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DAILY CURRENT AFFAIRS

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CONTENT LIST

GS 2: POLITY, GOVERNANCE, SOCIAL JUSTICE, INTERNATIONAL RELATIONS/INSTITUTIONS

1. New eastern route cuts down shipping time, costs; promises to boost India-Russia trade routes

Context: India has surpassed China to become the largest buyer of Russian oil in 2024, and with this significant move the Eastern Maritime Corridor has also become the new route which will play an increasingly significant role in boosting commodity trade between India & Russia, especially crude oil shipments. The new route from Chennai to Vladivostok will help in saving shipment times between the two countries and thereby transportation costs. Trading of commodities such as crude, coal and LNG have already commenced via the route since early this year, while other products including fertilizers and containerised cargo that warrant longer-term commitment from both parties are also now being shipped.

Key points

- **Overview:** The Chennai-Vladivostok eastern maritime corridor has become operational and is carrying oil, food, and machines, Minister for Ports, Shipping, and Waterways recently.
- **Eastern Maritime Corridor (EMC):** Envisioned during the Eastern Economic Forum (2019) in Vladivostok, Russia. It seeks to develop a sea route between the Indian port of Chennai and Vladivostok through Northeast Asia. Covers around 10, 300 km. Passes through the Sea of Japan, the South China Sea, Malacca Strait, etc.
- **Significance of the Corridor:** *Reduced Logistics cost* - Due to reduction in transportation time (by around 16 days) and distance (by around 40%). Present trade route between Mumbai and St. Petersburg (Russia) via Suez Canal takes around 40 days and covers around 16, 066 Km.
  Boost India's maritime sector - The sector handles around 95% (by volume) and 70% (by value) of country's trade. Complement India's Maritime Vision, 2030 that encompasses more than 150 initiatives from all areas of Maritime Sector.
  Address China's Dominance - Passes through the South-China Sea. Vladivostok is located at a short distance from Russia-China border.
  Boost India's Act Far East Policy - Offer enhanced access to Russian resources and provide stronger foothold to India in the Pacific trade network.
- **Northern Sea Route (NSR):** The Northern Sea Route (NSR), the shortest shipping route for freight transportation between Europe and countries of the Asia-Pacific region, straddles four seas of the Arctic Ocean. Running to 5,600 km, the Route begins at the boundary between the Barents and the Kara seas (Kara Strait) and ends in the Bering Strait (Provideniya Bay).
- **India-Russia Cooperation on the Northern Sea Route (NSR):** *Cargo Transit* - Identifying targets for Indian Russian cargo movement along the NSR.
  Training of Indian Sailors - The potential for training Indian sailors in polar navigation techniques.
  Arctic Shipbuilding - Collaborative development of projects focused on Arctic shipbuilding technology.
  Memorandum of Understanding (MoU) - A draft MoU between India and Russia was proposed to enhance cooperation in cargo shipping along the NSR.

Q. The term 'IndARC', sometimes seen in the news, is the name of:

(a) an indigenously developed radar system inducted into Indian Defence

(b) India's satellite to provide services to the countries of Indian Ocean Rim

(c) a scientific establishment set up by India in Antarctic region

(d) India's underwater observatory to scientifically study the Arctic region

Ans: (d)

Q. What are the economic significances of discovery of oil in Arctic Sea and its possible environmental consequences? (উত্তৰ মহাসাগৰত তেল আৱিষ্কাৰৰ অৰ্থনৈতিক গুৰুত্ব আৰু ইয়াৰ সম্ভাৱ্য পাৰিপাৰ্শ্বিক পৰিণামসমূহ কি কি?)

GS 2: POLITY, GOVERNANCE, SOCIAL JUSTICE, INTERNATIONAL RELATIONS/INSTITUTIONS

2. Does POSH Act apply to political parties

Context: The Supreme Court last week heard a PIL stating that the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 (POSH Act) should apply to political parties. The apex court directed the petitioner to approach the Election Committee of India (ECI) first, as they are the competent authority "to prevail upon recognised political parties for creation of an in-house mechanism to deal with complaints of sexual harassment" in a way consistent with provisions of the POSH Act. The petition sought a judicial declaration that political parties are bound to comply with the Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 or PoSH Act, including the formation of an Internal Complaints Committee (ICC).

