



MARCH, 2024



The

HINDU & EXPRESS NOTES

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1st March 2024

Mauritius, Maldives, and India-Indian Express Explained

International relations

Key takeaways:

1. **Strategic Importance:** Mauritius and the Maldives are crucial for India's maritime security and influence in the Indian Ocean, with India enhancing infrastructure to maintain its strategic presence.
2. **Diplomatic Balance:** India's shift from military to civilian personnel in the Maldives, following the election of a pro-China president, illustrates the need for diplomatic finesse in preserving its interests amid changing political landscapes.
3. **Development and Security:** India's projects in Mauritius aim to improve local conditions and security capabilities, representing a mutual benefit strategy to safeguard interests and counter regional threats.
4. **China's Challenge:** India's engagements are part of a larger strategy to counter China's expanding influence and military presence in the Indian Ocean, ensuring regional security and navigation freedom.
5. **Navigating Criticism:** Both Mauritius and the Maldives have seen domestic debates over India's role, with leaders addressing concerns about sovereignty and military presence to maintain favorable relations and pursue strategic goals.

Mains Easy Language:

India's strategic endeavors in the Indian Ocean, specifically with Mauritius and the Maldives, underscore its commitment to safeguarding regional maritime security and countering China's growing influence. The construction of infrastructure on Agaléga Island by India, including an airstrip and a jetty, alongside the operational takeover of aviation platforms in the Maldives, highlights India's strategic imperatives. These actions are part of a broader effort to maintain a significant presence in a region critical for maritime routes and security. The delicate diplomatic balance India navigates is evident in its response to the Maldives' new pro-China leadership's request to withdraw military personnel, transitioning instead to civilian-operated aviation assets. This scenario reflects the complex interplay between regional politics, India's strategic interests, and the challenge of China's assertive presence. India's initiatives aim not only to enhance the maritime capabilities of its island neighbors but also to ensure a stable, secure Indian Ocean region, essential for global trade and security against piracy, terrorism, and other maritime threats.

The hydrogen-powered ferry PM launched-Indian Express Explained

Science and technology

Key takeaways:

1. **India's First Hydrogen-Powered Ferry:** Prime Minister Narendra Modi launched India's first indigenously developed hydrogen fuel cell ferry, a significant step towards sustainable maritime transport.
2. **Sustainable and Innovative Design:** The ferry, built by Cochin Shipyard Limited at a cost of Rs 18 crore, is a 24-meter-long catamaran capable of carrying 50 passengers. It features an air-conditioned passenger area and is constructed with high-quality fiberglass reinforced plastic.



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3. **Zero-Emission Technology:** Powered by hydrogen fuel cells, the vessel generates electricity through a chemical reaction between hydrogen and oxygen, offering a zero-emission, noiseless, and efficient alternative to conventional marine propulsion systems.
4. **Advanced Fuel Cell System:** The ferry uses a 50-kW PEM (proton-exchange membrane) fuel cell system supplemented by Lithium-Ion Phosphate batteries, enabling quick adjustments to power demands and making it suitable for maritime applications.
5. **Collaborative Development:** The hydrogen fuel cell system was developed through a collaboration between KPIT Technologies, Pune, and the Council of Scientific and Industrial Research Labs, underlining India's capacity for innovation in green technology.
6. **Harit Nauka Initiative:** This project aligns with the Centre's 'Harit Nauka' initiative, aiming to transition inland vessels to green fuels, with goals set for 50% of inland waterways-based passenger fleets by 2034 and 100% by 2045, marking a strategic move towards environmental sustainability in the maritime sector.

Mains Easy Language:

India's maritime sector has achieved a significant milestone with the launch of its first indigenously developed hydrogen fuel cell ferry by Prime Minister Narendra Modi. This innovative vessel, constructed by Cochin Shipyard Limited, embodies a leap towards sustainable and efficient marine transportation, underlining India's commitment to green energy solutions. The ferry, capable of carrying 50 passengers, features an air-conditioned area and is built from high-quality fiberglass reinforced plastic, mirroring the design standards of metro train coaches. It operates on hydrogen fuel cells, ensuring zero emissions and noise, and is powered by a 50-kW PEM fuel cell system that provides an energy-efficient propulsion mechanism.

This groundbreaking project, developed in collaboration with KPIT Technologies and the Council of Scientific and Industrial Research Labs, showcases India's prowess in adopting advanced green technologies. It aligns with the 'Harit Nauka' initiative, aimed at transitioning India's inland vessels to green fuels, with ambitious targets set for the next two decades. The initiative and the ferry's launch mark India's stride towards environmental sustainability, setting a precedent for future maritime transport solutions globally and domestically.

Cars now more software than hardware: why Apple unplugged EV plans-Indian Express Explained

Science and technology

Key takeaways:

1. **Apple's Project Termination:** Apple has ceased its secretive project, Titan, aimed at developing an electric self-driving car, shifting focus towards other technologies like generative AI and mixed-reality headsets.
2. **Software Over Hardware:** The automotive industry is transitioning towards software-driven vehicles, reducing the emphasis on mechanical engineering and increasing the importance of software in vehicle functionality and consumer appeal.
3. **Apple's Strategic Advantage:** With its expertise in software, evidenced by the success of Apple CarPlay, Apple realizes it can dominate the car software experience without manufacturing a vehicle, leveraging its strength in computing and software integration.
4. **Consumer Preferences Shift:** Apple CarPlay has become a must-have feature for new car buyers, indicating a significant shift in consumer preferences towards vehicles that offer advanced connectivity and digital services.
5. **Challenges for Automakers:** Traditional car manufacturers face challenges in adapting to the software-centric automotive landscape, with software glitches causing delays in new vehicle launches and pushing them to ramp up software development capabilities.
6. **Investment in Software Talent:** Automakers are increasingly investing in software engineering talent, with companies like Honda and Stellantis planning to significantly expand their software programming teams to meet the evolving demands of the automotive industry.

Mains Easy Language:

Apple has discontinued its electric self-driving car project, Titan, amid a strategic pivot towards generative AI and mixed-reality headsets. This decision reflects the automotive industry's shift from hardware-centric to software-driven models, emphasizing the increasing role of software in vehicles. Modern cars, transitioning towards electrification and advanced safety features, now rely more on software integration, making the sector ripe for Apple's expertise in computing and



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software, evidenced by the success of Apple CarPlay. CarPlay's integration has significantly influenced consumer preferences, making software a key differentiator in the automotive market.

The industry's evolution presents challenges for traditional automakers, who are now forced to upgrade their software capabilities to meet consumer demands for enhanced connectivity and digital services. This shift has led to software glitches delaying vehicle launches, prompting automakers to invest heavily in software development talent. Apple's strategic withdrawal from building a physical car to focusing on software solutions like CarPlay underscores the critical importance of software in defining the future landscape of the automotive industry.

READING THE SPIKE-Indian Express Editorial

Economy

Key takeaways:

1. **Upward GDP Revision:** India's GDP growth for the fiscal year 2023-24 has been revised upwards to 7.6% from an earlier estimate of 7.3%, according to the National Statistical Office's second advance estimates.
2. **Sustainability of Tax Contributions:** The discrepancy between GDP growth and GVA (Gross Value Added) growth, particularly evident in the third quarter, suggests that the increased net taxes on products contributing to GDP growth might not be sustainable.
3. **Agricultural Sector Slowdown:** The agricultural sector is expected to grow by just 0.7% in 2023-24, a significant drop from the 4.7% growth in the previous year, indicating a subdued performance.
4. **Industrial and Construction Sector Growth:** The industrial sector, including manufacturing and construction, has shown strong growth, with manufacturing expected to grow at 8.5% and construction at 10.7% this year.
5. **Services Sector Deceleration:** The services sector has seen a mild deceleration in growth compared to the previous year, with key segments like trade, hotels, transport, communication, and financial services growing at a slower pace.
6. **Weak Private Consumption:** Despite the overall healthy economic pace, private consumption continues to disappoint, with growth expected at just 3% for the full year, raising concerns about domestic demand.

Mains Easy Language:

India's economy is set to grow at an impressive rate of 7.6% for the fiscal year 2023-24, outperforming earlier forecasts. This revision upwards from an initial estimate of 7.3% by the National Statistical Office highlights a positive trend, although it raises questions about the sustainability of this growth, especially since it's partly driven by an increase in net taxes on products. While the industrial sector, including manufacturing and construction, showcases robust growth, the agricultural sector is facing a downturn, with growth slowing significantly compared to the previous year. Moreover, the services sector, which encompasses trade, hotels, transport, and financial services, is experiencing a slight deceleration in its growth pace.

Despite the overall optimistic economic outlook, consumer spending remains subdued, with projections indicating only a 3% increase for the year. This indicates lingering concerns over domestic demand. On a brighter note, investment in new projects and business expansions is strong, suggesting confidence in the long-term economic prospects. However, the economy is anticipated to face a slowdown in the final quarter, with growth expected to dip to 5.9%, underscoring the challenges of maintaining momentum amidst varying sectoral performances.

Despite policy backing and funding, care for rare diseases not optimal-The Hindu Science

Science

Key takeaways:

National Policy on Rare Diseases: India introduced its first National Policy on Rare Diseases in March 2021, aiming for a comprehensive approach to manage and treat rare diseases, including efforts to reduce treatment costs and promote indigenous research.

Underutilization of Funds: Despite significant allocations for rare disease treatment, a considerable portion of the funds remains unspent. Data indicates that about 51.3% of the allocated funds have not been utilized, highlighting inefficiencies in resource distribution and usage.



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Need for a National Registry: The policy emphasizes the creation of a national hospital-based registry for rare diseases to gather essential epidemiological data. This registry is crucial for understanding the prevalence of rare diseases in India and optimizing research and funding strategies.

Challenges in Implementation: Despite policy backing, there's a noticeable gap between policy intentions and actual benefits to patients with rare diseases. This gap is partly due to the slow pace of implementing policy measures and the underutilization of allocated funds.

Advocacy for Better Care: Advocacy groups are pushing for improved urgency in treatment and sustainable funding, especially for long-term care and treatment of rare diseases classified as Group 3 conditions by the National Policy.

Innovative Care Models: Proposals for comprehensive care centers aim to provide multi-specialty support for children with rare diseases and respite for primary caregivers. These models seek to create supportive communities and tailor care to individual patient needs.

Mains Easy Language:

On World Rare Diseases Day, attention is drawn to India's strides and stumbling blocks in addressing rare diseases. The landmark National Policy on Rare Diseases, introduced in March 2021, marked a significant step towards a structured approach to managing these conditions, with provisions for reducing treatment costs and enhancing research. However, the reality of implementation paints a mixed picture. A considerable portion of the funds allocated for rare disease treatment remains underutilized, indicating a gap between policy objectives and actual impact on the ground. This underutilization underscores the challenges in effectively channeling resources to the needs of patients, many of whom continue to struggle for access to essential treatments.

The policy also envisages the establishment of a national registry for rare diseases, a crucial step for gathering vital epidemiological data to guide research and funding decisions. Yet, the full potential of such initiatives is still to be realized. Advocacy groups highlight the urgent need for better utilization of funds, improved treatment access, and sustainable support for long-term care, particularly for conditions requiring ongoing management.

Innovative solutions, including the proposal for comprehensive care centers, offer a glimpse of hope. These centers aim to provide holistic support to affected children and respite for their caregivers, fostering supportive communities and enabling personalized care plans. As India continues to navigate the complexities of rare disease management, the synergy between policy, implementation, and community support remains critical for bridging the gap between aspiration and reality, ensuring that all patients receive the care and treatment they desperately need.

Experts suggest ASHA-like cadre for mental healthcare-The Hindu Science

Sociology

Key takeaways:

1. **Repurposing ASHAs for Mental Health:** Experts propose transforming Accredited Social Health Activists (ASHAs) or creating a similar workforce to focus on community mental healthcare in India's southern states, extending support to individuals discharged from psychiatric facilities.
2. **Limitations of Current Mental Health Programs:** The District Mental Health Programme (DMHP) in India is criticized for its heavy focus on medication, lacking in community-based support and psychosocial interventions necessary for comprehensive mental health care.
3. **Community Involvement in Mental Health:** The successful involvement of community stakeholders, including teachers and local leaders, is highlighted as crucial for effective mental health care, with trained community-level workers playing a key role in detection, care, and follow-up.
4. **Training Women Community Workers:** Initiatives like SCARF's 'Manam Inidhu' program demonstrate the effectiveness of training women from self-help groups in mental health principles, showing that community-respected women can significantly improve mental health care delivery.
5. **Shift from Incentive to Salary Model:** The proposal includes transitioning community health workers from an incentive-based model to a salaried position, ensuring they are adequately compensated for their contributions to mental health care.
6. **Focus on Non-Communicable Diseases:** Recognizing the shift in disease burden towards non-communicable diseases in southern India, experts suggest that community health workers, like ASHAs, should now prioritize managing chronic conditions, including mental health, as their main focus.

Mains Easy Language:



| Clear your doubts now.



Experts are advocating for a transformative approach towards community mental healthcare in the south of India, suggesting the repurposing of Accredited Social Health Activists (ASHAs) or the creation of a similar cadre focused on mental health support. This discussion, led by Vikram Patel and R. Thara, emphasizes the need to shift from a medication-centric model to a community-based approach, involving local stakeholders in mental health care. The District Mental Health Programme (DMHP), primarily medication-oriented, lacks comprehensive community engagement and psychosocial interventions, highlighting a significant gap in current mental healthcare practices.

The proposal includes training community-level workers, particularly women, who have shown effectiveness in mental health initiatives like SCARF's 'Manam Inidhu' program. By leveraging their community acceptance and empathy, these workers can play a crucial role in early detection, facilitating care, and delivering psychosocial interventions. The experts suggest moving towards a salaried model for these workers, recognizing the evolving health priorities in India's southern states where the focus is increasingly on non-communicable diseases, including mental health. This approach aims to provide continuous support and care integration for individuals with mental health conditions, ensuring a holistic and inclusive mental healthcare system.

On cross-voting in Rajya Sabha elections-The Hindu text and context

Polity

Key takeaways:

1. **Disqualification for Cross-Voting:** Six Congress MLAs were disqualified from the Himachal Pradesh Legislative Assembly for cross-voting during Rajya Sabha elections, highlighting the issue of party discipline and loyalty.
2. **Open Ballot System:** Rajya Sabha elections employ an open ballot system, as mandated by the 2003 amendment to the Representation of the People Act, 1951. This system was introduced to curb cross-voting by requiring MLAs to show their ballots to their party's authorized agent, enhancing transparency.
3. **Tenth Schedule and Anti-Defection Law:** The Tenth Schedule of the Constitution, introduced in 1985, sets out the anti-defection law, which disqualifies members for defection, including voting contrary to party instructions. However, its applicability to Rajya Sabha elections is limited, as clarified by the Election Commission in 2017.
4. **Supreme Court's Stance:** The Supreme Court has upheld the open ballot system for Rajya Sabha elections to combat corruption. It has also clarified that MLAs voting against their party's stance may not face disqualification under the Tenth Schedule but can be subjected to disciplinary action by their parties.
5. **Challenges in Electoral Integrity:** Recent incidents of cross-voting in Rajya Sabha elections reveal challenges in maintaining electoral integrity and the limitations of current regulations to prevent such practices.
6. **Need for Legal and Constitutional Reforms:** The ongoing issues with cross-voting and the application of the anti-defection law to Rajya Sabha elections underscore the potential need for reforms. These would aim to strike a better balance between electoral transparency, party discipline, and democratic processes.

Mains Easy Language:

The disqualification of six Congress MLAs in Himachal Pradesh for cross-voting in Rajya Sabha elections highlights the complexities surrounding electoral integrity in India. Rajya Sabha elections, as per the Constitution and the Representation of the People Act, 1951, are conducted indirectly by state legislative assembly members through an open ballot system, introduced to curb cross-voting and ensure transparency. Despite this, the Tenth Schedule of the Constitution, or the anti-defection law, meant to prevent defections, does not apply to Rajya Sabha elections according to a clarification by the Election Commission, based on Supreme Court judgments. This legal backdrop led to the MLAs' disqualification not directly for cross-voting but for defying the party whip during a Budget session, showcasing the challenges in applying anti-defection laws to Rajya Sabha elections. The Supreme Court has supported the open ballot to deter corruption but recognized the difficulty in enforcing party loyalty, indicating a need to reassess the balance between electoral transparency and party discipline. These developments underline the ongoing debate on reforming electoral and defection laws to better safeguard democratic processes.

Is NATO membership in the cards for Ukraine?-The Hindu Text and Context

International relations

Key takeaways:



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1. **NATO Membership for Ukraine:** Ukraine's potential membership in NATO is seen as inevitable by the alliance's Secretary-General Jens Stoltenberg, but consensus among NATO member states is still lacking due to the ongoing conflict and geopolitical tensions.
2. **Russian Invasion Trigger:** The possibility of Ukraine joining NATO has been a contentious issue, provoking Russia into military actions, including the annexation of Crimea in 2014 and launching a full-scale war against Ukraine in 2022.
3. **Ukraine's Military Challenge:** Ukraine faces a severe shortage of artillery ammunition, crucial for defending against Russian advances. This shortage has led to increased casualties and strategic setbacks, including the loss of key territories.
4. **U.S. Support and Political Hurdles:** The United States is the largest arms contributor to Ukraine, but a significant aid package has been stalled in Congress due to political opposition, impacting Ukraine's war effort.
5. **EU Financial Support and Disagreements:** The European Union has managed to finance support for Ukraine, overcoming internal disagreements. However, debates continue over how to replenish and manage the funds designated for Ukraine's defense and economic support.
6. **Uncertain Road Ahead:** Ukraine's full NATO membership remains uncertain, with interim measures focusing on formalizing cooperation mechanisms. Geopolitical shifts, including potential changes in U.S. leadership, add to the unpredictability surrounding Ukraine's path to NATO membership and its implications for European security.

Mains Easy Language:

The ongoing conflict in Ukraine and its aspirations for NATO membership underscore the complex geopolitical dynamics at play. NATO's Secretary-General Jens Stoltenberg has indicated Kyiv's eventual membership in the alliance, but consensus among member states remains elusive. The Russian invasion, sparked by NATO's 2008 declaration to include Georgia and Ukraine, highlights Moscow's staunch opposition to the alliance's expansion into former USSR territories. Russia's aggressive stance, including the annexation of Crimea and the full-scale war launched in 2022, underlines the strategic implications of Ukraine's NATO bid, particularly concerning NATO's Article 5 mutual defense provision.

The war's current status reveals Ukraine's critical ammunition shortfall, impacting its ability to repel Russian advances and resulting in significant casualties and territorial losses. The U.S., as Ukraine's largest arms donor, faces internal political challenges in providing financial aid, while the EU grapples with funding mechanisms to support Ukraine's defense and economy.

Looking ahead, Ukraine's path to full NATO membership appears long and fraught with uncertainties, including potential shifts in the U.S. political landscape and ongoing tensions with Russia. NATO's interim measures aim to bolster cooperation with Ukraine, but the geopolitical and military challenges present a complex scenario for Kyiv's aspirations and regional stability.

Should Minimum Support Price be legalised?-The Hindu Editorial

Economy(Agriculture)

Key takeaways:

1. **Justification for Protests:** The farmer protests, driven by demands for a legal MSP guarantee and withdrawal from the WTO, are seen as a response to the long-standing agricultural crisis exacerbated by economic reforms that failed to transition the rural workforce to the industrial sector.
2. **Challenges of Legalizing MSP:** Implementing a legalized MSP faces practical challenges, such as the inability to record transactions outside formal market systems, making enforcement difficult. Moreover, the government's capacity to procure all 23 crops at MSP is questioned.
3. **Impact on National Interest:** Advocates argue that legalizing MSP aligns with the government's digital and formal market ambitions, potentially stabilizing prices with minimal procurement interventions.
4. **Expansion of Procurement System:** Successful expansion of procurement systems in states like Madhya Pradesh and Chhattisgarh demonstrates the feasibility of extending MSP to more regions and crops, though the strategic wisdom of large-scale government procurement remains debated.
5. **Balancing Farmer and Consumer Interests:** The discussion also touches on the need for policies that ensure fair prices for farmers while controlling food inflation for consumers, suggesting a tailored approach based on individual state needs and market dynamics.



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6. **Alternative Solutions:** The role of cooperatives and farmer-producer organizations (FPOs) is highlighted as a potential alternative to help farmers realize better prices, though challenges like corruption and the need for supportive infrastructure and legal frameworks are noted.

Mains Easy Language:

The demand for legalizing the Minimum Support Price (MSP) in India has led to farmer protests, underscoring a deep-seated agricultural crisis. Critics argue that while the idea aims to secure fair prices for farmers and ensure food security, its implementation faces significant hurdles. The government's procurement system, currently focused on rice and wheat due to storage and Public Distribution System (PDS) requirements, may not be scalable for all 23 crops under MSP. Moreover, the practicality of enforcing a legal MSP in informal markets, where a majority of transactions occur, is questioned. Advocates believe that minimal government procurement could stabilize prices and benefit farmers without necessitating large-scale purchases. The discussion also explores the potential of cooperatives and farmer-producer organizations (FPOs) as alternatives for achieving better prices for farmers. However, the need for supportive infrastructure, legal frameworks, and a balanced approach that considers both farmer welfare and consumer interests is emphasized.

2nd March 2024

A stay can't be time-bound: What SC ruled, why it matters-Indian Express Explained

Polity

Key takeaways:

1. **Judicial Discretion on Timelines:** The Supreme Court emphasized that courts should not impose strict timelines for case adjudications, highlighting judicial discretion in managing caseloads according to court-specific circumstances.
2. **Overturing Automatic Vacation of Stay Orders:** The 2024 decision reversed the 2018 ruling that required automatic vacation of stay orders after six months, addressing concerns over potential arbitrary outcomes and injustices.
3. **Necessity of Hearing All Parties:** The ruling stressed that decisions on stay orders should only be made after hearing all involved parties, ensuring comprehensive judicial consideration.
4. **Legislative Domain for Case Timelines:** It reaffirmed that setting timelines for case resolutions is a legislative authority, respecting the separation of powers between the judiciary and legislature.
5. **Addressing Trial Delays and Judicial Process:** The decision aims to balance timely justice with due process, adjusting the approach to manage court backlogs and protect the rights of litigants.
6. **Judicial System's Adaptability:** The ruling reflects the judiciary's ability to revise and adapt legal processes in response to the challenges and consequences of prior approaches, balancing efficiency, fairness, and litigant rights.

Mains Easy Language:

The Supreme Court's recent ruling revisiting and overturning its 2018 decision on the automatic vacation of stay orders after six months marks a significant shift in judicial procedure related to trial delays. This 2024 decision emphasizes the judiciary's discretion in managing its caseload without imposing strict, uniform timelines for the adjudication of cases. By highlighting the necessity of hearing all parties involved before vacating stay orders, the Court ensures that decisions are made with comprehensive judicial consideration, safeguarding the rights and arguments of all parties. This approach addresses the practical and legal concerns that arose from the previous ruling, such as increased court backlogs and potential injustices from automatically vacated stay orders. The ruling also clarifies the separation of powers, asserting that it is the legislature's role to set specific timelines for case resolutions, not the judiciary's. This decision demonstrates the judiciary's adaptability and commitment to balancing the need for timely justice with the imperative of due process and careful consideration, reflecting an ongoing dialogue within the legal system about optimizing efficiency, fairness, and the protection of litigant rights.

Growth, based on GDP, GVA-Indian Express Explained

Economy

Key takeaways:

1. **Surpassing Growth Expectations:** India's GDP growth rate reached an impressive 8.4% in Q3 of the 2023-24 fiscal year, exceeding estimates by the Reserve Bank of India and economists, marking the highest growth in six quarters.



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2. **Sectoral Contributions to Growth:** While most sectors, including manufacturing, mining, construction, and services, showed robust growth, the agriculture sector experienced a contraction, highlighting the uneven nature of economic expansion.
3. **Significant GDP and GVA Divergence:** A notable divergence between GDP and GVA growth rates, with a 190 basis point gap in Q3, was observed due to increased net taxes and reduced subsidies, raising questions about the potential overstatement of GDP figures.
4. **Debate Over GDP Calculation:** The method of calculating GDP—adding product taxes to and subtracting subsidies from GVA—coupled with a lower-than-usual GDP deflator, has led to discussions about the accuracy of GDP as an economic performance indicator.
5. **Investment-Driven Growth:** The GDP surge was supported by a rise in investments, particularly in real estate and infrastructure, indicating a revival in the capital expenditure cycle despite a slowdown in private consumption expenditure.
6. **Future Growth Concerns:** Despite the positive growth trajectory, concerns about the sustainability of growth persist, especially regarding the subdued private consumption growth and the impact of slowing profit growth and rising input costs on future economic momentum.

Mains Easy Language:

India's GDP growth rate for Q3 of the 2023-24 fiscal year exceeded expectations, reaching an eight-quarter high of 8.4%, outpacing estimates from the Reserve Bank of India and various economists. This growth was primarily driven by robust performances across several sectors, including manufacturing, mining, construction, and services, despite a contraction in agriculture. A significant divergence between GDP and GVA growth rates, marked by a 190 basis point gap, highlighted due to increased net taxes and reduced subsidies, has sparked a debate regarding the potential overstatement of GDP figures. The methodology for calculating GDP—adding product taxes and subtracting subsidies from GVA—combined with a lower-than-usual GDP deflator, raises questions about the accuracy of GDP as a reflection of economic performance. The growth surge is underpinned by increased investments, particularly in real estate and infrastructure, indicating a revival in the capital expenditure cycle. However, concerns about the sustainability of this growth remain, particularly due to subdued private consumption and the potential impact of slowing profit growth and rising input costs on future economic momentum.

Development of Agaléga and India's vision for its maritime neighbourhood-Indian Express Explained

International relations

Key takeaways:

1. **Strategic Development:** The inauguration of infrastructure on North Agaléga Island highlights a key partnership between India and Mauritius, focusing on socio-economic growth and national security in the Indian Ocean.
2. **India-Mauritius Relationship:** Mauritius' selection of India as a development partner reflects deep historical and strategic ties, emphasizing mutual trust and a shared regional vision.
3. **Benefits for Agaléga:** The development improves Agaléga's connectivity and sustainability, enhances local well-being, and strengthens government and security presence, with potential economic and tourism development.
4. **SAGAR Initiative Alignment:** This project reaffirms India's commitment to its Security and Growth for All in the Region initiative, aiming to assist maritime nations in building security and development capacities.
5. **Sovereignty and Law Respect:** India's approach to the Agaléga project demonstrates its respect for sovereignty and international law, avoiding economic colonization and unilateral security impositions.
6. **Preferred Development Partner:** The project showcases India as a reliable, effective partner in the Indian Ocean, supporting maritime neighbors' security and development while respecting their sovereignty.

Mains Easy Language:

The inauguration of an airstrip and the St James Jetty on North Agaléga Island by Prime Ministers Narendra Modi and Pravind Jugnauth marks a significant development in the Indian Ocean, aligning with both Mauritius' socio-economic and national security interests and India's maritime vision. Agaléga's strategic location, coupled with its historical underdevelopment, presented both a vulnerability and an opportunity for Mauritius, leading to the choice of India as a development partner given the longstanding trust and friendship between the two nations.

