan Strait".**

China's concerns Against US:

- **Alliances and Groupings**: China has raised reservations regarding the alliances and groupings led by the US. China held that these groupings created "divisions" in the world.

➤ This was a reference to the Quad grouping, which includes US, India, Australia and Japan and the AUKUS deal among Australia, UK and US to deliver nuclear-powered submarines to Australia.

➤ Moreover, the US has recently proposed to expand **G7 to G-11** without including China in it.

◉ **Competition for Dominating World Finances**: To counter the US-dominated International Monetary Fund, World Bank and World Trade Organization, China has come out with alternative financial institutions like Asia Infrastructure Investment Bank, and New Development Bank.

➤ **US-India-China Relations**:

● **US Helping India address disputes with China:** US aims to support India via military, diplomatic and intelligence channels to help address continental challenges such as the border dispute with China.

● **US Supports India's reservations against Belt Road Initiative:** US seek the transparent infrastructure-debt practices in the countries facing debt due to Chinese financing under Belt Road Initiative.

Build Back Better World (B3W) is an international infrastructure investment initiative announced by the **Group of Seven (G-7)** richest democracies in June 2021.

The B3W initiative is being seen as the US' initiative to counter China's Belt and Road Initiative (BRI).

➤ **Balancing China**: The US is in favour of strong India, in cooperation with like-minded countries, which would act as a counterbalance to China in the strategic Indo-Pacific region.

India and the US have signed **four fundamental** defence agreements:

◉ The General Security of Military Information Agreement (GSOMIA-2002).

◉ The Logistics Exchange Memorandum of Agreement (LEMOA-2016).

◉ The Communication Compatibility and Security Agreement (COMCASA-2018).

◉ The Basic Exchange and Cooperation Agreement (BECA-2020)

Way Forward

◉ **US-China's Responsibility:** It is the responsibility of leaders of China and the US to ensure that the competition between the countries does not veer into conflict, whether intended or unintended.

◉ **India to Maintain Interest Oriented Balancing**: India should realise its rising global power and rather than getting enmeshed in US-China rivalry, it should prioritize its own interests and growth by maintaining peaceful mutual relationships.

DRAFT NATIONAL PHARMACY COMMISSION BILL

Context: Health Ministry releases draft National Pharmacy Commission Bill.

Objectives of the bill

◉ A significant move intending to replace the Pharmacy Act of 1948.

◉ The primary objectives is to enhance access to affordable and high-quality pharmacy education

◉ Ensuring the availability of pharmacy professionals across the country, and promote equitable healthcare by making pharmacy services accessible to all citizens.

Important Provisions:

◉ **Periodic Assessment:** The Bill calls for transparent and periodic evaluations of pharmacy institutions.

◉ **Pharmacy Register:** A National Pharmacy Register will be maintained to ensure transparency in the details of pharmacy professionals.

◉ **Research Integration:** Professionals are encouraged to integrate the latest research into their practice and contribute to on-going research efforts.

◉ **Ethical Standards:** Upholding high ethical standards is emphasized for pharmacy professionals.

◉ **Grievance Redressal:** An effective mechanism for grievance redressal in relevant matters is proposed.

◉ **Commission Establishment:** The Bill proposes the establishment of a commission headquartered in Delhi.

◉ **Flexibility and Adaptability:** It emphasizes flexibility to adapt to evolving needs, reflecting a forward-looking approach.

◉ **Pharmacy Ethics and Registration Board:** It introduces a Pharmacy Ethics and Registration Board tasked with maintaining the National Pharmacy Register.

◉ **Transparency and Accessibility:** The focus is on making pharmacy services transparent and accessible to the broader population.

Nationwide Impact:

◉ With a nationwide scope, the Bill aims to have a positive impact on pharmacy education, healthcare accessibility, and professional standards across India.

◉ It presents a comprehensive approach towards equitable healthcare in the count.

HC QUASHES HARYANA LAW ON 75% QUOTA IN PRIVATE JOBS TO RESIDENTS
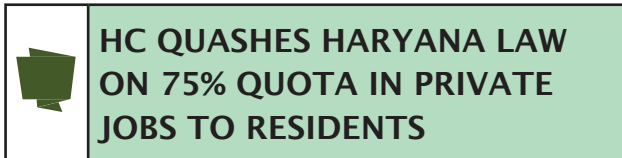
Context: Punjab and Haryana HC quashed a law that provided 75 per cent reservation in private jobs to residents of the state.

Reasons Given by HC

◉ Underlining that a government cannot discriminate against individuals merely because they do not belong to a particular state.

◉ The HC declared the Haryana State Employment of Local Candidates Act, 2020 unconstitutional, striking down the provision that mandated 75% reservation in private jobs for Haryana residents.

Constitutional Infringement:

➤ The High Court emphasized that the law violated Part III of the Constitution, which safeguards fundamental rights.

➤ The provision was deemed ultra vires and ineffective from its inception.

Discrimination Concerns:

➤ The bench underscored that a government cannot discriminate based on an individual's state of origin.

➤ Private employers were deemed free to recruit from the open market, especially for roles paying less than Rs 30,000 per month.

State Intervention Limits:

➤ The court argued that the State cannot dictate private employers' hiring practices contrary to constitutional principles.

➤ It highlighted the impracticality of restricting a builder from employing skilled workers based on their regional expertise.

Intrusion into Fundamental Rights:

➤ Petitions challenging the law argued that it infringed on the fundamental rights of private employers under Article 19 of the Constitution.

➤ The law was criticized for creating division among citizens based on their domicile.

Concept of Common Citizenship:

➤ The court noted that the law created an undesirable division among citizens, contrary to the constitutional concept of common citizenship.

➤ It rejected the argument that unemployment among local youth justified such classification.

Government's Defense:

◉ The Haryana government contended that the law did not discriminate in central or state government employment or in organizations owned by them.

◉ It was the aim of the government that the Haryana youth get jobs in newly formed industries.

◉ It asserted that while birthplace-based reservation might violate constitutional provisions, employment based on domicile adheres to Article 15(1) of the Constitution.

◉ The government claimed that unemployed local youth constituted a distinct class, justifying their preferential treatment in private sector employment.

Analysis and Implications:

◉ The court's ruling sets a precedent against regional discrimination in employment and reinforces the constitutional right of private entities to conduct their affairs without undue interference.

◉ It highlights the importance of upholding the principles of common citizenship and individual rights over region-based preferences.

◉ The decision could have broader implications for similar laws in other states and promotes a more egalitarian approach to employment practices.

Conclusion

The High Court's decision strikes down a law deemed violative of constitutional principles, reinforcing the foundational tenets of equality and non-discrimination. This ruling is expected to shape future legal discourse on the balance between regional considerations and individual rights in employment matters.

OFFICE OF GOVERNOR AND DISCRETION

Context: The Supreme Court has agreed to hear Tamil Nadu, Kerala pleas against their Governors and use of discretionary powers.

About the News:

◉ Tamil Nadu Governor R. N. Ravi has 'withheld' assent for certain Bills passed by the Tamil Nadu Legislative Assembly.

◉ This follows the Supreme Court expressing 'serious concern' over inaction by the Governor on Bills presented for his assent.

◉ The court expressed displeasure on similar delays by Governors of Telangana, Punjab and Kerala.

What does the Constitution say?

◉ **Article 200** of the Constitution outlines four options available to a Governor when a legislature-passed Bill is presented for assent:

➤ Grant assent immediately.

➤ Withhold assent.

➤ Return the Bill to the legislature, requesting reconsideration of the Bill or specific provisions.

◉ If the legislature reapproves the Bill, with or without accepting Governor-suggested amendments, the Governor is constitutionally obligated to grant assent.

◉ Alternatively, the Governor may reserve the Bill for the President's consideration.

◉ In the case of Presidential consideration i.e. Article 201 the decision to grant or withhold assent is made by the President. Notably, there is no specified timeframe for the President to decide on the Bill's outcome.

Do Governors have discretion?

◉ Governors did have discretion to return Bills before the first provision in the draft Article 175(now Article 200).

◉ This was amended by the Constituent Assembly in 1949.

◉ The first provision to Article 200 is thus a saving clause and retains the discretion over the fate of the Bill solely in the hands of the State Cabinet.

◉ Article 163 makes it clear the Governor is not expected to act independently.

◉ The Supreme Court in the Shamsher Singh case verdict has held that a Governor exercises all his powers and functions conferred on him by or under the Constitution on the aid and advice of his Council of Ministers save in spheres where the Governor is required by or under the Constitution to exercise his functions in his discretion.

◉ The assent or return of the Bill does not involve the discretion of individuals occupying the Governor's post.

Can a Governor in practice actually sit on a Bill forever?

◉ Granting assent to Bills is among the limited areas where the Governor has discretionary powers. However, the exercise of this discretion must adhere to constitutional principles, relying on compelling reasons rather than personal preferences.

◉ Notably, Article 200 employs the term "shall," suggesting that the Constitution framers intended a mandatory requirement for Governors in this regard.

What were the recommendations of different commission?

◉ The Sarkaria Commission (1987) has emphasized that the Governor's power to reserve Bills for the President's consideration is a rare and implied discretionary authority, primarily applicable in cases of unconstitutionality.

◉ In all other instances, the Governor should adhere to Article 200, acting on ministerial advice.

◉ The commission suggested that the President should resolve such Bills within a maximum of six months, communicating reasons for withholding assent when possible.

◉ Despite recommendations from the Punchhi Commission (2010) to decide on Bills within six months, these proposals remain unimplemented.

What are various Supreme Court observations w.r.t Governor?

▣ **Purushothaman Nambudiri vs State of Kerala (1962):**

➤ The Constitution Bench clarified that no specific time limit is imposed by the Constitution for the Governor to provide assent to Bills.

➤ Emphasized that the Governor must align actions with the will of the Legislature and operate in harmony with their Council of Ministers.

➤ The Supreme Court asserted that withholding assent to a law validly passed by the Legislature constitutes a direct attack on the federal structure of the Constitution.

➤ Noting that causing delays in assenting to Bills would be an arbitrary exercise, contradicting the constitutional spirit.

What is the other Constitutional Position related to Governor?

Article 153 of the Indian Constitution	It mandates the appointment of a Governor in each state. The 7th Amendment to the Constitution however, allows for the appointment of the same person as Governor of two or more states.
Article 154	The Governor shall have executive power over the state, which he shall exercise either directly or through officers subordinate to him in conformity with this Constitution.
Article 163	There shall be a council of ministers, led by the Chief Minister, to assist and advise the Governor in the exercise of his powers, except when he is compelled to execute his functions at his discretion.
Article 164	The council of ministers is collectively responsible to the state's legislative assembly. **This provision is the cornerstone of the state's parliamentary system of governance**

The Governor has the same Executive, Legislative, Financial, and Judicial authorities as the President of India. However, the Governor's power is restricted in several ways compared to that of the President, as the Governor lacks the President's military, diplomatic, and emergency authorities.

ELECTION FUNDING: QUESTION ON ITS SOURCE AND STATE FUNDING

Context: Supreme Court's consideration of electoral bonds has brought back the focus on State Funding of Elections.

What is State Funding of Elections?

- State funding of elections means that the government provides funding to political parties or candidates to participate in elections.

Electoral bonds to end large cash payments in election finance.

- **Scheme of electoral bonds:**
  - ➤ A publicly owned commercial bank, with the largest network of branches is the only designated vendor.
  - ➤ Bonds remain valid for 15 days within which they can be encased through the bank account of the selected political party.
  - ➤ The purchaser-donor enjoys tax credits on the purchased bonds as in any other donation to charities.
- **Association of democratic records:** The idea was to facilitate large donors, preferring anonymity whilst donating funds for elections, with an alternative to cash payments.

What is the cause of concerns over the electoral bonds?

- **Anonymity of the electoral bonds:** The anonymity afforded by the bonds is primarily versus citizens.
- **Bond vendor is a government owned bank:** SBI is a government-owned bank, which can be persuaded by the government into sharing data informally regarding the bond purchases and encashment by political parties.

Benefits of the State Funding of Elections

- Candidates with questionable histories often succeed despite their reputations in large parts because they can afford to do so. State funding will put an end to this practice.
- Since candidates won't be overly dependent on the party for funding, parties will become more democratic internally.
- State funding ensures that some influential people or groups don't have undue influence over electoral processes.
- A level playing field can enable the promotion of healthy competition by ensuring equality between large, well-known political parties and small parties and independent candidates.
- It can break up the corporate-political connection those results from the need for funding to win elections. If political parties are not financially influenced by the huge corporate sector, citizen-centric decisions will be encouraged.
- Equitable funding distribution among all candidates will ensure fairness in pre-election spending.
- Public funding can increase transparency in the party and thereby help curb corruption.