Key points

- **Overview:** The SC found "serious lapses" and "uncertainty" in the implementation of the PoSH Act 2013 and issued directions to the Union, States, and UTs to verify if all government bodies had formed the Internal Complaint Committees (ICCs).
- **Petitioner's Arguments:** According to the petitioner, lack of transparency within political parties, inadequate structure and inconsistent implementation of the internal complaints committee foster a culture that fails to prioritise the safety and empowerment of women.
- **Supreme Court judgment:** The Supreme Court cited a Kerala High Court judgment which held that political parties have no obligation to comply with the PoSH Act as there is no employer-employee relationship between them.
- **PoSH Act:** In 1992, Bhanwari Devi, a social worker with the Rajasthan government's Women Development Project, was gang-raped by five men when she tried to prevent the marriage of a one-year-old girl. Hearing petitions regarding the gang-rape of a social worker in Rajasthan in 1992, the Supreme Court laid down a set of guidelines in 1997 against 'sexual harassment at workplaces' in the absence of any law 'enacted for the effective enforcement of the basic human right of gender equality'.

  The PoSH Bill - It was introduced by the Women and Child Development Ministry in 2007. It went through several amendments and came into force on December 9, 2013, after being enacted by the Parliament.
- **Provisions of the PoSH Act:** Defines sexual harassment as to include unwelcome acts such as physical, verbal/non-verbal conduct - a demand or request for sexual favours, making sexually coloured remarks, showing pornography, etc.

  Lists down five circumstances that would constitute sexual harassment –
  - Implied or explicit promise of preferential treatment in employment.
  - Implied or explicit threat of detrimental treatment in employment.
  - Implied or explicit threat about present or future employment status.
  - Interference with work or creating an intimidating or offensive or hostile work environment.
  - Humiliating treatment is likely to affect health or safety.

  Defines an employee (not just in accordance with the company law) - All women employees, whether employed regularly, temporarily, contractually, on an ad hoc or daily wage basis, as apprentices or interns, can seek redressal to sexual harassment in the workplace.

  Expands the definition of 'workplace' - Beyond traditional offices to include all kinds of organisations across sectors, even non-traditional workplaces (for example, telecommuting) and places visited by employees for work.

- **Internal Complaints Committee (ICC) and Local Committees (LC):** The law requires any employer with more than 10 employees to form an ICC, where a formal sexual harassment complaint can be filed by a woman. Besides, the Act mandates every district in the country to create a LC to receive complaints from women working in firms with less than 10 employees and from the informal sector, including domestic workers, etc.
- **Challenges to the Act:** *Lacunae in the constitution of ICCs* - 16 out of the 30 national sports federations in the country had not constituted an ICC to date.
  Improper composition of ICCs - ICCs either had an inadequate number of members or lacked a mandatory external member.
  Lack of clarity in the law - About how to conduct such inquiries, lack of awareness in women employees about who to approach in case of facing harassment, etc.
- **Way Forward:** Investigations conducted by ICC or LC should follow the principles of 'natural justice' like the judiciary. The Supreme Court through its various judgments has directed the bodies to publish the details of their respective committees on their websites.

QUICK FACTS: GOVERNMENT UNVEILS 'JALVAHAK' TO BOOST INLAND WATERWAYS

Union Minister of Ports, Shipping and Waterways Sarbananda Sonowal on Sunday unveiled a major policy for cargo promotion - 'Jalvahak'. Jalvahak is aimed at incentivising the movement of long-haul cargo via National Waterways 1 (river Ganga) as well as for National Waterways 2 (river Brahmaputra) and National Waterways 16 (river Barak). The Jalvahak scheme offers reimbursement of up to 35% of the total operating expenditure incurred, it also encourages the business proposition of vessel operators, the scheme encourages cargo owners to hire vessels owned or operated by government entities.