The development of Agaléga is expected to bring substantial benefits to Mauritius, including reduced travel time to the mainland, job creation, and enhanced government presence, which will improve the local population's well-being and allow better monitoring of the Exclusive Economic Zone (EEZ). For India, this project reinforces its commitment to the vision of Security and Growth for All in the Region (SAGAR) and its role as a trusted development and security partner in



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the Indian Ocean Region. India's assistance in enhancing Mauritius' maritime security, upon request, will be in keeping with mutual respect for sovereignty and international law, emphasizing India's approach to cooperation without imposing its security apparatus or engaging in economic colonization. This development underlines the peaceful coexistence and humane methods India employs in aiding smaller neighbors, ensuring respect for Mauritius' sovereignty and sensitivities.

BETTING BIG-Indian Express Editorial

Science and technology

Key takeaways:

1. **Government's Ambitious Semiconductor Push:** The Indian government has approved three semiconductor projects worth Rs 1.26 lakh crore, including India's first semiconductor fabrication plant in Dholera, Gujarat, marking a significant step towards developing a domestic semiconductor ecosystem.
2. **Tata Group's Major Involvement:** The projects include a major initiative by the Tata Group in collaboration with Taiwan's Powerchip Semiconductor Manufacturing Corporation (PSMC) for a fabrication plant estimated at Rs 91,000 crore, alongside an assembly plant in Assam and another project by CGPower in Gujarat.
3. **Comprehensive Incentive Scheme:** Building on a Rs 76,000 crore incentive scheme announced in December 2021, the government is offering substantial fiscal support to cover various parts of the semiconductor supply chain, aiming to attract both domestic and international investments.
4. **Global Competition and Government Support:** Recognizing the fierce global competition in semiconductor manufacturing, India's initiative seeks to position itself alongside leading countries by providing critical government support to facilitate investments in this high-stakes industry.
5. **Focus on Entire Ecosystem:** India's strategy encompasses all aspects of the semiconductor ecosystem, from packaging units and assembly/testing projects to full-scale foundries, with plans for an R&D lab and modernization of the Semiconductor Laboratory, signaling a holistic approach to industry development.
6. **Aiming for Self-reliance and Supply Chain Security:** Through these initiatives, the government aims not only to meet domestic demand but also to create secure and resilient supply chains, reducing dependence on traditional semiconductor powerhouses and mitigating risks associated with geopolitical uncertainties.

Mains Easy Language:

The Indian government has taken a significant leap towards establishing a semiconductor industry within the country by approving three major semiconductor projects with a total investment of Rs 1.26 lakh crore. This initiative includes India's first semiconductor fabrication plant in Dholera, Gujarat, a collaborative effort between the Tata Group and Taiwan's Powerchip Semiconductor Manufacturing Corporation (PSMC), estimated at Rs 91,000 crore. Additionally, a Tata Group assembly plant in Assam and a CGPower project in Sanand, Gujarat, have been approved, further solidifying India's commitment to developing a semiconductor ecosystem.

This move builds on the government's Rs 76,000 crore incentive scheme announced in December 2021, aimed at supporting the entire semiconductor supply chain. The scheme offers fiscal incentives from both the central and state governments to attract investments. For example, the Micron project in Gujarat benefits significantly from this support, highlighting the government's role in facilitating such large-scale technological ventures.

India's strategy focuses on enhancing all segments of the semiconductor ecosystem, including packaging units, assembly and testing projects, and full-scale foundries. The establishment of an R&D lab and the modernization of the Semiconductor Laboratory with an investment of Rs 10,000 crore are steps towards creating a robust domestic semiconductor industry. This effort is not only aimed at meeting domestic demand but also at ensuring secure and resilient supply chains, reducing reliance on major manufacturing hubs like South Korea, Taiwan, and China. The government's initiative underscores the need for a stable policy environment to attract and sustain investments in this critical sector.

RISOTTO, LIKE SILPHIUM-Indian Express Editorial

Environment

Key takeaways:

1. **Historical Precedent of Crop Extinction:** The extinction of Silphium in ancient times serves as a cautionary tale, illustrating the potential for significant agricultural and culinary loss due to environmental factors and overharvesting.



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2. **Climate Change Threatening Modern Crops:** Key ingredients like arborio and carnaroli rice in Italy, crucial for making risotto, along with cocoa in West Africa and coffee globally, face existential threats from climate change, including erratic weather patterns and rising temperatures.
3. **Global Impact on Food and Culture:** The potential loss of these crops not only threatens food security but also cultural heritage, as iconic dishes and beverages integral to national identities may become difficult or impossible to produce.
4. **Agriculture's Dual Role:** The situation highlights the paradox of agriculture contributing significantly to climate change while being adversely affected by it, necessitating a reevaluation of farming practices and sustainability measures.
5. **Innovative Solutions for Crop Adaptation:** Efforts to adapt and save endangered crops are underway, including advanced techniques like gene editing with CRISPR, aiming to ensure these vital foods can survive in changing climatic conditions and continue to be enjoyed by future generations.

Mains Easy Language:

The historical extinction of Silphium, a highly valued herb in ancient Roman cuisine, serves as a stark reminder of the impacts of overharvesting and possibly environmental changes. Today, climate change poses a similar threat to modern agriculture, potentially leading to the loss of unique crops that are integral to cultural identities and diets worldwide. Italy's Po valley, known for its production of rice varieties essential for making risotto, faces challenges from climate change, including erratic rainfall and rising temperatures, threatening the cultivation of arborio and carnaroli rice. Similarly, the production of cocoa in West Africa and coffee globally is at risk due to changing climate conditions, highlighting the broader impact on global food supply chains.

The irony of agriculture's significant role in contributing to climate change, while simultaneously being vulnerable to its effects, underscores the urgency for innovative solutions. Efforts such as gene editing with CRISPR technology are being explored to adapt these endangered crops to increasingly adverse conditions. These measures aim to preserve the culinary heritage and ensure the availability of cherished foods like risotto and coffee for future generations, highlighting the critical intersection of food security, cultural heritage, and climate change adaptation.

Decoding the script-The Hindu Editorial

Science and technology

Key takeaways:

1. **Reference Genome Creation:** The Genome India Project has successfully sequenced 10,000 Indian genomes, establishing a reference for the Indian human genome that acts like a detailed genetic map, enhancing our understanding of genetic diversity within the country.
2. **Foundation for Disease Research:** This genetic mapping paves the way for significant advancements in disease prevention and treatment, offering insights into genetic variants prevalent in the Indian population that influence health outcomes.
3. **Highlight on Genetic Variants:** The discovery of specific genetic variants, such as the MYBPC3 protein variant linked to heart failure, underscores the importance of this project in identifying risk factors for diseases more common in Indians.
4. **Complexity of Genetic Diseases:** The project underscores the nuanced nature of genetic diseases, which are often polygenic and not easily addressed through simple genetic mapping, challenging the initial optimism of genome sequencing projects.
5. **Democratic Approach to Genetic Research:** The initiative calls for a democratic approach to sharing genetic findings, emphasizing the need for collaboration across various fields including science, technology, ethics, and social science, to fully leverage the potential of genetic research.
6. **Expansion and Inclusivity:** Future directions for the Genome India Project involve expanding beyond the initial 10,000 genomes and ensuring that the research and its benefits are accessible and relevant to a broader segment of India's diverse population, aiming for advancements in personalized medicine and healthcare.

Mains Easy Language:

The Genome India Project, an initiative by the Department of Biotechnology, has achieved a significant milestone by sequencing 10,000 Indian genomes, creating a foundational reference for the Indian human genome. This project, reminiscent of the efforts of the Human Genome Project, is a step towards mapping India's vast genetic diversity, offering



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insights into genetic variants prevalent among the Indian population, such as the MYBPC3 protein variant associated with heart disease. Despite the complexity of genetic diseases, which are often influenced by multiple genes, this endeavor opens new avenues for targeted disease prevention and treatment.

However, the project acknowledges the nuanced reality that most diseases are polygenic and that treatments, if available, may be costly. Moving forward, it emphasizes the importance of a democratic approach in sharing research findings, advocating for collaborations across various fields, including technology, ethics, and social sciences. This inclusive strategy is vital for advancing personalized medicine and healthcare, tailored to the unique genetic makeup of India's diverse population. The Genome India Project thus represents a significant leap forward in understanding and addressing the healthcare needs of the Indian populace, aiming to expand its research scope and make its benefits widely accessible.

India's burgeoning death penalty crisis-The Hindu editorial

Polity

Key takeaways:

1. **Rising Death Row Population:** India has witnessed a significant increase in its death row population, reaching the highest number since 2004, with 561 prisoners on death row at the end of 2023.
2. **High Rate of Supreme Court Acquittals:** An unprecedented trend in 2023 saw the Supreme Court of India acquitting nearly 55% of the death row prisoners it heard, indicating possible flaws in the lower courts' handling and adjudication of death penalty cases.
3. **Failed Sentencing Reform Attempts:** Despite attempts to reform death penalty sentencing, notably through the Supreme Court's directions in *Manoj vs The State Of Madhya Pradesh* in May 2022, these reforms have not been effectively implemented by trial courts. A significant majority of death sentences in 2023 were imposed without the mandated information on the accused.
4. **Reluctance to Confirm Death Sentences:** Both the Supreme Court and High Courts have shown a reluctance to confirm death sentences, with the Supreme Court not confirming any death sentences in 2023 and High Courts confirming only one.
5. **Systemic Failures:** The high rate of acquittals points to systemic issues, including fabricated evidence, manipulated reports, and questionable police procedures. These problems suggest deep flaws in the administration of the death penalty.
6. **Psychological Impact on Prisoners:** Death row prisoners face severe psychological stress and dehumanizing conditions, exacerbated by the lengthy and uncertain judicial process. The death row experience has long-lasting psychological ramifications, even for those eventually acquitted or commuted.
7. **Ineffective Supreme Court Initiatives:** The Supreme Court's initiative to convene a Constitution Bench to address death penalty sentencing reform has been questioned for its effectiveness and focus, as it does not address the broader systemic issues affecting the criminal justice process from arrest to incarceration.
8. **Call for Reconsideration of Death Penalty Administration:** The growing number of acquittals and the systemic issues highlighted by these cases underscore the need for a comprehensive review of how the death penalty is administered in India. There is a pressing need to reconsider the use of the death penalty and ensure reforms that address the entire spectrum of the criminal process.

Mains Easy Language:

India's death penalty situation is increasingly dire, with the death row population reaching a historic high of 561 by the end of 2023. The Supreme Court's significant acquittal rate of nearly 55% in death penalty cases that year underscores deep systemic failures across India's judicial process. Despite the Supreme Court's efforts to initiate sentencing reforms, these have not effectively trickled down to trial courts, leading to a continued imposition of death sentences without due consideration of mandated guidelines. The high courts' reluctance to confirm death sentences further reflects the judiciary's growing recognition of these systemic issues. Moreover, the psychological toll on death row inmates, exacerbated by prolonged and uncertain legal battles, highlights the inhuman conditions faced by prisoners. The Supreme Court's attempt to address these issues through a Constitution Bench focuses narrowly on sentencing reform, overlooking the broader and more critical aspects of the criminal justice system's failings. This situation calls for a comprehensive overhaul of the death penalty's administration, emphasizing the need for reforms that extend beyond sentencing to address the fundamental injustices within India's criminal justice process.

3rd March, 2024



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A case for life-saving modern contraception- The Hindu Science

Science Tech

Key Takeaways-

- Overview: The article focuses on high-risk pregnancies in India, emphasizing the need for better family planning and contraceptive use to manage these risks effectively.
- High-Risk Pregnancies in India: India faces a significant challenge with 49.1% of pregnancies classified as high-risk.
- The primary risk factor is short birth spacing, with less than 18 months between pregnancies, accounting for 31% of high-risk cases.
- Previous adverse pregnancy outcomes also contribute significantly to the risk, representing 19% of the cases.
- The prevalence of high-risk pregnancies is higher among women with limited or no education.
- Contraception and Family Planning: The article highlights a gap in the healthcare system regarding the use of modern contraception, suggesting an underutilization in India.
- It advocates for a gap of two to three years between pregnancies to allow women sufficient recovery time, enhancing their health and the well-being of their children.
- The Indian family planning program offers various contraceptive choices, yet the most common methods remain female sterilization and male condoms, which may not always be the most effective or empowering options.
- Recommendations for Improvement: Enhancing awareness and providing evidence-based information on contraception can help individuals make informed choices.
- Medical providers play a crucial role in counseling and communicating accurate information to empower women in their reproductive decisions.
- Emphasizing the importance of women's autonomy and empowerment in family planning can lead to broader societal benefits and contribute to women's overall empowerment.

Easy Explanation:

The article discusses the critical issue of high-risk pregnancies in India, which affects nearly half of all pregnancies. These risks can be reduced significantly with better spacing between children, allowing mothers to recover physically and mentally. Unfortunately, many women in India do not use effective contraception, leading to closely spaced pregnancies that can endanger both the mother and the child.

The government offers a variety of birth control options, but the most commonly used methods don't always provide the best outcomes. There's a need for better education and communication about the range of available contraceptives, helping women make choices that suit their health and lifestyle.

Medical professionals have a key role in this process. They need to provide clear, accurate information about contraception, addressing any misconceptions or fears patients may have. When women are fully informed and supported in their reproductive choices, they gain greater control over their lives and health, embodying the true essence of women's empowerment in society.

Managing our resources with Artificial Intelligence- the Hindu Science

-Science Tech

Key Takeaways:

1. AI's Dual Perspectives: AI is seen as both a problem solver and a source of concern.
 - a. It has contributed positively to healthcare, drug development, and weather forecasting.
 - b. Conversely, there's apprehension about job displacement and privacy invasion due to AI.
2. AI and India's Development: AI is pivotal in addressing large-scale issues that require extensive data analysis in India.
 - a. One critical area is water resource management, facing disparities like floods in some regions and droughts in others.
3. River Linking and AI's Role: River linking has been considered to balance water distribution across various regions.
 - a. AI tools are proposed to analyze and predict the outcomes of such massive infrastructural changes.
4. Case Study: Pennar-Palar-Cauvery Link Canal:



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- a. AI modeling by IIT-ISM Dhanbad and NITs in Tripura and Goa evaluates the Pennar-Palar-Cauvery link canal's impact.
 - b. The canal aims to connect flood-prone and deficit rivers, benefiting multiple districts.
5. AI in Agricultural Water Management:
- a. A multi-objective AI model seeks to optimize farm returns and conserve water resources.
 - b. The model uses historical data on water levels, crop patterns, and economic factors to suggest optimal agricultural practices.
6. The Potential of AI in Future Planning:
- a. Enhanced data collection can refine AI models, enabling more precise predictions and solutions.
 - b. Such AI applications can guide adjustments in crop choices to maximize benefits and sustain resources.

Easy Explanation:

The article explores how Artificial Intelligence (AI) is influencing various sectors in India, highlighting both its advantages and the concerns it raises. While AI has proven beneficial in healthcare, drug discovery, and weather forecasting, there's worry about its potential to replace human jobs and compromise privacy.

In the context of India's growing developmental needs, particularly in water resource management, AI presents a solution to analyze and address challenges like unequal water distribution across regions. For instance, AI's predictive capabilities are being harnessed to assess the feasibility and impact of linking India's rivers, a project aimed at transferring water from flood-prone areas to drought-affected ones.

A specific study at the IIT-ISM Dhanbad and NITs in Tripura and Goa uses AI to model the benefits of the Pennar-Palar-Cauvery link canal, which is expected to support agriculture across several districts. By considering various factors like water levels, crop patterns, and economic data, the AI model proposes ways to optimize farm output and water usage. Ultimately, the article suggests that AI, with more refined data, can offer strategic guidance for managing India's water resources and agricultural planning, ensuring both sustainability and growth.

What will Gaganyaan change for India?- The Hindu FAQ

-Science Tech

Key Takeaways:

1. Gaganyaan Mission Overview: Gaganyaan is ISRO's mission to send Indian astronauts to low-Earth orbit.
 - a. It's a demonstration mission, testing technologies for human spaceflight.
 - b. Planned first crewed flight is in 2025, contingent on successful test flights.
2. Future Space Ambitions: Beyond Gaganyaan, India aims to establish a space station by 2035 and land on the moon by 2040.
 - a. The mission is part of broader objectives, including joint lunar missions and sample return endeavors.
3. Institutional Framework: New Space India Ltd. (NSIL) and IN-SPACe are formed to share ISRO's spaceflight and services responsibilities.
4. The Human Space Flight Centre (HSFC) coordinates Gaganyaan activities.
5. Gaganyaan Components:
 - a. The mission includes the Launch Vehicle Mark-3 (LVM-3) and an 8.2-tonne orbital module.
 - b. The crew module within the orbital module can house three astronauts and includes various safety and life-support systems.
6. Crew and Training:
 - a. The crew comprises Indian Air Force personnel with advanced training in Russia.
 - b. 'Vyommitra,' a gynoid, will accompany the astronauts to monitor conditions and conduct tasks.
7. Mission Preparation:
 - a. ISRO has already conducted experiments (SRE and CARE) to test critical components for the mission.
 - b. Despite challenges in sourcing certain technologies, ISRO developed necessary systems like the ECLSS internally.
8. Mission's Significance:
 - a. Gaganyaan signifies India's step towards self-reliance in human space exploration and aligns with global space competition.



| Clear your doubts now.



- b. It will establish India's capability to conduct manned space missions, reducing dependency on foreign entities.

Easy Explanation:

Gaganyaan is like India's grand space adventure, planned by ISRO, where Indian astronauts will travel to space, marking a historic moment around 2025. Think of it as India's giant leap, similar to when the USA sent astronauts to the moon, but in this case, our astronauts will orbit the Earth.

Here's a simpler breakdown of what's happening:

Gaganyaan Mission: This is India's special project to send our own astronauts into space. Until now, India has sent satellites and missions to the Moon and Mars, but sending humans is a whole new ball game. It's a bit like moving from making unmanned drones to piloting a passenger plane.

What's Planned: If everything goes as planned, after a couple of important test flights, we'll see Indian astronauts floating in space by 2025. They'll be in a spacecraft made by India, launched by an Indian rocket.

Looking Ahead: Gaganyaan isn't just a one-off trip. It's the stepping stone for even bigger dreams like having our own space station and sending Indians to the Moon. Imagine having a 'house' in space where Indians can stay and do important research!

The Team and Tools: To make this happen, ISRO has created a special rocket (LVM-3) and a cozy space home (orbital module) for the astronauts. They've also selected brave Indian Air Force pilots to be the first guests in this space home, and they've got a robot pal named 'Vyommitra' to help them out.

Preparation: Before the astronauts take off, ISRO is doing lots of tests to make sure everything is safe and sound. They've already practiced with similar missions to check that their spacecraft can safely come back to Earth.

Why It Matters: By doing this, India shows the world that we're not just passengers but drivers in the space race. It's about being independent and having the know-how to explore space on our own terms. Plus, it's about inspiring every Indian to dream big and aim for the stars.

4th March 2024

Why Thailand slammed India's farm subsidies at the WTO-Indian Express Explained

-Economy

Key takeaways:

Thailand's Criticism: Thailand criticized India's Public Stockholding (PSH) program for rice, arguing it distorts global food prices and negatively impacts the food security of other nations due to its "highly subsidized" nature.

Cairns Group's Role: Thailand, as a member of the Cairns Group—a coalition advocating for agricultural trade liberalization—has been vocal in questioning India's farm support practices at the WTO, claiming they harm other exporters by distorting the global market.

India's Subsidy Breach: India exceeded the WTO's 'de minimis' subsidy limit for rice, with subsidies reported at 13.7% of its rice production value, surpassing the allowed 10% for developing countries.

Dispute Over MSP Scheme: The Cairns Group is challenging India's Minimum Support Price (MSP) scheme, which ensures fixed prices for farmers for certain crops, alleging it contributes to trade distortion.

India's Counterarguments: India argues that the WTO's method for calculating subsidies, based on outdated 1986-88 prices, overestimates its subsidy levels. India is seeking reforms in this calculation method and a permanent solution for public stockholding to support its farmers more effectively.

Global Trade vs. National Policies: The dispute highlights the tension between national agricultural policies aimed at supporting domestic farmers and the rules of global trade that seek to maintain fair and competitive market practices.

Seeking Balance: The ongoing debate underscores the need for a balance between providing necessary support to domestic agriculture and adhering to international trade norms to ensure a level playing field in the global market.

Mains easy explanation:

Thailand criticized India's agricultural subsidies at the WTO, arguing they distort global food prices and affect other countries' food security. Thailand, as part of the Cairns Group, is concerned that India's Public Stockholding (PSH) program for rice is overly subsidized, making it hard for other nations to compete in the global rice market. India exceeded the WTO's subsidy limit, contributing to the friction. The group urges India to adjust its Minimum Support Price (MSP) scheme, which guarantees prices for farmers, suggesting it distorts trade. India counters by highlighting the outdated





method used by the WTO to calculate subsidies and is pushing for a permanent solution to support its farmers more flexibly. This disagreement showcases the tension between national agricultural policies and global trade norms, highlighting the need for a balance between supporting domestic agriculture and ensuring fair international trade practices.

GREY ZONE WARFARE-Indian Express Explained

-Internal security

Key takeaways:

1. **Ambiguous Nature:** Grey zone warfare operates in the ambiguous space between peace and open conflict, utilizing tactics that are not clearly acts of war but are aggressive and coercive, making it difficult for nations to respond appropriately without escalating into full-scale conflict.
2. **Diverse Tactics:** It encompasses a wide range of activities including cyber attacks, misinformation campaigns, economic pressure (sanctions, debt traps), covert military operations, and other non-traditional means of exerting influence or achieving strategic goals without direct military confrontation.
3. **Strategic Advantages:** This form of warfare allows nations to pursue their objectives and exert influence over others with reduced risk of international condemnation or war, leveraging deniability and the difficulty of attributing actions to specific actors.
4. **Global Security Challenges:** Grey zone warfare poses significant challenges to global security and stability, blurring the lines of international norms and making it harder for the international community to respond effectively to threats or acts of coercion.
5. **Response and Adaptation:** The rise of grey zone tactics requires nations and international organizations to adapt their strategies for deterrence, defense, and diplomacy, necessitating innovative approaches to security, intelligence, and international law to effectively address the subtleties of modern conflicts.

Mains easy explanation:

Grey zone warfare is a modern strategy where countries use subtle, indirect tactics to challenge or undermine their rivals without engaging in open warfare. This approach includes a range of actions like cyber attacks to disrupt critical infrastructure, spreading false information to influence public opinion or political outcomes, economic measures such as sanctions to weaken an opponent's economy, and covert military operations that stop short of outright aggression. It's akin to a shadow conflict, where the lines between peace and war are blurred, and the actions are designed to achieve strategic objectives while avoiding the escalation into full-scale war.

This form of warfare is particularly appealing because it allows countries to push their agendas and exert pressure without the international repercussions that come with traditional warfare. It's a complex game of strategy and influence, where countries vie for power and position on the global stage through means that are often hidden from the public eye. The challenge with grey zone warfare lies in its ambiguity; it makes it difficult for the targeted nations to respond effectively without escalating the situation, and it complicates international efforts to maintain peace and stability. This ambiguity also makes it hard to attribute actions to specific countries, which can lead to uncertainty and tension in international relations.

For White Revolution 2.0-Indian Express Explained

-Economy

Key takeaways:

White Revolution 2.0 in India emphasizes the need to shift from increasing procurement prices to reducing production costs at the farm level, as milk emerges as the top food expenditure item across both rural and urban India. This focus on cost reduction is critical to sustaining consumer demand and ensuring farmer income in the face of rising milk prices and feed costs. Key strategies for achieving this include:

Genetic Improvement and New Breeding Technologies: Boosting milk yield per animal through genetic improvement and the use of sex-sorted semen to increase the proportion of female calves, thereby enhancing future milk production capacity.

Advanced Reproductive Technologies: Implementing embryo transfer (ET) and in vitro fertilization (IVF) technologies to exploit the genetic potential of high-yielding cows and produce more calves from elite animals, significantly increasing the efficiency of milk production.

Farmer-Level Adoption: Promoting the adoption of these advanced breeding technologies among farmers, as demonstrated by initiatives like Amul's Bovine Breeding Centre, which provides superior semen and embryos to improve the genetic quality of farmers' herds.



| Clear your doubts now.



Focus on Animal Nutrition: Reducing feeding costs by encouraging the cultivation of high-yielding, protein-rich green fodder and introducing Total Mixed Ration (TMR) plants to provide a balanced diet to cattle at a lower cost, thereby decreasing reliance on expensive compound cattle feed.

Sustainability and Efficiency: The overarching goal of White Revolution 2.0 is to make dairy farming more sustainable and efficient by lowering the cost of milk production at the farm gate rather than relying on increasing procurement prices, which can lead to inflationary pressures and demand destruction.

These key takeaways outline a comprehensive approach to enhancing the competitiveness and sustainability of India's dairy sector in the face of global challenges and domestic demands.

Mains easy explanation:

White Revolution 2.0 represents a strategic shift in India's dairy industry, focusing on reducing milk production costs at the farm level rather than increasing procurement prices. This initiative responds to the growing consumer expenditure on milk and the challenges of rising milk prices and feed costs. By leveraging advanced breeding technologies and genetic improvements, the strategy aims to increase milk yield per animal and ensure a higher future milk production capacity through the use of sex-sorted semen and cutting-edge reproductive technologies like embryo transfer (ET) and in vitro fertilization (IVF).

The initiative encourages the adoption of these technologies among farmers, supported by efforts such as Amul's Bovine Breeding Centre, which provides superior semen and embryos to improve the genetic quality of herds. Additionally, it focuses on enhancing nutritional efficiency through the cultivation of high-yielding, protein-rich green fodder and the introduction of Total Mixed Ration (TMR) plants, aimed at reducing feeding costs.

White Revolution 2.0 is designed to make dairy farming more sustainable and efficient, addressing the challenges of global competition and domestic demand by keeping milk affordable for consumers while ensuring profitable incomes for farmers. This comprehensive strategy underscores the importance of technological innovation and efficiency in securing the future of India's dairy sector.

Why Obesity, undernutrition high in India: what a Lancet study says-Indian Express Explained

-Sociology

Key takeaways:

1. **Growing Double Burden:** India faces a rising challenge with both obesity and undernutrition, affecting adults and children over the past 32 years.
2. **Causes Identified:** Limited access to nutritious, affordable food and increased consumption of unhealthy, processed foods are major contributors.
3. **Obesity Trends:** There's a notable increase in obesity among Indian women and men, with urban areas showing higher rates compared to rural regions.
4. **Undernutrition Persistence:** Despite obesity's rise, undernutrition remains a significant issue, especially in rural and economically disadvantaged areas.
5. **Socio-economic Factors:** Unhealthy food options being cheaper and more accessible than nutritious alternatives contribute to obesity across all income levels.
6. **Health Implications:** Obesity raises the risk of chronic diseases like diabetes and hypertension, while undernutrition leads to compromised health and greater susceptibility to non-communicable diseases.
7. **Need for Action:** The situation underscores the importance of public health strategies focused on improving access to nutritious food and promoting healthy lifestyle choices to address both obesity and undernutrition.

Mains Easy Explanation:

A Lancet study reveals India's growing issue with both obesity and undernutrition, identifying a "double burden" of malnutrition that has been escalating over the past 32 years. This trend is attributed to poor access to nutritious food and an increase in the consumption of unhealthy, processed foods. The World Health Organization (WHO) uses body mass index (BMI) to define obesity, and the study notes a significant rise in obesity among Indian adults and children, alongside persisting rates of undernutrition, particularly in rural and economically disadvantaged areas.