- When elections are held fairly, the chosen candidates maintain the principles of openness, responsibility, and honesty, among other things, bringing about good governance.

- It is unreasonable to expect the majority of the population in a nation with a low per capita GDP to contribute money to political parties.

The argument against State Funding of elections:

- The amount of money spent by the government on important goals like nutrition, education, and health is incredibly small. Funds being diverted to finance elections may hinder state welfare programs and the development of the weaker sections.

- The gap between political leaders and average citizens would widen as a result of state sponsorship.

- Elections funded by the state won't stop parties from lobbying and receiving illicit additional cash from the business world. This will lessen the purpose of state funding for elections.

- It will be challenging for the state to finance elections with a fiscal deficit of GDP.

- Public funding may influence many people to enter politics solely to receive state subsidies rather than run for office and engage in development work.

- In India, elections are held on a massive scale, and keeping track of expenses in the digital age is exceedingly difficult. Procedures for funding elections need to be drastically changed.

- The time is not yet right to choose public funding of elections unless fundamental reforms like decriminalizing politics, comprehensive electoral finance reforms, robust transparency, audit, and strict legal framework for the enforcement of anti-corruption laws are appropriately implemented.

Views of various Commissions/committees on State Funding of Elections

The Indrajit Gupta Committee on State Election Funding (1998):

➤ To create a level playing field for parties with limited resources, the Indrajit Gupta Committee recommended state funding of elections in 1998.

➤ The Committee advised placing two restrictions on state funding.

➤ Firstly, only national and state parties with a symbol should receive state funding. Independent candidates should not.

➤ Secondly, only recognized political parties and their candidates should get short-term state funding in kind in the form of specific infrastructure.

➤ The Committee noted that at the time of the report, the nation's economic climate was only conducive to partial, not complete, public funding of elections.

Law Commission Report on Electoral Law Reform (1999):

➤ According to the Law Commission of India's 1999 report, state funding of elections is "desirable" as long as political parties are not allowed to accept money from other sources.

➤ Additionally, it strongly recommended that the appropriate regulatory framework should be put in place.

➤ The Commission agreed with the Indrajit Gupta Committee that, given the economic situation of the nation at the time, only partial public assistance was practicable.

The National Commission to Review the Working of the Constitution, 2001:

➤ It did not endorse state funding of elections.

➤ But it agreed with the 1999 Law Commission report that there is a need for an appropriate framework for the regulation of political parties.

➤ It needs to be implemented before the state funding is taken into consideration.

Second Administrative Reforms Commission (2008):

➤ The Second Administrative Reforms Commission's "Ethics in Governance" report from 2008 advocated partial state funding of elections to cut down on "illegitimate and excessive funding" of election costs.

What are the suggestions for better governance of the political parties?

- **Strict Supervision of political parties:** Poor Intra-party governance is concentrated in the Registered Unrecognized Political Parties (RUPP). Most are in breach of their undertaking to fight an election within five years and remain active thereafter.

- **Strengthen the Regulatory compliance:** The benefit of income tax exemption should only be available after registered parties demonstrate a five-year record of compliance with the regulations.

- **Enforce inner-party democracy and avoiding conflict of interest:** Making party members occupying party positions, ineligible for holding executive positions in government. This is necessary to create a complete segregation of functions within the ruling party and the government

◎ **Empower ECI to regulate political parties:** The misuse of the fiscal privileges afforded to political parties can be minimized through targeted regulatory tweaks, within the existing construct of private financing and the inner functioning of parties improved through targeted regulation.

Conclusion:

"Secrecy is darkness where corruption gets nurtured". Funding to the political parties need to be transparent. Transparent funding will pave the way for level playing field for all the political parties.

DOCTRINE OF CONSTITUTIONAL MORALITY

Context: Recently, the Chief Justice of India D Y Chandrachud has asked for that 'the doctrine constitutional morality' should not be rejected.

More about the news:

◎ Chief Justice of India D Y Chandrachud underscores the significance of constitutional morality, asserting that it shouldn't be dismissed due to potential conflicts with existing social practices.

◎ Emphasizing the universal acceptance of certain constitutional values, he highlights the intentional incorporation of provisions from other jurisdictions into the Indian Constitution.

◎ Chandrachud views the Constitution as a dynamic document, evolving through over a hundred amendments to address India's unique challenges.

◎ He advocates understanding it as embodying universal values while adapting to local needs.

◎ The Chief Justice stresses that constitutional morality aims to reform societal practices, preventing dominance based on religion, caste, or ethnicity.

◎ Addressing diversity in judicial appointments, he notes the changing demographics in the legal profession and underscores the need to support exceptional candidates overcoming gender, religious, and caste prejudices.

◎ Regarding the role of courts in social dialogue, he sees a complementary relationship with Parliament, both contributing to societal transformation within their institutional boundaries.

What is Constitutional Morality?

◎ Constitutional morality pertains to the principles and values that form the foundation of the constitution, directing both government and citizens in their conduct.

◎ It encapsulates the concept that the constitution is not solely a legal instrument but also a moral guide, mirroring the collective values and dreams of a society.

◎ Additionally, it emphasizes the importance of interpreting and executing the constitution in alignment with these core principles and values, rather than merely adhering to it as a technical, literal document.

◎ **The term "Constitutional Morality" is not mentioned in the constitution.**

What are some significant Supreme Court judgments relating to Constitutional Morality?

Constitutional morality has been referenced in multiple instances by the Supreme Court, including:

◎ **SP Gupta Case/First Judge Case (1982**): The Supreme Court labeled constitutional violations as a grave breach of constitutional morality.

◎ **Naz Foundation vs. Government of NCT of Delhi (2010):**The Court prioritized constitutional principles over societal perceptions concerning the legitimacy of same-sex relationships.

◎ **Manoj Narula vs. Union of India (2014):**The Chief Justice of India emphasized constitutional morality as a commitment to constitutional norms, discouraging actions contrary to the rule of law or reflective of arbitrary conduct.

◎ **NCT of Delhi vs. Union of India (2018):** The Supreme Court aligned constitutional morality with the essence of the Constitution, emphasizing strict adherence to its principles.

◎ **Navtej Singh Johar vs. Union of India (2018):**The Court distinguished between constitutional and public morality, asserting that constitutional morality prioritizes justice over societal acceptance, leading to the decriminalization of homosexuality under Section 377 of IPC.

◎ **Joseph Shine vs. Union of India (2019):** Upholding gender equality and the right to equality, the Supreme Court annulled Section 497 of IPC, criminalizing adultery, emphasizing that constitutional morality should guide laws rather than the state's prevailing common morality.

◎ **Indian Young Lawyers Association &Ors vs. The State of Kerala &Ors., (2019) (Sabarimala Case):** The Court ruled that barring women aged 10-50 from the Sabarimala temple violated key principles of constitutional morality i.e. Justice, Liberty, Equality, and Fraternity. It clarified that the term "morality"

in Articles 25 & 26 of the Constitution pertains to constitutional morality, not popular morality.

WORLD TO GET WARMER BY NEARLY 3°C BY END OF CENTURY: UN REPORT

Context: The Emissions Gap Report noted that in 2023, 86 days have breached the 1.5 degree Celsius temperature threshold.

What UN Report says?

- Breach of 1.5 degree Celsius: As many as 86 days this year so far have already breached the 1.5 degree Celsius temperature threshold, as global greenhouse gas emissions scaled a record high in 2022.

- 3 degree Celsius: With current climate policies of countries, the world was set to become warmer by at least 3 degree Celsius by the end of the century.

- World CO_2 emission: The world, together, emitted 57.4 billion tonnes of carbon dioxide in 2022, a 1.2 per cent increase over the previous year and higher than the previous record achieved in 2019, according to the Emissions Gap Report by UNEP.

- World CO_2 emission analysis:

- The emissions of China and the United States, the world's two biggest emitters, also rose in 2022, as did that of India, the third largest emitter.

- But the European Union, Russia and Brazil saw emissions go down a bit.

- If all the climate actions as per the current promises were carried out, global emissions in 2030 would still be at least 19 billion tonnes of CO_2 equivalent higher than the level required to keep global warming within 1.5 degree Celsius from pre-industrial times.

How this emission gap can be tackled:

- **CO_2 emission decline:** To meet this gap, global emissions would need to drop by at least 8.7 per cent every year from 2024 (instead of the 1.2 per cent rise that happened in 2022).

- **Proactive world actions:** The failure of the world to take early action on climate had brought it into a situation where meeting the 1.5 degree Celsius target looks extremely difficult.

- **Annual emission reductions:** The annual emission reductions necessary to achieve emission levels consistent with the below 2°C and 1.5°C scenarios by 2030 would have been only 0.7 per cent and 3.3 per cent on average.

- **Below 2°C pathway:** To reach emission levels consistent with a below 2°C pathway in 2030, the cuts required per year are now 5.3 per cent from 2024, reaching 8.7 per cent per year on average for the 1.5°C pathway.

Way Forward:

- The **impacts of inaction** are already evident with the year 2023 all s**et to emerge as the hottest ever**, overtaking the previous record of 2016.

- According to an assessment by the **World Meteorological Organisation**, one of the next four years is almost certain to **breach the 1.5 degree Celsius threshold** for the annual average as well.

COAL: NO EASY EXCLUSION FROM SUSTAINABLE DEVELOPMENT

Context: In theory, the argument switching to renewable energy will generate investments and jobs are elegant but reality is something else.

Energy Dynamics:

- **Dependency on Fossil Fuel:** The world is highly dependent on fossil fuels, which produce 80% of the total energy supplied.

- **World's total energy:** In 2022, oil, coal, and gas accounted for 30%, 27%, and 23% of the world's total energy, while solar and wind energy sources together contributed only 2.4%.

- **Per capita energy:** Further, the per capita energy supplied in India during 2022 was 37% of the global average, and only 26% of that of China.

- **Human Development Index:** Since per capita energy is directly related to the Human Development Index, we can expect that India's energy needs will continue to grow in the foreseeable future.

Energy Security:

- **Energy from renewables:** Only 10.4% of the 36.44 exajoules of India's primary energy consumption in 2022 are from renewables (hydroelectric, solar, and wind); coal and oil gas account for 55.1% and 33.3%, respectively.

- **Coal-fired thermal power plants (TPPs):** It generated 74.3% of India's electricity during FY 2022-2023; generation by TPPs continues to grow to meet demand.

Emissions from India:

◎ **Emissions from Fossil Fuels:** India's cumulative emissions from fossil fuels and industry between the start of the industrial revolution in 1750 and the end of 2021 are only 3.3% of the global total.

◎ Far behind those of Europe (31%), the U.S. (24.3%), and China (14.4%).

The coal and renewable energy's place in the electricity sector:

◎ **Renewable energy capacity:** According to **Central Electricity Authority (CEA)** projections for FY 2031-2032, India's national grid can absorb 924 TW of electricity from various renewable energy sources by progressively adding 47 GW of battery storage capacity and 27 GW of pumped storage projects by FY 32.

◎ **Battery storage capacity:** Any major increase in battery storage capacity in India will require the **import of critical minerals** like lithium, cobalt, nickel, and graphite, which are controlled by other countries (mainly China), posing significant **risks to India's energy security**.

◎ **Domestic coal**: **Ninety-six percent of the coal** used by TPPs in India comes **from domestic mines** and is key to why electricity is so affordable in India.

Does coal transport have environmental impacts?

◎ **Transport of raw Coal**: The transport of unwashed raw coal to TPPs located **more than 500 km from the mines** also means **transporting millions of tonnes of ash-producing non-coal material**.

◎ **Supply of washed coal:** The **government can mandate** miners to supply only washed coal to all TPPs located more than 500 km from mines or ports **to reduce carbon dioxide emissions** and **other environmental pollution**.

What's the issue with flue-gas de-sulphurisers?

◎ **Low sulphur content in India:** Indian coal – other than that from Assam and Meghalaya – has **lower sulphur content** than that **mined in other coal-rich countries**.

◎ **Effect of Sulphur emission:** According to the U.N. IPCC, historical sulphur dioxide emissions have created a cooling effect by producing sulphate aerosols that block some of the incoming solar radiation and enhance cloud formation, **masking global temperature rise by 0.5 degrees Celsius.**

◎ **Power plant pollutants:** The government can implement a '**graded priority**' of power plant

pollutants: particulate matter, carbon dioxide, sulphur dioxide, nitrogen oxides, and mercury, in that order.