GS 3: ECONOMY, ECOLOGY, SCIENCE & TECHNOLOGY, DEFENCE, SECURITY AND DISASTER MANAGEMENT

3. Can we make black holes reveal themselves in echoes of light?

Context: The effects black holes have on their surroundings are crucial to determining the structures of the galaxies they occupy and how the stars around them evolved over time, the mass and radius of a black hole impact the way light behaves. The study claims that light echoes can be used as a new way to determine the masses and spins of black holes. As researchers collected images of light travelling around the M87 black hole, they estimated the time light took to travel from the near end to its far end, which depends on its mass and momentum. When light passes around a black hole, its path bends. So some parts of the light take a direct route to the viewer while others pass around the black hole a few times before getting back on the original path. In this way, light emitted by a distant source in the cosmos may reach the earth at different instances, creating light echoes.

Key points

- **Black holes:** Black holes are extremely dense points in space that create deep gravity sinks from which even light cannot escape. It can be formed by the death of a massive star. A black hole takes up zero space but does have mass, that used to be a star. And black holes get more massive as they consume matter near them. The concept was given by Albert Einstein in 1915 but the term 'black hole' was coined in the 1960s by American physicist John Archibald Wheeler.

- **Categories of black holes:** One ranges between a few solar masses and tens of solar masses. These are thought to form when massive stars die. The other is supermassive black holes. These range from hundreds of thousands to billions of times that of the sun from the Solar system to which Earth belongs.
    - *Supermassive black holes* - At the centre of most galaxies including our Milky Way, there is a supermassive black hole. Sometimes these supermassive black holes collect disks of gas, dust, and stellar debris around them- when they fall into the black hole. Its gravitational energy can be converted into light.
- **Observations on black holes:** *April 2019* - The scientists at the Event Horizon Telescope project released the first-ever image of a black hole.

  January 2021 - The Indian astronomers of ARIES institute reported one of the strongest flares from a blazer called BL Lacertae from 10 million light-years away.

  August 2021 - Indian scientists have discovered the merger of three supermassive black holes from as many galaxies to form a triple Active Galactic Nucleus. This suggests that such group mergers also drive the growth of black holes.
- **Black hole triple system:** A black hole triple system is a rare and complex astronomical setup in which three black holes orbit each other in a mutual gravitational dance. These systems can form in several ways, such as through galaxy mergers, which lead to the interaction and eventual binding of the supermassive black holes at the centers of the merging galaxies.
    - *Hierarchical Structure* - Triple black hole systems often exhibit a hierarchical structure where two of the black holes form a close binary, and the third orbits this binary at a greater distance. This setup allows the outer black hole to exert periodic gravitational influences on the inner binary, leading to unique dynamics like the Lidov-Kozai effect, where the orbits oscillate in eccentricity and inclination.
    - *Gravitational Wave Emissions* - The close interactions and gravitational pulls in a black hole triple system can accelerate mergers and increase the production of gravitational waves. These emissions offer valuable data for observatories like LIGO and Virgo, which detect such waves and help researchers understand black hole dynamics in multiple systems.
    - *Potential for High-energy Events* - Interactions among black holes in these systems can generate intense energy outputs, including relativistic jets and high-energy radiation. These interactions also provide clues about galaxy formation and the conditions in dense star clusters.
- **V404 Cygni System:** The V404 Cygni system is a well-known binary star system that consists of a black hole and a companion star. It lies in the constellation Cygnus, approximately 7,800 light-years from Earth.
    - *Binary System with a Black Hole* - The system consists of a stellar-mass black hole with a mass estimated at around 9-12 times that of the Sun and a companion star, likely a G or K-type star. The companion star orbits the black hole every 6.5 days.
    - *Relativistic Jets* - The black hole occasionally ejects relativistic jets of particles during outbursts. These jets are believed to form when matter near the event horizon interacts with magnetic fields, resulting in streams of particles that are shot into space at nearly the speed of light.
    - *Significance for Black Hole Studies* - V404 Cygni's behaviour offers clues about black hole accretion mechanisms and jet formation. Unlike many black hole systems, V404 Cygni's

accretion disk shows extreme variability, which has helped scientists explore how accretion dynamics can vary in response to environmental changes.