Socio-economic factors contribute to the obesity surge, with unhealthy food options being more affordable than nutritious alternatives, affecting individuals across all income levels. However, obesity rates are higher in urban areas compared to rural ones. The health implications of this double burden are severe, with obesity increasing the risk of chronic diseases and undernutrition leading to compromised health and greater susceptibility to non-communicable diseases. This situation highlights the need for targeted public health interventions to combat both obesity and undernutrition in India.



| Clear your doubts now.



Going places by train-Indian Express Editorial

-Economy

Key takeaways:

1. **Economic Growth:** Railway infrastructure development in the Bangladesh, Bhutan, India, and Nepal (BBIN) region is key to stimulating economic growth through improved transport connectivity.
2. **Reduced Costs and Times:** Enhancing the railway system promises to significantly reduce transportation costs and transit times, offering substantial economic and environmental benefits.
3. **Regional Connectivity:** Key initiatives focus on rerouting freight trains through Bangladesh, providing landlocked countries access to ports, and creating a seamless rail network, fostering regional integration.
4. **Bilateral Commitments:** The projects are supported by strong bilateral commitments and shared infrastructure plans, moving from conceptual stages to practical implementation.
5. **Challenges to Address:** Completing infrastructure projects on time, dual gauging of railway sections, and establishing institutional frameworks for seamless cross-border operations are essential steps.
6. **Collaborative Effort:** The initiatives are backed by joint funding and execution by the BBIN countries, with additional support from international organizations like the World Bank and ADB.
7. **Strategic Cooperation:** Enhanced rail connectivity aims to foster not only economic growth but also strategic cooperation and integration within the BBIN region, paving the way for a more interconnected future.

Mains Easy Explanation:

The railway infrastructure development within the Bangladesh, Bhutan, India, and Nepal (BBIN) region is crucial for its economic growth, offering significant benefits through improved transport connectivity. This initiative focuses on enhancing railway systems to reduce transportation costs and times, fostering regional development.

Key projects include rerouting freight trains through Bangladesh, providing landlocked Nepal and Bhutan access to ports via railway, and creating a seamless rail network across the region. These efforts are supported by bilateral commitments and the practical implementation of infrastructure plans.

Challenges such as completing projects on time, dual gauging of railway sections, and establishing institutional frameworks for cross-border operations need addressing. The collaborative effort is backed by joint funding from the countries involved and international organizations like the World Bank and ADB.

Enhanced rail connectivity aims to not only promote economic growth but also strategic cooperation and regional integration, indicating a step towards a more interconnected and prosperous BBIN region.

A women's urban employment guarantee act-The Hindu Editorial

-Sociology

Key takeaways:

1. **Helping Women Get Jobs:** The Women's Urban Employment Guarantee Act (WUEGA) is a plan to create more job opportunities for women living in cities.
2. **Learning from Rural Programs:** This idea comes from a similar successful program in rural areas that helped women earn their own money.
3. **Solving City Work Problems:** The plan includes making it safer for women to go to work and providing places for their kids to stay while they work.
4. **Teaching New Skills:** It also talks about teaching women new skills so they can get better jobs.
5. **Everyone Working Together:** The program wants local communities to be involved in making it work.
6. **Starting Slow:** The idea is to start the program slowly, see how it goes, and then maybe make it bigger.
7. **Making Life Better:** By helping women work, this plan aims to make life better for them and their families and help the economy grow.
8. **Could Grow Bigger:** If this plan works well, it might lead to more job programs for everyone, not just women.

Mains simple explanation:

The Women's Urban Employment Guarantee Act (WUEGA) is a new idea to help women in cities find jobs and support their families. It's inspired by a similar program that has worked well in rural areas, helping women earn their own money. The plan is to create jobs that are safe and close to home for women, and even provide free rides to work. This is important because many women want to work but can't because of challenges like safety concerns or not having someone to take care of their children while they're at work.



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The program also wants to make sure women have the right skills for these jobs, so it suggests training programs and apprenticeships, especially for younger women or those who've finished school up to a certain level. For example, women could learn how to use computers and help others in their community with this knowledge.

The idea comes from noticing that many women in cities aren't working, even though they want to. By starting this program, the government hopes to not only help these women but also improve the economy. The plan is to start slowly, see how it goes, and then maybe expand it to include more people. It's all about making sure women have a fair chance to work and support their families.

Mountains of plastic are choking the Himalayan States-The Hindu Editorial

-Environment

Key takeaways:

1. **Plastic Pollution Crisis:** The Himalayan states are struggling with severe plastic pollution, affecting water sources, biodiversity, and the environment due to the accumulation of microplastics in glaciers, rivers, and lakes.
2. **Sources of Pollution:** Unscientific disposal of plastic, rapid urbanization, and increased tourism are major contributors to the plastic waste crisis in the Himalayas.
3. **Challenges in Waste Management:** Despite existing laws for waste management, the Himalayan region faces unique challenges due to its ecological sensitivity, making it difficult to implement effective waste management practices.
4. **Efforts and Initiatives:** Some states like Himachal Pradesh and Sikkim have enacted laws and initiatives to tackle plastic waste, including bans on specific plastic items and recycling programs, but challenges persist.
5. **Need for Enhanced Local Action:** There's a critical need for empowering local bodies, improving waste management infrastructure, and ensuring better collaboration under the Extended Producer Responsibility (EPR) framework.
6. **Public Education and Segregation:** Educating the public about waste segregation and promoting scientific disposal methods are essential steps toward addressing the issue.
7. **Utilization of Funds and Schemes:** Leveraging existing schemes and funds, such as the Swachh Bharat Mission and corporate social responsibility contributions, could support waste management efforts in the region.
8. **Collaborative Effort Required:** A concerted effort from government, communities, tourists, and stakeholders is necessary to combat plastic pollution and protect the Himalayan environment.

Mains simple explanation:

The Himalayan states are facing a big problem with plastic waste. This waste, including tiny plastic pieces called microplastics, is getting into rivers, lakes, and even glaciers. When glaciers melt, these plastics end up in the water, harming the environment and animals. The situation is made worse by too much tourism and not enough proper ways to get rid of trash.

India has rules for handling plastic waste, but they're not working well in the Himalayas. There's too much plastic and not enough facilities to manage it. Some places like Himachal Pradesh and Sikkim are trying to fix the problem by banning certain plastics and encouraging recycling, but it's still a big challenge.

The main points are:

1. The Himalayas have a lot of plastic waste, which is bad for nature and water sources.
2. Efforts to clean up haven't been enough because there are no good systems for managing waste.
3. Local governments need more power and better plans to deal with plastic waste.
4. Everyone needs to work together—government, communities, and tourists—to clean up and protect the Himalayas.

In snake genes, study finds they evolved 3x faster than other reptiles-The Hindu Science

-Science

Key takeaways:

1. **Snakes Evolved Quickly:** Research has shown that snakes evolved three times faster than other reptiles, gaining unique abilities like legless movement and venom production.
2. **Genetic Study:** The study analyzed the genes of over 1,018 snake and lizard species, highlighting the rapid evolution of snakes compared to their reptilian cousins.
3. **Diverse Abilities:** This fast evolution allowed snakes to adapt to various environments, develop flexible jaws for consuming large prey, and some species to produce venom.



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4. **Adaptation to Environments:** Snakes can now be found in nearly every ecological niche on the planet, showcasing their successful adaptation.
5. **Mystery of Rapid Evolution:** The exact reasons behind the rapid evolutionary bursts that led to the diversity and specialization of snakes remain a subject of scientific inquiry.
6. **Impact on Ecology:** Understanding snakes' evolutionary leaps is crucial for grasping the complexity of life on Earth and predicting future ecological changes.

Mains Easy explanation:

A study has discovered that snakes have evolved three times faster than other reptiles, marking a significant burst in evolutionary innovation that saw them adapt to various environments and become highly efficient predators. This rapid evolution allowed snakes to develop unique features such as legless bodies, flexible jaws, and venomous bites, setting them apart from their reptilian cousins.

The research, involving the genetic sequencing of over 1,018 snake and lizard species, highlights the extraordinary diversity within the snake population and their ability to occupy almost every ecological niche on the planet. This "singularity of snakes" suggests a period of intense evolutionary change, akin to a Big Bang in the realm of snake development.

Key points from the study include:

1. Snakes' adaptation to various terrains and their development of sophisticated hunting mechanisms.
2. The genetic basis for snakes' unique physical traits, including their long spinal columns and the ability to move gracefully without limbs.
3. The dietary specialization of snakes compared to the more generalized diet of lizards.
4. The ongoing mystery behind the rapid evolutionary bursts that led to the diversity and specialization seen in snakes today.
5. Understanding these evolutionary leaps is crucial for grasping the complexity of life on Earth and predicting future ecological changes.

5th March 2024

When lawmakers take bribes Supreme Court has overturned the 26-year-old verdict in the JMM bribery case. What did it rule?-How top court interpreted the privilege of legislators-Indian Express Explained

-Polity

Key takeaways:

1. **No Immunity for Lawmakers on Bribery Charges:** Lawmakers facing bribery charges related to their actions within the House (speech and votes) are not immune from criminal prosecution. This signifies a major shift in the interpretation of parliamentary privileges.
2. **Judicial Review of Parliamentary Privilege:** The Supreme Court held that claims to parliamentary privilege by lawmakers are subject to judicial review, challenging the notion that only Parliament can have the final say on such matters.
3. **Historical Context and Necessity Test:** Unlike the UK, India's parliamentary privileges are derived from statutory and constitutional law rather than historical conflicts. The Court applied a "necessity test" to privileges, indicating that accepting bribes does not fulfill any necessary function of lawmakers and thus cannot be protected under parliamentary privilege.
4. **Probity in Public Life:** The ruling emphasizes the importance of integrity and honesty in public life, stating that corruption and bribery undermine the foundation of parliamentary democracy and the Constitution's aspirational and deliberative ideals.
5. **Definition of Bribery under the Law:** Accepting a bribe, regardless of whether the bribe influences the lawmaker's actions, constitutes an offense under Section 7 of the Prevention of Corruption Act. This interpretation clarifies that the act of obtaining or accepting undue advantage itself is punishable.
6. **Equality before Law:** The Court reasoned that granting lawmakers extraordinary protection against bribery charges would create an unjust class of public servants and violate the principle of equality under Article 14 of the Constitution.
7. **Parallel Jurisdiction of Courts and Parliament:** The Supreme Court and Parliament can exercise jurisdiction over the actions of lawmakers in parallel. The purpose of punishment by the House is distinct from that of a criminal trial, ensuring that lawmakers can be held accountable in both domains.





Mains Easy Language:

The Supreme Court of India recently made a significant decision that lawmakers who take bribes cannot hide behind their official privileges to avoid criminal charges. This decision, led by Chief Justice DY Chandrachud and a team of six other judges, changes the way parliamentary privileges are understood. Previously, members of Parliament and state assemblies were protected from being taken to court for anything they said or any vote they made in the House. However, this ruling emphasizes that such privileges do not cover illegal acts like bribery.

The Court explained that the idea of parliamentary privileges in India is based on laws and the Constitution, not on historical battles between the Parliament and the monarchy, as in the UK. It introduced a "necessity test" for privileges, suggesting that accepting bribes does not help lawmakers do their job and thus is not protected. This decision is important because it insists on honesty in public office and ensures that lawmakers are accountable for their actions, reinforcing the principles of a fair and democratic society.

When lawmakers take bribes Supreme Court has overturned the 26-year-old verdict in the JMM bribery case. What did it rule?-Recalling 1998: Majority's reading of Art 105 and 194-Indian Express Explained

-Polity

Key takeaways:

1. **Legislative Immunity:** The 1998 Supreme Court ruling established that legislators have immunity from prosecution for actions connected to their roles, specifically votes or speeches, as per Articles 105(2) and 194(2) of the Constitution.
2. **Majority Opinion:** It was decided that MPs who took bribes for votes against a no-confidence motion were protected from criminal prosecution. This broad interpretation aimed to shield MPs from legal actions tied to their legislative duties.
3. **Dissenting Opinion:** The dissent highlighted risks of allowing legislators a broad immunity, arguing it could enable corruption. They proposed a narrower interpretation to ensure accountability for pre-legislative criminal acts.
4. **Implications for Legislative Integrity:** The ruling sparked concerns over legislative accountability and the potential for corruption, given the legal protection it offered for bribery related to parliamentary actions.
5. **2023 Overturn:** This interpretation was overturned by a larger Supreme Court bench, ruling against immunity for lawmakers facing bribery charges to promote accountability and protect legislative integrity.

Mains easy explanation:

In 1998, the Supreme Court of India dealt with a case where some lawmakers, including the then Prime Minister P.V. Narasimha Rao, were accused of taking bribes to influence their votes during a no-confidence motion. The Court decided that these lawmakers couldn't be prosecuted for their actions because of certain rules in the Constitution (Articles 105(2) and 194(2)) that protected them. The idea was to ensure that MPs and MLAs could speak and vote in the legislature without being afraid of getting into legal trouble, aiming to keep their independence intact.

However, some judges didn't agree with this decision. They were worried that such a broad protection could encourage corrupt behavior, as it seemed to put lawmakers above the law, allowing them to accept bribes without facing consequences. They suggested that the protection should only cover the actual speech or vote, not the actions leading up to them, like taking a bribe.

This decision caused a lot of debates about whether it was right to give lawmakers such wide immunity, as it could potentially lead to more corruption. Recently, the Supreme Court revisited this issue and decided to overturn the 1998 ruling, stating that lawmakers could indeed face prosecution for bribery, aiming to ensure they are held accountable for their actions and maintain the integrity of the legislative process.

SUPER TUESDAY-Indian Express Explained

-international relations

Key takeaways:

1. **Nationwide Impact:** Super Tuesday is a crucial phase in the election cycle, with a large number of states holding primaries and caucuses on the same day, significantly influencing the momentum of the presidential race.
2. **Primary and Caucus Systems:** Voters engage in the democratic process through two formats: primaries, where they vote in secret ballots at polling stations, and caucuses, which involve public meetings and open voting.
3. **Delegate Acquisition:** The primary goal for candidates is to win delegates, who are party members or supporters that play a key role in officially nominating the presidential candidate at the National Conventions.



| Clear your doubts now.



4. **Diverse Participation:** Super Tuesday includes a wide range of states, such as California and Texas, making it a day that showcases the diverse political preferences across the country.
5. **Indication of Party Nominees:** The results from Super Tuesday often provide a clear indication of who the likely nominees will be for each party, shaping the trajectory of the election.
6. **Current Election Cycle:** This year, Democratic President Joe Biden faces little opposition for re-election, while the Republican contest has narrowed to Donald Trump and Nikki Haley, reflecting the dynamic nature of the electoral process.

Mains Easy Language:

Super Tuesday stands as a pivotal juncture in the U.S. Presidential election cycle, marking a day when a significant number of states, 15 this year, hold their primary elections and caucuses simultaneously. This event is crucial for both the Democratic and Republican parties, as it plays a substantial role in determining the momentum of presidential candidates and often signals the likely nominees for each party.

In the primary elections, voters cast their ballots in secrecy at polling stations for their preferred candidate, while caucuses involve a more public process, with voters gathering at local venues to debate and vote openly. The ultimate aim of both processes is to secure delegates, who are party members or advocates of the candidates, tasked with officially nominating the presidential candidate at the summer National Conventions.

Super Tuesday, rich in diversity with states like California and Texas participating, can significantly shape the outcome of the nomination race. For instance, this year, President Joe Biden, representing the Democratic Party, seeks re-election with minimal opposition. Meanwhile, the Republican field, which initially included several contenders, has narrowed down to Donald Trump and Nikki Haley, highlighting the dynamic and often unpredictable nature of the U.S. electoral process.

Study reveals how star dunes are formed, how long it takes-Indian Express Explained

-Geography

Key takeaways:

1. **In-depth Analysis:** For the first time, an in-depth study of a star dune's internal structure was conducted, using ground-penetrating radar and luminescence dating techniques.
2. **Formation Period:** The study revealed that the Lala Lallia dune has been forming over approximately 900 years, with an annual sand accumulation rate of about 6,400 metric tonnes.
3. **Unique Characteristics:** Star dunes, known for their pyramid-like shape with arms extending from a central peak, represent less than 10% of Earth's desert dunes but are the tallest type.
4. **Formation Conditions:** These dunes form in areas with complex wind regimes, where winds from multiple directions lead to significant sand accumulation at certain points in the desert.
5. **Extraterrestrial Presence:** Star dunes have been identified not only on Earth but also on Mars and Titan, Saturn's largest moon, indicating similar geomorphological processes across different celestial bodies.

This study significantly advances our understanding of how star dunes form and evolve, providing insights into the dynamic interactions between wind patterns and sand accumulation that shape these natural wonders.

Mains Easy Language:

A groundbreaking study on star dunes, notably focusing on Lala Lallia in eastern Morocco, within the Sahara Desert, has unveiled significant insights into their formation and age. Researchers employed ground-penetrating radar to investigate the internal structure of star dunes and used luminescence dating to estimate the formation period. The findings revealed that Lala Lallia has been forming for approximately 900 years, with an annual sand accumulation of around 6,400 metric tonnes.

Star dunes, characterized by their pyramid-like shape and arms stretching from a central peak, constitute less than 10% of Earth's desert dunes but are the tallest among varieties like crescent-shaped barchan dunes and linear dunes. The study highlights that star dunes emerge in regions with complex wind patterns, where winds from various directions contribute to significant sand accumulation, leading to the formation of these majestic structures. This research not only deepens the understanding of terrestrial star dunes but also sheds light on similar formations observed on Mars and Titan, Saturn's largest moon, suggesting a universal process influenced by wind dynamics and sand accumulation.

Let Pakistan be-Indian Express Editorial

-international relations

Key takeaways:



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1. **Low Priority for Bilateral Engagement:** Improving relations between India and Pakistan is not a high priority for either country due to perceived high costs and low rewards.
2. **India's Shift in Focus:** Under Prime Minister Narendra Modi, India has de-prioritized its relationship with Pakistan, focusing instead on broader international relationships.
3. **Pakistan's Stance on Kashmir:** Pakistan continues to demand that India reverse its 2019 constitutional changes in Kashmir, a stance that complicates dialogue.
4. **Internal Challenges in Pakistan:** The new Pakistani government faces significant domestic challenges, limiting its capacity to engage meaningfully with India.
5. **Economic Disparity:** The economic gap between India and Pakistan is widening, with India's GDP significantly outpacing Pakistan's.
6. **International Relations:** Pakistan is navigating complex relationships with China and the US, while its traditional Gulf allies grow closer to India.
7. **Domestic Reforms and Taliban Challenges:** Pakistan needs to address internal reforms and manage its relationship with the Taliban, focusing its attention away from India.
8. **Minimal Engagement Strategy:** Given the current circumstances, India is likely to continue with minimal engagement with Pakistan, waiting for a more favorable time for reconciliation.

Mains simple explanation:

As Shehbaz Sharif steps in as Pakistan's Prime Minister, the possibility of improving India-Pakistan relations surfaces but remains low on both countries' agendas. Engaging with each other is viewed as high-cost, low-reward by both sides. Under Modi, India has shifted focus away from Pakistan, while Pakistan insists on India reversing its 2019 changes in Kashmir, a demand unlikely to be met.

Pakistan's internal challenges and weak government position complicate efforts towards bilateral engagement. Progress requires Pakistan to de-prioritize the Kashmir issue, a difficult shift given its historical stance. Economically, Pakistan lags far behind India, further straining relations.

Internationally, Pakistan navigates complex relationships with China, the US, and its Gulf allies, now closer to India. Domestically, it faces urgent reforms and challenges with the Taliban in Afghanistan. Given these circumstances, India opts for minimal engagement, waiting for a more opportune moment for reconciliation.

Why minerals are critical-Indian Express Editorial

-Geography

Key takeaways:

The recent focus on critical minerals highlights their significance in achieving India's net-zero goals and broader global ambitions for decarbonization. Here are the key takeaways:

1. **Government Initiatives:** India has identified 30 critical minerals essential for various industries and has amended mining laws to allow private sector participation in their extraction. This move aims to reduce dependency on imports and enhance self-sufficiency.
2. **Global Importance of Critical Minerals:** Critical minerals are vital for decarbonization efforts, including renewable energy technologies like solar panels, wind farms, and electric vehicles, which require significantly more minerals than their fossil fuel counterparts. The demand for these minerals is expected to quadruple by 2040 to meet climate goals.
3. **Concentration of Resources:** A few countries dominate the global supply of critical minerals, with China playing a significant role in both reserves and processing capacities. This concentration poses risks to global supply chains and has led to geopolitical tensions.
4. **China's Monopoly:** China's dominance in processing and manufacturing critical minerals and related technologies gives it significant leverage in global markets. This monopoly has raised concerns among other nations about supply security.
5. **International Responses:** The formation of the Minerals Security Partnership (MSP), which India has joined, aims to strengthen critical mineral supply chains among allied countries and reduce dependence on authoritarian regimes, notably China.
6. **India's Decarbonization Goals:** Access to critical minerals is crucial for India to meet its ambitious decarbonization targets, including a significant increase in non-fossil fuel power capacity and electric vehicle adoption by 2030.



| Clear your doubts now.



7. **Challenges and Solutions:** India's reliance on imports for critical minerals underscores the need for international cooperation, exploration, and technology transfer to secure a steady supply. Agreements like the one with Australia for joint exploration of lithium and cobalt are steps in the right direction.
8. **Long-term Vision:** Achieving self-sufficiency in critical minerals requires a long-term strategy, encompassing exploration, extraction, processing, and manufacturing, which may take over 15 years. The lack of access to these minerals and technologies could be a significant obstacle to India's decarbonization efforts.

In summary, critical minerals are at the heart of the global transition to a greener economy. For India, securing a reliable supply of these minerals is not just about economic growth but also about meeting international climate commitments and reducing strategic vulnerabilities.

Mains simple explanation:

India is working hard to use more clean energy and reduce pollution, aiming to not add more harmful gases to the air by 2070. To do this, India needs lots of special materials called critical minerals, which are used in things like solar panels, wind turbines, and batteries for electric cars. These minerals are super important because clean energy gadgets need a lot more of them than the old-school energy sources do.

However, there's a problem: these critical minerals are not found everywhere. A few countries, especially China, have a lot of these minerals and also control how they're turned into useful products. China is so good at this that it makes and sells most of the world's products made from these minerals. Because China has so much control, countries around the world, including India, are worried. They're trying to find ways to get these minerals from other places or friends, so they're not stuck depending on China.

India has big plans to make more energy from the sun and wind, and wants lots of cars and bikes to run on electricity instead of petrol or diesel. But to make all this happen, India needs a steady supply of those special minerals. Right now, India has to buy most of these minerals from other countries, which is not the best situation.

India is trying to fix this by looking for these minerals in other countries like Australia and by joining a group of countries that want to make sure they can all get the minerals they need without having to rely too much on China. But even finding these minerals is just the start. Turning them into the final products we need takes a lot of technology and time—maybe more than 15 years! So, one of the biggest challenges for India's clean energy dream is making sure we can get enough of these critical minerals to keep everything running smoothly.

'3 degrees to year-long droughts in Himalayas' -The Hindu Science

-Environment

Key takeaways:

New research published in the journal *Climatic Change* warns that if global warming reaches 3 degrees Celsius, about 90% of the Himalayan region could face year-long droughts. This study, part of a series focusing on countries like India, Brazil, China, Egypt, Ethiopia, and Ghana, highlights the increasing risks of drought, flooding, crop yield declines, and biodiversity loss with each degree of global warming.

Key findings include:

1. **Human Exposure to Heat Stress:** In India, 80% of increased human exposure to heat stress could be avoided by keeping global warming to the Paris Agreement goal of 1.5 degrees Celsius.
2. **Pollination and Agriculture:** Pollination could reduce by half with 3-4 degrees of warming, and over 50% of agricultural land in the studied countries could face severe droughts lasting more than a year over a 30-year period if the world warms by 3 degrees.
3. **Economic Damages and Sea-Level Rise:** Economic damages due to sea-level rise are expected to increase, especially in coastal nations, but the increase is slower if warming is limited to 1.5 degrees Celsius.
4. **Policy Implications:** Current global policies are likely to result in a 3 degrees Celsius increase in warming, suggesting a need for more rigorous efforts to adhere to the Paris Agreement limits to prevent widespread and escalating climate risks.
5. **Natural Capital Risk:** The research developed a new natural capital risk register for the six countries studied, showing that many areas are already at high risk at 1.5 degrees Celsius, especially when considering population growth effects.

The study aligns with findings from the Intergovernmental Panel on Climate Change 2022 report, emphasizing the urgent need for climate policies that align with the Paris Agreement to avoid escalating climate change risks. While the research focuses on six countries, the implications are likely relevant to other nations facing similar environmental challenges.



| Clear your doubts now.



Mains simple explanation:

A recent study highlights a grim future if the Earth warms by 3 degrees: the Himalayan region could face year-long droughts, impacting water availability for millions. This research, examining the effects of warming in countries like India, Brazil, and China, underscores the increasing challenges of water scarcity, flooding, poor crop yields, and biodiversity loss with each degree of global warming. Keeping global warming below 1.5 degrees, as per the Paris Agreement, could significantly mitigate these issues, especially reducing heat stress on humans. The study warns that agriculture will suffer greatly, with droughts devastating over 50% of farmland and bee pollination dropping by half in a 3-4 degree warmer world. Coastal economies will also face financial losses due to sea-level rise, emphasizing the need for urgent action to adhere to global warming limits. The findings serve as a stark reminder of the escalating risks of climate change and the crucial need for international cooperation to combat these challenges.

The status of India's nuclear programme- The Hindu Text and context

-Science and technology

Key takeaways:

The key takeaways from the milestone in India's nuclear power program with the core-loading of the Prototype Fast Breeder Reactor (PFBR) in Tamil Nadu are:

1. **Significant Milestone:** The core-loading event of the PFBR is a major step forward in India's nuclear power strategy, marking the transition to the second phase of its three-stage plan aimed at achieving self-sufficiency in nuclear energy.
2. **Unique Technology:** The PFBR is unique because it can produce more nuclear fuel than it consumes, making it a critical component of India's long-term energy strategy.
3. **Delays and Challenges:** The project faced several delays and cost overruns due to technical challenges, procurement issues, and the need to develop and test new technologies, pushing its original 2010 completion date much further into the future.
4. **Emergence of SMRs:** Small Modular Reactors (SMRs) have emerged as a potential complement or alternative to larger projects like the PFBR due to their smaller size, lower cost, and quicker construction times.
5. **Importance of Thorium:** The PFBR and subsequent stages of India's nuclear power program are designed to leverage the country's large thorium reserves, aiming to provide a long-term, sustainable source of clean energy.
6. **Regulatory and Safety Concerns:** Ensuring the safe operation of fast breeder reactors and addressing public and safety concerns remain significant challenges. Additionally, there's a need for an independent and effective regulatory framework to oversee the nuclear sector.

Overall, the core-loading of the PFBR represents a crucial advancement in India's nuclear energy ambitions, offering the potential for significant contributions to energy security and sustainability, despite the hurdles encountered along the way.

Mains simple explanation:

India's nuclear energy program hit a big milestone when Prime Minister Modi started the process of loading the core of a special type of reactor in Tamil Nadu. This reactor, called the Prototype Fast Breeder Reactor (PFBR), is special because it makes more fuel than it uses. It's a big deal because it moves India into the second phase of its plan to make lots of clean energy from nuclear power.

However, getting to this point wasn't easy. The project was supposed to be finished by 2010, but it faced lots of delays and the cost went up more than planned. Some of the delays happened because the technology was new and tricky, and there were problems getting all the parts needed.