◎ **Reduction in particulate emissions:** This way, India can reduce particulate emissions by 99.97% by installing the cost-effective, high-performance electrostatic precipitators and reserve FGDs for TPPs near urban areas.

Are there other low-carbon development strategies?

◎ **Supercritical technologies:** Some 30% of the current TPP capacity in the country is from supercritical or ultra-supercritical technologies, which are also being installed in the 35 TPPs under construction.

◎ **Advanced ultra-supercritical technology (AUSC):** TPPs based on advanced ultra-supercritical technology (AUSC), with a proven efficiency of 46%, will also reduce carbon dioxide emissions by 15% compared to TPPs equipped with supercritical technology.

Low Carbon Development:

◎ **Common But Differentiated Responsibilities**: Such a challenge can be tackled according to the principle of '**common but differentiated responsibilities and respective capabilities**' enshrined in the UNFCCC and in the Paris Agreement.

◎ **Long-term Low-Emissions Development Strategy:** For India, low-carbon development is not a choice but a necessity, and the steps to achieve this are reflected in the '**Long-term Low-Emissions Development Strategy**' it submitted to the UNFCCC.

Way forward:

◎ The developed countries will take the lead in combating climate change and provide new and additional climate-specific financial resources and technology transfer to developing countries as under the provisions existing under the UNFCCC and the Paris Agreement.

WATER RESERVES IN SOUTHERN INDIA DEPLETING FASTER IN 2023

Context: As per the latest findings, the Southern peninsular India remained the sixth driest in 123 years. The collective reservoir stocks have already fallen below 50 per cent in November 2023.

Water Stress in Southern Indian Peninsula

- According to a recent report from the **Central Water Commission (CWC)**, water levels in these states' reservoirs are low compared to last year and compared to other regions of the country in 2023.

Current available water stocks in the dams:

- The CWC monitors 42 reservoirs located in the southern states: Andhra Pradesh, Telangana, Karnataka, Kerala and Tamil Nadu.

- Their collective storage capacity is 53.334 Billion Cubic Metre (BCM).

- There has been a sharp drop, observed over the past two months.

- In September 2023, the water stocks stood at 25.609 BCM (48 per cent of the total storage capacity), which then dropped to 24.575 BCM (46 per cent of the total storage capacity).

State	Reservoir stocks (% of total storage capacity)
Andhra Pradesh	-51
Karnataka	-38
Kerala	-16
Telangana	+33

- **Normal monsoon years:** During normal monsoon years over the country, the available water reserves in southern India touch 91 per cent of the total storage capacity.

- **Low water availability:** Even though the country as a whole recorded normal rainfall in 2023 (820mm, 94 per cent of the Long Period Average), the monsoon over the south peninsular was not appreciable.

Reasons for low water stocks:

- **Inter-seasonal rainfall variability:** There was a vast inter-seasonal rainfall variability recorded during the southwest monsoon this year.

- **Normal rainfall in Initial months**: Rainfall records by the India Meteorological Department (IMD) showed that the south peninsular India received normal or above rainfall only during the July 26-August 3 period during the four-month season.

- **Rainfall deficit in Later months**: The season, thus, ended with seeing large-scale rainfall deficits – June (-45 per cent), July (45 per cent), August (-60 per cent) and September (49 per cent), which cumulatively ended with 8 per cent below normal, which was quantitatively 659mm.

- **Rainfall deficit**: The rainfall recorded was 58.7mm against a normal of 148.2mm. Normally during October, most of southern India receives rainfall, contributed by the retreating southwest monsoon and the incoming northeast monsoon.

- **Cyclone Hamoon:** According to IMD, cycloneHamoon's development in **the Bay of Bengal** during the **onset phase of the northeast monsoon** dampened the rainfall activity, particularly **over Tamil Nadu and coastal Andhra Pradesh.**

- **Collective Deficit:** The collective rainfall deficiency in south peninsular India **slipped to 60 per cent.**

Deficit Rainfall in Peninsula India:

- The recorded rainfall during October was
  - ➤ Andhra Pradesh and Yanam (-90 per cent)
  - ➤ Rayalaseema (-90 per cent)
  - ➤ Tamil Nadu, Karaikal and Puducherry (-43 per cent)
  - ➤ Kerala (1 per cent)

Regional Impact due to Water Crisis:

- **Shrinking Development:** The shrinking of water reserves is not an encouraging development.

- **Irrigated Farming:** The immediate impact could be felt on irrigated farming, particularly the high water-intensive paddy cultivation which is largely undertaken in Andhra Pradesh and Tamil Nadu.

- **Drinking Water Issue:** Besides, during the unfolding months, the impact will spiral over to the availability of drinking water.

- **Declaration of Draught:** While Karnataka has begun declaring drought-hit talukas, other states may soon follow suit.

- **Political Impact:** With new state governments to be sworn in in Andhra Pradesh and Telangana, it would be a challenge to tackle the agri-crisis triggered by water shortage.

INDIAN RESEARCHERS DETECT X-RAY POLARIZATION IN EXTRAGALACTIC BLACK HOLE

Context: **Recently, a research led by Scientists from IIT Guwahati and U R Rao Satellite Centre (URSC) has discovered that X-Ray Polarization in Extragalactic black hole.**
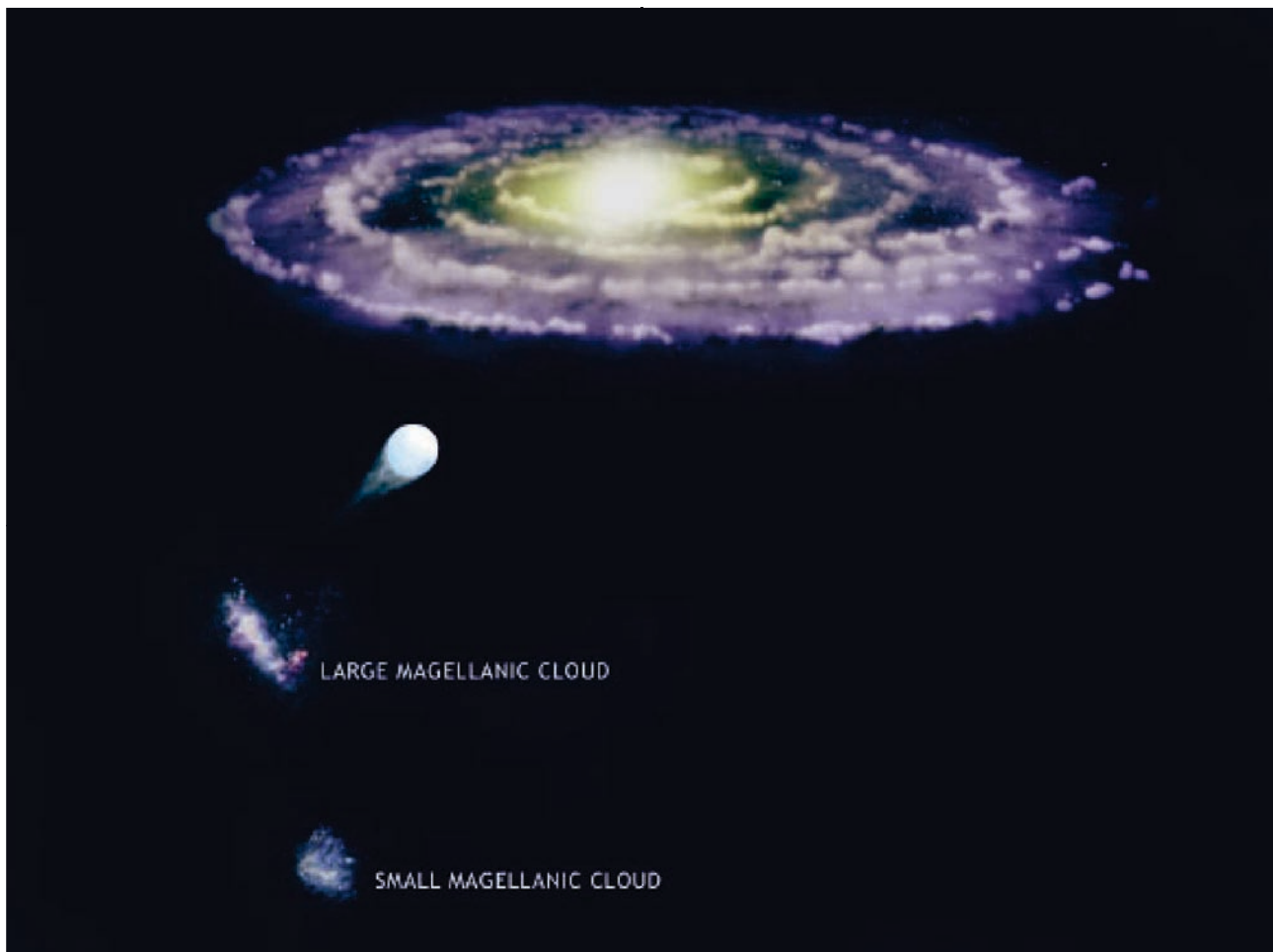
What is a Black Hole?

- A black hole is formed when **stars collapse**, leading to a space in the universe with an escape velocity — the speed at which an object must travel to override a planet or an object's gravitational force.

- Because light cannot get out, black holes are invisible and can only be tracked with the help of spatial telescopes and special tools.

- The light cannot go out because the **gravity inside a black hole is very strong** as a result of a lot of matter being squeezed into a small space.

Extragalactic black hole:

- Extragalactic astronomy is the branch of astronomy concerned with objects outside the **Milky Way galaxy.**

- In other words, it is the study of all astronomical objects which are not covered by galactic astronomy.

- So, extragalactic black holes are found **outside the Milky Way galaxy.**

About the Study:

- **Polarized emissions:** For the first time, a team of researchers from the **Indian Institute of Technology (IIT) Guwahati** and the **UR Rao Satellite Centre of the Indian Space Research Centre (ISRO)** have detected polarized emissions from a black hole source that exists beyond our Milky Way Galaxy.

- **Black hole sources:** These findings open a new window to investigate and understand the nature of astrophysical black hole sources.

- **Large Magellanic Cloud X-3 (LMC X3):** It is a binary star system consisting of a black hole and a 'normal' star that is "much hotter, bigger, and more massive than the Sun.

- **Location:** The system is located in a **satellite galaxy** of the **Milky Way**, nearly 2,00,000 light years away from planet Earth.

- **Satellite galaxy of Milky Way:** Since its discovery in 1971, it has been observed by various satellites. However, there has been a gap in understanding the polarization properties of X-rays emitted by highly energetic objects like stellar mass black holes in the universe.

◉ **The Imaging X-ray Polarimetry Explorer (IXPE):** The researchers studied LMC X-3 using 'The Imaging X-ray Polarimetry Explorer (IXPE)', NASA's first mission to study polarization of X-rays from celestial objects.

◉ **Additional Data:** They also used simultaneous broad-band coverage of the **Neutron Star Interior Composition Explorer (NICER) Mission** and the **Nuclear Spectroscopic Telescope Array (NuSTAR) Mission** to constrain the spin of LMC X-3.

Significance of the Study:

◉ **X-ray Polarimetry:** It is a unique observational technique to identify where radiation comes from near black holes.

◉ **Powerful X-rays:** LMC X-3 emits X-rays that are 10,000 times more powerful than those from the Sun.

◉ **Changes the polarization characteristics:** When these X-rays interact with the material around black holes, specifically when they scatter, it changes the polarization characteristics, i.e. **degree and angle**.

◉ **Behavior of matter drawing towards black hole:** This helps in understanding how matter is drawn toward black holes in the presence of intense gravitational forces.

INDIA FIGHT AGAINST CANCER AND CANCER CARE

Context: By 2040, according to one estimate 20 lakh people a year will be diagnosed with cancer in India. In the coming years, it is expected to take over heart disease and infections as well.

Cancer in India- A Look at numbers

◉ **By 2040,** according to one estimate **20 lakh people a year will be diagnosed with cancer** in India.

◉ Cancer is already the third leading cause of death in India.

◉ The **projected cancer burden in India for 2021 was 26.7 million** Disability Adjusted Life Years **(DALYs).**

◉ More than **40% of the total cancer burden** was contributed by the seven leading cancer sites — **lung (10.6%), breast (10.5%)**, oesophagus (5.8%), mouth (5.7%), stomach (5.2%), liver (4.6%), and cervix uteri (4.3%).

Cancer care in India- A socio-economic burden

◉ The **money spent** by a patient on an ailment is the **highest for cancer.** People are financially destroyed by cancer and its treatment.

◉ Cancer treatment **rendered catastrophic health expenses** in more than 80% and impoverishment in more than 60% of people.