GS 3: ECONOMY, ECOLOGY, SCIENCE & TECHNOLOGY, DEFENCE, SECURITY AND DISASTER MANAGEMENT

4. India's firmer attempts at mineral diplomacy

Context: As India seeks to expand its manufacturing and technological capability, critical minerals will become vital to fulfil this ambition. However, India, a major critical mineral importer, still depends on other countries, primarily China, for its mineral security, which has become a cause of strategic concern. India established the Khanij Bidesh India Ltd. (KABIL), a joint venture company with a mandate to ensure a consistent supply of critical and strategic minerals to the Indian domestic market, its objective was to achieve mineral security by securing agreements, and acquisitions through government-to-government, government-to-business, and business-to-business routes.

Key points

- **Overview:** Reliance on critical mineral imports, especially from China, poses strategic concerns. To address this, the Indian government is advancing its Mineral Diplomacy to enhance security and reduce strategic vulnerabilities.
- **Mineral diplomacy:** Mineral diplomacy refers to a nation's strategic efforts to secure critical mineral supplies through international partnerships, trade agreements, and resource-sharing initiatives, ensuring economic stability and reducing geopolitical vulnerabilities.
- **India's Mineral Diplomacy of 2024:** To coordinate efforts in securing access to critical minerals both domestically and internationally. It focuses on enhancing resource mapping, accelerating exploration activities, and developing resilient supply chains for minerals vital to India's industrial and green energy targets.
    - *International Partnerships* - India is actively engaging with resource-rich countries, particularly in Africa, to secure essential minerals. This includes participation in the Mineral Security Partnership (MSP) and bilateral agreements like the India-Australia Critical Minerals Investment Partnership, which are designed to fortify supply chains and position India as a key player in global mineral diplomacy.
    - *Domestic Reforms* - The Mines and Minerals (Development and Regulation) Amendment Bill, 2023 allows private sector participation in exploring critical minerals. This reform is expected to boost domestic supply and reduce reliance on imports, aligning with India's goal of achieving self-sufficiency.
    - *Geopolitical Context* - As global competition for critical minerals intensifies, India's mineral diplomacy is not just about securing resources but also about establishing itself as a significant player in the clean energy economy.
    - *Focus on Recycling* - The mission prioritizes recycling critical minerals from electronic waste and used batteries, ensuring resource efficiency and sustainability amidst limited reserves.
    - *Investment in Technology* - India plans to leverage advanced technologies such as AI and machine learning for geological mapping to enhance exploration efforts.
- **Strategic objectives of ICMM:** India's Critical Mineral Mission aims to secure a stable supply of essential minerals for its economic and technological growth. The strategic objectives include-

- *Reducing Import Dependency* - By decreasing reliance on imports, particularly from China, India seeks to enhance its mineral security and mitigate economic risks associated with geopolitical tensions.
- *Enhancing Domestic Production* - The mission focuses on boosting domestic exploration and production capabilities for critical minerals, thereby fostering self-sufficiency.
- *Facilitating Recycling and Sustainable Practices* - Emphasis is placed on recycling critical minerals to ensure a sustainable supply chain while addressing environmental concerns.

- **International partnership to enhance mineral supply chains:** India is actively engaging in international partnerships to enhance its mineral supply chains through several strategic initiatives-
  - *Bilateral Agreements* - India has established partnerships with resource-rich countries like Australia, Argentina, and Kazakhstan to secure supplies of lithium and cobalt. For instance, KABIL signed a memorandum of understanding with Australia for lithium and cobalt projects.
  - *Joint Ventures* - The formation of joint ventures, such as IREUK Titanium Limited with Kazakhstan, aims to develop production capabilities within India, thus integrating into the global supply chain.
  - *Multilateral Engagements* - India is participating in multilateral initiatives like the Quad and the G-7 to align with global best practices in mineral security and facilitate knowledge sharing.
- **Challenges in mineral diplomacy:** Despite the positive outcomes of India's mineral diplomacy, several challenges hinder its effectiveness-
  - *Lack of Private Sector Participation* - The absence of a clear roadmap for private sector involvement in the critical minerals supply chain limits India's ability to leverage domestic capabilities fully.
  - *Weak Diplomatic Capacity* - Insufficient diplomatic resources and expertise in mineral diplomacy pose challenges in forming sustainable international partnerships.
  - *Need for Comprehensive Strategy* - A cohesive strategy that integrates private sector roles and addresses supply chain vulnerabilities is essential for enhancing India's mineral security efforts. The current lack of such a strategy hampers effective engagement with international partners.
- **Way forward:** *Develop a Comprehensive Critical Minerals Policy* - Formulate a cohesive strategy integrating private sector participation, incentivizing domestic exploration, and addressing supply chain vulnerabilities.