There's also talk about smaller nuclear reactors, known as Small Modular Reactors (SMRs), which could be built faster and cheaper. These could be an alternative or an addition to big projects like the PFBR.

The successful operation of the PFBR is crucial for India's big picture plan to use its large thorium resources for energy. This is important for India to become self-reliant in energy and to have enough clean energy in the future. But there are still challenges, like making sure these types of reactors are safe and getting everyone to agree on how to regulate them.

In simple terms, starting the PFBR is a big step for India's energy future, but there's still a lot of work to do to make sure everything goes smoothly and safely.

6th March 2024

METHANESAT-Indian Express Explained

Science and technology



| Clear your doubts now.



Key takeaways:

1. **Purpose and Mission:** MethaneSAT is designed to monitor and measure global methane emissions, focusing particularly on the oil and gas sector, which is a major source of these emissions.
2. **Significance of Methane:** Methane is a potent greenhouse gas, significantly contributing to global warming and climate change. It is about 80 times more potent than carbon dioxide over a 20-year period.
3. **Collaboration:** The project is a collaboration between the Environmental Defense Fund (EDF), Harvard University, the Smithsonian Astrophysical Observatory, and the New Zealand Space Agency.
4. **Technology and Capabilities:** MethaneSAT is equipped with high-resolution infrared sensors and a spectrometer capable of detecting small methane concentrations. It offers a wide-camera view to identify large emitters and finer emissions sources that previous technologies could not detect.
5. **Data Availability:** The data collected by MethaneSAT will be made publicly available in near real-time, allowing for prompt action to reduce methane emissions.
6. **Impact on Climate Mitigation:** By providing accurate, detailed data on methane emissions, MethaneSAT supports global efforts to mitigate climate change by enabling targeted reduction strategies.

Mains simple explanation:

MethaneSAT is a satellite launched by the Environmental Defense Fund (EDF) and partners, including Harvard University and the New Zealand Space Agency, to monitor global methane emissions. Methane, a potent greenhouse gas, significantly contributes to global warming and climate change. MethaneSAT aims to address the challenge of accurately tracking and measuring both large and small methane sources, particularly in the oil and gas sector, which accounts for about 40% of human-caused methane emissions.

The satellite provides high-resolution data to identify methane emissions, enabling stakeholders and regulators to take action to reduce these emissions. Equipped with advanced sensors and a spectrometer, MethaneSAT can detect methane concentrations as small as three parts per billion and offers a wide-camera view to spot large "super emitters." Its data will be made publicly available in near real-time through Google's Earth Engine platform, facilitating transparency and informed decision-making in climate mitigation efforts.

FOURTH MASS CORAL REEF BLEACHING EVENT SOON:WHAT NOAA SAID-Indian Express Explained

Environment

Key takeaways:

Key takeaways from NOAA's warning about the impending fourth global mass coral bleaching event include:

1. **Imminent Threat:** NOAA predicts a fourth global mass coral bleaching event due to record-breaking ocean heat from climate change and the El Niño pattern, affecting tropical reefs worldwide, including the Great Barrier Reef.
2. **Unprecedented Scale:** This event could be the most severe bleaching episode in history, with the potential to impact the entire Southern Hemisphere's coral reefs.
3. **Cause of Bleaching:** Coral bleaching happens when corals, stressed by heat, expel the symbiotic algae in their tissues, leading to vulnerability to starvation and disease.
4. **Ecosystem Impact:** Coral bleaching severely affects marine ecosystems, fisheries, and tourism industries reliant on vibrant reefs for attracting divers and snorkelers.
5. **Historical Context:** The last global mass coral bleaching event occurred from 2014 to 2017, significantly harming coral populations, including a substantial loss in the Great Barrier Reef. Other global events took place in 2010 and 1998.
6. **Global Criteria:** For an event to be considered global, widespread bleaching must be observed across the Atlantic, Pacific, and Indian Oceans, determined through sea surface temperature data and satellite imagery.

Mains easy explanation:

The NOAA has issued a warning about the imminent risk of a fourth global mass coral bleaching event, driven by unprecedented ocean heat due to climate change and the El Niño climate pattern. This event threatens vast areas of tropical reefs worldwide, including parts of Australia's Great Barrier Reef. Ecologist Derek Manzello highlighted the severity of the situation, stating that the entire Southern Hemisphere is likely to experience coral bleaching this year, potentially marking the worst bleaching event in history.

Coral bleaching, caused by heat stress, leads corals to expel the symbiotic algae living in their tissues, turning them pale and making them susceptible to starvation and disease. This phenomenon can have catastrophic effects on marine ecosystems, fisheries, and tourism industries that rely on vibrant, healthy reefs.



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The last significant global coral bleaching event occurred between 2014 and 2017, resulting in significant coral loss in the Great Barrier Reef, among other impacts. Previous global events took place in 2010 and 1998. For an event to be classified as global, bleaching must be observed across three major ocean basins: the Atlantic, Pacific, and Indian Oceans. The determination is made through the analysis of sea surface temperature data and satellite imagery, looking for widespread heat stress across reef locations.

Why Lakshadweep base INS Jatayu matters-Indian Express Explained

Science and technology

Key takeaways:

The commissioning of INS Jatayu as an upgraded naval base on Minicoy Island represents a significant enhancement of India's strategic and security posture in the Lakshadweep Islands.

1. **Strategic Enhancement:** INS Jatayu marks a vital step in India's efforts to augment its security infrastructure in the strategically crucial Lakshadweep Islands, located in the Indian Ocean.
2. **Location and Importance:** The Lakshadweep archipelago's strategic location, straddling vital Sea Lines of Communication (SLOCs) and its proximity to the Maldives and Chagos archipelago, underscores its significance for India's maritime security.
3. **Operational Capabilities:** The upgrade from a naval detachment to INS Jatayu, featuring enhanced infrastructure including a proposed airfield, aims to bolster the Navy's operational capabilities in the region, allowing for both military and civil aviation operations.
4. **Focus on Comprehensive Development:** The establishment of INS Jatayu aligns with the Indian government's focus on the comprehensive development of the islands, enhancing their defensive posture while considering environmental sensitivities.
5. **Enhanced Naval Reach:** The base will significantly improve the Indian Navy's operational reach, facilitating anti-piracy, anti-narcotics operations, and serving as a first responder in the western Arabian Sea, amidst growing Chinese influence in the Indian Ocean Region.
6. **Impact on Regional Dynamics:** The commissioning of INS Jatayu comes at a time when India's relations with neighboring Maldives have experienced tensions, highlighting the strategic importance of enhancing naval capabilities in the region to counterbalance China's growing presence.

Overall, INS Jatayu represents a critical component of India's strategy to secure its maritime interests and strengthen its presence in the Indian Ocean Region.

Mains easy explanation:

The Indian Navy is upgrading its presence in the Lakshadweep Islands by turning an existing naval detachment on Minicoy Island into INS Jatayu, a fully-fledged naval base. This move is part of India's effort to beef up security around these strategically important islands located in the Indian Ocean. Lakshadweep is near key maritime routes and close to other island nations like the Maldives.

INS Jatayu will get new facilities, including a potential airfield that can handle both military and civilian planes. This upgrade will help the Indian Navy keep a closer eye on the seas around Lakshadweep, tackle piracy and drug trafficking more effectively, and respond quickly to any emergencies in the region.

This development is especially important because of the growing influence of China in the Indian Ocean area, which is a concern for India. By strengthening its naval capabilities in Lakshadweep, India aims to protect its maritime interests and assert its position in the region.

Kerala man killed on Lebanon border: the story of Indian workers in Israel-Indian Express Explained

International relations

Key takeaways:

Nibin Maxwell, a man from Kerala, India, was killed, and two others were hurt when a missile from Hezbollah hit where they were working in Israel, near Lebanon's border. This sad event shows the danger Indian workers face in areas where there's fighting.

Sad Incident: Nibin's death is a stark reminder of the risks Indians face working in conflict zones like the border area between Israel and Lebanon.

Fighting in the Area: There's a lot of tension and fighting between Israel and Hezbollah, a group from Lebanon. This has been going on for a while and affects a lot of people living in the area.





Indians Working in Israel: Because of a shortage of workers in Israel, many Indians have gone there for jobs, especially in farming. After some recent attacks, Israel looked for workers from other countries, including India.

Good Jobs but Big Risks: Working in Israel can pay well, especially jobs taking care of older people, which many Indians do. But, as Nibin's death shows, some jobs can be very dangerous because of the conflicts in the region.

This situation shows the tough choices some people have to make to find good work, even if it means going to dangerous places.

Mains easy explanation:

Nibin Maxwell, a young man from Kerala, India, lost his life while two of his companions were injured when a missile launched by Hezbollah hit the farm they were working on in Israel, close to the border with Lebanon. This tragic event has brought to light the dangerous conditions under which many Indian workers find themselves in Israel due to ongoing conflicts in the region.

Israel and Hezbollah, a militant group from Lebanon, have been in a tense situation with frequent attacks. This conflict has not only affected soldiers and fighters but also civilians and workers, including many from India, who are in the area for employment. The situation has led to significant displacement of people in southern Lebanon and poses a risk to those working near conflict zones.

In recent times, Israel has faced a labor shortage, particularly for manual and agricultural jobs, due to various reasons including attacks that led to the suspension of work permits for many Palestinian and Arab workers. To address this, Israel began offering visas to workers from other countries, including India. Many Indians, attracted by the promise of good wages, have taken up these opportunities, moving into sectors like agriculture and caregiving. While caregiving roles are primarily indoors and considered safer, agricultural jobs can be risky, as shown by the incident involving Nibin Maxwell.

This situation underscores the complex choices and risks faced by Indian workers abroad, especially those in conflict-affected areas. While the opportunities in countries like Israel offer significant financial benefits, they also come with the harsh reality of potential danger due to regional instability and violence.

Why HC acquitted Saibaba again-Indian Express Explained

Polity

Key takeaways :

The Bombay High Court decided to let go of former Delhi University professor G N Saibaba and five others, who were previously found guilty under a tough law meant to handle terrorism. The court said the people trying to prove Saibaba did something wrong didn't follow the needed legal steps correctly, and there wasn't enough proof to say he was planning to do anything bad.

Mistakes in Legal Process: The court found that the proper legal steps weren't followed before saying Saibaba and the others were guilty of terrorism. This includes not getting the right kind of permission needed to accuse them under the strict anti-terrorism law.

Permission Problems: For some of the accused, the court said the permission to go ahead with the charges wasn't correctly thought over. For Saibaba, they pointed out that when the court decided to move forward with the charges, they didn't even have the necessary permission, making the whole trial flawed from the start.

Serious Mistakes Can't Be Fixed: The court said these mistakes were big deals and couldn't just be brushed off or corrected later on. Because of these mistakes, the court shouldn't have even started the trial against Saibaba and the others under the terrorism law.

Questioning the Evidence: The court also said there wasn't solid proof to show Saibaba was part of any plan to do something harmful. Just finding certain things at his place wasn't enough to prove he was involved in terrorism.

Legal Standards Matter: The decision highlights how important it is for the government to stick to strict legal standards and procedures, especially when accusing someone of serious crimes like terrorism. It's a reminder that in trying to keep the country safe, the government still needs to follow the law carefully to ensure people's rights are protected.

This decision is a big deal because it shows that the court is serious about making sure the law is followed correctly, especially in cases where people are accused of very serious crimes.

Mains easy explanation

The Bombay High Court's acquittal of G N Saibaba and five others in terrorism charges shines a light on the critical importance of legal precision and evidence-based prosecution in cases involving serious accusations. The court identified significant procedural flaws, particularly the failure to secure the mandatory permissions required for initiating a case



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under the stringent anti-terrorism laws. This procedural oversight was deemed a fundamental error that invalidated the trial from the outset.

Moreover, the court scrutinized the evidence—or lack thereof—presented against the accused. It concluded that the materials found during investigations, which were initially thought to incriminate Saibaba and the others, did not convincingly prove their involvement in any terrorist activities or conspiracies.

This judgment not only frees Saibaba and his co-accused but also serves as a stark reminder of the justice system's obligation to uphold the law with utmost care and integrity, especially when the stakes are as high as life imprisonment or the label of terrorism. It emphasizes the balance that must be struck between protecting national security and preserving individual rights, ensuring that the pursuit of the former does not trample upon the latter. This case is a poignant illustration of the legal principle that it is better to let many guilty go free than to convict one innocent person without due process and on insufficient evidence.

DECISION IS HERS-Indian Express Editorial

Sociology

Key takeaways

1. France Makes Abortion a Constitutional Right
 - a. Historic Amendment: France has amended its constitution to enshrine abortion rights, a landmark move amidst global restrictions on reproductive rights.
2. Contrast to Global Trends
 - a. Global Backsliding: This decision comes at a time when many countries, including Hungary, Poland, and the United States, are imposing stricter abortion laws, highlighting a global trend towards limiting women's autonomy over their bodies.
3. Message of Autonomy
 - a. Women's Bodily Autonomy: The amendment reinforces the principle that a woman's body belongs to her, ensuring that no one else can make decisions about her reproductive rights.
4. Setting a Precedent
 - a. Leading by Example: France's constitutional protection of abortion rights sets a strong precedent for other nations, advocating for the protection and advancement of women's reproductive freedoms worldwide.
5. Response to Patriarchal Values
 - a. Challenging Patriarchal Norms: This move challenges traditional patriarchal values and societal judgments, emphasizing the importance of personal choice in matters of reproductive health.

Mains easy explanation

France has taken a big step forward for women's rights by making sure the right to have an abortion is protected by the country's constitution. This is a major change because it shows France wants to make sure women can make their own choices about their bodies, especially when many other countries are making it harder to get an abortion.

This decision is really important right now because, around the world, there's been a trend of taking away women's rights to choose, with countries like Hungary, Poland, and the USA introducing stricter rules. France is going against this trend by saying clearly that women have the right to decide for themselves.

By doing this, France is setting an example for other countries. It's saying that women's freedom to make choices about their own bodies is very important and should be protected by law. This move is a big statement that respects women's rights and challenges old-fashioned ideas about who should make decisions about women's bodies.

AI has a big and growing carbon footprint, but algorithms can help-The Hindu Science

Science and technology

Key takeaways

AI's Significant Carbon Emissions

Training large AI models like GPT-3 has a substantial environmental impact, equivalent to the emissions from numerous cars over a year.

1. Spiking Neural Networks (SNNs)
 - a. SNNs mimic brain-like processing to dramatically reduce energy consumption compared to traditional artificial neural networks.



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2. Lifelong Learning (L2)
 - a. L2 approaches aim to minimize the need for retraining AI models on new tasks, thus saving significant amounts of energy.
3. Quantum Computing's Potential
 - a. Advances in quantum computing promise to revolutionize AI by speeding up processes while greatly reducing energy use.
4. Sustainability in AI Development
 - a. Prioritizing the development of energy-efficient AI technologies is crucial to mitigate the environmental impact of rapidly advancing AI fields.
5. The Need for Standardized Measures
 - a. Accurately measuring AI-related emissions is essential for understanding and addressing the full scope of AI's carbon footprint.

Mains easy explanation

AI technology, like the one powering ChatGPT, has a significant carbon footprint due to its high energy consumption during training and operation. Training GPT-3 alone generated carbon emissions equivalent to what 112 petrol cars would produce in a year. As AI models become more complex, their environmental impact grows, highlighting the need for sustainable AI practices.

Two promising technologies could help reduce AI's carbon footprint: Spiking Neural Networks (SNNs) and Lifelong Learning (L2). SNNs, which mimic the brain's energy-efficient way of processing information through spikes, can be up to 280 times more energy-efficient than traditional artificial neural networks (ANNs). Lifelong Learning aims to reduce the need to retrain AI models from scratch for new tasks, potentially lowering overall energy consumption.

Moreover, advancements in quantum computing could further enhance AI's energy efficiency by enabling faster training and inference processes. As the field of AI continues to evolve, it's crucial to explore and invest in these energy-efficient technologies to mitigate AI's environmental impact while harnessing its problem-solving potential.

Maharashtra's latest Maratha quota law-The Hindu Text and Context

Polity

Key takeaways

1. Maharashtra's New Maratha Quota Law
 - a. Legislative Action: The Maharashtra Assembly passed a bill granting a 10% reservation to the Maratha community in education and government jobs, without affecting the existing OBC quota.
2. Commissions' Opinions and Reports
 - a. Justification for Reservation: Based on the Maharashtra State Backward Class Commission's report, which surveyed over 158 million families, the law argues for reservation due to "exceptional circumstances and extraordinary situations," claiming the Marathas make up 28% of the population with a majority not being advanced.
3. Existing Reservation Pool
 - a. Current Reservation Breakdown: Maharashtra already has 52% reservation divided among various social categories, with the new Maratha quota pushing the total reservation pool to 72% when including the 10% EWS reservation.
4. Historical Context
 - a. Initial Demands and Legislative History: The demand for Maratha reservation began in 2014. Previous attempts to introduce a Maratha quota were challenged and ultimately struck down by the judiciary for exceeding the 50% reservation cap.
5. Supreme Court's Stance
 - a. Rejection of Past Bills: The Supreme Court, in May 2021, struck down the Maratha quota under the SEBC Act, 2018, stating there were no "exceptional circumstances" to justify breaching the 50% reservation limit and categorized Marathas as a "dominant forward class."
6. Judicial Scrutiny and Outlook
 - a. Skepticism About Legal Viability: Legal experts, such as Alok Prasanna Kumar from the Vidhi Centre for Legal Policy, express doubts about the new bill's ability to withstand judicial scrutiny, questioning the basis for identifying Marathas as socially and educationally backward to justify exceeding the reservation cap.



| Clear your doubts now.



Mains easy explanation

The Maharashtra Assembly recently passed a law granting the Maratha community a 10% reservation in education and jobs, without affecting the existing Other Backward Classes (OBC) quota. This decision, aimed at addressing the Marathas' demands, is based on a report by the Maharashtra State Backward Class Commission. This report suggested that the Marathas, making up 28% of the state's population, face significant socio-economic challenges justifying the reservation.

With this new quota, Maharashtra's total reservation goes up to 72%, including the 10% Economically Weaker Sections (EWS) reservation. However, there's skepticism about the law's legal standing, given the Supreme Court's past decisions striking down similar Maratha reservations for exceeding the recommended 50% reservation cap. Legal experts question whether the new law will withstand judicial scrutiny, considering the Supreme Court's view of the Marathas as a forward community and the lack of extraordinary circumstances to justify exceeding the reservation limit.

Why did Google delist some Indian apps from Play Store?-the Hindu Text and Context

Science and technology

Key takeaways

1. Google Delists Indian Apps Over Platform Fees
 - a. Action Taken: Google temporarily removed the apps of nearly a dozen Indian firms from its Play Store due to disputes over platform fees.
2. Core Issue: Platform Fees
 - a. Fee Structure: Google imposes a fee ranging from 11% to 30% on in-app purchases of digital services, a policy contested by Indian developers and firms like Bharat Matrimony and Disney+ Hotstar who have sought legal routes to avoid these fees.
3. Global and Local Backlash
 - a. International Discontent: Both Google and Apple have faced international criticism over their platform fees, leading to significant legal challenges and fines, particularly in Europe and the U.S.
4. Regulatory Response
 - a. Competition Commission of India (CCI): In 2022, the CCI fined Google ₹936.44 crore for its Play Store policies, emphasizing the need for more competitive practices in the app store market.
5. Solutions and Suggestions
 - a. Need for Regulation: Experts suggest that regulation to increase app store competition is crucial, advocating for the removal of barriers to other app stores and allowing sideloading of apps.

Mains easy explanation

Google recently removed several Indian apps from its Play Store, sparking a big debate over what's known as "platform fees." Essentially, Google charges companies a fee, ranging from 11% to 30%, for every purchase made within their apps. This policy hasn't gone down well with many Indian companies who think these charges are too high. Some have even taken legal action to avoid paying these fees, arguing that Google's charges are a significant burden.

This issue isn't just happening in India. Globally, tech giants like Google and Apple have faced criticism and legal challenges for their fee policies. For instance, Spotify and Epic Games have both challenged these fees in Europe and the U.S., leading to hefty fines and a broader discussion about competition and fairness in the tech industry.

In India, the Competition Commission slapped Google with a big fine, arguing that Google's policy hurts competition. This ongoing conflict suggests a growing need for new rules that could make the tech market more competitive and fair for everyone involved.

7th March 2024

Ladakh, Article 371, and the Sixth Schedule of the Constitution-Indian Express Explained

-Polity

Key takeaways:

1. **Sixth Schedule:** This constitutional provision delineates governance for tribal areas, allowing for the establishment of councils with significant administrative powers over matters such as legislation and revenue collection.



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2. **Article 371 Protections:** These provisions afford special rights and safeguards to various states, covering areas like land ownership and legislative representation, tailored to the specific needs of different regions.
3. **Ladakh's Status:** Following the 2019 reorganization, Ladakh emerged as a distinct Union Territory. This shift sparked demands from local groups to be included under the Sixth Schedule, seeking greater autonomy over their affairs.
4. **Government's Assurance:** While Ladakh's inclusion in the Sixth Schedule was not granted, Union Home Minister Amit Shah pledged to extend protections akin to those under Article 371. This move aims to address concerns related to employment, land, and cultural preservation.
5. **Balanced Approach:** The government's decision reflects a nuanced approach, striving to meet local aspirations within the existing constitutional framework of Union Territory governance, while also ensuring socio-economic and cultural needs are addressed.

Mains easy explanation

The recent meeting between Union Home Minister Amit Shah and representatives from Ladakh highlighted the ongoing discussions regarding the region's governance structure and constitutional protections. While Ladakh's inclusion in the Sixth Schedule was not granted, Shah pledged to provide Article 371-like safeguards to address local concerns.

This decision underscores the government's approach to balance demands for autonomy and local control with the broader framework of Union Territory governance. While Ladakh will not have the extensive powers afforded by the Sixth Schedule, the assurances of significant reservation in public employment and representation through hill councils aim to address the region's socio-economic and cultural needs.

Overall, the government's commitment to extending protections under Article 371 reflects a nuanced response to Ladakh's demands, seeking to accommodate local aspirations within the existing constitutional framework.

Why is ISRO building a second rocket launchport in Tamil Nadu's Kulasekarapattinam?-Indian Express

Explained

-Science and technology

Key takeaways:

1. **New Launchport at Kulasekarapattinam:** ISRO is constructing a second rocket launch facility in Tamil Nadu's Kulasekarapattinam, aimed at accommodating commercial, on-demand, and small satellite launches, relieving the burden on the existing launch facility at Sriharikota.
2. **Need for Additional Facility:** With the opening of the space sector to private players, a surge in commercial launches is anticipated. The new launchport will cater to smaller payloads, complementing Sriharikota's role in heavy-lift missions and high-profile projects like the Gaganyaan.
3. **Geographic Advantage:** Kulasekarapattinam's location offers a more direct southward trajectory for launches, saving fuel and enhancing payload capacity, particularly beneficial for Small Satellite Launch Vehicles (SSLV).
4. **Progress and Timeline:** The Tamil Nadu government has acquired land for the new launchport, with construction expected to take up to two years. Once operational, it could facilitate 20 to 30 SSLV launches annually.
5. **SSLV and ISRO's Expansion:** The SSLV, designed for small satellite launches, represents ISRO's efforts to expand its launch capabilities. Despite initial setbacks, ISRO achieved success with SSLV-D2, demonstrating its potential for cost-effective and efficient launches.

Mains easy explanation:

India's initiative to establish a second rocket launchport at Kulasekarapattinam in Tamil Nadu underscores the nation's steadfast commitment to advancing its space exploration endeavors. This move comes amidst recent policy reforms aimed at liberalizing the space sector and encouraging participation from private entities. By constructing this new facility, India is poised to accommodate the anticipated uptick in commercial satellite launches and small satellite missions, thereby alleviating strain on the existing infrastructure at Sriharikota.

Strategically located along the Tamil Nadu coast, the Kulasekarapattinam launchport offers geographically advantageous trajectories, particularly beneficial for SSLV launches. This positioning not only enhances operational efficiency but also contributes to cost-effectiveness and increased payload capacities. As progress on the facility continues, with completion slated within two years, India's ambition to fortify its foothold in the global space market is reinforced, promising to drive innovation and foster collaboration in space technology.

The rise and fall of Byju's-Indian Express Explained

-Economy



| Clear your doubts now.



Key takeaways:

1. **Quick Growth, Big Problems:** Byju's grew very fast and became very valuable by selling online classes. But then, they spent too much money, bought other companies that didn't help much, and faced big problems when students went back to normal classes after COVID-19.
2. **Money Troubles:** They owe a lot of money and haven't been able to pay some of it back. They also got into trouble for how they used some of their money, leading to court cases.
3. **Investors Are Unhappy:** The people who gave Byju's money to help it grow are now unhappy because of the company's money problems. They even want Byju, the guy who started the company, to stop being the boss.
4. **Worth A Lot Less Now:** Byju's used to be worth a lot of money (\$22 billion), but now it's worth much less (below \$1 billion). This shows that the company is in big trouble.
5. **Trying to Fix Things:** Byju's is trying to get more money through a rights issue to help fix its problems. They also promised to be more open about how they spend their money.
6. **What Happens Next Is Uncertain:** The future of Byju's depends on what the courts say about their problems and if they can get the money they need to keep going.

Mains easy explanation

Byju's, a company that makes learning apps, grew super fast and became one of the biggest names in education technology. It got really popular, signing up famous people like Shah Rukh Khan and Lionel Messi to promote it, and even sponsored the Indian cricket team. But then, things started to go wrong. They spent a lot of money buying other companies, hoping these purchases would make Byju's even bigger, but that didn't work out. Plus, once the pandemic was over and kids went back to school, not as many people needed Byju's apps anymore.

The company started to have money problems. It owed a lot of money and couldn't pay some of it back. There were also questions about whether Byju's was being honest about how it was spending its money. Because of these problems, the company that used to be worth a lot is now worth a lot less. People who invested in Byju's are upset and think the founder, Byju Raveendran, and his family shouldn't be in charge anymore.

Byju's is trying to fix its problems by getting more money through something called a rights issue, which is a way for them to sell more shares to get cash. They're also promising to be clearer about how they spend their money in the future. But whether Byju's can become successful again depends on a few things. First, they have to win some legal battles and convince courts that they're on the right track. Second, they really need the money from the rights issue to pay off debts and keep the business running. It's a tough time for Byju's, and what happens next is still uncertain.

THE THIN-FAT INDIAN-Indian Express Editorial

-Sociology

Key takeaways:

The link between malnutrition and obesity in India is complex and multifaceted. Historically, India has experienced a long legacy of undernutrition, leading to stunted growth and other health issues. However, in recent years, there has been a shift towards rapid development and urbanization, which has contributed to a rise in obesity and associated diseases such as diabetes.

Double Burden: India faces a double burden of malnutrition and obesity. This is partly due to the transition from a state of undernutrition to overnutrition, which often occurs rapidly and without addressing underlying health issues.

Undernutrition to Overnutrition Transition: The current generation of children in India is taller than their parents, indicating an improvement in nutrition. However, this transition from long-term deprivation to rapid development can lead to malnutrition.

Role of Maternal Health: The health and nutrition of young mothers play a crucial role in addressing the double burden of malnutrition and obesity. Research suggests that improving maternal health and nutrition can have long-term benefits for future generations, reducing the risk of obesity and diabetes.

Intrauterine Programming: The concept of intrauterine programming suggests that malnutrition during pregnancy can alter the structure and function of developing organs in the fetus, increasing the risk of obesity and diabetes later in life.