◉ The **government provides free cancer care.** These devastating **costs arise** in the **private sector** due to the sheer burden of disease plus an **underfunded public health** system.

◉ The financial burden **worsens by adding to the direct and/or indirect out-of-pocket** expenditure (OOPE).

◉ Direct includes doctor's consultation fees, cost of medicines, and medical tests, and direct non-medical OOPE includes costs of transport, accommodation, and food for people travelling to larger cities for treatment.

◉ Indirect OOPE accounts for loss of productive hours and/or income.

What makes the financial fallout worse?

◉ Though government provides free care and treatments but at times, due to the **pendency's and delay people** not only **lost their precious time** but also the timely treatment which worsens the health.

◉ The financial **fallout of cancer is worse** when it **affects** the **breadwinner** of the family.

◉ Compared to the general population, **people with cancer are at seven time's greater risk of unemployment** within five years after diagnosis.

◉ Cancer diagnosis has a similar **impact on caregivers.** They also lose their working hours and productivity. Further the effect is compounded by mental and physical burden.

◉ The cost of **accommodation and travel costs c**auses a huge burden.

◉ Since cancer care is concentrated in major cities, most people from **rural India**, **where 60-70% of the country's population lives.**

◉ **Borrowing money and selling assets** has been identified to be a common strategy that disproportionately affects people from rural areas.

What are the possible solutions?

◉ There are two way out- Public Funded and subsidised treatment costs including indirect out of the pocket expenditure.

◉ **The PradhanMantri Jan ArogyaYojana (PMJAY)** has offered some respite by providing health insurance of Rs 5 lakh per family per year.

◉ **In 2012, the Haryana government made transport** for patients with cancer and one caregiver in public buses **from their places of residence to their places of treatment** free.

- **In Kerala** where **patients with cancer are eligible for 50% concession** on public bus tickets.

- **To improve compliance with care**, patients travelling to seek care in **Cachar Cancer Hospital and Research Centre in Assam are given financial support** for travel as well as free accommodation and food.

- **Delhi government's ArogyaKosh scheme** to reduce the burden on public health centres and avoid treatment delays. It is for residents of Delhi making less than Rs 3 lakh a year are eligible to get certain tests, like ultrasound and CT scans, in private health centres for free.

- However, 93% of people seeking care in government hospitals in Delhi were found to be unaware of the scheme, thus pointing towards lack of awareness.

- **Haryana, Tripura, and Kerala have also floated a 'cancer pension'** to financially assist patients with advanced-stage cancer: Rs 2,500 per month in Haryana and Rs 1,000 in Tripura and Kerala.

- The **most obvious solution to such post-cancer problems is to open publicly funded** cancer care centres in every nook and corner of India. This may take time but it is required.

Until cancer care becomes as accessible as diabetes or hypertension care, government need to continue to provide financial support to those who are suffering, either directly or indirectly, and their families. Free cancer care alone won't save our people from poverty and suffering.

WHAT'S THE MATTER: A SHORT TREATISE ON INDIAN MATERIALISM

Context: Philosophy of Matter and Materialism as concepts and Indian lens.

Exploring the philosophy of Materialism

- **Philosophy** may be defined as **a unified theory of life**.

- The **function** of philosophy is to **explain the universe and all its constituents**. To provide oneself with a comprehensive **view of life**, and to have this view serve as a frame of reference for all of one's actions.

- Materialism is **neither new nor mystical**. It has been around as a **system of thought** since the earliest records of **human history**.

- **Materialism,** simply put**, postulates** that the **origin of everything that really exists is matter**; that there does not exist anything but matter.

- That all other appearances, including **intelligence, are transformations of matter,** and these transformations are governed necessarily by **laws inherent in nature,** which is fundamentally material.

- At its core, philosophy is essentially materialism, understanding the world based on tangible, real-world observations through contemplation, **observation and investigation**.

- Even though the discoveries in quantum physics challenged some ideas in the early 20th century, the **concept of 'matter' as the substance of the physical world still remains**.

The roots of materialism and historical analysis

- **In ancient India,** Materialism found grounding with **the Lokāyata,** which was pioneered by philosophers like **Brhaspati, Ajita, and Jābāli**, among others.

- **The early Greek philosophers** sought to explain the world by itself were materialists.

- **Examples:** The atomism of Democritus, and Epicurus, as well as the preSocratic philosophers' desire to find an explanation for the constituents of the cosmos was the earliest examples of Materialism in the western tradition.

- Materialism is a **philosophy that exists everywhere but is yet without a home**.

- In **India,** the theologically inclined **claim that materialism is a western philosophical construct**, while in the West, **faith based philosophers decry the evils of materialism**.

- Both in the West and closer home, materialism is painted as a hedonic (a way of living that is associated with pleasure and indulgence) indulgent way of living.

- Yet, so many of the wondrous inventions of our age, as well as the many terrifying weapons we make, owe their development to the progressive understanding human beings have seized from nature's core.

Countering the established views

- **Ancient times were periods of great resource crunches**. Even if the **king was wealthy**, the populace at large lived on subsistence, and elaborate ceremonies began to **dictate the lives of the people** as the natural religion of the early **Vedic era gave way to the dogmatic ritualism** that developed over time in ancient India.

- This was not unopposed. The **Upanishads frankly chastise this obsession** with dogmatic sacramentalism and look back to the earliest period of the Vedas. Such profundity of thought is reflected in the early Chāndogya Upanishad, "**All this is Brahman.**

- Everything comes from Brahman, **everything goes back to Brahman**, and everything is sustained by Brahman. One should therefore quietly meditate on it. Each person has a mind of his own. **What a person wills in his present, he becomes in the future. One should bear this in mind and will** accordingly."

- A worldview that sees God in all things and all things in God, leaves little room for traditional religion, and philosophically opens the floodgates of materialism, for it **solidifies the real world as divine, and makes it manifest.**

- From the time of **Brhaspati, the materialists of ancient India** had held that the **world** was real, **made up of elements, available to human perception**, and that ethics, if any, and followed these hard facts.

- With the **rise of Buddhism and Jainism**, as well as other social and political developments in the post Vedic age, the **dominant role that Lokāyata enjoyed went into decline**. However, the influence of Materialism continued to be felt long after it went out of popular convention.

Lokāyata: Philosophy of Worldliness

- The term **"Lokā" denotes the world**, emphasizing the visible and tangible aspects. The **Mahābhārata's** guidance, **'lokesucasamobhava'** or 'see all things with equanimity,' encapsulates the essence of Lokāyata.

- In essence, Lokāyata is a philosophy **grounded in the material world,** dealing with observable objects and entities.

- **DebiprasadChattopadhyaya,** an Indian **Marxist philosopher, succinctly defines Lokāyata** as the philosophy of the people, **signifying worldliness or instinctive materialism**.

- He emphasizes its reliance on the practical test of reality and the imperative of change at every stage.

Bhautikvad

- Derived from the word Bhautika, which **means physical or material**. Bhautika itself is derived from Bhu, and its derivative **Bhava, meaning being and becoming respectively**.

- As such, BhautikaVignyan continues to be the word for physical sciences in many laboratories across India.

- One of the names for God, often **referred to as 'Prabhu'** in the theological tradition, literally means that which is 'prior to being'.

- Jadavāda refers to the **tendency of the Materialists to seek out the jada** or root of existence, which they said was material than spiritual.

- Jatavidyā, or knowledge of the origin of all things, was what they extolled. This desire to seek out the genesis of things is as ancient as human life.

In traversing the expansive landscape of philosophy, materialism emerges as an age-old companion to human contemplation. Defined as a unified theory of life, philosophy aims to elucidate the universe and provide a comprehensive framework for human actions. Materialism, existing since the earliest human records, posits that the origin of all that exists is rooted in 'matter.'

Materialism, whether as Lokāyata in ancient India or manifesting as Bhautikvad, remains a philosophy grounded in the tangible, observable aspects of the world. It beckons humanity to explore the genesis of existence, fostering a dynamic relationship between philosophy, materiality, and the evolution of human understanding.

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SECTION B
[SPECIAL]

INDIAN MINIATURE PAINTING TRADITION

Context: The Indian art historian Brijinder Nath Goswamy, best known for his scholarship on Indian miniature painting tradition, passed away at 90.

Who was Brijinder Nath Goswamy?

- A Padma Bhushan recipient and former IAS officer, he first came under the spotlight after the publication of his ground-breaking 1968 article, '*Pahari Painting: The Family as the Basis of Style'*.

- In his piece, he unearth family lineages of renowned artists who played an essential role in the development and continuation of miniature painting — the revelation was one of his biggest contributions to the history of miniature paintings in India.

A look at the tradition of Indian miniature painting:

- Miniature paintings, characterized by their small size and vibrant colours, are intricately crafted handmade artworks.

  ➤ The term "miniature" originates from "minimum," underscoring their diminutive scale. These artworks employ diverse materials, ranging from paper and palm leaves to wood and marble.

- The impetus behind the prevalence of miniature paintings can be traced to the religious teachings of Buddha, which included the depiction of his images inscribed on palm leaves.

- The necessity for these paintings to be compact arose from the need to accommodate them on palm leaves, the medium of their creation. Around 960 A.D., the Chalukya Dynasty kings introduced similar paintings to western India.

- Beyond their size, these paintings also portrayed religious themes, capturing the essence of spiritual narratives.

- The surge in the popularity of miniature paintings coincided with the Mughal Empire's expansion, fueled by Akbar's profound interest in this art form.

Exploring the Tradition of Miniature Painting:

- **Historical Roots and Evolution:** The intricate art of miniature painting traces its origins back to the Buddhist **Pala dynasty**, flourishing during the 8th to 11th centuries in Bengal and Bihar.

  ➤ Initially, these paintings adorned religious texts, transitioning from palm leaves to paper between the 11th and 13th centuries.

  ➤ However, it wasn't until the Mughal Empire's rise in the early 1500s that the tradition gained prominence.

- **Mughal Influence and Decline:** Under the patronage of Humayun and his descendants, Mughal miniatures became synonymous with sophistication. These tiny, brightly colored artworks, often no larger than a few square inches, adorned manuscripts and art books.

  ➤ The meticulous details, some painted with brushes of a single hair, made them highly esteemed. However, the tradition saw a decline during Aurangzeb's rule, prompting skilled artists to migrate to princely courts in Rajasthan and the Himalayan regions.

- **Rise of Pahari Painting:** The shift led to the emergence of Pahari painting in places like Himachal Pradesh, Jammu, Tehri-Garhwal, and Rajasthan. Pahari paintings encompassed both religious and secular subjects, portraying detailed scenes from epics like Mahabharata and Ramayana. Unlike the Mughal court's diverse influences, Pahari paintings retained a distinctive family-based style.

- **Deccan Painting:** In the Deccan region between the 16th and 19th centuries, Deccani miniature paintings developed independently after the dissolution of the Bahmani Sultanate in 1520. Drawing inspiration from European, Iranian, and Turkish influences, Deccani paintings illuminated texts from the Holy Quran and Surahs. Over time, indigenous elements and romantic themes were incorporated into this evolving art form.

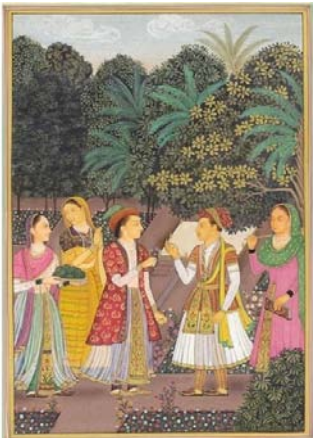## Goswamy's Contribution to Miniature Painting Knowledge Expansion:

⊙ **Family-Centric Styles:** Notably, art historian Goswamy, in a 1968 article focusing on Pahari painting, emphasized that painting styles were not tied to geographical regions but rather to families of painters. Unlike the Mughal court, where styles weren't family-centric, Goswamy's insights illuminated the family networks that shaped the distinctive Pahari style.

⊙ **Reconstructing Artist Networks:**Goswamy's contribution extended beyond Pahari painting to encompass artists from various regions. Using a combination of detective work and intuition, he reconstructed entire family networks of renowned Indian miniature painters. By aligning inscriptions on miniatures with pilgrim records from Haridwar, he breathed life into previously obscure artists, giving them names and restoring their identities.

AnalyzingGoswamy's Impact:

⊙ *Historical Restoration:* Goswamy's work didn't merely delve into art; it became a historical restoration project. By piecing together fragments of evidence, he revived the dynasties and identities of artists who had faded into obscurity.

⊙ **Recognition of Artistic Lineages:**His research not only identified individual artists but also traced the lineage of artistic families, acknowledging the collective contributions of generations. This recognition added depth and context to the understanding of miniature paintings.