  Strengthen Mineral Diplomacy Capacity - Expand diplomatic resources and expertise in mineral partnerships, focusing on resource-rich nations and multilateral platforms. Establish specialized teams to negotiate sustainable agreements, ensuring secure and diversified supply chains.

GS 3: ECONOMY, ECOLOGY, SCIENCE & TECHNOLOGY, DEFENCE, SECURITY AND DISASTER MANAGEMENT

5. 'RegenAgri' – a boon for tea industry

Context: The RegenAgri certification represents a transformative opportunity for the age-old tea industry, offering a pathway to revitalization and long-term sustainability. Given the industry's challenges, including environmental degradation, fluctuating markets, and labour-related issues, adopting regenerative agricultural practices could emerge as a 'survival strategy' for the 200-year-old sector. This requires a holistic approach to convince all stakeholders of the tea industry to come together on a common platform.

Key points

- **Sustainability and soil health:** RegenAgri focuses on practices that restore soil health, conserve water, and enhance biodiversity – critical needs for tea plantations that have long relied on intensive monoculture farming.
- **Economic viability:** By improving ecosystem services (such as pollination and nutrient cycling), these methods can reduce dependency on chemical inputs and lower production costs while potentially commanding higher prices for sustainably produced tea.
- **Climate resilience:** Tea plantations are highly vulnerable to climate change. RegenAgri-certified practices can help build resilience by improving soil carbon sequestration and reducing emissions.
- **Global market alignment:** As consumers and retailers increasingly prioritize sustainable and ethically sourced products, RegenAgri certification aligns the industry with evolving market expectations. 'RegenAgri' is a global initiative that supports regenerative agricultural practices, which aim to enhance soil health, biodiversity, and ecosystem services.
- **Promoting Regenerative Practices for Carbon Sequestration:** RegenAgri works with tea farmers to adopt sustainable practices that increase organic matter in the soil, enhancing its capacity to store carbon. These practices include-
  - *Cover cropping* - Growing cover crops reduce soil erosion, enhances soil structure, and increases organic matter, capturing atmospheric CO.
  - *No-till or reduced tillage* - Reduces soil disturbance, preventing carbon release and promoting carbon retention.
  - *Crop rotation and diversification* - Boosts biodiversity and soil health, improving long-term carbon sequestration.
  - *Agroforestry and perennial crops* - Incorporates trees and long-term vegetation, which are effective carbon sinks.
  - *Integrated livestock management* - Proper grazing techniques improve pasture health and carbon storage in grasslands.
- **Measurement and monitoring of carbon sequestration:** RegenAgri employs technologies such as-
  - *Soil testing* - Regular testing to measure organic carbon levels.
  - *Remote sensing and data analysis* - Monitoring changes in vegetation and soil health.
  - *Life cycle assessments (LCA)* - Quantifying carbon footprints and the net sequestration achieved.
- **Linking tea farmers to carbon markets:** Through its certification and advisory services, RegenAgri enables farmers to-
  - *Demonstrate carbon gains* - Certified farmers can prove that their practices sequester carbon.
  - *Earn carbon credits* - Farmers can monetize the sequestered carbon by selling carbon credits in global carbon markets. These credits are purchased by industries and companies aiming to offset their emissions.
  - *Participate in sustainable supply chains* - RegenAgri connects farmers with corporations that value sustainable practices, offering incentives beyond carbon credits.
- **Economic and environmental benefits:** *Farmers' revenue* - Carbon credits provide an additional income stream, encouraging the adoption of sustainable practices.
  Improved soil health - Enhanced productivity and reduced dependence on synthetic inputs.