Epigenetics: Epigenetic factors, which influence gene expression without altering DNA sequences, play a significant role in the development of obesity and diabetes. These factors are modifiable by improving maternal health and nutrition.

Investment in Maternal Health: Investing in the health and nutrition of young women and mothers is essential for addressing the double burden of malnutrition and obesity in India. National policies targeting the health of adolescent girls and women of reproductive age can help improve the prospects for future generations.



| Clear your doubts now.



Mains easy explanation

In India, the intricate relationship between malnutrition and obesity reflects a societal transition from a historical context of food scarcity to the present-day abundance, presenting a double burden of health challenges. This transformation emphasizes the imperative of prioritizing the health and well-being of mothers and young women, particularly during pregnancy. Ensuring optimal nutrition and healthcare during this critical period not only fosters the development of healthier babies but also lays the groundwork for improved long-term health outcomes. Scientific research underscores the significant influence of intrauterine conditions on shaping a child's health trajectory, alongside the emerging recognition of epigenetic factors that extend beyond genetic inheritance. To effectively tackle the multifaceted issues of malnutrition and obesity, concerted efforts are essential to invest in comprehensive strategies that address the root causes, including the provision of accessible nutrition and healthcare resources for mothers and young women. By nurturing the health of future generations from the outset, we can pave the way for a healthier and more prosperous society.

DO NOT DELAY-Indian Express Editorial

-Polity

Key Takeaways:

Supreme Court Directive: The Supreme Court instructed the State Bank of India (SBI) to disclose electoral bond information, including purchaser names and party beneficiaries, by March 6, 2024.

Importance of Timely Disclosure: Timely disclosure of this information is critical for voters before elections to ensure transparency and informed decision-making.

Concerns over Delay: Any delay in disclosing this information contradicts the Court's order and undermines voter rights.

Transparency in Campaign Finance: Campaign finance transparency is vital to prevent cronyism and ensure accountability in the electoral process.

Significance of Court's Decision: The Court's decision to strike down the electoral bonds scheme underscores the importance of transparency in campaign finance.

Mains easy explanation

The Supreme Court's directive to the State Bank of India (SBI) to disclose electoral bond information by March 6, 2024, emphasizes the critical need for transparency in the electoral process. This information, including purchaser names and party beneficiaries, is vital for informed voter decision-making and upholding democratic principles. Delay in disclosure would undermine voter rights and the integrity of the electoral system, contrary to the Court's order. Transparency in campaign finance is essential to prevent cronyism and ensure accountability in political decision-making. The Court's decision to strike down the electoral bonds scheme highlights the importance of transparency, as the scheme introduced opacity rather than clarity in political funding. Ensuring timely disclosure of electoral bond information is paramount to empower voters and strengthen democratic values. It allows voters to make informed choices and maintain trust in the electoral process. Therefore, the SBI must comply with the Court's order and provide the necessary information to voters before the upcoming elections.

Are legislators immune to bribery charges?-The Hindu Text and Context

-Polity

Key Takeaways:

Constitutional Immunity: MPs and MLAs traditionally enjoyed immunity from prosecution under Article 105(2) and Article 194(2) of the Indian Constitution for anything said or any vote given in Parliament or Legislative Assemblies.

Legal Challenge: The recent Supreme Court ruling clarified that such immunity does not extend to cases involving bribery to influence votes or speeches in the House, setting a precedent against the long-held belief of legislative privilege in such matters.

Case Background: The case stemmed from accusations against Sita Soren, a Jharkhand Mukti Morcha member, for allegedly accepting a bribe to cast her vote in the 2012 Rajya Sabha elections.

Overruling Precedent: The Court overturned the 1998 P.V. Narasimha Rao judgment, which had previously interpreted legislative immunity broadly, emphasizing the importance of maintaining the integrity of the legislative process.

Jurisdiction Clarification: The Court affirmed its jurisdiction to prosecute legislators for criminal offenses, distinct from the disciplinary authority of the House, ensuring accountability and upholding the rule of law.



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Application of Ruling: The principles outlined by the verdict extend to Rajya Sabha elections and appointments of the President and Vice-President, signaling a comprehensive approach to legislative accountability.

Mains easy explanation

In a landmark ruling, the Supreme Court recently clarified the scope of legislative immunity for Members of Parliament (MPs) and Members of Legislative Assemblies (MLAs) concerning bribery charges. Traditionally, MPs and MLAs enjoyed constitutional immunity under Article 105(2) and Article 194(2) for their actions and speeches within the legislature. However, this ruling redefined the boundaries of this immunity, particularly in cases involving bribery to influence votes or speeches in the House.

The case arose from allegations against Sita Soren, a Jharkhand Mukti Morcha member, accused of accepting a bribe to cast her vote in the 2012 Rajya Sabha elections. The dismissal of her plea claiming immunity under Article 194(2) led to an appeal in the Supreme Court, prompting a reevaluation of existing jurisprudence.

The Court overturned the 1998 P.V. Narasimha Rao judgment, which previously interpreted legislative immunity broadly. It emphasized the need to preserve the integrity of the legislative process, highlighting that immunity should not shield members from criminal acts such as bribery, which undermine the fundamental principles of parliamentary democracy.

Furthermore, the ruling clarified the Court's jurisdiction to prosecute legislators for criminal offenses, distinct from the disciplinary authority of the House. This ensures accountability and upholds the rule of law, reinforcing the principle that no one is above the law, irrespective of their position.

The verdict's implications extend beyond the specific case, affecting parliamentary proceedings and legislative conduct across the country. It sets a precedent for transparency, accountability, and ethical conduct within the legislature, reaffirming the judiciary's role in upholding democratic values and constitutional principles.

What makes ASML's chip-making machine a scientific marvel?-The Hindu Science

-Science and technology

Key Takeaways:

Cutting-Edge Technology: ASML's "High NA EUV" machine is at the forefront of semiconductor lithography, enabling the production of advanced chips for various applications.

Extreme Ultraviolet (EUV) Photolithography: This machine utilizes EUV photolithography to print intricate circuits with exceptional precision on silicon wafers.

Rayleigh Scattering Criterion: The smallest feature size on the silicon wafer is determined by the Rayleigh scattering criterion, which considers the wavelength of light used and the aperture of the lens.

Complex Production of EUV Light: The process involves shooting liquid tin droplets and transforming them into ionized gas to emit EUV light, essential for the lithography process.

Precision Engineering: ASML's lithography machines rely on highly precise mirrors and magnetic fields to guide and position the silicon wafer accurately during printing.

Strategic Implications: Restrictions on the sale of ASML's lithography machines to certain countries highlight the strategic importance of these technologies in shaping geopolitical dynamics.

Mains easy explanation

ASML's "High NA EUV" machine is a scientific marvel in semiconductor lithography, facilitating the production of advanced chips vital for computers and smartphones. By utilizing extreme ultraviolet (EUV) photolithography, this machine prints intricate circuits with unparalleled precision on silicon wafers. The smallest feature size is governed by the Rayleigh scattering criterion, which determines the wavelength of light used and the aperture of the lens. The production of EUV light involves complex processes, including shooting liquid tin droplets and transforming them into ionized gas to emit EUV light.

ASML's lithography machines also rely on highly precise mirrors and magnetic fields to guide and position the silicon wafer during the printing process. These machines represent not only technological advancements but also strategic implications, with restrictions on their sale to certain countries to prevent reverse-engineering. Overall, ASML's innovations in semiconductor lithography drive the continuous evolution of chip technology, in line with Moore's law, and contribute to the advancement of various industries while also shaping geopolitical dynamics.

2023 El Niño is among the strongest on record: WMO-The hindu Science

-Geography

Key Takeaways:



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Strength of 2023-2024 El Niño: The ongoing El Niño event is among the five strongest on record, according to the World Meteorological Organization (WMO). Its intensity has contributed to significant climate anomalies globally.

Continued Impact on Climate: Despite a weakening trend, El Niño's influence is expected to persist, with above-normal temperatures forecasted over most land areas from March to May. This can exacerbate existing climate-related challenges.

Record Temperatures and Extreme Events: El Niño conditions have fueled record temperatures and extreme weather events globally, contributing to 2023 being recognized as the warmest year on record. These anomalies have widespread implications for ecosystems and human activities.

Forecast for Neutral Conditions: While there is a 60% chance of El Niño persisting from March to May, followed by an 80% chance of neutral conditions from April to June, the transition to neutral conditions may still have implications for regional climates.

Potential Impact on Monsoon Rains: The possibility of La Niña conditions setting in by June-August raises hopes for improved monsoon rains in India compared to 2023. This could have significant implications for agriculture and water resources in the region.

Long-term Impact: El Niño typically has its most significant climate impact in its second year of development, suggesting continued effects into 2024. Understanding and preparing for these long-term impacts is crucial for adaptation and resilience efforts.

Mains easy explanation

The 2023-2024 El Niño event has reached its peak, ranking among the five strongest on record, as reported by the World Meteorological Organization (WMO). Despite a weakening trend, its influence on climate is expected to persist, with above-normal temperatures anticipated over most land areas between March and May. This El Niño has already contributed to record temperatures and extreme events globally, resulting in 2023 being the warmest year on record. Looking ahead, there is a likelihood of El Niño conditions persisting during March-May, followed by neutral conditions in April-June. However, scientists anticipate that La Niña conditions may emerge by June-August, potentially improving monsoon rains in India compared to the previous year. El Niño typically exerts its greatest impact on climate in its second year of development, suggesting continued effects into 2024. Despite its weakening, El Niño's influence, coupled with above-normal sea-surface temperatures, is expected to drive higher temperatures over most land areas in the next three months, emphasizing the importance of accurate seasonal forecasts in preparing for climate-related challenges in various sectors such as agriculture, water resources, and health.

8th March 2024

India to manufacture Penicillin G again: why it was stopped-Indian Express Explained

-Science and technology

Key Takeaways:

1. Revival of Penicillin G Manufacturing:
 - a. India is set to restart the manufacturing of Penicillin G, a common antibiotic, after three decades.
 - b. Decline in production was primarily due to cheaper Chinese products flooding the market, making it economically unviable for Indian manufacturers.
2. Government Intervention with PLI Scheme:
 - a. The revival of Penicillin G manufacturing is attributed to the government's Production Linked Incentive (PLI) scheme, aimed at promoting domestic manufacturing.
 - b. PLI scheme has led to a decline in imports of active pharmaceutical ingredients (APIs) but API manufacturing in India still has room for growth.
3. Challenges in Restarting Production:
 - a. Challenges include lack of perceived need, high initial costs, and competition with established Chinese suppliers.
 - b. Restarting Penicillin G production requires significant capital expenditure and investments in larger facilities.
4. Role of Penicillin G in Healthcare:
 - a. Penicillin G is an essential antibiotic used for treating various bacterial infections, administered intravenously or intramuscularly.



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- b. Its reintroduction into Indian manufacturing will contribute to addressing the country's healthcare needs and reducing dependency on imported pharmaceuticals.

Mains easy explanation

India is gearing up to restart the manufacturing of Penicillin G, an essential antibiotic, after a prolonged hiatus of three decades. The decline in Penicillin G production in India was largely due to the influx of cheaper Chinese alternatives, rendering domestic production economically unviable. However, the government's intervention through the Production Linked Incentive (PLI) scheme aimed at promoting domestic manufacturing has spurred the revival of Penicillin G production.

Despite the challenges posed by high initial costs and competition with established Chinese suppliers, the PLI scheme has shown promising results, leading to a decline in imports of active pharmaceutical ingredients (APIs). However, there is still significant room for growth in API manufacturing within India.

Penicillin G, an important narrow-spectrum antibiotic, is used in the treatment of various serious bacterial infections. Its reintroduction into Indian manufacturing will contribute to addressing the country's healthcare needs and reducing dependency on imported pharmaceuticals. The PLI scheme provides incentives not only for antibiotics like Penicillin G but also for other pharmaceutical ingredients, aiming to bolster the domestic pharmaceutical industry and ensure self-reliance in healthcare manufacturing.

WHYKERALA DECLARED MAN-ANIMAL CONFLICT A STATE-SPECIFIC DISASTER-indian Express **Explained**

-Environment

Key takeaways

1. Kerala's Declaration of Man-Animal Conflict as a State-Specific Disaster:
 - a. Kerala became the first state in India to declare man-animal conflict as a state-specific disaster.
 - b. This decision comes amid repeated deaths from animal attacks and rising public anger over such incidents.
2. Changes in Management Approach:
 - a. Responsibility for managing man-animal conflict shifts from the forest department to the state disaster management authority.
 - b. The disaster management authority gains the power to take quicker and more decisive actions, overriding other norms and regulations.
3. Shift in Authority and Decision Making:
 - a. At the state level, the Chief Minister becomes the ex officio chairman of the disaster management authority.
 - b. District collectors, as heads of district disaster management authorities, gain direct intervention powers.
 - c. The authority can now take actions such as tranquilizing, capturing, or killing animals responsible for attacks, bypassing previous regulations.
4. Legal Implications:
 - a. The Disaster Management Act grants overriding powers to the disaster management authority during declared disasters.
 - b. Courts, except for the Supreme Court or a High Court, lose jurisdiction over decisions made by relevant authorities during disaster periods.
5. Comparison with Other State-Specific Disasters:
 - a. In 2015, Odisha declared snakebites as a state-specific disaster.
 - b. Kerala declared COVID-19 as a state-specific disaster in 2020.
 - c. Other disasters declared include heatwaves, sunburn, sunstroke, soil piping, lightning, and coastal erosion.

Mains easy explanation

In response to increasing deaths from animal attacks and public outcry, Kerala has taken the unprecedented step of declaring man-animal conflict a state-specific disaster. This decision shifts the responsibility for managing such conflicts from the forest department to the state disaster management authority, empowering it to take swifter and more decisive actions.





Under the new framework, the Chief Minister assumes the role of chairman of the disaster management authority, with district collectors gaining intervention powers at the district level. This change in authority allows for actions like tranquilizing, capturing, or killing animals responsible for attacks, bypassing previous regulatory hurdles.

Legally, the Disaster Management Act grants overriding powers to the disaster management authority during declared disasters, limiting the jurisdiction of courts over their decisions. This move aligns Kerala with other states that have declared specific phenomena as state-specific disasters, such as Odisha with snakebites and Kerala itself with COVID-19. Overall, the declaration reflects a proactive approach to address the pressing issue of man-animal conflict and mitigate its impacts on human lives.

El Niño and the monsoon-Indian Express Explained

-Geography

Key takeaways

El Niño Impact on India: The weakening of El Niño conditions and the forecasted transition to ENSO neutral conditions offer hope for India's weather patterns, particularly for the upcoming southwest monsoon.

Ongoing El Niño Event: The current El Niño event, among the strongest recorded, has peaked and is gradually weakening, according to the World Meteorological Organization (WMO), influencing global weather patterns.

Weather Implications: El Niño conditions typically result in above-normal temperatures and increased heatwave activity in India, affecting various regions from March to May, as predicted by the India Meteorological Department (IMD).

Forecast for Monsoon: Historically, El Niño episodes correlate with a depressed southwest monsoon in India, leading to below-average rainfall during the June to September period. However, there is optimism for the upcoming monsoon season due to the predicted transition to ENSO neutral conditions.

Importance of Monsoon: The southwest monsoon is crucial for India's agrarian economy, providing the majority of its annual rainfall and sustaining water reservoirs essential for agriculture, food security, and water resource management.

Economic Significance: Anticipating favorable weather conditions, including the transition to ENSO neutral conditions, is significant for India's economic well-being, particularly in terms of agricultural productivity, food security, and water resource management.

Mains easy explanation

India's weather is influenced by something called El Niño, which makes it hotter and affects rainfall. Right now, El Niño is getting weaker, which is good news for our upcoming rainy season.

El Niño happens when the Pacific Ocean gets unusually warm. This time, it's one of the strongest El Niño events ever, but it's starting to fade away.

When El Niño is around, India gets hotter than usual, and we have more heatwaves from March to May. But with El Niño getting weaker, these hot spells might not be as bad.

Usually, when there's El Niño, our monsoon – the rainy season – doesn't bring as much rain. But now, experts think our next monsoon might be okay because El Niño is going away, and things might get back to normal.

The monsoon is crucial for our farmers because it gives us most of our rain. Good rains mean good crops, which is vital for our country's food and economy.

So, if El Niño fades away as expected, it could mean a better monsoon and happier farmers, which is good news for everyone in India.

The bias that must go-Indian Express Editorial

-Sociology

Key takeaways:

Institutional Bias Against Women: Despite efforts to include women in institutions like police and judiciary, their progress remains hindered due to systemic biases.

Gender Gap in Justice Delivery: The gender gap persists across various subsystems of the justice delivery system, including police, judiciary, prisons, legal aid, and human rights commissions.

Underrepresentation of Women: Despite quotas, women are often relegated to lower echelons within these institutions, with few reaching higher positions.

Lack of Leadership Representation: There is a glaring absence of women in leadership positions, both in the judiciary and in human rights commissions.



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Challenges for Women in Policing: Women in policing face significant challenges in advancing to higher ranks, with most being concentrated in lower positions.

Need for Structural Change: The poor representation of women signals embedded institutional bias, and there's a need for systemic changes to address this issue.

Shift in Institutional Culture: Institutions must re-examine their practices to create a more inclusive environment for women, acknowledging and addressing the barriers they face.

Policy Recommendations: There's a call for policies that go beyond token representation and aim for equal opportunity and parity, with a focus on measurable positive outcomes and discouraging discrimination.

Mains easy explanation

The article delves extensively into the persistent challenges encountered by women in professions such as law enforcement and the judiciary. Despite commendable efforts towards gender parity, women still confront substantial barriers that impede their progression into senior roles within these sectors. This pervasive gender disparity permeates various facets of the justice system, shedding light on deeply ingrained systemic issues that require urgent attention. The article underscores the critical importance of implementing proactive measures to dismantle institutional biases and ensure equitable opportunities for women to advance in their careers. Moreover, it highlights the significance of developing comprehensive policies that not only prioritize diversity but also cultivate an inclusive and supportive workplace culture. By fostering environments that value and empower women, these initiatives can pave the way for a more just and equitable society where women are afforded the opportunity to thrive and contribute meaningfully across all sectors.

Opening doors-Indian Express Editorial

-Economy

Key takeaways

India's Leadership Potential: The article advocates for India to take the lead in establishing a well-designed guest worker program, leveraging its expertise and global influence to address labor shortages abroad and boost inward remittances.

Current Political Climate: Despite political rhetoric against migration, there is growing recognition of the need for migrant workers in aging populations and sectors facing labor shortages, suggesting a shift in attitudes towards labor mobility.

Private-Sector Approach: It proposes a professionalized, private-sector-led approach to labor mobility, emphasizing the importance of addressing concerns of host countries' voters and ensuring orderly movement of workers.

India's Economic Strength: India's success in exporting services, surpassing even oil exports by Saudi Arabia, underscores its potential to influence global labor mobility and anchor a guest worker program.

Potential for Global Prosperity: The article highlights the economic benefits of global labor mobility, particularly for skilled workers from developing countries, suggesting that such initiatives could significantly contribute to global prosperity.

India's Role in Poverty Reduction: While legal migration alone cannot solve global poverty, it can help reinforce the idea that poverty is not inherent to people but rather to places with low productivity, emphasizing the importance of creating high-wage jobs locally.

Mains easy explanation

The article discusses the potential for India to lead in establishing a well-organized guest worker program, which could significantly increase inward remittances and provide temporary employment opportunities for skilled Indians abroad. It highlights the current political climate around migration, citing examples such as Donald Trump's rhetoric and the rise of far-right parties in Europe. Despite this, there is a growing recognition of the need for migrant workers in aging populations and sectors facing labor shortages.

The piece emphasizes the necessity of addressing concerns of host countries' voters and suggests a professionalized, private-sector approach to labor mobility to mitigate social tensions and ensure orderly movement.

India's success in exporting services, surpassing even oil exports by Saudi Arabia, demonstrates its potential to influence global labor mobility. The article argues that India's diaspora remittances and expertise in software exports indicate its readiness to anchor a global guest worker program.

It suggests that global labor mobility, particularly for skilled workers from developing countries, can be a powerful tool for global prosperity, with potential economic benefits far outweighing those of anti-poverty programs.



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The article concludes by asserting that while legal migration cannot solve global poverty entirely, it can help reinforce the idea that poverty is not inherent to people but rather to places with low productivity. It calls for India to take the lead in establishing legal and orderly pathways for labor mobility, as it stands to benefit the most from such initiatives.

For India's homeless women, TB care is shaped by gender norms and economic precarity-The Hindu Science

-Science

Key takeaways

Gendered Challenges in TB Care: Homeless women in India face significant challenges in managing tuberculosis (TB) due to gender norms and economic precarity. Their experiences highlight the intersection of health issues, homelessness, and gender discrimination.

Impact of Social Factors on TB Care: The story of Reshma, a homeless woman who died from TB, illustrates how social factors such as family rejection and lack of proper treatment contribute to poor health outcomes among marginalized women.

Inequities in Access to Healthcare: Homeless individuals, especially women, face barriers in accessing timely diagnosis and treatment for TB. Overcrowded and unsanitary living conditions exacerbate the risk of TB transmission, while lack of shelter complicates access to healthcare services.

Gender Disparities in TB Incidence: The prevalence of TB among homeless females is 1.5 times higher than among homeless males. However, women's experiences often go unnoticed, leading to underreporting and inadequate support for TB care among this population.

Challenges in Accessing Nutritional Support: Homeless women struggle to access government nutritional support programs due to requirements such as identity proofs and bank accounts. Patriarchal norms may also compromise women's control over financial resources and food allocation within the family.

Need for Gender-Sensitive TB Care: Addressing the gender-specific needs of homeless women with TB requires tailored interventions that consider their unique challenges and vulnerabilities. Investing in comprehensive and gender-sensitive healthcare services is essential to improving TB outcomes among marginalized populations.

Mains easy explanation

The article sheds light on the intersecting challenges faced by homeless women in India in managing tuberculosis (TB) amidst gender norms and economic instability. It narrates the tragic story of Reshma, a homeless woman who succumbed to TB, highlighting the complexities of her situation beyond mere medical statistics.

Through Reshma's experience and supported by a recent study, the article underscores the gendered lens through which TB care is shaped. It reveals how patriarchal norms and economic vulnerability influence the diagnosis, treatment, and outcomes of TB among homeless women, who often remain unseen and marginalized by both the community and the medical system.

The article discusses the inequities in accessing healthcare for homeless individuals, particularly women, due to overcrowded living conditions, lack of shelter, and barriers to government support programs. It emphasizes the urgent need for gender-sensitive TB care and comprehensive interventions tailored to the unique needs of marginalized women. Furthermore, the article calls for recognition of homelessness and gender in national TB programs and emphasizes the importance of investing in ecosystems of care that prioritize the health and well-being of homeless women with TB. Overall, it advocates for a holistic approach to addressing TB among marginalized populations, recognizing the interconnectedness of health, homelessness, and gender discrimination.

A bold step towards a cervical cancer-free future-The Hindu Editorial

-Sociology

Key takeaways:

Budget Prioritization: India's interim Union Budget 2024-25 demonstrates a strong commitment to women's health by supporting the vaccination of girls against cervical cancer, marking a significant advancement in healthcare priorities.

Global Targets: India's initiative aligns with the World Health Organization's '90-70-90' targets, aiming for high HPV vaccination coverage, cervical cancer screening, and treatment rates by 2030, highlighting the country's contribution to global health goals.



| Clear your doubts now.



Success of HPV Vaccination: Success stories from countries like Scotland, Australia, and Rwanda underscore the effectiveness of HPV vaccination programs in reducing cervical cancer incidence, providing evidence-based support for India's initiative.

Regional Achievements: Several South East Asia Region countries, including Bhutan, have achieved high vaccination coverage rates through nationwide HPV vaccination programs, showcasing the feasibility and impact of such initiatives.

Indigenous Vaccine Development: India's development of an indigenous quadrivalent vaccine, Cervavac, marks a significant milestone in improving accessibility and affordability of HPV vaccination, paving the way for broader vaccine coverage.

Challenges and Solutions: While challenges such as vaccine hesitancy and equitable access persist, concerted efforts involving community engagement, dispelling misinformation, and strengthening healthcare infrastructure are crucial for the success of HPV vaccination programs, emphasizing the importance of public-private partnerships and collaborations.

Mains easy explanation

India's interim Union Budget for 2024-25 has brought a ray of hope for women's health, particularly in the fight against cervical cancer, as the government emphasizes the vaccination of girls aged nine to 14 against this deadly disease. Cervical cancer remains a significant health challenge for women in India, with high incidence and mortality rates. The World Health Organization has set ambitious targets to combat cervical cancer globally, highlighting the urgency of India's efforts.

Numerous success stories from around the world, including Scotland, Australia, and Rwanda, demonstrate the effectiveness of HPV vaccination in reducing cervical cancer cases. Bhutan's successful nationwide vaccination program serves as a regional example, achieving high coverage rates among girls and even extending vaccination to boys.

India's development of an affordable indigenous vaccine, Cervavac, is a promising step towards ensuring accessibility to HPV vaccination. However, challenges such as vaccine hesitancy and equitable access persist. Robust communication strategies, community engagement, and strengthened healthcare infrastructure are essential to overcome these obstacles.

The inclusion of HPV vaccination in the interim budget reflects India's commitment to women's health and signifies a new era in healthcare priorities. Collaborative efforts involving government agencies, healthcare providers, and civil society are crucial for the success of HPV vaccination programs, ultimately contributing to the well-being and productivity of women across the nation.

9th March 2024

India's Rs 10,000-cr AI mission-Indian Express Explained

-Science and technology

Key takeaways

Subsidizing AI Infrastructure: The government aims to boost the country's AI capabilities by subsidizing private companies to set up AI computing capacities, addressing the high costs associated with AI hardware.

Computing Capacity and Foundational Models: Plans include establishing over 10,000 GPUs and developing foundational AI models with more than 100 billion parameters, focusing on Indian languages and sectors like healthcare, agriculture, and governance.

Public-Private Partnership: Implementation will be through a public-private partnership model, with 50% viability gap funding. This encourages private investment while ensuring the expansion of AI computing capacities.

Financial Support for Startups: A significant portion of the budget is allocated to financially support deep-tech startups at various growth levels, fostering innovation and development in the AI sector.

IndiaAI Datasets Platform: Creation of a platform to provide high-quality, AI-ready datasets, enhancing the access and use of non-personal datasets for AI innovation.

IndiaAI Innovation Research Centre: Establishment of a center to develop and deploy large foundational and domain-specific models, with a focus on indigenous Large Multimodal Models.

Educational Support: Financial backing for 4,000 B.Tech, 400 M.Tech, and 600 Ph.D. candidates focusing on AI in premier educational institutions, aiming to cultivate a skilled workforce.

Integration with National Policy: This mission aligns with broader national policies on electronics manufacturing and innovation, positioning India as a key player in the global AI and tech landscape.



| Clear your doubts now.



This initiative represents a comprehensive effort to enhance India's AI capabilities, addressing both hardware infrastructure and the ecosystem required for AI innovation and education.

Mains easy explanation

India's ambitious Rs 10,372 crore AI mission marks a strategic leap towards establishing India as a global hub for artificial intelligence. This mission aims to tackle the high costs associated with AI development by providing subsidies for setting up AI computing infrastructures. Central to this mission is the creation of a robust computing ecosystem, featuring over 10,000 GPUs and foundational AI models, which are particularly focused on enhancing capabilities in Indian languages and pivotal sectors such as healthcare and agriculture.