⊙ **Preservation of Cultural Heritage:** In restoring names and identities, Goswamy contributed to preserving the cultural heritage embedded in these miniature paintings. The artists, once nameless, became integral parts of India's artistic legacy.

Famous miniature Paintings in India		
School of Painting	**Description**	
Rajput School		**Geographical Origin**: Rajasthan and the surrounding regions. **Features:** Rich, bold colors, intricate detailing, and a focus on themes like love, nature, and religion. Different sub-schools include **Mewar, Marwar, Bundi-Kota, and Kishangarh.**
Mughal School		**Geographical Origin**: Flourished during the Mughal Empire, primarily in North India. **Features:** Blend of **Persian and Indian styles**, realistic portrayal of subjects, fine detailing, and use of gold and vibrant colors. Known for historical and courtly themes.

Deccan School		**Geographical Origin**: Deccan plateau, including Golconda, Bijapur, and Ahmadnagar. **Features:** Fusion of indigenous styles with Persian influences, vibrant colors, and intricate patterns. Often depicted **royal portraits, battle scenes, and hunting scenes.**
Bengal School		Emerged in the late 19th century as a response to Western academic art. Emphasizes simplicity, use of wash technique, and incorporation of Indian themes. Nandalal Bose and Abanindranath Tagore were key figures.
Malwa School		**Geographical Origin**: Flourished in the Malwa region. **Features:** Known for its distinctive use of bright colors, especially green, and depiction of rural life, festivals, and courtly scenes.

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SECTION C
[PRELIMS]

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INTERNATIONAL RELATIONS

◻ India and Australia hold 2+2 Ministerial Dialogue

POLITY & GOVERNANCE

◻ SATHEE portal

◻ '75 Creative Minds of Tomorrow'(CMOT) initiative

◻ What is Bhumi Samvaad?

◻ AGNI – Ayurveda Gyan Naipunya Initiative

ECONOMY

◻ Onattukara sesame

◻ India, ASEAN launch 5-day millets fest

◻ E-Commerce cargo movement starts course on NW 1

ENVIRONMENT

◻ 'Ghol' declared state fish of Gujarat

◻ Meteorological conditions in Antarctic ozone hole

◻ Shrinking mudflat ecosystem of Kerala

◻ Report on Sand and dust storm (SDS) released

◻ Extreme weather events driving replacement of native species with exotic ones

SCIENCE & TECHNOLOGY

◻ The chimaeras of nature and their promise to grow human organs

◻ e-SIM

INDIA & AUSTRALIA HOLD 2+2 MINISTERIAL DIALOGUE

Context: Recently, the Indian Defence Minister and External Affairs Minister S. Jaishankar met Australian Deputy PM and Defence Minister Richard Marles and Foreign Minister Penny Wong as part of the second India-Australia 2+2 Ministerial Dialogue.

Points of Importance:

◉ From the perspective of enhancing strategic ties between India and Australia, both sides emphasized on further co-operation in information exchange and Indo-Pacific Maritime Domain Awareness.

> **Maritime domain awareness (MDA)** is defined by the International Maritime Organization as the effective understanding of anything associated with the maritime domain that could impact the security, safety, economy, or environment.

◉ Cooperation in the areas of air-to-air refuelling and hydrography was also discussed.

> **Hydrography:** It is the science that measures and describes the physical features of the navigable portion of the Earth's surface and adjoining coastal areas. Hydrographic surveyors study these bodies of water to see what the "floor" looks like.

◉ Both countries recognized the potential of deepening cooperation in defense industry and research as a means to enhance their already strong relationship.

◉ They Identified potential areas of collaboration including shipbuilding, ship repair and maintenance, as well as aircraft maintenance, repair, and overhaul.

◉ The shared vision of the countries shall assist them to collaborate in specialized training areas such as Artificial Intelligence (AI), Anti-Submarine Warfare, anti-drone warfare, and the cyber domain, highlighting a commitment to developing advanced defense capabilities.

◉ Two sides also held discussions on joint research in underwater technologies and collaboration between defense start-ups signifies a push for innovation and technological advancement in defense strategies.

◉ **Commitment to strengthen bilateral defense relations** and expressed satisfaction over increasing military-to-military cooperation, joint exercises, exchanges, and institutional dialogues was also reaffirmed by both sides.

China Factor in India-Australia Relations:

◉ Both Australia and India support a rules-based international order and they are seeking to forge regional institutions in the Indo-Pacific which are inclusive, promote further economic integration.

◉ The countries' participation in Quad (India, Australia, US, Japan) is an example of their convergence of interests, based on shared concerns.

SATHEE PORTAL

Context: Recently, an Entrance exam preparation portal SATHEE (Self-Assessment Test and Help for Entrance Exams) has been launched by the Ministry of Education (MoE) and IIT-Kanpur.

About the Portal:

◉ The Ministry of Education (MoE) has said to all States to encourage aspirants to utilise the newly launched portal for exam preparation — SATHEE **(Self-Assessment Test and Help for Entrance Exams).**

◉ SATHEE is an open learning platform available to students **at no cost.**

◉ SATHEE has launched a **45-day crash course** for aspirants to test their level of preparation.

◉ SATHEE hosts **live and recorded lectures**, expertly designed curriculum, and doubt-clearing sessions [for students] to brush up their knowledge.

◉ The portal uses **Artificial Intelligence (AI)** to interact with students, and can be customised to each student's pace of learning.

◉ SATHEE's integrated **AI chatbot** helps students align their learning needs.

◉ SATHEE hosts lectures and video content prepared by **Professors and students of the IITs, and the All India Institute of Medical Sciences (AIIMS).**

◉ Currently, digital learning material is available on the SATHEE portal in four languages — **English, Hindi, Odia, and Telugu.**

Significance:

The initiative is in line with the **National Education Policy**, with the goal to provide inclusive, high quality education even to remote parts of the country.

'75 CREATIVE MINDS OF TOMORROW'(CMOT) INITIATIVE

Context: Recently, the Union Minister of Information & Broadcasting and Youth Affairs & Sports has launched the '48-Hour Film making Challenge' for winners of '75 Creative Minds of Tomorrow'(CMOT) initiative.

About the Initiative:

◎ Aim: The initiative aims to provide them with unparalleled opportunities in the realm of Media and Entertainment.

◎ CMOT is part of Government's effort to encourage and mentor young minds from far flung corners of the country.

◎ The role of 'Creative Minds of Tomorrow' in fostering a strong creative community of passionate individuals, the Minister congratulated the top 75 participants of the initiative selected through a rigorous jury process.

◎ This year's 75 Creative Minds of Tomorrow hail from as many as 19 different states and Union Territories of India, including places such as Bishnupur (Manipur), Jagatsinghpur (Odisha), and Sardarpur (Madhya Pradesh).

◎ As part of the Film Challenge, 75 CMOT participants were divided into five teams who will make short films on the topic 'Mission Life' in 48 hours.

◎ The CMOT participants will also attend workshops and master class sessions curated by the masters of world cinema.

54th IFFI:

◎ The 54th edition of the **International Film Festival OF India** is dedicated to spotlighting the pinnacle of world cinema and providing a platform for filmmakers and talents worldwide.

◎ The 54th edition of IFFI is designed to provide a comprehensive view of the global film landscape.

◎ It has been organized in Goa.

WHAT IS BHUMI SAMVAAD?

Context: Union Minister of Rural Development organised Bhumi Samvaad VII in North East of India.

What is Bhumi Samvaad?

It attempts to build upon the commonalities that exist in the arena of land records in various States to develop an appropriate Integrated Land Information Management System (ILIMS) across the country, on which different States can also add State-specific needs as they may deem relevant and appropriate.

ILIMS: The system contains information on parcel ownership, land use, taxation, location boundaries, land value, encumbrances and many more.

◎ It is being implemented by the Department of Land Resources (Ministry of Rural Development).

◎ Aim of the scheme is to usher in a system of updated land records, automated and automatic mutation, integration between textual and spatial records, inter-connectivity between revenue and registration, to replace the present deeds registration and presumptive title system with that of conclusive titling with title guarantee.

Components of Bhumi Samvaad:

◎ Computerization of land records.

◎ Survey/re-survey.

◎ Computerization of Registration.

◎ Modern record rooms/land records management centres at tehsil/taluk/circle/block level.

◎ Training & capacity building.

Benefits:

◎ Real-time land ownership records will be available to the citizen.

◎ Free accessibility to the records will reduce interface between the citizen and the Government functionaries, thereby reducing rent seeking and harassment.

◎ Public-Private Partnership (PPP) mode of service delivery will further reduce citizen interface with Govt. machinery, while adding to the convenience.

◎ The single-window service or the web-enabled "anytime-anywhere" access will save the citizen time and effort in obtaining RoRs (Record of Rights), etc.

◎ Automatic and automated mutations will significantly reduce the scope of fraudulent property deals.

◎ Conclusive titling will also significantly reduce litigation.

◎ Certificates based on land data (e.g., domicile, caste, income, etc.) will be available to the citizen through computers.

◎ This method will permit e-linkages to credit facilities.

◎ Information on eligibility for Government programs will be available, based on the data.

AGNI – AYURVEDA GYAN NAIPUNYA INITIATIVE

Context: It is an initiative of Central Council for Research in Ayurveda Sciences (CCRAS)Ministry of Ayush, to promote evidence based medical practices in Ayurveda sciences.

About the Initiative:

◎ Provide a **platform for Ayurveda practitioners to report their innovative** practices & and experiences in various disease conditions along with **promoting the culture of evidence-based** practice among Ayurveda Practitioners.

◎ The initiative also aims to **undertake research for mainstreaming pragmatic practices** through scientific validation and evidence-based appraisal.

◎ CCRAS will **document and publish the reported** medical practices and therapeutic regimens for education and academic purposes in consultation with **National Commission for Indian System of Medicine (**NCISM).

◎ **Creation of a database** through applications and capacity building through training in **research methods** and **good clinical practices**.

◎ Further **research will be taken up by CCRAS on the reported medical practices** for mainstreaming and scientific validation by developing research proposals in collaboration with Ayurveda Practitioners and other relevant institutes/ organizations.

About CCRAS

It is an apex research organization committed to **undertaking, coordinating, formulating, development** and promotion of research **on scientific lines in Ayurveda**.

Initiatives by CCRAS:

◎ **The Studentship Program for Ayurveda Research Ken (SPARK) for Undergraduate Scholars**- to boost scientific research through Ayurveda colleges and hospitals,

◎ **Scheme for Training in Ayurveda Research for PG Scholars (PG-STAR)** for PG Scholars

◎ **Scope for Mainstreaming Ayurveda Research in Teaching Professionals (SMART)** program for teachers.

ONATTUKARA SESAME

Context: Onattukara Vikasana Agency, registered owner of the GI-tagged sesame seeds, plan to increase the area under sesame cultivation to 2,000 hectares from current 600 hectares.

About Onattukara Sesame –

◎ OnattukaraEllu and its oil are famous for its unique health benefits.

◎ Relatively higher antioxidant content in OnattukaraEllu helps in fighting the free radicals, which destroy the body cells.

◎ Also, the high content of unsaturated fat makes it beneficial for heart patients.

Key Measures:

◎ **Financial Assistance:** Farmers will receive 40 percent of land to support sesame cultivation, enhancing their income.

◎ **Collaborative Initiative:** The project is a joint effort involving local institutions like Krishi Bhavan, OnattukaraVikasana Agency (OVA), and others.

◎ **Seed Distribution:** Sesame seeds will be distributed through Thekkekara Krishi Bhavan to facilitate cultivation.

◎ **Market Procurement:** OVA will procure the sesame produced under the scheme at market prices, ensuring fair compensation for farmers.

◎ **Targeted Groups:** Various groups, including individuals, collectives, Kudumbashree groups, and others, are eligible for incentives to promote sesame cultivation.

◎ **Resource Utilization:** Farmers can utilize resources like the workforce of ThekkekaraKarshika Karma Sena and a tractor for field preparation.

◎ **Increased Cultivation Area:** The initiative aims to expand sesame cultivation from 600 to 2,000 hectares in the region.

◎ **Variety Cultivation:** Farmers in the region cultivate various sesame varieties, including Ayali, Kayamkulam-1, Thilak, Thilathara, and Thilarani, developed by the Onattukara Regional Agricultural Research Station (ORARS).

About GI tags -

◎ GI tags are issued for products like agricultural goods, wine and spirit drinks, foodstuff, handicrafts, and industrial products.

- Top 5 states in India which holds maximum number of GI tags includes Uttar Pradesh, Tamil Nadu, Karnataka, Maharashtra, and Kerala.