The implementation of this mission relies on a synergistic public-private partnership model, where the government's 50% viability gap funding is designed to catalyze private sector engagement and investment. This ensures not just the initial setup but also the growth and adaptability of the AI infrastructure to meet future advancements and demands.

Beyond infrastructure, the mission is poised to significantly impact innovation and talent development within the AI sphere. Financial incentives for deep-tech startups, coupled with investments in AI-focused educational programs, aim to cultivate a skilled workforce adept in AI technologies. The establishment of the IndiaAI Datasets Platform and the IndiaAI Innovation Research Centre further underscores the mission's commitment to fostering research and development in AI. In essence, the IndiaAI Mission represents a comprehensive and forward-looking approach, designed to propel India to the forefront of the AI revolution. Through strategic investments in both infrastructure and human capital, it aims to unlock the transformative potential of AI across various sectors, thereby driving economic growth and technological innovation on a global scale.

AADHAAR AND VOTER ID: WHY THE EC WANTS TO AMEND ELECTION LAWS-Indian Express Explained

-Polity

Key Takeaways:

1. ECI's Persistent Push for Amendments:

The Election Commission of India (ECI) has consistently advocated for amendments to election laws to facilitate the linking of Aadhaar with Voter IDs, aiming to enhance the accuracy of electoral rolls.

2. Supreme Court's Previous Rulings:

The Supreme Court's 2015 ruling restricted the use of Aadhaar to government schemes, barring its utilization for voter registration purposes, creating a legal hurdle for the ECI's initiatives.

3. Constitutionality of Aadhaar Affirmed:

In 2018, the Supreme Court upheld the constitutionality of Aadhaar but emphasized that privacy restrictions could be imposed with specific laws and if proportional to state aims, setting a precedent for future debates.

4. ECI's Renewed Proposal and Legislative Action:

Despite legal setbacks, the ECI persisted in its efforts, leading to the introduction of The Election Laws (Amendment) Bill, 2021, signaling a renewed push for Aadhaar-Voter ID linkage.

5. Voluntary Aadhaar Collection and Form Amendments:

The ECI resumed the collection of Aadhaar numbers on a voluntary basis from July 2022, introducing new forms (Form 6B for existing electors and amended Form 6 for new registrations) to accommodate Aadhaar details.

6. Petition Highlighting Lack of Clarity:

A recent petition in the Supreme Court underscored the ambiguity in the voter registration process regarding the voluntary nature of Aadhaar linking, amplifying concerns over privacy and individual choice.

7. Government's Alleged Rejection of Proposed Amendments:

The government is purportedly opposed to the ECI's proposed amendments, preferring clarifications from the ECI over legislative changes, indicating a divergence in viewpoints on addressing the Aadhaar-Voter ID linkage issue.

Mains easy explanation

The issue of linking Aadhaar with Voter IDs has been contentious in India, with the ECI pushing for its implementation to enhance the accuracy of electoral rolls by eliminating duplicate entries. However, concerns over privacy and the voluntary nature of Aadhaar linking have led to legal challenges and Supreme Court rulings restricting its use for voter registration purposes.



| Clear your doubts now.



The ECI's recent proposal to amend election laws and registration forms to accommodate individuals who choose not to link their Aadhaar with Voter IDs reflects an ongoing struggle to strike a balance between electoral integrity and individual privacy rights. The government's purported rejection of these proposed amendments suggests a reluctance to change existing procedures, preferring instead to rely on clarifications from the ECI to address concerns raised by petitioners. Overall, the issue underscores the complexities surrounding the use of Aadhaar in various domains and highlights the need for clear guidelines and legislative frameworks to safeguard citizens' rights while ensuring the efficiency and accuracy of electoral processes.

[In ceramics from South, Central America, a cacao origin story-Indian Express Explained](#)

-International relations

Key Takeaways:

1. Ceramic Residues Unveil Cacao's History:

Scientists have gained insights into the early history of cacao, the source of chocolate, through residues found on ancient ceramics from South and Central America.

2. Rapid Spread Through Trade Routes:

Analysis of these artefacts revealed the rapid spread of cacao through trade routes after its initial domestication over five millennia ago in Ecuador. It dispersed to South America's northwestern Pacific coast and later reached Central America and eventually Mexico, 1,500 years later.

3. Ancient Use of Cacao:

Cacao, derived from the tropical evergreen tree *Theobroma cacao*, was consumed in ancient times as a beverage or as an ingredient in various foods, rather than being solely used for chocolate confections as it is today.

4. Origin and Domestication in the Upper Amazon:

The study firmly establishes the origin and domestication of cacao in the Upper Amazon region, contrary to previous beliefs associating its origins with the tropics of Mesoamerica (Mexico and Central America).

5. Rapid Dispersal and Amerindian Interaction:

The dispersal of cacao was rapid and involved close and long-distance interactions among Amerindian peoples. Maritime contacts likely played a significant role in its spread, along with inland contacts.

6. Revised Understanding of Cacao's History:

Previously, it was commonly believed that cacao was domesticated in the Mesoamerican lowlands and dispersed from there to the south. However, this study challenges that notion, suggesting a different origin and dispersal pattern.

Mains easy explanation

The recent study delving into ancient ceramic residues from South and Central America has significantly revised our understanding of cacao's history and domestication. Contrary to previous assumptions associating cacao's origins with the tropics of Mesoamerica, particularly Mexico and Central America, this research firmly establishes the Upper Amazon region as the birthplace of cacao and its initial domestication over five millennia ago.

Through meticulous analysis of archaeological artifacts, researchers have uncovered evidence pointing to a rapid spread of cacao through intricate trade networks. This dispersal journeyed from the Upper Amazon to South America's northwestern Pacific coast and later traversed into Central America, eventually reaching Mexico approximately 1,500 years later.

Moreover, the study highlights the significant role of Amerindian peoples in facilitating the dissemination of cacao, emphasizing both close and long-distance interactions. Maritime contacts likely played a crucial role in this dispersal, supplementing inland interactions.

This revised understanding not only reshapes our perceptions of cacao's origins and spread but also underscores the intricate interplay between ancient civilizations and natural resources. It underscores the need for interdisciplinary research to unravel the complexities of prehistoric societies and their interactions with the environment.

[Why scientists voted down proposal to declare start of Anthropocene-Indian Express Explained](#)

-Geography

Key Takeaways:

1. Proposal Rejected by Scientists:



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A committee of 18 scientists voted against a proposal to officially declare the start of the Anthropocene, a proposed new geological epoch signifying the impact of human activity on Earth.

2. Geologic Time Scale and Chronostratigraphic Units:

Geoscientists use the Geologic Time Scale (GTS), which divides Earth's history into aeons, eras, periods, epochs, and ages, marked by significant events. Transition between these units is based on objective starting points.

3. Proposed Start of the Anthropocene:

The Anthropocene Working Group (AWG) proposed the period between 1950 and 1954 as the start of the Anthropocene epoch, citing the "Great Acceleration" of human impact following World War II.

4. Rejection by International Geological Bodies:

The proposal was submitted to the International Union of Geological Sciences (IUGS) and voted upon by the Subcommission on Quaternary Stratigraphy (SQS), which rejected the idea of adding the Anthropocene epoch to the Geologic Time Scale.

5. Arguments Against Anthropocene Declaration:

Critics argue that defining the Anthropocene epoch based on recent events like nuclear fallout risks overlooking deeper historical transformations caused by human activity, such as deforestation and climate change.

6. Criteria for Defining Epoch Boundaries:

Epoch boundaries typically represent significant geological changes, such as ice ages, and are based on solid rock records rather than sedimentary evidence. The proposed site for marking the transition, Crawford Lake in Canada, was also debated.

7. The Future of the Anthropocene Concept:

While the proposal was rejected, evidence of humanity's lasting impact on the planet is undeniable and recognized by scientists. The concept of the Anthropocene may still be considered, perhaps as an "event" rather than a formal epoch.

Mains easy explanation

The rejection of the proposal to declare the start of the Anthropocene epoch highlights the nuanced considerations within the scientific community regarding the recognition of human impact on Earth's geological history. While there is widespread acknowledgment of the significant and enduring influence of human activities on the planet, defining a distinct Anthropocene epoch poses challenges due to the criteria for epoch boundaries and the interpretation of geological evidence.

Critics of the proposed Anthropocene epoch raise valid concerns about the selected start point based on recent events, such as nuclear fallout, which may not sufficiently capture the deep-rooted transformations caused by human activity over millennia, including deforestation, biodiversity loss, and climate change. Additionally, the traditional standards used to define epochs on the Geologic Time Scale emphasize monumental geological shifts rather than anthropogenic events.

Despite the rejection, the concept of the Anthropocene remains pertinent, with ongoing discussions and alternative perspectives suggesting it could be characterized as an "event" in Earth's history rather than a formal epoch. This approach allows for acknowledgment of humanity's profound and enduring impact on the planet while sidestepping the strict criteria and controversies associated with defining a new geological epoch.

Looking ahead, the recognition of the Anthropocene as a significant juncture in Earth's history is inevitable, given the overwhelming evidence of human-induced changes to the planet's systems. However, the precise delineation and formal incorporation of the Anthropocene into the Geologic Time Scale may require further deliberation, interdisciplinary collaboration, and consensus-building among the scientific community.

Change in the Valley-Indian Express Editorial

-Internal security

Key Takeaways:

1. PM's Visit to Jammu and Kashmir:

The Prime Minister's recent visit to Jammu and Kashmir offers a critical moment for evaluating the region's progress since the abrogation of Article 370, a landmark constitutional change that reshaped the region's governance structure.

2. Psychological Dynamics Shift:



| Clear your doubts now.



Over the past three and a half decades, Kashmir has witnessed a notable shift in the psychological attitudes of its youth, moving away from aspirations of Azadi (freedom) and alignment with Pakistan to a growing acceptance of Jammu and Kashmir's integral status within India.

3. Evolution of Security Strategies:

Since 1997, the Indian Army has adopted a nuanced approach to security, focusing on "winning hearts and minds" to build trust and cooperation among local communities. This strategy has garnered broader recognition and support, reflecting an evolving understanding of security challenges in the region.

4. Government-Led Development:

Prime Minister Modi's initiatives have catalyzed transformative changes across urban and rural sectors in Jammu and Kashmir, addressing longstanding economic disparities and instilling hope for a brighter future among the populace.

5. Continued Security Concerns:

Despite significant progress, security challenges persist due to Pakistan's sustained support for separatist elements and the lingering presence of ideological extremism within

Mains easy explanation

The recent visit by the Prime Minister to Jammu and Kashmir is a significant milestone in assessing the region's progress post the abrogation of Article 370. Over time, there has been a noticeable shift in attitudes among Kashmiri youth, transitioning from aspirations of Azadi to embracing Jammu and Kashmir's integral status within India. While security strategies have evolved, challenges persist due to Pakistan's support for separatist elements and ideological extremism. Despite these hurdles, Prime Minister Modi's development initiatives have aimed to bridge economic disparities and instill hope in the region. However, achieving lasting stability and prosperity in Jammu and Kashmir requires sustained efforts to overcome entrenched challenges and fully harness the region's potential within India's constitutional framework. The visit underscores the government's commitment to addressing the region's complexities and fostering inclusive growth for all its inhabitants, emphasizing the need for continued dialogue, economic development, and social cohesion to build a brighter future for Jammu and Kashmir.

Gender equality as the plank of sustainable development-The Hindu Editorial

-Sociology

Key takeaways:

Intersection of Gender Equality and Sustainable Energy: Gender equality is fundamental for achieving sustainable energy development and Sustainable Development Goals (SDGs).

Role of Women's Empowerment: Women's empowerment is crucial for ensuring equitable access to clean energy and addressing gender disparities in energy access, production, and consumption.

Impact of Gender Disparities: Gender disparities in energy access perpetuate energy poverty and health risks, particularly affecting women and children.

Gender Imbalance in the Energy Sector: Despite their significant contributions, women are underrepresented in the energy sector, especially in technical roles, hindering overall economic growth and environmental sustainability.

Need for Policy Interventions: Bridging the gender gap in the energy sector requires policy interventions and innovative solutions at sub-national, national, and international levels.

Initiatives for Women's Empowerment: Programs like the Women at the Forefront and Distributed Renewable Energy projects aim to empower women and promote sustainable energy practices.

Importance of Empowering Women: Empowering women in the energy sector is not only a matter of social justice but also a smart investment for economic growth and environmental sustainability.

Mains easy explanation

Conversations on gender equality and women's empowerment are critical for sustainable energy development. Despite women's significant role in managing household energy, they face barriers in accessing modern energy sources and are underrepresented in the energy sector due to limited opportunities and inequitable policies. To address these challenges, there needs to be a shift in perceptions and mainstreaming gender in energy policies.

Initiatives like Women at the Forefront and Distributed Renewable Energy projects empower women in sustainable energy practices, fostering innovation and promoting economic growth. Empowering women in the energy sector is not only a moral imperative but also a strategic investment, as studies show that closing the gender gap in employment and





entrepreneurship could boost global GDP. Recognizing women as key change agents is crucial for creating an inclusive, prosperous, and sustainable world.

By promoting gender equality and empowering women in the energy sector, we can accelerate progress towards achieving sustainable energy for all and advancing broader sustainable development goals. It is essential to provide women with equal opportunities in education, training, and employment in the energy sector, ensuring their meaningful participation and contribution to a more sustainable future.

[India's suboptimal use of its labour power-The Hindu Editorial](#)

-Economy

Key Takeaways:

Informal Employment Dominance: The majority of India's workforce relies on informal employment, lacking job security, benefits, and social protection.

Labour Market Dynamics: The state of India's economy heavily depends on labour market trends, including job creation, wage growth, and quality of employment.

Positive Indicators: Recent data shows an increase in Labour Force Participation Rate (LFPR) and a decrease in overall unemployment, driven by self-employment, particularly among women in rural areas.

Quality of Employment: However, the rise in self-employment, primarily unpaid family workers, reflects a concerning trend towards low-quality work, exacerbating income disparities.

Earnings Stagnation: Average earnings across various employment types show stagnation or minimal growth, particularly for salaried and self-employed workers.

Macroeconomic Impact: The predominance of low-quality work poses challenges for economic growth, dampening consumer expenditure and investment.

Demographic Dividend Concerns: India's demographic dividend period faces suboptimal utilization of labour capital, highlighting the need for improving job quality and productivity to sustain economic growth.

Mains easy explanation:

India's labor landscape is characterized by a predominant reliance on informal employment, presenting challenges in terms of stability, benefits, and social protection. Recent indicators such as an increase in the Labor Force Participation Rate (LFPR) and a decline in overall unemployment offer some positive signals. However, these improvements are primarily attributed to a surge in self-employment, particularly among women in rural areas and unpaid family workers.

Despite these positive trends, the quality of employment remains a concern, with stagnant earnings across various employment categories, including salaried and self-employed workers. The rise of low-quality work, as evidenced by the increase in unpaid family laborers, raises questions about income equality and economic sustainability.

From a macroeconomic perspective, the prevalence of low-quality employment poses challenges for economic growth, particularly concerning consumer spending and investment. This issue is especially pertinent given India's demographic dividend phase, where optimal utilization of labor capital is crucial for sustained economic development.

Addressing these challenges requires a concerted effort to enhance job quality, promote inclusivity, and stimulate productivity across all sectors of the economy. By prioritizing policies that foster equitable access to stable and well-paying jobs, India can unlock its full labor potential and ensure a more resilient and prosperous future for all citizens.

10th March, 2024

[Why India urgently needs a legal framework for Genomics- The Hindu Science](#)

-Science Tech

Key Takeaways

Advancements in Genomics: The past two decades have seen significant growth in genomics, transforming healthcare through advanced genome sequencing, analysis, and interpretation capabilities.

Impact of Decreasing Sequencing Costs: As genome sequencing becomes more affordable, its integration into clinical practice is expected to expand, informed by extensive global genome projects.

India's Progress and Challenges: While India has achieved considerable milestones in genomics, addressing the needs of its diverse, populous nation requires ambitious and pragmatic strategies.

Need for Legal and Policy Frameworks: To advance genomics in India effectively, establishing comprehensive legal and policy frameworks and ensuring industry collaboration are critical.



| Clear your doubts now.



Concerns over Data Fragmentation and Discrimination: Addressing genetic data fragmentation and potential discrimination is crucial to harness genomics' full potential responsibly.

Equity and Diversity in Genetic Data: Ensuring equitable access to genomic advancements across different population segments is essential to avoid exacerbating healthcare disparities.

Ethical and Evidence-Based Application: Promoting ethical practices and evidence-based applications in genomics is key to leveraging its benefits while minimizing risks.

India's Potential in Global Genomics: With strategic efforts, India can lead in genomics, leveraging it to enhance healthcare quality and outcomes for its population.

Easy Explanation:

Over the past twenty years, there's been a huge leap forward in genomics, which is the study of all of a person's genes. This leap is changing healthcare by helping us understand how to read and use the information in our DNA to improve health, diagnose diseases earlier, and find the best treatments for each person.

As the technology to look at our genes gets cheaper, more doctors will use this information to help their patients. This could make medicine a lot more personal, with treatments designed for each person's unique genetic makeup.

In India, there's been a lot of progress in understanding the genetic basis of diseases common among its people. This knowledge is a big step forward in improving health. However, because India is so large and diverse, making sure that the benefits of genomics reach everyone is a big challenge. It's essential to have rules and policies to protect people's genetic information and ensure it's used fairly and responsibly.

Another big issue is making sure that all different groups of people in India can benefit from these advances. If not handled carefully, there could be a risk that only the wealthy or certain groups get these benefits, leaving others behind.

If India can tackle these challenges, it has the chance to be a world leader in using genomics to improve health. This could mean better health care for its people and a model for other countries to follow, showing how to use this technology to make everyone's lives better.

Can resveratrol-copper be used to prevent metastasis?- The Hindu Science

-Science tech

Key Takeaways:

Discovery of Cell-Free Chromatin's Role: Researchers at the Tata Memorial Centre have uncovered that cell-free chromatin fragments from dying cells can cause DNA damage, trigger apoptosis, and induce inflammation, suggesting their role in aging and age-related disorders, including cancer.

Nutraceutical Combination Reduces Toxic Effects: A combination of two nutraceuticals, resveratrol and copper, has been found to minimize the harmful impacts of cell-free chromatin fragments, offering a potential approach to reduce the side effects of chemotherapy and possibly other age-related changes.

Reevaluation of Chemotherapy Toxicity: This research challenges the prevailing belief that chemotherapy's toxic effects are due to the drugs directly harming healthy cells, instead pointing towards the role of cell-free chromatin fragments released from dying cells.

Clinical Trials and Cancer Treatment: Preliminary clinical trials involving patients with multiple myeloma and advanced gastric cancer have shown reduced chemotherapy toxicity with the resveratrol-copper combination, suggesting a promising avenue for improving treatment outcomes.

Potential for Preventing Metastasis and Other Benefits: Although further research is needed, there is preliminary evidence that resveratrol-copper may prevent the metastatic spread of cancer, alongside offering other health benefits like slowing aging parameters and reducing risk factors for diseases like Alzheimer's.

Nutraceutical vs. Drug Classification: Efforts to certify resveratrol-copper as a nutraceutical, rather than a drug, stem from regulatory challenges, though this does not diminish the potential health benefits based on scientific evidence.

Easy Explanation

Researchers in Mumbai have made an exciting discovery that could change how we think about aging, cancer, and the effects of chemotherapy. They've found that tiny bits of DNA, called cell-free chromatin, can escape from dying cells and harm healthy ones. This damage can lead to cell death, inflammation, and potentially contribute to aging and diseases like cancer.



| Clear your doubts now.



To counteract this, the researchers experimented with a mix of two natural substances, resveratrol (found in grapes) and copper, and found that this combination can protect cells from the harmful effects of these DNA fragments. This discovery is especially important for cancer patients undergoing chemotherapy, a treatment known for its harsh side effects. The research suggests that the side effects of chemotherapy might not only come from the drugs themselves but also from the cell-free chromatin fragments that attack healthy cells.

In studies with cancer patients, those who took the resveratrol-copper mix experienced less damage from their chemotherapy treatments. This finding could lead to more effective and less harmful cancer treatments in the future. Moreover, the researchers believe this combination could also slow down the aging process and help prevent diseases related to aging, like Alzheimer's, by cleaning up harmful substances in our bodies and keeping our cells healthier for longer.

Despite the promising results, more research is needed to fully understand how this nutraceutical combination can be used to fight cancer, aging, and other diseases. However, the potential benefits of resveratrol and copper, based on scientific evidence, are exciting and could lead to new ways to improve our health and longevity.

[What are the hurdles to fair global trade?- The Hindu FAQ](#)

-Economy

Key Takeaways:

WTO's 13th Ministerial Conference Achievements: The WTO's 13th Ministerial Conference in Abu Dhabi concluded with member countries adopting a declaration to reform and strengthen the global trading system, emphasizing a commitment to address modern trade challenges and enhance the organization's functionality.

Resolutions on Dispute Settlement and Special Treatment: Key decisions included commitments to restore a fully functional dispute settlement system by 2024 and enhance the special and differential treatment provisions for developing and least-developed countries, addressing their unique needs in the global trade context.

Global Trade Challenges and Internalization Trends: The conference highlighted the tension between global trade integration and rising protectionist sentiments, particularly in developed economies, amidst global conflicts and supply chain disruptions.

India's Focused Negotiation Efforts: India, led by Union Commerce Minister Piyush Goyal, aimed to address concerns around the public stockholding program for food security, advocating for policies that support domestic food procurement and distribution without breaching WTO subsidy limits.

Fisheries and E-commerce Discussions: Discussions on fisheries subsidies aimed to balance support for small-scale fishermen in developing nations against restrictions on large-scale industrial fishing. The debate on e-commerce centered on ending the moratorium on customs duties to allow nations, particularly developing ones, to capitalize on this growing trade segment.

Outcomes and Future Directions: While progress was made with a new agricultural text and nearing consensus on fisheries, India faced a setback with the extension of the e-commerce customs duty moratorium, indicating ongoing negotiations and the need for continued advocacy on these issues.

Easy Explanation:

The World Trade Organization (WTO) held a big meeting in Abu Dhabi where 166 countries discussed how to make global trade smoother and fairer. They agreed to work on some important issues to make sure the WTO can help countries trade better with each other.

One big topic was how to solve disagreements between countries about trade rules more effectively by 2024. They also talked about how to make sure poorer countries and those still developing can benefit more from global trade.

A lot of countries, especially richer ones, are starting to focus more on their own interests, which can make international trade harder. This is happening while there are big problems in the world, like wars, that make trading even more difficult. India played a big role in these talks, especially about how it buys food like rice and wheat from its farmers to help feed its people. India wants to make sure it can do this without breaking WTO rules. They also talked about helping fishermen in poorer countries and debated whether countries should be able to charge taxes on things bought online from other countries.



| Clear your doubts now.



In the end, they made some progress, like starting to agree on how to help fishermen and getting a new plan for agriculture. But India didn't get what it wanted about taxing online products, and this issue will be discussed again in the future.

[Why has Government issued an AI advisory?- The Hindu FAQ](#)

-Science Tech

Key Takeaways:

Government's New Advisory on AI: The Indian government issued an advisory demanding explicit permission for the use of "under-testing/unreliable" generative AI products, marking a shift in its previously more open stance on AI development and research.

Legal and Industry Reactions: The advisory sparked debate within the AI community, with interpretations varying between viewing it as a reminder of legal responsibilities or a new mandate. Legal experts and industry stakeholders have expressed concerns over the clarity and legality of the directive.

Impact on Innovation and AI Development: Critics argue that overly restrictive regulations could stifle AI innovation and development, emphasizing the importance of trial and error in technological advancement. Comparisons were drawn to other industries, like aviation, where sharing information on failures has led to safety improvements.

Potential Benefits for Local Developers: Despite concerns, some local developers see the advisory as an opportunity to promote indigenous AI solutions and infrastructure, suggesting it could foster a more self-reliant AI ecosystem in India.

Government's Evolving AI Strategy: Recent government actions indicate a shift towards more cautious engagement with AI technologies, particularly in response to incidents where AI models have generated controversial content. This contrasts with the government's earlier stance, which was more welcoming of AI innovation without the intention of imposing stringent regulations.

Easy Explanation:

The Indian government recently told companies that create AI tools, like chatbots, that they need to get permission if their products are still being tested or might not work perfectly. This is a change because the government used to be more supportive of letting companies experiment with AI.

Some people in the AI industry and legal experts are trying to figure out if this is just advice or a new rule they have to follow. They're worried that this could make it harder for companies to invent new things because making mistakes and learning from them is a big part of getting better at creating new technology.

However, some Indian tech companies think this could be a good thing for them. They believe it might help them grow and compete with big international companies by encouraging them to build their own AI technologies and services.

The government seems to be trying to be more careful with AI now, especially after some AI programs made mistakes, like giving wrong answers or creating incorrect images. They want to make sure that AI is safe and reliable, but this new approach might make it harder for companies to test and improve their AI products.

11th March 2024

[Why safari parks may be a double-edged sword for big cats-Indian Express Explained](#)

-Environment

Key takeaways:

Purpose: Tiger safaris are intended to provide a space for injured, conflicted, or orphaned tigers to live in conditions that mimic their natural habitat, aiming to reduce tourist pressure on the core areas of tiger reserves.

Policy Evolution: Initially, these safaris were to house only local tigers unfit for the wild, explicitly excluding animals from zoos. However, the policy shifted in 2019, allowing zoo animals to be used, sparking concerns about conservation ethics and wildlife health.

Benefits: Advocates for tiger safaris argue they help manage tourist flows, support injured or orphaned tigers in a natural-like environment, and boost local economies and community development through tourism.

Criticism: Opponents highlight that tiger safaris may fail to effectively distribute tourist demand, question the practice of displaying rescued animals, and argue such initiatives can prioritize individual animal welfare over species conservation, potentially disrupting natural habitats.



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Supreme Court Intervention: The Supreme Court of India has clarified that tigers for safaris should not come from zoos, emphasizing the need for these facilities to align with conservation goals rather than acting as mere attractions.

Future Directions: Guidelines for the establishment and operation of tiger safaris are being developed, focusing on ensuring that these initiatives contribute to conservation efforts, respect animal welfare, and provide benefits to local communities. The approach will likely need to be adaptable, considering local environmental, ecological, and social contexts to ensure the positive impact of safari parks.

Mains easy explanation:

Tiger safaris are established near tiger reserves to allow visitors to see tigers, especially those unable to live in the wild, in a semi-natural environment. They aim to lessen tourist pressure on critical habitats, provide a natural setting for injured or orphaned tigers, and support local communities through tourism revenue. Initially, tigers for these safaris were not to be sourced from zoos, but policies changed in 2019, allowing zoo animals to be transferred, which raised concerns about wildlife health and conservation integrity.

Critics argue that tiger safaris can increase tourist influx rather than distribute it, question the ethics of displaying rescued animals, and suggest that such practices may prioritize individual welfare over species conservation, potentially disturbing natural habitats.

The Supreme Court of India has recently emphasized that safari parks should focus on conservation and not source animals from zoos, indicating a need for guidelines that balance conservation, animal welfare, and community benefits. The future approach to tiger safaris will likely require tailored, site-specific solutions to ensure they contribute positively to conservation efforts and sustainable tourism.

Harnessing the value of dung-Indian Express Explained

-Environment

Key takeaways:

In Gujarat, dairy farmers are finding new ways to make money and help the environment by turning cow and buffalo dung into something useful. They're using the dung to produce Bio CNG, a type of clean fuel, and organic fertilizers. This isn't just about getting rid of waste; it's a smart way to make extra cash and reduce pollution.

Here's how it works:

Making Fuel: A special station on a highway in Gujarat takes about 40 tonnes of dung every day from local farms. This dung is then processed to produce Bio CNG, which powers vehicles just like regular CNG does.

Getting Paid for Dung: Farmers get paid 1 rupee for every kilogram of dung they supply. This means they earn more money, not just from selling milk but also from something they used to consider waste.

Turning Dung into Gold: The process doesn't stop with making fuel. After extracting gas, what's left is turned into organic fertilizer. This is great for the soil and much better than chemical fertilizers.

Good for the Pocket, Great for the Planet: This whole thing is not just good for farmers' pockets; it's also great for the planet. By making and using Bio CNG and organic fertilizers, farmers are cutting down on pollution and helping fight climate change.

It's Catching On: Seeing how well this works, there are plans to set up more such plants. This idea is spreading because it makes economic and environmental sense.

Small Scale, Big Impact: Even small dairy farms are getting into the act. With a bit of help, they can set up mini biogas plants to produce their own cooking gas and fertilizer, saving money and reducing the need for LPG.

In simple terms, what's happening in Gujarat is a great example of turning a problem (dung management) into an opportunity (producing clean fuel and fertilizers), proving that with a bit of creativity, you can benefit the environment and make some money too.

Mains easy explanation

In Gujarat, dairy farmers are turning cow and buffalo dung into Bio CNG and organic fertilizers, creating a sustainable source of extra income and helping the environment. They collect dung from local farms and process it at a special station, which then converts it into clean fuel and fertilizer. Farmers get paid for the dung they supply, turning waste into a valuable resource.

This initiative not only provides farmers with additional revenue but also promotes environmental sustainability by producing eco-friendly fuel and reducing reliance on chemical fertilizers. The success of this project is encouraging the setup of more such plants, demonstrating the potential for scaling this eco-friendly model.



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Moreover, smaller dairy farms are adopting mini biogas plants, producing their own cooking gas and fertilizer. This reduces their need for LPG and enhances their self-sufficiency. The approach taken in Gujarat serves as a remarkable example of how innovative thinking can transform waste into wealth, benefiting both the economy and the environment.

[India's Indigenous Fifth-gen fighter jet AMCA: features, why it is important-Indian express Explained](#)

-Science and technology

Key takeaways:

India is stepping into the elite circle of nations with its own fifth-generation fighter jet, the Advanced Medium Combat Aircraft (AMCA), after the Cabinet Committee on Security approved a significant budget for its development. The Aeronautical Development Agency (ADA) of the Defence Research and Development Organisation (DRDO) will spearhead the project, with manufacturing by Hindustan Aeronautics Limited (HAL).

1. Features of AMCA:
 - a. Stealth Technology: The AMCA is designed with advanced stealth capabilities to evade enemy radar detection.
 - b. Fuel and Weapons: It boasts a large internal fuel tank and an internal weapons bay to carry a variety of armaments, including indigenous ones.
 - c. Engine Specs: The initial variant, AMCA Mk1, will be powered by the GE414 engine from the US. A more advanced variant, AMCA Mk2, will feature a more potent engine developed by DRDO's GTRE in collaboration with a foreign defense major.
2. Why AMCA is Important:
 - a. Stealth Capabilities: The aircraft's low electromagnetic signature and advanced sensors will make it hard to detect while enabling it to detect and engage enemy aircraft.
 - b. Indigenous Development: Following the withdrawal from a joint project with Russia, the AMCA represents a significant step in India's journey towards self-reliance in defense technology.
 - c. Operational Efficiency: The AMCA will feature an Integrated Vehicle Health Management (IVHM) system for better maintenance and operational readiness.
3. Development Timeline:
 - a. The ADA aims for the AMCA's first flight within 4.5 to 5 years, with a total development timeline of about a decade. Five prototypes will precede HAL's full-scale manufacturing, with private industry participation expected.
4. Context and Comparisons:
 - a. Only a few countries have developed fifth-generation fighters, like the US (F-22 Raptor, F-35A Lightning II), China (J-20 Mighty Dragon), and Russia (Sukhoi Su-57).

The Indian Air Force (IAF) faces a dwindling number of squadrons and sees the AMCA as critical to its future strength. Even with the addition of AMCA and more LCAs, meeting the sanctioned squadron strength remains a challenge.

Mains easy explanation:

India is advancing in defense technology with its own fifth-generation fighter jet, the Advanced Medium Combat Aircraft (AMCA), backed by a Rs 15,000 crore investment. Led by the Aeronautical Development Agency (ADA) and set to be manufactured by Hindustan Aeronautics Limited (HAL), the AMCA marks a significant step towards self-reliance in military capabilities.

Featuring advanced stealth technology, the AMCA is designed to evade enemy radar, making it a formidable asset in combat. Initially powered by a US-made engine, plans are in place for a more powerful, domestically-developed engine in future versions. This jet is crucial for India as it brings sophisticated stealth capabilities, setting it apart from current aircraft in the Indian Air Force (IAF).

The project's timeline spans about a decade, aiming for the first flight within 4.5 to 5 years and involving both government and private sectors in its development. The AMCA is critical for the IAF, which is looking to bolster its fleet amidst declining squadron numbers, even though challenges remain to reach the desired squadron strength.

In summary, the AMCA represents India's ambition to enhance its defense technology and operational capabilities, showcasing the country's move towards greater autonomy in defense production and technological advancement.

[LET THEM SPEAK-Indian Express Editorial](#)

-Polity

Key takeaways



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Freedom of Speech Reminder

The Supreme Court emphasized that respectful criticism of the government is a vital aspect of democracy, stressing that not all critiques amount to an offense.

Education for Police

The Court directed that police should be educated on the nuances of freedom of speech to differentiate between lawful dissent and unlawful incitement.

Significance of Dissent

Dissent is highlighted as crucial for democracy, encouraging diverse ideas and potentially aiding in the improvement of government policies.

Impact and Evaluation

The judgment focuses on the broader impact of statements on reasonable people rather than the sensitivities of a few, underlining the importance of general perception over individual offense.

Broader Awareness Needed

The need for awareness extends beyond the police, suggesting that all stakeholders, including society and lower courts, should understand and respect the constitutional guarantee of diverse viewpoints.

Fostering Rational Debate

Encouraging an environment of rational debate and listening to all sides is essential for maintaining a vibrant democracy where different perspectives are valued.

Mains easy explanation:

The Supreme Court of India recently emphasized the importance of freedom of speech and expression, reminding that legitimate criticism of the state should not be considered an offence. This statement is crucial in a time when dissent is often silenced in the name of national security, communal harmony, or hurt sentiments. The court's directive to educate the police force about the constitutional guarantee of free speech underlines the need to distinguish between lawful dissent and incitement, ensuring individual liberty is not infringed.

This perspective aligns with the court's previous stances on free speech, stressing that it can only be limited for reasons specified in Article 19(2) of the Constitution. The court highlights the value of dissent in fostering diverse ideas and aiding governmental policy improvement. The recent judgment in favor of a professor accused of criticizing the abrogation of Article 370 and expressing good wishes for Pakistan on its independence day serves as an example. The court's criteria for evaluating such cases focus on the general impact of statements on a significant number of reasonable people, rather than the sensitivities of a few.

The call for greater awareness about free speech rights extends beyond the police to lower courts, civil society, and the broader public. The prevailing dominance of hurt sentiments, impacting various aspects of society from sports to entertainment and religious practices, threatens the inclusive and equal platform for diverse viewpoints guaranteed by the Constitution. Educating law enforcement and the public on landmark judgments and fostering an environment of rational debate are steps toward maintaining a vibrant democracy where different perspectives are not just tolerated but encouraged.

THE COMMONWEALTH FAMILY-Indian Express Editorial

-International relations

Key takeaways

Commonwealth's Definition and Shared Values

The Commonwealth is an association of 54 member countries that span continents, cultures, and religions, united by shared history, language, and values of democracy, human rights, and the rule of law. It serves as a platform for countries to collaborate and support each other, particularly in law enforcement and environmental protection.

Achievements and Support

The Commonwealth has made significant strides in reducing trade costs between its members, empowering women and entrepreneurs, and offering a unified voice in international affairs. This collaboration has led to concrete support for members in need, such as Guyana, and the observation of elections to promote democracy.

Climate Change and Small Island Members

Facing disproportionate impacts from climate change, small island Commonwealth members struggle to access the necessary international climate finance. These states' unique vulnerabilities are acknowledged within the Commonwealth, aiming to bolster their resilience against climate change.



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UK's Commitment and Challenges

The UK, as a prominent Commonwealth member, commits to doubling its international climate finance and has made significant contributions to the Green Climate Fund. However, the accessibility of these funds for small island states remains a challenge, highlighting the need for more effective support mechanisms within the Commonwealth framework.

Mains easy explanation

The Commonwealth, consisting of 2.5 billion people from diverse nations and communities, is a unique family that shares core values and goals, outlined in the Charter agreed upon years ago. As the UK's Foreign Secretary reflects on the strength of this family, there's a focus on working together to uphold these values, especially in areas like law and environmental protection. The Commonwealth's diverse connections make it a powerful voice capable of tackling global challenges, benefiting all its citizens.

Significant achievements include reducing the cost of trade between member states, empowering women and businesses, and standing together in international matters. The upcoming Commonwealth heads of government meeting in Samoa represents a significant opportunity to further support especially small island members facing climate change challenges. These nations, vital in global efforts like forest conservation and ocean protection, struggle to access international climate finance.

The UK is stepping up by doubling its international climate finance and making a substantial contribution to the Green Climate Fund. Yet, the challenge remains in ensuring these vulnerable states can easily access this funding. A dedicated Commonwealth hub has already mobilized substantial climate finance for small island members, and there's a call to build on this support significantly. The meeting in Samoa is seen as a chance to demonstrate the Commonwealth's role as a supportive family in facing global challenges together.

Introducing a new toll collection system-The Hindu text and context

-Science and technology

Key takeaways

Introduction of New Toll Collection System

India plans to implement a new highway toll collection system using the global navigation satellite system before the 2024 elections. This system aims for more accurate and efficient toll collection based on vehicle movement.

System Mechanics

Vehicles will need an On-Board Unit (OBU) for tracking, which works with the GAGAN satellite system. Toll charges will be calculated based on the distance traveled and deducted from a linked digital wallet. Gantries equipped with CCTV will enforce the system and prevent fraud.

Challenges

Key challenges include ensuring toll payment from users with insufficient funds in their digital wallets and handling vehicles without an OBU or those attempting to evade tolls. Establishing the necessary infrastructure for Automatic Number-Plate Recognition (ANPR) systems across highways is another hurdle.

Privacy Concerns

To address privacy concerns, the system will use India's GAGAN satellite system instead of GPS. The Digital Personal Data Protection Act, 2023, will further protect users' privacy, although there are worries about increased state surveillance.

FASTag Coexistence

The new satellite-based toll collection system will coexist with the FASTag system for an undetermined period. Decisions on making OBUs mandatory for all or just new vehicles are pending. The satellite system is expected to lower operational costs compared to FASTags by eliminating physical toll plazas.

Mains easy explanation

India plans to introduce a new satellite-based toll collection system on its highways using the GAGAN navigation system. This system will require vehicles to have an On-Board Unit (OBU) device that calculates tolls based on the distance traveled and deducts the amount from a linked digital wallet.

However, implementing this system poses challenges such as ensuring payment from vehicles without enough funds in their wallets and monitoring vehicles that try to evade tolls without physical barriers. The government aims to address privacy concerns by using India's GAGAN system instead of the American GPS and assures that the Digital Personal Data Protection Act will safeguard users' privacy.





The new system is set to coexist with the current FASTag system, and it's not yet decided if OBUs will be mandatory for all vehicles. This satellite-based system is expected to reduce operational costs by eliminating the need for physical toll plazas and streamlining the toll collection process.

[Why did the EU impose a €1.8 billion fine on Apple?-The Hindu text and context](#)

-Economy

Key takeaways

EU's Fine on Apple

The European Commission imposed a €1.8 billion fine on Apple for unfairly favoring its own music streaming service, concluding a four-year investigation initiated by Spotify's complaint. Apple restricted competitors from informing users about cheaper alternatives outside the App Store.

Violation of Anti-Trust Laws

Apple's practices breached EU anti-trust laws, particularly Article 102 of the TFEU and Article 54 of the European Economic Area Agreement, by abusing its dominant market position through "unfair trading" conditions.

Significance and Implications

The fine underscores the EU's commitment to addressing market dominance abuses and sets a precedent for tech company regulations. Affected companies can now seek damages, and the ruling aligns with the EU's Digital Markets Act efforts to promote competition.

Apple's Response and Appeal

Apple criticized the EU's decision, claiming no evidence of anti-competitive behavior was found, and announced plans to appeal the fine, arguing that the market is thriving and competitive.

Broader EU Investigations into Tech Giants

This case is part of the EU's broader initiative to regulate tech companies, including investigations into Google and Meta for anti-trust violations and efforts to settle charges related to Apple's mobile payment technologies.

Mains easy explanation

The European Commission fined Apple €1.8 billion for favoring its own music streaming service, Apple Music, over competitors like Spotify. This decision followed a complaint from Spotify and a nearly four-year investigation by the Commission. Apple was found to have restricted competitors from informing iOS users about cheaper subscription options outside of the App Store, where Apple charges up to a 30% commission. This practice was deemed an abuse of Apple's dominant market position, violating the EU's anti-trust laws, specifically Article 102 of the Treaty on the Functioning of the European Union (TFEU) and Article 54 of the European Economic Area Agreement.

The significance of the fine lies in the EU's determination to address abuses of market dominance and set a precedent for handling major tech companies. Additionally, this ruling allows affected companies to seek damages in EU courts. Apple's violation comes amid broader EU efforts to regulate tech giants through the Digital Markets Act (DMA), aiming to end unfair practices and promote competition. Apple criticized the EU's decision, denying any anti-competitive behavior and announcing plans to appeal.

This case is part of a larger trend of the EU investigating tech companies for anti-trust violations, including probes into Google for favoring its shopping services and Meta for distorting competition in online classified ads. Apple also faced a separate investigation for limiting access to its tap-and-go mobile payments technology, which it sought to settle by allowing competitors access to its NFC technology.

[What are the factors pushing Bitcoin to a new all-time high?-The Hindu Text and context](#)

-Science and technology

Key takeaways

Bitcoin's New All-Time High

Bitcoin reached a new all-time high of \$69,170.63, surpassing its previous record. This surge in price is a significant recovery from the lows experienced after the cryptocurrency market downturn, triggered by various factors including company collapses and regulatory actions.

Factors Behind the Rise

Several elements contributed to Bitcoin's price increase:

Market recovery post-Russia's invasion of Ukraine and major cryptocurrency collapses.



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The U.S. SEC's approval of the first spot exchange-traded funds (ETFs) for Bitcoin, signaling a more open regulatory landscape and attracting traditional investors.

Anticipation of the Bitcoin halving event in April, expected to reduce the supply of new coins, thereby driving up the price.

Bitcoin Halving Explained

Bitcoin halving, occurring approximately every four years, cuts the crypto mining reward in half. This event reduces the rate at which new Bitcoins are generated and released, making the asset more scarce and potentially increasing its value. More than 19 million of the maximum 21 million Bitcoins are already in circulation.

Investment Considerations

Potential investors should be wary of the volatility in the cryptocurrency market. The rapid price changes can significantly impact investment values. Understanding the market dynamics and the effects of events like Bitcoin halving is crucial before investing.

Ethereum and Market Dynamics

While Bitcoin leads the crypto market with a market cap of over \$1 trillion, Ethereum follows as the second-largest cryptocurrency. Ethereum's transition to a less energy-intensive proof-of-stake model and its ecosystem supporting smart contracts and other blockchain services highlight the diverse applications of cryptocurrencies beyond Bitcoin. Ether's prices tend to follow Bitcoin's trends, but it has not surpassed its all-time high despite Bitcoin's recent achievements.

Mains easy explanation

Bitcoin hit a new all-time high of \$69,170.63, marking a significant rebound from its previous lows. This surge is attributed to the market's recovery from various challenges, including regulatory actions and the collapse of significant cryptocurrencies. A key factor in this rise was the U.S. SEC's approval of Bitcoin's first spot exchange-traded funds (ETFs), signaling a potentially more welcoming regulatory environment for cryptocurrencies.

The upcoming Bitcoin halving event in April, which reduces the reward for mining new Bitcoins, is also driving interest. This halving makes Bitcoin scarcer, potentially increasing its value as the total supply is capped at 21 million coins. However, investing in Bitcoin carries risks due to its price volatility.

Ethereum, the second-largest cryptocurrency, also experienced a price increase but hasn't reached its record high. Unlike Bitcoin, Ethereum supports smart contracts and operates on a less energy-intensive proof-of-stake model. Both cryptocurrencies' movements indicate the dynamic and fluctuating nature of the crypto market.

12th March 2024

CAA: issues in the legal challenge to the citizenship law-Indian Express Explained

-Polity

Key takeaways

The key takeaways from the Citizenship (Amendment) Act (CAA), 2019, its challenges, and implications are as follows:

Purpose of the CAA: It amends the Citizenship Act of 1955 to provide a pathway for citizenship to persecuted migrants from Hindu, Sikh, Buddhist, Jain, Parsi, or Christian communities from Pakistan, Afghanistan, and Bangladesh, who entered India before December 31, 2014.

Contentious Aspects: The Act's exclusion of Muslims and its selection of migrants based on religious affiliation have sparked debates over potential violations of the Indian Constitution's secular principles and Article 14, which ensures equality before the law.

Legal Scrutiny: The CAA faces over 200 petitions in the Supreme Court challenging its constitutionality on the grounds of discrimination and violation of secularism. A critical legal question is whether the Act's religious-based criteria for citizenship constitute a reasonable classification under Article 14.

Government Justification: The Indian government defends the CAA by arguing that it is aimed at protecting persecuted minorities from Islamic states, where Muslims are in the majority, thereby not needing such protections.

Concerns in Assam and Northeast: There are specific concerns in Assam and other Northeastern states that the CAA could alter demographic patterns, potentially infringing on agreements like the 1985 Assam Accord, which has its own criteria for recognizing foreigners.

Awaiting Supreme Court Verdict: The Supreme Court's decision will be crucial for the future of the CAA, as it will address whether the Act's provisions are in line with the Constitution's secular ethos and equality principles.

Implementation of Rules: With the notification of the rules for implementing the CAA, the focus shifts to how the law will be applied in practice, which will be a test of its practical implications on the ground.



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The CAA's progression and its legal challenges highlight a significant moment in India's ongoing dialogue about citizenship, secularism, and human rights, with the Supreme Court playing a pivotal role in resolving these contentious issues.

Mains easy explanation

The Citizenship (Amendment) Act (CAA), 2019, amends India's citizenship laws to offer citizenship to certain persecuted religious minorities from Pakistan, Afghanistan, and Bangladesh, excluding Muslims. This has ignited debates and legal challenges, centering on allegations of violating India's secular constitution, especially Article 14, which guarantees equality before the law. Over 200 petitions against the CAA argue it discriminates based on religion, challenging its constitutionality and its alignment with secularism and equality.

In regions like Assam and the Northeast, concerns extend to the CAA's potential conflict with the 1985 Assam Accord and its impact on local demographics and indigenous communities. The Supreme Court's impending verdict on the CAA will be crucial in determining its conformity with constitutional principles of secularism and equality. With the government having notified rules for the CAA's implementation, the focus now shifts to its practical effects and the broader implications for India's legal and social fabric.

One missile, many weapons-Indian Express Explained

-Science and technology

Key takeaways

The key takeaways from India's successful integration of MIRV technology into its Agni-V missile include:

Advanced Deterrence Capability: The MIRV technology allows a single Agni-V missile to carry multiple nuclear warheads, each capable of targeting different locations, significantly enhancing India's strategic deterrence potential.

Complex Challenge for Enemy Defenses: MIRV-equipped missiles present a formidable challenge to enemy missile defense systems, which must now intercept multiple incoming warheads simultaneously, thereby increasing the likelihood of some warheads reaching their targets.

Strategic Stability and Regional Security: The deployment of MIRV technology is a critical factor in maintaining strategic stability in South Asia, offering India a credible deterrent against potential aggression from neighboring rivals like China and Pakistan.

Indigenous Defense Technology Development: The successful development and integration of MIRV technology by the Defence Research and Development Organisation (DRDO) highlight India's progress in achieving self-reliance in defense technology and its emergence as a significant player in global defense.

Enhancement of Nuclear Deterrence Policy: The addition of MIRV capabilities to India's missile arsenal aligns with its no-first-use nuclear policy by providing a powerful second-strike capability, ensuring a potent deterrent against nuclear aggression.

Strategic Flexibility and Response Options: MIRV technology gives India greater strategic flexibility in its response options, allowing for tailored nuclear responses to various threats, thereby enhancing the efficacy of its nuclear force.

In summary, the integration of MIRV technology into the Agni-V missile marks a major leap in India's defense capabilities, strengthening its nuclear deterrent, complicating adversary defense strategies, and underscoring its commitment to maintaining strategic stability in the region.

Mains easy explanation

India's successful deployment of MIRV (Multiple Independently Targetable Re-entry Vehicle) technology in its Agni-V missile represents a significant advancement in its defense strategy, enabling multiple warheads on a single missile to target distinct locations. This enhancement complicates enemy defenses due to the difficulty in intercepting several warheads simultaneously, bolstering India's nuclear deterrence by offering a potent and versatile response capability. The integration of MIRV technology, developed by the Defence Research and Development Organisation (DRDO), underscores India's commitment to strategic self-reliance and positions it as a key player in global defense. This achievement not only strengthens India's defense posture against regional adversaries but also contributes to strategic stability by deterring aggression through advanced military capabilities. In essence, the Agni-V with MIRV technology marks a pivotal step in India's defense evolution, enhancing its security and strategic interests in a complex geopolitical environment.

EC's hour of reckoning-Indian express editorial

-Polity



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Key takeaways

Key takeaways from the developments around the Chief Election Commissioner (CEC) Bill 2023 include:

Legislative Scrutiny Amid Vacancies: The bill is under scrutiny at a critical time with two vacancies in the Election Commission of India (ECI), testing the legislation in both letter and spirit.

Supreme Court Order and Bill Amendments: Following a Supreme Court order to include the Chief Justice of India (CJI) in the ECI selection committee, the bill was amended to exclude the CJI, leading to debates about potential bias in the selection process.

Controversial Provisions: The bill's provisions concerning the equivalence of the CEC and Election Commissioners (ECs) to Supreme Court judges or Cabinet Secretaries, the composition of the selection committee, and the disparity in the removal process of the CEC and ECs have been points of contention.

Changes to Selection Committee Composition: The exclusion of the CJI and changes in the chairmanship and criteria for committee members have raised concerns about the integrity of the selection process for ECI appointments.

Integrity of the Electoral Governance: These developments have sparked discussions on the potential impact of the bill on the independence and effectiveness of the ECI, an essential institution for upholding democratic processes in India.

The CEC Bill 2023 represents a significant moment for India's electoral governance, with its amendments and provisions being closely watched for their implications on the ECI's role in maintaining the democratic framework

Mains easy explanation

The Chief Election Commissioner (CEC) Bill 2023 faces scrutiny amid vacancies in the Election Commission of India (ECI), marking a critical test for electoral governance in India. This follows a Supreme Court directive for a selection committee including the Chief Justice of India (CJI) for ECI appointments, a provision altered by the new law to exclude the CJI, raising concerns about bias in the selection process.

Debates surrounding the bill focus on the status and removal process of the CEC and Election Commissioners (ECs), the selection committee's composition, and their equivalence to Supreme Court judges or Cabinet Secretaries. Critics question the government's rationale behind these changes, notably the exclusion of the CJI from the selection committee, potentially favoring government preferences.

While the bill initially proposed equating the CEC and ECs with the Cabinet Secretary, amendments restored their status akin to Supreme Court judges. However, the disparity in their removal process remains unaddressed, despite Supreme Court suggestions for parity. Additionally, changes in the Search Committee's chairmanship and membership criteria have sparked concerns about the selection process's integrity.

The CEC Bill 2023's amendments highlight the legal, administrative, and political dynamics at play, with its impact on the ECI's independence and effectiveness as a crucial aspect of India's democratic infrastructure under close watch.

[Moving to a better count-indian Express Editorial](#)

-Economy

Key takeaways

Dramatic Decline in Poverty: The survey indicates a significant decrease in poverty across India, with notable improvements in both rural and urban settings.

Discrepancy Between Consumption Estimates: There's a substantial gap between the NSSO's consumption expenditure data and the National Accounts Statistics (NAS), which has been growing over time, signaling the need for in-depth analysis to bridge this discrepancy.

Shifts in Consumption Patterns: Data show a reduction in food expenditure's share of total consumption and an increase in non-food items, reflecting changing consumer preferences.

Implications for Consumer Price Index (CPI): The observed changes in consumption patterns necessitate updates to the CPI basket to ensure it accurately reflects current spending habits, which could affect inflation measurements and monetary policy.

Methodological Changes in Survey: The HCES 2022-23 introduced methodological updates, including item coverage adjustments and digital data collection methods, which are crucial for accurately comparing new data with previous surveys.

Potential for Higher Poverty Estimates: Given the changes in survey methodology, the actual poverty figures, especially under the Rangarajan Committee methodology, might be higher, particularly for urban areas, once more detailed data analysis is possible.



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Need for Comprehensive Data Analysis: The significant discrepancy between NSSO and NAS data on private consumption calls for a comprehensive review by the NSSO Advisory Group to improve data collection methods.

Consumer Behavior's Impact on Monetary Policy: The shift towards a lower share of food in total consumption and the changes in specific food and non-food items' expenditure shares have potential implications for inflation targeting and monetary policy adjustments.

Urgency in Addressing Data Discrepancies: The persistent and widening gap between NSSO and NAS data on consumption expenditure underscores an urgent need for policy and methodological interventions to ensure the accuracy and reliability of economic indicators.

These insights from the HCES 2022-23 shed further light on the socio-economic dynamics in India, emphasizing the importance of data accuracy, poverty analysis, and the implications of changing consumption patterns for economic policy and inflation management.

Mains easy explanation

The Household Consumption Expenditure Survey (HCES) 2022-23 by the National Sample Survey Office (NSSO) has revealed significant insights into India's socio-economic progress and challenges. Key findings include a marked reduction in poverty, with rural poverty decreasing from 25.7% to 7.2% and urban poverty from 13.7% to 4.6%, demonstrating the effectiveness of India's poverty alleviation efforts over the last decade.

However, the survey highlights a growing discrepancy between NSSO's consumption expenditure estimates and those by the National Accounts Statistics (NAS), a gap that has expanded to over 50% in recent years. This discrepancy calls for an in-depth methodological review to ensure the accuracy of economic data.

Furthermore, changing consumption patterns among Indian households, particularly the decrease in food expenditure's share and the increase in non-food items, suggest the need for adjustments in the Consumer Price Index (CPI) and monetary policy. These shifts have implications for inflation management and economic policy, emphasizing the crucial role of reliable data in economic decision-making.

Overall, the HCES 2022-23 underscores India's strides in reducing poverty and the importance of addressing data discrepancies and evolving consumer behaviors for informed policy formulation.

Why did the top Court reject SBI's plea?-The Hindu text and context

-Polity

Key takeaways

The key takeaways from the Supreme Court's decision regarding the State Bank of India (SBI) and electoral bonds include:

Immediate Compliance Required: The Supreme Court rejected SBI's plea for an extension to June 30, 2024, for furnishing electoral bond details to the Election Commission of India (ECI), instead demanding the information within 24 hours.