- Tamil Nadu and Karnataka holds maximum number of GI tags followed by Kerala with 35 GI tag, Uttar Pradesh with 34 GI tag and Maharashtra with 31 GI tag.

Significance:

- It provides legal security for the manufacturer of unique goods originating from a particular place in the Country.

- The GI tag also helps customers to get the finest quality products of their desired quality.

- The GI tag is an assurance of authenticity. If manufacturers have a GI Tag then it is an indication that the product they are manufacturing is genuine.

- It also enhances and promotes goodwill of manufacturers of GI tag goods by boosting the product demand in the national and international markets.

INDIA, ASEAN LAUNCH 5-DAY MILLETS FEST

Context: **India and ASEAN recently launched a five-day Millets Festival in Jakarta.**

Key Highlights-

- The **ASEAN-India Millets Festival** starts on November 22, featuring a **diverse representation**, including **Indian farmers, industrialists, and participants from ASEAN member states.**

- The festival is a result of the effective working of the **comprehensive strategic partnership** between ASEAN and India, highlighted during the ASEAN-India Summit.

- The initiative stems from **a joint statement on food security** adopted during the ASEAN-India Summit, emphasizing millets as a crucial element for ensuring food security.

- **Millets** are recognized as a **sustainable and farmer-friendly food choice**, aligning with efforts to address global hunger and nutrient deficiencies.

- The Millet Festival sees **participation** not only from **Indian farmers** and **industrialists** but also from ASEAN member states, reflecting significant interest in millets.

  ➤ The event features a Millet-centric exhibition with contributions from Millet-based **Farmer Producer Organizations (FPOs), start-ups, and Indian chefs.**

- The Indian Mission to ASEAN and the Ministry of Agriculture and Farmers' Welfare jointly organize the ASEAN-India Millets Festival.

What is Millet?

- Millet is a collective term referring to a number of small-seeded annual grasses that are cultivated as grain crops, primarily on marginal lands in dry areas in temperate, subtropical, and tropical regions.

- Examples: jowar (sorghum), ragi (finger millet), Kodo (Kodo millet), kutki (little millet), kakun (foxtail millet), Sanwa (barnyard millet), cheena (proso millet), kuttu (buckwheat) and chaulai (amaranth).

The United Nations has declared 2023 as the International Year of Millets.

Positives of millets:

- Nutritionally superior traits: Millet's score over rice and wheat in terms of minerals, vitamins, and dietary fibre content, as well as amino acid profile.

- For example, Bajra (pearl millet), has iron, zinc, and protein levels comparable to that of wheat, but it's gluten-free and has more fibre.

- It can address the problem of "hidden hunger" arising from the consumption of energy-dense but micronutrients-deficient foods

- The rotis from bajra make one feel fuller for longer, as they take more time to digest and do not raise blood sugar levels too fast.

Advantages as a crop:

- Millets are hardy and drought-resistant crops.

- This has to do with their short duration (70-100 days, against 115-150 days for rice and wheat)

- lower water requirement (350-500 mm versus 600-1,250 mm) and

- Ability to grow even on poor soils and in hilly terrain.

e-COMMERCE CARGO MOVEMENT STARTS COURSE ON NW 1

Context: **A memorandum of understanding (MoU) was signed between Inland Waterways Authority of India (IWAI) and Amazon Seller Services Private Limited (Amazon) for promoting cargo movement and transportation using river Ganga (National Waterway 1).**

Key Highlights-

MoU for Inland Waterways Transportation

- The Inland Waterways Authority of India (IWAI) and Amazon signed a **Memorandum of understanding (MoU)** to promote cargo movement and transportation of customer shipments via the Ganga River (National Waterway 1).

- The agreement aims to leverage inland waterways, specifically the Ganga, to optimize logistics efficiency, reduce environmental impact, and foster economic development.

Strategic Collaboration for E-commerce Cargo

- The collaboration signifies a significant advancement in transporting e-commerce cargo through India's inland waterways.

- This partnership aligns with the Prime Minister's vision of enhancing inland waterways as a sustainable and affordable mode of transportation, contributing to the **Maritime Amrit Kaal Vision 2047**.

Efficiency and Environmental Sustainability

- Water transport is recognized as the most environmentally friendly mode, consuming significantly less fuel compared to rail and road transport.

- According to a World Bank Report, rail and road transport consume **18.5% and 91.6%** more fuel than water transport, making it an eco-friendly choice.

Key Stakeholders and Vision

- The MoU signing ceremony was attended by the Union Minister of Ports, Shipping & Waterways, Shri Sarbananda Sonowal, along with other senior officials.

- The initiative supports the larger goal of increasing inland water transport volumes to over 200 MMT by 2030 and exceeding 500 MMT by 2047, as outlined in the AmritKaal Vision 2047.

E-commerce and Inland Waterways Integration

- Amazon's collaboration with IWAI allows the company to utilize various modes of transport, including rail, air, water, and surface, ensuring faster, cost-effective, and sustainable delivery of customer packages.

- The partnership not only benefits Amazon by reducing transportation costs but also opens possibilities for other e-commerce companies to leverage India's extensive inland waterways.

'GHOL' DECLARED STATE FISH OF GUJARAT

Context: Global Fisheries Conference 2023, held at Ahmedabad and announcement of 'Ghol' as state fish by Gujarat Government.

About Ghol fish:

- Also known as **Black Spotted Croaker fish (Protonibeadiacanthus)** in many parts of the world, Ghol fish is not only considered a delicacy but is valued for its medicinal properties in many countries.

- **Ghol fish bladder** is among Gujarat's high-value exports.

- Ghol fish has various nutrients from iodine, omega-3, DHA, EPA, iron, taurine, magnesium, fluoride, to selenium, it is loaded with rich nutrients.

- Ghol fish is widely distributed in the **Indo-Pacific region from the Persian Gulf to the Pacific Ocean.**

- The levels of pollution have shifted these fishes from the shore to deep sea

Benefits of Ghol fish

- **Good for eye health:** This fish contains many vitamins, minerals, proteins, which helps in maintaining eyesight.

- **Prevent ageing and wrinkles:** The collagen content in the ghol fish prevents wrinkles and also keeps the elasticity of the skin intact.

- **Improves IQ of infants:** Omega-3 content in it improves IQ of infants if fed on a regular basis – it stimulates the growth of brain cells.

- **Toning muscles:** The black-spotted croaker is one fish that has tremendous benefits for toning muscles because of various minerals and vitamins. It provides Vitamin C that is required for collagen and elastin synthesis which has helps to supply essentials nutrients to the muscles.

METEOROLOGICAL CONDITIONS IN ANTARCTIC OZONE HOLE

Context: Meteorological conditions have largely driven fluctuations in the size of the Antarctic ozone hole, according to study published in Nature Communications.

Minutes of the Study:

⊙ The **ozone hole** over the Antarctic has **not only grown larger but also thinner** throughout most of the spring.

About Ozone Hole in Winters:

⊙ The ozone hole is a **region ofexceptionally depleted ozone** in the stratosphere over the Antarctic. It happens at the **beginning of the Southern Hemisphere spring** from August through October.

⊙ Despite making a **recovery in area and depthsince the 2000s**, the Antarctic ozone hole has been **massive** in the last four years

⊙ There is much **less ozone in the centre of the ozone hole** compared to 19 years ago.

UNEP study on Ozone Hole:

⊙ The ozone layer is on track to **recover** within **four decades**

NASA Study on Ozone Hole:

⊙ The hole **averaged 23.1 million square kilometres**, approximately the size of North America, making it the **16th largest** over this period.

Changes in Antarctic Ozone Hole:

⊙ **Reduction in Ozone:** The researchers saw a **total reduction of26 per cent at the core** of the ozone hole from **2004 to 2022.**

⊙ **Effectiveness of Montreal Protocol:** The reduction is despite the **1987 Montreal Protocol** on **Substances that Deplete the Ozone Layer**, which regulates the production and consumption of **human-generated chemicals** known to deplete the ozone.

➤ The Montreal Protocol on Ozone Depleting Substances quadrennial assessment report of 2022 confirmed the **phase-out of nearly 99 per cent of banned ozone-depleting** substances.

Meteorological Conditions in Ozone Depletion:

⊙ **Ozone hole and Meteorological Conditions:** According to **UNEP,Meteorological conditions**

could have largely driven fluctuations in the size of the **Antarctic ozone hole**, from **2019 to 2021.**

⊙ **Other factors:** It is known that other factors such as **springtime temperature** and **wind patterns**, **aerosolsfrom wildfires** and **volcanic eruptions**, as well as **changes in the solar cycle** ozone hole development could also be responsible.

⊙ **Polar vortex:** The Antarctic ozone hole sits within the polar vortex, which is a **circular pattern of wind** in the **stratosphere** that **forms during winter** and is **maintained until late spring**.

➤ Within this vortex, the Antarctic air from the **mesosphere** (the atmospheric layer **above the stratosphere**) falls into the stratosphere.

➤ **Ozone Chemistry:** This intrusion of air brings **natural chemicals** (nitrogen dioxide) which impact ozone chemistry in October.

SHRINKING MUDFLAT ECOSYSTEM OF KERALA

Context: The inter-tidal mudflats are one of the richest foraging grounds for migrant shorebirds along India's west coast, and now, they are in danger of disappearing, because of both natural and anthropogenic factors

About Kadalundi:

⊙ Kadalundi, on the south-west coast, had about 8 hectares of nutrient-rich inter-tidal mudflats in the early 2000s.

⊙ Today, the expanse of mudflats in the estuary of the Kadalundipuzhariver has reduced to just about 1 hectare.

⊙ This too is gradually being covered with sand, depriving prey to thousands of shorebirds that migrate from colder climes in winter to Kadalundi village in Kozhikode district.

About Mudflats:

⊙ Mudflats, or otherwise known as tidal flats, are coastal wetlands that form when mud is left behind by tides or rivers.

⊙ They're found in sheltered regions such as bayous, lagoons, estuaries, and bays. Mudflats might be seen geologically as exposed layers of bay mud, a result from :

➤ the deposition of estuarine silts

➤ marine animal detritus

➤ clays

○ The majority of the sediment in a mudflat is within the intertidal zone, therefore the flat is submerged and exposed about twice per day.

Need for Mudflats conservation:

- **Vanishing of Mudflats**: If the mudflats are not protected and restored, Kadalundi will vanish from the global map as a prominent destination of migrant shorebirds in a few years.

- **Biodiversity conservation:** It is the abundance of prey such as polychaetes and crustaceans in the mudflats that attract a wide variety of migrant shorebirds to Kadalundi from places such as Siberia, Ladakh, Mongolia, and Scotland.

Importance of Kadalundi:

- The mangroves of Kadalundi never attract shorebirds coming from colder regions.

- They prefer open mudflats where they are safe from predators.

- **Earlier** large congregations of migrant species such as the lesser sand plover, greater sand plover, common sandpiper, whimbrel, Eurasian curlew, common redshank, common greenshank, Kentish plover, Terek sandpiper, dunlin, and sanderling foraging voraciously during low tide.

- **Now** the prey depletion, because of sandbanks and mangrove proliferation, is forcing them to stay away from the mudflats.

REPORT ON SAND AND DUST STORM (SDS) RELEASED

Context: According to the UN Convention to Combat Desertification (UNCCD), sand and dust storms are an underappreciated problem now "dramatically" more frequent in some places worldwide, with at least 25% of the phenomenon attributed to human activities.

About the report:

- UNCCD meeting in **Samarkand, Uzbekistan**, reviews global progress on Convention implementation.

- Sand and dust storms (SDS) discussed as a major environmental challenge.

Highlights of the Report:

- As per the report, **two billion tons** of sand and dust, equal in weight to **350 Great Pyramids of Giza**, enter the atmosphere every year.

Key Issues:

➤ SDS exacerbated by poor land and water management, droughts, and climate change.

➤ Fluctuations in intensity, magnitude, or duration make SDS unpredictable and dangerous.

Concerns highlighted:

➤ SDS has trans-boundary impacts affecting environment, climate, health, agriculture, and livelihoods.

➤ Source areas experience crop damage, livestock impact, and topsoil erosion.

Policy Recommendations:

➤ UNCCD, FAO, and partners provide guidance through the Sand and Dust Storms Compendium and SDS Toolbox.

➤ Recommendations cover data collection, monitoring, early warning, impact mitigation, and anthropogenic source mitigation.

EXTREME WEATHER EVENTS DRIVING REPLACEMENT OF NATIVE SPECIES WITH EXOTIC ONES

Context: As per the recent analysis, it shows higher reproduction, competitiveness and plasticity may be helping non-native species.

Data Source: The findings were recently published in the **journal Nature Ecology & Evolution.**

Extreme weather events:

- Extreme weather events are affecting land, marine and freshwater ecosystems by influencing the displacement of native species with non-native ones.

- The increasing frequency of extreme weather events such as heatwaves, cold waves, droughts and floods due to climate change is influencing ecosystems, said researchers at Chinese Academy of Sciences in Beijing, China.

Impact on Native Species:

- **Biodiversity:** The scientists looked at 443 studies and analysed 1,852 native and 187 non-native species residing in land, marine and freshwater habitats and their responses to extreme weather events.

- **Marine Biodiversity:** Marine animals overall remained insensitive to extreme weather events,

irrespective of whether they were native or non-native, the analysis said. However, native molluscs, corals and anemones showed negative effects due to heatwaves.

◉ **Heatwaves and storms:** Heatwaves and storms affected non-native species in terrestrial and freshwater habitats, respectively. Native animals responded adversely to heatwaves, droughts and cold spells in terrestrial ecosystems and displayed more vulnerability to extreme weather events.

◉ **Non-Native Species:** On average, non-native species were less abundant in terrestrial ecosystems and their body conditions and life history traits were affected in freshwater systems.

  ➤ Non-native species had **24.8 per cent positive**, **31.8 per cent negative** and **43.4 per cent neutral** responses (confidence intervals crossing zero) to extreme weather events.

  ➤ **Non-native terrestrial animals** were affected **only by heatwaves**, while their **counterparts in freshwater** animals showed **susceptibility to only storms**.

  ➤ **Non-native marine animals** remained largely **unaffected by most disturbances**.

◉ **Native Species:** But native animals indicated declines in body conditions, life history traits, abundance, distribution and recovery in terrestrial ecosystems and community structure in freshwater ecosystems.

  ➤ Native species had **12.7 per cent positive**, **20.5 per cent negative** and **66.8 per cent neutral** responses to extreme weather events.

  ➤ **Native terrestrial animals** were affected **harder by heatwaves, cold spells and drought**.

  ➤ **Native freshwater species**, on the other hand, were **vulnerable to most events except cold spells.**

High sensitivity of Native animals and low sensitivity of Non-native animals:

◉ **Severe drought vents:** It deceased native invertebrates and fishes by increasing water salinity, facilitating the establishment of non-native salt-tolerant counterparts

◉ **High growth rate of Invasive species:** The non-native or invasive species have higher growth rates, higher phenotypic plasticity, stronger competitive abilities, quicker recovery and proliferation and broader tolerance of disturbance compared to the native species.

Case Study: Rio Minho estuary, Portugal:

◉ The abundance of most **native** fish in the Rio Minho estuary, Portugal declined, but the abundance of **non-native fish increased** after **extreme droughts and floods**, and thus the fish assemblage there was dominated by a few invasive fish species after extreme weather events.

◉ **Non-native mesozooplankton species** exhibit higher flexibility to **marine heatwaves** than native species in the **Sevastopol Bay**

Case Study: South American tomato pinworm

◉ The abundance of the **invasive South American tomato pinworm** was **tolerant of acute and chronic temperature stress** because of **high thermal plasticity** in invaded ranges

THE CHIMAERAS OF NATURE AND THEIR PROMISE TO GROW HUMAN ORGANS

Context: In a recent landmark study, scientists reported successfully generating a live chimaera in non-human primates.

Background:

◉ At present, more than 3 lakh people are waiting for an organ transplant in India alone; the global number is far higher, with no respite in sight.

◉ There is an alarming disparity in the **number of organ donors** and the number of recipients – and animals have played an important part in filling this gap.

About Induced pluripotent stem cells (iPSCs) technology:

◉ The successful application of animal insulin and the more recent use of animal heart valves in human surgeries have saved human lives

◉ Researchers have also made attempts to grow full human organs inside the bodies of animals using advancements in **induced pluripotent stem cells (iPSCs) technology**.

Chimaeras in nature:

◉ A **genetic chimaera** is a **single organism** composed of **cells of more than one distinct genotype** (or genetic makeup).

- The animal kingdom has several examples of varying degrees of chimerism.

- The **half-sider budgerigar**, a type of **common parakeet** widely adopted as pets, has different colours on either side of its body due to chimerism.

- The **anglerfish** displays an extreme degree of **symbiotic chimerism** in which the male fish fuses with and is eventually absorbed into the female fish, mixing their genetic makeups into a single animal.

- **Marine sponges** are known to have up to four distinct genotypes in a single organism.

Significance of Chimeric Research:

- **New Frontiers:** As such, this study opens new doors for scientists to use non-human primates to create chimaeras that could become models for basic and translational biomedical applications in the near future.

- **Ethical Issues:** Just like other advances in science, this study wasn't without limitations and ethical quandaries – and which we must address before thinking about the human biomedical applications.

e-SIM

Context – Transition from regular sim to e-sim.

Transit to e-sim

- An eSIM is a **digital version of the physical SIM card**—identifying your device virtually to provide network connection.

- It's **programmable remotely** via software and is built into newer smartphones, meaning you wouldn't have to go purchase a new SIM card if you wanted to swap phones or wireless carriers.

- eSIMs are used in **tablets, smart watches, drones**, and even cars. They're basically space-saving gamechangers for connectivity.

Usability of e-Sim

- **Flexibility:** As e-sims are embedded in devices and are programmable remotely, it can open a whole new world of flexibility when it comes to managing your phone and service plans.

- **High portability:** You can add plans, add a new number, and even connect to a different carrier. For example, you can test out T-Mobile's network for FREE before you switch, while still keeping your current phone number and carrier.

Benefits of e-sim:

- **Single devise:** This saves you money because with eSIM, you don't need two separate devices.

- **Update wireless service remotely:** Small, medium, and large businesses can benefit from eSIMs, as they make it possible to change or update wireless service remotely on multiple lines at once—whether you have five employees or five thousand.

- **International benefits:** eSIMs let you easily add an international plan to your device that starts working the moment you arrive in another country, giving you hassle-free flexibility.

- **Try network before porting:** The biggest benefit of using eSIM is that you can try the network free for three months before you switch.

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SECTION 'D'
[QUICK BYTES]

SHORT NEWS

- Cyclone Midhili
- Discovery of rare metal in Sutlej
- WOAH Regional Commission for Asia and the Pacific
- National Tribal Youth Exchange program
- Indian Navy launches anti-submarine warfare craft 'Amini'
- Nest Initiative
- Exobiology Extant Life Surveyor (EELS)
- OneWeb becomes first pvtsatcom co. to get nod for commercial satellite broadband
- Deep Space Optical Communications (DSOC)
- First indigenously developed Naval Anti-Ship Missile
- VajraPrahar: India-USA joint exercise
- AUSTRAHIND-23

LOCATION IN NEWS

- Sukhna Lake
- Gulf of Guinea (GoG)
- Pobitora Wildlife sanctuary

SPECIES IN NEWS

- Bewick's swan (Cygnus columbianusbewickii)
- Rungia longistachya

Cyclone Midhili

According to the **India Meteorological Department's (IMD)** latest cyclone update, 'Cyclone Midhili' could make landfall along the **Bangladesh coast** on November 18, 2023.

About:

- The cyclone would be named '**Midhili'** once it forms, a name contributed by the Maldives.

- IMD predicted that the system could cross the Bangladesh coast between **Mongla and Khepupara** as a deep depression with wind speeds of **55-65 km/hr** gusting **to 75 km/hr**.

- Cyclone Midhili will be the second cyclone of the season in the Bay of Bengal after **Cyclone Hamoon** in late October.

Discovery of rare metal in Sutlej

The discovery of tantalum in Sutlej is not only significant for Punjab but for India, given its value in terms of its use in electronics and semi-conductors.

About Tantalum:

- Tantalum is a chemical element; it has symbol Ta and atomic number 73.

- Previously known as tantalium, it is named after Tantalus, a figure in Greek mythology.

- Tantalum is a very hard, ductile, lustrous, blue-gray transition metal that is highly corrosion-resistant.

Tantalum in India:

- Tantalum may be making it to Himalayan region rivers due to movement of tectonic plates during earthquakes.

- Tectonic plates in India are moving towards Eurasian region and in the process, rare minerals beneath the earth may have been making their way to Himalayan rivers.

WOAH Regional Commission for Asia and the Pacific

India hosted the **33rd Conference of the WOAH (World Organization for Animal Health)** Regional Commission for Asia and the Pacific from November 13 to 16, 2023.

About the event:

- This 4-day event was organized by the Department of Animal Husbandry & Dairying, MOFAHD at New Delhi.

- The delegates and representatives of global and regional organizations deliberated on pressing animal health issues like bird flu/avian influenza, rabies, FMD, ASF, LSD recognizing the need for a collaborative regional approach due to the borderless nature of these diseases.

- Emphasizing the importance of information sharing and establishing multi-sectoral coordination mechanisms involving veterinary services, public health, and environmental health, including wildlife conservation, discussions underscored the necessity for robust policy and legal frameworks.

> **Indonesia** expressed willingness to host the **34th WOAH regional conference** for Asia and the Pacific.

National Tribal Youth Exchange program

The **15th National Tribal Youth exchange** program will be held from tomorrow to the 28th November at Chennai.

About:

- Under the programme camps will be conducted.

- The training will be given by **CRPF, BSF and NYKS** officials.

- In the program, cultural events, classical and folk arts, educational sessions will be conducted in the seven day exchange program.

- The camps will be conducted in 25 state capitals and more than 5000 youth from the socially backward districts and tribal areas will attend the program.

Indian Navy launches anti-submarine warfare craft 'Amini'

The **Indian Navy** has launched its most advanced and State-of-the-art anti-submarine warfare shallow watercraft, named **Amini.**

About:

- The vessel is named after a strategically important island in the Lakshadweep archipelago on India's western coast, almost **400 km** off Kochi, Kerala.

- This is the fourth in the series of **eight anti-submarine warfare** shallow watercrafts being built in India by domestic shipyards for the Indian Navy.

- Four of these ships, each with more than **80 per cent** indigenous content, have been launched this year.

- The **77-meter-long anti-submarine** warfare shallow watercraft has a displacement of **900 tonnes**, a maximum speed of **25knots** (46.3kmph) and an endurance of approximately **1800 Nautical miles (3333kms).**

○ The contract for building eight anti-submarine warfare ships was signed between **India's Defence Ministry and Garden Reach Shipbuilders** and **Engineers (GRSE), Kolkata**, in April 2019.

Nest Initiative

Recently, the Indian Green Building Council (IGBC) of the Confederation of Indian Industry launched a rating and certification initiative 'Nest'.

About the initiative:

○ Objective: To promote sustainable and eco-friendly constructions in the domestic housing sector.

○ It was proposed as part of the annual conference to be held at Chennai Trade Centre.

IGBC Green Building Congress 2023:

○ The annual **IGBC Green Building Congress 2023**, which will be held in the city after a **gap of 10 years,** would provide a platform for the construction industry stakeholders in the country to create a sustainable building environment for achieving net zero carbon emission goals.

○ The Tamil Nadu government will be the partner State for the Green Building congress 2023.

○ The **World Green Building Council** will be the support partner.

○ Under the initiative, the green building rating and certification programmes being covered under 31 categories encompassing;

➤ Commercial space,

➤ Factories,

➤ Railway stations,

➤ Special economic zones (SEZs), and

➤ Schools.

Exobiology Extant Life Surveyor (EELS)

The **National Aeronautics and Space Administration (NASA)** is developing a snake-like robot which it says can boost space exploration through its diverse adaptability to various terrains.

About:

○ The EELS system is a mobile instrument platform conceived to explore internal terrain structures, assess habitability and ultimately search for evidence of life.

○ It is designed to be adaptable to traverse ocean-world-inspired terrain, fluidized media, enclosed labyrinthian environments and liquids.

- The EELS architecture is a snake-like, self-propelled robot and made of multiple, identical, segments containing both the actuation and propulsion mechanisms as well as the power and communication electronics to drive them.

- EELS use first-of-a-kind rotating propulsion units that act as tracks, gripping mechanisms and propeller units underwater, enabling the robot to access a plume vent exit and follow it to its ocean source.

Benefit:

- This system can further Ocean World exploration by its diverse adaptability to various types of terrains.

- EELS allows for deeper exploration into areas that were once unattainable.

OneWeb becomes first pvtsatcom co. to get nod for commercial satellite broadband
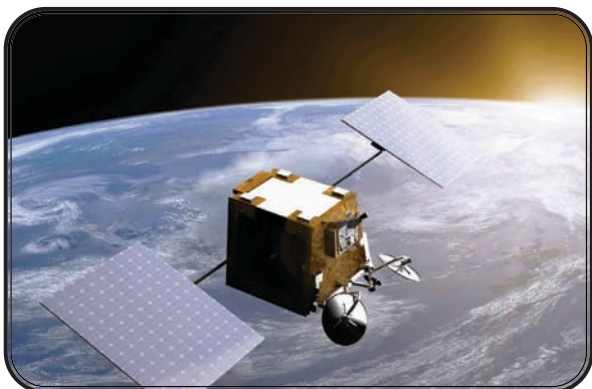
Bharti Group-backed **OneWeb India** has announced that it has received the necessary authorisations from space regulator **Indian Space Promotion and Authorisation Centre (IN-SPACe)** to launch **EutelsatOneWeb's commercial satellite** broadband services in India.

About the information:

- OneWeb India is the first organisation to be granted this authorisation.

- '*EutelsatOneWeb*', the **low earth orbit operator**, is part of Eutelsat Group.

- This authorisation means EutelsatOneWeb can launch commercial connectivity services as soon as spectrum allocation is granted by the Government.

- IN-SPACe stated that OneWeb India aims to provide internet services to rural and unconnected areas and territorial waters of India on a 24×7 basis.

- The authorisation has a validity period **of five years** and is subject to the assignment of the spectrum by the Department of Telecommunication (DoT) for both the gateways and user terminal operations.

> **Facts:**
>
> EutelsatOneWeb, earlier known **as OneWeb**, is a global constellation with **648 satellites** orbiting earth in circular polar orbits **at 1200 km** altitude and shall provide about 21 Gbps throughput over India.

Deep Space Optical Communications (DSOC)

Recently, NASA has achieved "**first light**" in the early hours after its flight laser transceiver, which is a cutting-edge instrument aboard **Psyche Mission.**

About:

◉ It is a laser space communication system, of the **National Aeronautics and Space Administration (NASA)** has achieved "first light" as it successfully transmitted data through laser over a distance of 10 million miles.

◉ NASA's Deep Space Optical Communications (DSOC) experiment has beamed a **near-infrared laser** encoded with test data from nearly 10 million miles (16 million kilometers) away – about 40 times farther than the Moon is from Earth – to the Hale Telescope at Caltech's Palomar Observatory in San Diego County, California.

◉ This is the **farthest-ever demonstration** of optical communications.

First indigenously developed Naval Anti-Ship Missile

First indigenously developed Naval Anti-Ship Missile

◉ Indian Navy and DRDO, successfully undertook Guided Flight Trials of the first indigenously developed Naval Anti-Ship Missile from Sea king 42B helicopter.

◉ Missile is the first indigenous air-launched anti-ship cruise missile. It is a significant step towards self-reliance in niche missile technology, including seeker and guidance technologies.

◉ With strike range of around 60 km, can travel at a speed of Mach 0.8.

Anti-ship cruise missile:

◉ A guided missile designed for use against ships and large boats. Most are of the sea skimming variety, and use a combination of inertial guidance and active radar homing.

◉ A large number of other anti-ship missiles use infrared homing to follow the heat that is emitted by a ship; it is also possible for anti-ship missiles to be guided by radio command all the way.

VajraPrahar: India-USA joint exercise

It is 14th Edition of the Indo-US Joint Special Forces exercise.

◉ The US contingent is represented by personnel from the 1st Special Forces Group (SFG) of US Special Forces. The Indian Army contingent is led by Special Forces personnel from the Eastern Command.

◉ It was held in umroi, Meghalaya.

Aim

◉ Sharing best practices and experiences in areas such as joint mission planning and operational tactics.

◉ To enhance inter-operability and strengthen defence cooperation.

Exercise includes

◉ Joint plan and rehearse a series of Special Operations, Counter Terrorist Operations, and Air Borne operations in simulated conventional and unconventional scenarios in mountainous terrain.

◉ •Water borne insertion of troops, Precision engagement of targets at long ranges, Combat air controlling of fixed wing and rotary wing aircraft' besides 'airborne insertion and sustenance of troops.

AUSTRAHIND-23

Recently, the Indian Armed Forcesdeparted for Perth, Australia to participate in the second edition of the joint military exercise, **AUSTRAHIND-23.**

◉ The exercise will be conducted from **November 22 to December 6, 2023**.

About:

◉ The Indian contingent comprises 60 personnel from a Battalion of the GORKHA Rifles.

◉ The Australian Army contingent comprising **60 personnel** will be from the 13th Brigade.

◉ One officer from the Indian Navy and 20 personnel from the Indian Air Force will also participate from the Indian side.

◉ The Australian contingent will include 20 personnel each from the Royal Australian Navy and Royal Australian Air Force.

LOCATION IN NEWS

Sukhna Lake

◉ Recently, **49 migratory birds species** spotted at Chandigarh's Sukhna Lake during a survey.

About the survey:

◉ The most common species at Chandigarh's Sukhna Lake was the Indian spot-billed duck with 39 sightings; followed by 22 jungle babbler and 18 common moorhen and great cormorant each has been spotted.

◉ The Chandigarh Bird Club conducts an annual survey of Sukhna Lake to commemorate the 'Birdman of India', DrSalim Ali, on his birth anniversary.

Do you Know?

- The **Punjab and Haryana high court** has declared Sukhna Lake a "living entity" or "legal person" with rights, duties and liabilities of a living person.

The Sukhna Lake:

- It is a man-made Lake and was built in 1958 by Le Corbusier, the architect of Chandigarh.

- Located in the foothills of the Shivalik Hills, it was designed to collect runoff water from the Hills.

- The Lake, which is in the process of being officially notified as a wetland, also has a nearby wildlife sanctuary that is home to Sambar, pangolin, wild boars, red jungle fowl, cobras and other species.

Gulf of Guinea (GoG)

INS Sumedha is on an **Extended Range Operational Deployment** and is currently operating in the Atlantic Ocean along the **West Coast of Africa**.

- During this period, INS Sumedha operated in **the Gulf of Guinea (GoG)** undertaking a **31 days** anti-piracy patrol.

Do you Know?

- It is believed that the **Gulf of Guinea** today accounts for 7% and 4.5% of the world's gas and oil reserves, respectively.

About the location:

- It is the most north-eastern part of the tropical Atlantic Ocean, located off the western coast of Africa.

- It is located at **0°0'N and 0°0'E**, at the intersection of the Prime Meridian and the Equator.

- The region is **2.3 million square kilometres**, with 6,000 kilometres of coastline.

- It has a relatively narrow continental shelf.

- Because of the rivers that pour into it and the region's heavy rainfall, it has warm tropical waters with relatively low salinity.

- The Volta and Niger Rivers are two of its primary tributaries.

Pobitora Wildlife Sanctuary

The Supreme Court has asked the Centre and the Assam government to respond to a plea seeking directions to declare the area around **Pobitora Wildlife Sanctuary** an **eco-sensitive zone** and remove all encroachments.

About the location:

◉ It is located on the southern bank of the river Brahmaputra in **Morigaon district**, adjacent to **Guwahati in Assam.**

◉ It was declared a reserve forest in 1971 and a wildlife sanctuary in 1987.

◉ It is home to the **highest population density** of the Indian One-Horned Rhinoceros species (around 102 rhinos in an area of 38.8 sq. km).

◉ **Landscape:** It is dominated by alluvial lowlands and marshland.

◉ The Brahmaputra River offers a natural boundary to the premises of the Pobitora Wildlife Sanctuary on the north, while the GarangaBeel offers a natural boundary to its south.

◉ **Flora:**

➤ 72% of Pabitora consists of **wet savannah** of Arundodonax, Erianthusravennae, Phragmiteskarka, Imperatacylindrica, and Saccharum spp.

➤ Water hyacinth (*Eichorniacrassipes*) is a major problem, especially to waterfowl, as it forms thick mats on the water surface.

◉ **Fauna:**

➤ Besides rhinoceros, the other animals are **leopard, wild boar, Barking deer, wild buffalo, etc.**

➤ It is also home to more than 375 species of resident and migratory birds, such as the **Indian pied Hornbill, Osprey, Hill Myna, Kalij Pheasant, etc.**

SPECIES IN NEWS

Bewick's swan (Cygnus columbianusbewickii)

Scientists has highlighted that the **Bewick'sswans** are changing their behaviour in a warming world, with fewer making it back to the UK and those that do arriving late.

About the Species:

◉ The smallest of the UK's wild swans, **Bewick's** have more black on their yellow bills than Britain's other **long-distance migrant**.

◉ They're the only one of our swan species to have an orange bill and can be found on a wide-range of water bodies, from a village pond to our largest lakes and are with us year-round.

◉ They breed around the coasts of the **Arctic Ocean in northern Russia**, with small numbers coming to the UK to spend the winter.
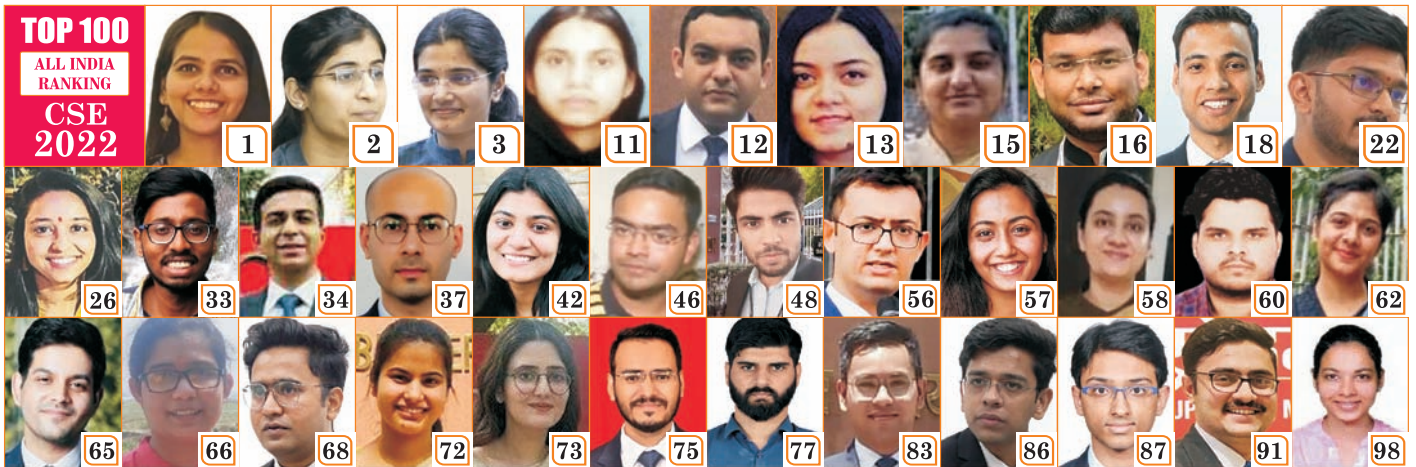
Rungia longistachya

The species Musseanda conferta and Rungia longistachya were discovered during recent explorations.

About:

- A team of scientists from the Botanical Survey of India (BSI) have reported the discovery of two new plant species from the evergreen forest patches in the southern end of the Western Ghats.

- The new species Musseandaconferta and Rungialongistachya were discovered during recent explorations by BSI scientists.

- Rungialongstachya belongs to the family of Acanthaceae and was discovered from the moist places of Anamalai regions near the Idukki dam site in Kerala.

- The plant is a herb and reaches height of up to 50 cm and grows in the margins of evergreen forests.

- Only eleven species of Rungia have been reported from the Western Ghats.

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GS SCORE
An Institute for Civil Services

CSE RESULTS

TOP 100 ALL INDIA RANKING CSE 2022

1, 2, 3, 11, 12, 13, 15, 16, 18, 22, 26, 33, 34, 37, 42, 46, 48, 56, 57, 58, 60, 62, 65, 66, 68, 72, 73, 75, 77, 83, 86, 87, 91, 98

SUCCESS IS A PRACTICE WE DO!

TOP 100 ALL INDIA RANKING CSE 2021

02, 04, 07, 12, 24, 25, 29, 31, 32, 43, 44, 45, 46, 49, 52, 53, 54, 66, 67, 68, 80, 83, 89, 92, 93, 95

TOP 100 ALL INDIA RANKING CSE 2020

8, 9, 12, 13, 14, 16, 17, 19, 20, 24, 26, 28, 30, 31, 36, 38, 41, 45, 50, 51, 52, 55, 56, 58, 59, 67, 68, 70, 71, 73, 74, 76, 78, 83, 84, 85, 86, 89, 93, 98, 100