Contempt Plea Against SBI: NGOs filed a contempt plea against SBI for not disclosing details of electoral bond donors and amounts to political parties, alleging deliberate delay to prevent public disclosure before the Lok Sabha elections.

SBI's Justification: SBI sought more time, citing logistical challenges in gathering dispersed data, which was stored in different formats and silos to maintain donor anonymity, involving a manual process of decoding 22,217 electoral bonds.

Court's Directive: The Supreme Court emphasized the need for straightforward disclosure of electoral bond details to the ECI, questioning SBI's efforts since the initial judgment and warning of potential actions for non-compliance.

Expert Opinions and Reports: Experts and investigative reports contested SBI's claims about the difficulty of providing the information, suggesting that the bank's infrastructure and digital systems should facilitate prompt data retrieval.

Importance of Transparency: The case highlights the ongoing debate over electoral bond transparency, with the Supreme Court's ruling underlining the significance of disclosing financial contributions to political parties for public scrutiny.

Mains easy explanation

The Supreme Court dismissed the State Bank of India's (SBI) request to delay providing electoral bond details to the Election Commission of India (ECI) until June 30, 2024. Instead, the Court demanded the information within 24 hours. SBI's plea for extension was based on the argument that the required data was dispersed across branches and maintained in separate silos to protect donor anonymity, making retrieval a lengthy process.



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A contempt plea by NGOs accused SBI of attempting to withhold donor and political party information until after the Lok Sabha elections. The petitioners challenged SBI's claim of difficulty, pointing to the bank's large infrastructure and digital systems as capable of facilitating rapid data compilation.

The Supreme Court, focusing on the need for direct disclosure without matching donor and party information, questioned SBI's inaction since a previous judgment. While the Court avoided initiating contempt proceedings, it warned of potential actions if SBI failed to comply. Experts and reports have contradicted SBI's stance, arguing that electoral bond information could be easily accessed, underscoring the importance of transparency in electoral financing.

A tribe in the Western Ghats in need of a lifeline-The Hindu Editorial

-Sociology

Key takeaways

Key takeaways from the situation of the Phani Yerava tribe in Karnataka's Western Ghats include:

Land Rights Success: The tribe successfully claimed forest land rights under the Forest Rights Act, a significant step for their legal recognition and empowerment.

Shift in Livelihood: Despite gaining land rights, the tribe's dependency on the forest for livelihood has decreased due to the challenges and low profitability of collecting forest produce, leading many to prefer daily labor work, especially in nearby Kasaragod, Kerala.

Alcohol Addiction Crisis: A pervasive issue of alcohol addiction affects nearly the entire community, including children, impacting their health, education, and social functioning. This addiction has also led to a reduction in the population of some tribal hamlets due to related fatalities.

Government and NGO Intervention: Efforts are being made for de-addiction drives, but there's a call for more focused attention and action from the government and non-governmental organizations to address the addiction problem effectively.

Policy Attention Gap: The plight of the Phani Yerava tribe and similar communities in the region highlights a gap in policy attention towards social issues affecting tribal groups, with activists and community leaders advocating for comprehensive government strategies that address existential concerns like addiction.

Need for Comprehensive Welfare Approach: The situation underscores the importance of a holistic approach to tribal welfare that includes not just economic development but also social and health interventions to ensure the well-being of these communities in the Western Ghats.

Mains easy explanation

In the Western Ghats of Karnataka, the Phani Yerava tribe in Makuta village faces a crucial turning point. Despite successfully claiming land rights under the Forest Rights Act, the tribe's traditional dependency on the forest has diminished. Many have shifted to labor work due to the challenging nature and low profitability of collecting forest produce, exacerbated by market volatility and exploitation by middlemen. This shift in livelihood is contrasted with a grave concern: widespread alcohol addiction within the community, affecting all ages and severely impacting their socio-economic conditions and awareness of external affairs.

Efforts for de-addiction are underway, highlighting the community's struggle not just with economic survival but with a debilitating addiction that threatens their future. This situation reflects broader challenges faced by tribal communities in the region, where social issues like addiction receive inadequate attention in policy discussions. Activists and officials advocate for targeted government intervention to address these existential threats effectively, underscoring the need for a comprehensive approach to tribal welfare beyond just economic measures. This narrative underscores the complex interplay between cultural preservation, economic development, and social well-being among the Phani Yerava tribe and similar communities in the Western Ghats.

The curious case of a man who received 217 COVID shots-The Hindu Science

-Science

Key takeaways

Extreme Vaccination Case: A 62-year-old German man received 217 COVID-19 vaccine doses over 29 months without adverse health effects, offering a unique case to study over-vaccination's impact on immunity.

Study Insights: Published in The Lancet, the study revealed no immune system exhaustion or health anomalies in the individual, with significantly higher antibody levels compared to a standard dose control group.



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Immune System's Capacity: The case underscores the human immune system's ability to handle repeated vaccinations without adverse effects, challenging concerns about "immune exhaustion."

Vaccine Safety Evidence: This extreme case supports COVID-19 vaccines' safety and efficacy, suggesting the immune system can manage and benefit from multiple vaccinations.

Caution Against Over-Vaccination: Despite the positive outcomes, the study advises against over-vaccination due to potential autoimmune risks, emphasizing the importance of adhering to scientifically validated vaccination schedules.

Immunology Advancements: The case provides insights into immune tolerance and vaccine-induced immune responsiveness, enhancing our understanding of vaccines' effects on human health.

In essence, this unique case of over-vaccination demonstrates COVID-19 vaccines' safety at high doses but underscores the necessity of following established guidelines to optimize health benefits.

Mains easy explanation

The story of a 62-year-old man from Germany who received 217 COVID-19 vaccine doses over 29 months is quite remarkable. He got vaccinated many more times than the usual number of doses for private reasons. Researchers looked into his situation and found out something surprising. Despite receiving so many shots, the man didn't experience any negative health effects or signs that his immune system was worn out. This was unexpected because people often worry that getting vaccinated too much could be harmful.

The research, shared in The Lancet, showed that this man's body reacted positively to the repeated vaccinations. His levels of antibodies, which help fight off the virus, were much higher than what you'd see in people who had received the normal number of vaccine doses. This finding is important because it shows that the human immune system can handle a lot of vaccinations without any trouble.

However, the researchers were careful to say that just because this man was okay, it doesn't mean getting vaccinated this many times is a good idea for everyone. They mentioned that over-vaccination could, in rare cases, lead to autoimmune diseases, which happen when the immune system mistakenly attacks the body. So, while this man's experience suggests that COVID-19 vaccines are very safe, it's still best to stick to the recommended number of doses.

This case is a valuable lesson in vaccine science and how our bodies respond to vaccines. It reassures us that vaccines are safe and effective, even though we should not go overboard with them. It's a reminder of the amazing work vaccines do in keeping us safe from diseases, as long as we use them responsibly.

Oldest 'dead galaxy' yet is spotted by James Webb Telescope-the Hindu Science

-Science and technology

Key takeaways

The key takeaways from the discovery of the universe's oldest 'dead galaxy' by the James Webb Space Telescope include:

Historic Discovery: The telescope identified a galaxy that ceased star formation 700 million years after the Big Bang, 13.1 billion years ago, marking it as the earliest 'dead galaxy' discovered to date.

Challenging Previous Theories: This finding pushes back the existence of dead galaxies by about 500 million years, challenging our current understanding of the early universe's galaxy formation and evolution.

Rapid Lifecycle: The galaxy experienced a brief, intense period of star formation before suddenly stopping, which is intriguing given the early universe's conditions that were conducive to star formation.

Stellar Graveyard: With 100 million to one billion stars, the galaxy transitioned into a stellar graveyard, changing color from blue to red as its stars died, beginning with the most massive ones.

Implications for Cosmology: This discovery raises significant questions about the processes that lead to the cessation of star formation in galaxies and challenges existing models of galactic development.

James Webb's Capabilities: The advanced observational power of the James Webb Space Telescope has opened new windows into the universe's early stages, providing unprecedented insights into distant cosmic phenomena.

In essence, this groundbreaking observation not only adds a new chapter to our understanding of galaxy life cycles but also underscores the intricate dynamics at play in the early universe, inviting further investigation into the mysteries of cosmic evolution.

Mains easy explanation

The James Webb Space Telescope has made a pivotal discovery by spotting the universe's oldest 'dead galaxy,' which stopped forming stars 700 million years after the Big Bang, around 13.1 billion years ago. This finding by Tobias Looser



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and his team pushes back the timeline for the earliest known dead galaxy by 500 million years. The galaxy experienced a short, intense burst of star formation before abruptly ending, puzzling scientists due to the universe's then-ripe conditions for star formation.

Hosting between 100 million to one billion stars, this galaxy became a 'stellar graveyard' as its star formation processes ceased. The galaxy's color transition from blue to red over time marks the death of its most massive stars first, illustrating the life cycle of stars and their impact on galaxy evolution.

This discovery raises questions about the early universe's dynamics and challenges current models of galaxy development. The James Webb Space Telescope's ability to observe such distant events offers insights into the cessation of star formation in galaxies, contributing to our understanding of cosmic history and the complex processes governing galaxy formation and evolution.

13th March 2024

The CAA Rules, unpacked-Indian Express Explained

-Polity

Key takeaways

The key takeaways from the newly notified Citizenship Amendment Act (CAA) Rules include:

Target Beneficiaries: The CAA primarily benefits Hindu, Sikh, Buddhist, Jain, Parsi, and Christian migrants from Pakistan, Bangladesh, and Afghanistan who entered India on or before December 31, 2014.

Simplified Documentation: Applicants no longer need to provide extensive documentary evidence of their citizenship or religion from their country of origin. A range of documents, including birth certificates, educational certificates, and any kind of identity document or license, can be used to prove their nationality and religion.

Relaxed Requirements: The earlier mandatory requirement of valid passports and residential permits has been significantly relaxed. Now, documents proving the applicant's or their ancestors' citizenship of the specified countries, even if expired, are acceptable.

Proof of Date of Entry: A wide array of documents, including visas, Aadhaar cards, driving licenses, PAN cards, and more, can be used to establish the date of entry into India.

Language Requirement: The previous necessity for a certificate from an educational institution to prove knowledge of an Indian language has been removed. A simple declaration of language knowledge suffices.

Centralized Processing: The processing of citizenship applications under the CAA will be managed by the Centre through Empowered Committees and District Level Committees, bypassing the need for state government involvement. Applications must be submitted electronically.

Historical Context: The government has made previous attempts to accommodate migrants from these countries, including amendments and notifications under previous administrations, which have gradually eased the process for obtaining long-term visas (LTVs) and citizenship for such migrants.

These changes represent a significant shift in the approach to providing citizenship to migrants from specific countries and religions, intending to ease their path to becoming Indian citizens despite the absence of standard legal documentation typically required for such processes.

Mains easy explanation

The Citizenship Amendment Act (CAA) of December 2019 offers a streamlined path to Indian citizenship for Hindu, Sikh, Buddhist, Jain, Parsi, and Christian migrants from Pakistan, Bangladesh, and Afghanistan, who entered India before the end of 2014. Designed to support individuals fleeing religious persecution, it notably excludes Muslims, reducing the residency requirement for naturalization from eleven to five years. The implementation rules simplify the documentation process, accepting a wide range of proofs, including expired documents, to verify nationality and religion. Central to the application process, the government has introduced Empowered and District Level Committees to oversee applications, minimizing state governments' roles, particularly those opposed to the Act. This legislative change, part of a broader political discourse on religious persecution and citizenship, aims to facilitate the integration of persecuted migrants into Indian society, sparking significant debate on its implications for secularism and inclusivity.

Fighting warming: when gases are contraband-Indian express Explained

-Environment

Key takeaways



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First Prosecution for GHG Smuggling: This marks the first time the U.S. Department of Justice is prosecuting an individual, Michael Hart, for smuggling banned greenhouse gases, signaling a new enforcement approach against climate change contributors.

Substances Involved: Hart is accused of smuggling hydrofluorocarbons (HFCs) and hydrochlorofluorocarbons (HCFC-22), refrigerants with a high global warming potential, from Mexico to sell in the U.S., highlighting the environmental risks associated with these chemicals.

International and National Regulations: The case reflects the global commitment to phasing out substances harmful to the ozone layer and climate, as outlined in the Montreal Protocol and its Kigali Amendment, and implemented in the U.S. through the Clean Air Act.

Legal and Environmental Implications: This prosecution underlines the U.S. government's dedication to using legal means to combat environmental threats, setting a precedent for future actions against similar violations.

Broader Impact on Climate Policy: The case emphasizes the importance of adherence to international agreements and national laws designed to mitigate the impact of climate change, underscoring the role of legal actions in enforcing environmental protection.

Mains easy explanation

The U.S. Department of Justice is prosecuting a California man for illegally importing banned greenhouse gases (GHGs), marking a first in efforts to combat climate change. The accused, Michael Hart, allegedly smuggled hydrofluorocarbons (HFCs) and hydrochlorofluorocarbons (HCFC-22), used in outdated air conditioners and refrigerators, from Mexico to the U.S. This case highlights the U.S. commitment to enforcing environmental protection laws, particularly against substances that exacerbate global warming.

The context of this enforcement is the global initiative to phase out ozone-depleting substances, initiated by the Montreal Protocol in 1987 and followed by the Kigali Amendment in 2016, which specifically targets an 80% reduction in HFC consumption by 2047. In the U.S., the regulation of these substances falls under the Clean Air Act, with specific bans on the importation of HCFC-22 starting in 2020 and HFCs from 2022 without proper authorization. This legal action serves as a significant precedent, emphasizing the importance of adhering to international and national regulations aimed at mitigating the impact of climate change.

Cuttack's famed silver filigree work, which got the GI tag-Indian Express Explained

-Art and culture

Key takeaways

Geographical Indication (GI) Tag: Cuttack's silver filigree work, known as Rupa Tarakasi, has been awarded the GI tag, recognizing its unique craftsmanship and cultural heritage in Odisha, India.

Craftsmanship and Technique: Rupa Tarakasi involves transforming silver into thin wires or foils to create intricate jewelry and showpieces, showcasing the exceptional skill and delicacy of local artisans.

Historical Significance: The art form dates back to at least the 12th century and received considerable patronage under the Mughals. Its historical roots are connected with similar filigree work found in Arabia, Malta, Genoa, among other regions, suggesting a rich exchange of cultural and artistic practices.

Cultural and Religious Importance: The craft is integral to Odisha's cultural and religious traditions, producing iconic items such as the Durga Puja Medha, Odissi jewelry, and other pieces linked to the state's customs.

Global and Historical Connections: The documentation submitted for the GI tag highlights the global connections of Rupa Tarakasi, comparing it to filigree work from ancient civilizations and indicating its spread through historical trade and cultural exchanges.

Mains easy explanation

Rupa Tarakasi, the exquisite silver filigree work from Cuttack, Odisha, has been honored with a Geographical Indication (GI) tag, recognizing its unique cultural and historical significance. This intricate craft, known for transforming silver into thin wires or foils to create delicate jewelry and showpieces, reflects a rich tradition that dates back to the 12th century, enjoying patronage under various rulers, including the Mughals.

The origin of Rupa Tarakasi, while not precisely known, is believed to share characteristics with filigree work from regions as diverse as Arabia, Malta, Genoa, Norway, Sweden, Denmark, ancient Greece, Byzantium, and Etruria. This suggests a historical exchange of artistic knowledge, possibly facilitated by the Phoenicians, Arabs, Normans, and through medieval trade routes.



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The GI tag for Rupa Tarakasi underscores the art form's exceptional craftsmanship, which has been finely honed in Cuttack. Among the notable products of this traditional art are the Durga Puja Medha (elaborate silver decorations for the Durga idol and pandal), Odissi dance jewelry, and various religious and cultural items that play a significant role in the customs of Odisha, including the distinctive Dama chain. The recognition not only celebrates the intricate beauty of Rupa Tarakasi but also aims to protect and promote this ancient craft on a global scale, ensuring its preservation and continued appreciation.

[GI tag for Assam's Majuli masks: history of the art form-Indian Express Explained](#)

-Art and culture

Key takeaways

Geographical Indication (GI) Recognition: The traditional masks and manuscript painting of Majuli, Assam, have received GI tags, highlighting their unique cultural heritage and origin from the world's largest river island.

Majuli Masks: Integral to the neo-Vaishnavite tradition, these handmade masks are used in bhaonas (theatrical performances) to depict various characters from mythology and folklore, showcasing the island's rich tradition of craftsmanship using locally sourced materials like bamboo, clay, and cotton.

Majuli Manuscript Painting: A distinct art form dating back to the 16th century, practiced on sanchipat (manuscripts made from the bark of the sanchi or agar tree), reflects the historical and cultural richness of Majuli, once patronized by the Ahom kings.

Cultural and Religious Centers: The mask-making tradition thrives in Majuli's sattras (monastic institutions), which are pivotal to the preservation and dissemination of Assam's neo-Vaishnavite culture, including performing arts like borgeet (songs), xattriya (dance), and bhaona (theatre).

Global and Cultural Significance: The GI tags for Majuli's masks and manuscript painting underscore the importance of protecting and promoting these traditional crafts. They serve not only as a testament to the island's artistic legacy but also as a means to secure the livelihoods of the artisans and preserve Majuli's cultural identity for future generations.

Mains easy explanation

The traditional masks and manuscript paintings of Majuli, an island in Assam renowned for its cultural richness and as the world's largest river island, have been awarded Geographical Indication (GI) tags. This recognition highlights their unique craftsmanship and the distinctive cultural heritage they represent. The masks, integral to Majuli's neo-Vaishnavite tradition, are used in bhaonas, theatrical performances that convey devotional messages, and are crafted from local materials such as bamboo, clay, and cotton. They depict a range of characters from Hindu mythology, demonstrating the community's deep-rooted religious and cultural practices.

Majuli's manuscript painting, dating back to the 16th century and performed on sanchipat made from the bark of the sanchi or agar tree, showcases the island's historical significance and its connection to the Ahom kings who once patronized this art form. The GI tags for these crafts not only recognize their intrinsic value and origin but also aim to protect and promote Majuli's cultural identity on a global scale. This recognition is expected to enhance the economic well-being of the local artisans by preserving their traditional crafts for future generations, fostering a greater appreciation of Majuli's artistic legacy.

[In Sabarmati Ashram Redevelopment Plan, stress on gandhian ethos-Indian Express Explained](#)

-Art and culture(heritage)

Key takeaways

Master Plan Unveiled: Prime Minister Narendra Modi has unveiled a master plan for the redevelopment of the Sabarmati Ashram in Ahmedabad, commemorating the 94th anniversary of the Dandi March. This plan introduces a comprehensive Rs 1,200-crore Gandhi Ashram Memorial and Precinct Development Project.

Project Scope and Vision: Prepared by HCP Design, the project aims to expand and enhance the current 5-acre ashram into a 55-acre memorial within a 322-acre precinct. It involves the restoration, conservation, and rebuilding of significant structures within the ashram, emphasizing the preservation of its historical and cultural significance.

Preservation of Gandhian Ethos: The redevelopment emphasizes maintaining the simplicity and accessibility that Gandhi cherished. The plan includes modern facilities like an orientation centre and exhibition areas but ensures these additions do not compromise the ashram's ethos.



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Cultural and Historical Significance: The Sabarmati Ashram is a pivotal site in Gandhi's life and the Indian independence movement. The redevelopment seeks to preserve this legacy, ensuring the ashram remains a source of inspiration and education on Gandhi's life, work, and principles.

Community and Accessibility: The project has taken steps to ensure the ashram remains accessible to all, reflecting Gandhian values of inclusivity. This includes no entry fees for visitors or scholars and maintaining the essence of the ashram for educational and inspirational purposes.

Mains easy explanation

On the 94th anniversary of the Dandi March, Prime Minister Narendra Modi unveiled the master plan for the Gandhi Ashram Memorial and Precinct Development Project in Ahmedabad, marking a significant step in the redevelopment of the Sabarmati Ashram with an investment of Rs 1,200 crore. The plan, crafted by HCP Design, aims to restore, conserve, and enhance the ashram that currently spans 5 acres to an expansive 55-acre memorial within a 322-acre precinct, paying homage to Gandhi's ethos.

The Sabarmati Ashram, central to Gandhi's life and India's freedom struggle, is to undergo a transformation that respects its historical significance and Gandhian principles. The redevelopment plan will conserve 20 buildings, restore 13, and rebuild 3, incorporating modern facilities like an orientation centre, a scholars' residency, and exhibition areas while ensuring the essence of Gandhian simplicity and accessibility remains untouched.

Key to this project is the emphasis on maintaining the ashram's ethos, avoiding commercialization or "governmentalisation," and ensuring free access to all visitors. This redevelopment project seeks to not only preserve the physical space but also to embody the principles and legacy of Mahatma Gandhi, ensuring his teachings continue to inspire future generations.

Bracing for Trump-Indian Express Editorial

-International relations

Key takeaways:

Concern Among U.S. Allies: The possibility of Donald Trump's return as U.S. President is causing worry among allies in Europe and the Indo-Pacific due to his past policies and stance towards alliances.

Trump's "America First" Policies: Trump's administration was known for prioritizing "America First" policies, which included questioning the value of traditional alliances and pushing for allies to contribute more to their defense.

Strategic Shifts in Asia: Despite criticisms, Trump's tenure saw strategic shifts, notably in Asia, where he imposed tariffs on China and strengthened the Quadrilateral Forum to counterbalance China's rise.

Potential Impact on Alliances: Allies fear that Trump could be less restrained in a second term, possibly taking radical steps such as withdrawing U.S. troops from allied countries.

Economic Policy Stance: Trump has criticized the traditional U.S. approach of providing allies non-reciprocal market access in exchange for geopolitical support, advocating instead for policies that he believes better serve American economic interests.

Challenge for India: While Trump's security policies align with India's regional ambitions, his criticism of India's protectionism and the failure to secure a trade agreement pose challenges for future economic cooperation between the two countries.

India's Need for a New Framework: Given the importance of the U.S. as an economic partner and the potential for increased trade and technology ties, India may need to develop a new framework for trade cooperation to navigate the complexities of Trump's policies and ensure robust bilateral relations.

Mains easy explanation:

The prospect of Donald Trump's return to the U.S. presidency is causing concern among U.S. allies in both Europe and the Indo-Pacific, due to his past stance on alliances and "America First" policies. Trump's administration, despite criticism, made significant strategic shifts, particularly in Asia, by imposing tariffs on China and reviving the Quadrilateral Forum to balance China's influence. However, allies worry that a less restrained Trump could take more radical steps against them, potentially withdrawing U.S. troops and harming longstanding alliances.

Trump has also challenged the traditional U.S. foreign policy approach that allows allies non-reciprocal access to the U.S. market in exchange for geopolitical favors, arguing that this has disadvantaged the American economy and workforce. His administration targeted not only China but also European and Asian allies with tariffs, indicating a readiness to rethink the U.S.'s economic relationships globally.



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For India, Trump's possible presidency represents a mixed bag. On the security front, India's commitment to regional security and ambition to be a great power align well with the U.S.'s search for capable partners in Eurasia. However, economic and trade cooperation may face challenges, given Trump's criticisms of India's protectionism and the failure to negotiate a trade agreement during his first term. As the U.S. becomes an increasingly important economic partner for India, New Delhi may need to develop a new framework for trade cooperation to navigate the complexities of a potential Trump presidency and its implications for global geopolitics.

A new sense of urbanisation that is dominating-The Hindu Editorial

-Sociology

Key takeaways:

Shift in Urbanization Focus: Recent inaugurations of significant political and religious institutions in India, led by the Prime Minister, suggest a potential shift in urban development focus towards religion as a core element, diverging from the traditional emphasis on work, industry, and modernism.

Investment in Religious Cities: An estimated investment of ₹85,000 crore in Ayodhya's infrastructure indicates a new paradigm of urban development centered around religious cities, challenging the conventional model of urbanization.

Historical Context of Urban Development: Urban development in India has traditionally emphasized colonial cities for economic activities and modern cities for incorporating modernism in architecture and culture. However, this trend seems to be changing with the new emphasis on religious cities.

Modernism vs. Religious Revivalism: The current urbanization trend indicates a move away from the modernist features that defined the development of Indian cities in the past, towards a form of religious revivalism that integrates religion into the urban fabric.

Concerns over Social Good and Investments: The shift towards religious urban development raises concerns about the allocation of resources. It questions whether investments are being directed towards necessary social infrastructure rather than catering to the social good, emphasizing the need for a balanced approach to urban development.

Potential Impact on Urban Spaces: The focus on religious infrastructure over essential social investments might lead to the centralization of finances and potentially result in the ghettoization of urban spaces based on religious lines.

Call for Decentralization and Equal Rights: The emerging trend underscores the need for decentralization, democratization, and a dynamic coexistence of citizens with equal rights and obligations, moving away from urban development centered solely on religious identity.

Mains easy explanation:

The inauguration of the new Parliament building and the Ram temple by the Prime Minister of India signals a potential shift in the country's urbanization focus towards religion, diverging from the traditional emphasis on work, industry, and modernism. This trend is exemplified by the estimated ₹85,000 crore investment in Ayodhya's infrastructure, indicating a move towards developing religious cities as a new urban paradigm. Historically, urban development in India prioritized economic activities and modernism, but the current trend suggests a shift towards religious revivalism, integrating religion into the urban fabric. This raises concerns about resource allocation, questioning whether investments are being directed towards necessary social infrastructure rather than the social good. The focus on religious infrastructure could lead to the centralization of finances and potential ghettoization of urban spaces based on religious lines. It underscores the need for a balanced approach to urban development, emphasizing decentralization, democratization, and equal rights to ensure a dynamic coexistence of citizens, moving away from development centered solely on religious identity.

How is nuclear waste generated?-The Hindu text and context

-Environment

Key takeaways:

Generation of Nuclear Waste: Nuclear waste is produced through the fission process in nuclear reactors, where atoms like uranium-235 are bombarded with neutrons, leading to the creation of new, often non-fissile, elements that become waste.

Radioactivity and Danger: Spent fuel and other types of nuclear waste contain high levels of radioactivity, necessitating careful management to prevent environmental contamination and ensure public safety.



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Waste Management Techniques: The primary challenge in nuclear waste management is handling spent fuel, which is initially cooled in water before being transferred to dry cask storage for long-term containment.

Long-term Storage Needs: Nuclear waste requires secure storage for thousands of years, making it essential to develop facilities capable of isolating radioactive materials from human contact over geological timescales.

Reprocessing as a Solution: Reprocessing spent fuel separates fissile material for reuse in reactors from non-fissile waste, although it raises concerns about the production of weapons-usable plutonium.

International Examples: Countries with significant nuclear power programs, such as the U.S., Canada, and Russia, have developed various strategies for spent fuel storage, accumulating large quantities over time.

India's Approach: India utilizes reprocessing plants in Trombay, Tarapur, and Kalpakkam as part of its nuclear waste management strategy, aligning with its ambitious plans to expand its nuclear power program and explore thorium-based reactors in the future.

Mains easy explanation:

Nuclear waste is generated through the fission process in reactors, where neutrons bombard the nuclei of certain elements like uranium-235, producing energy and new elements that, if unable to undergo further fission, become waste. This waste is highly radioactive, posing challenges for storage and safety. Spent fuel, containing radioactive fission products and elements produced during neutron absorption and subsequent decays, represents a significant portion of this waste. Handling such waste involves cooling it underwater for several years before transferring it to dry casks for long-term storage, requiring facilities to be reinforced against leakage and contamination.

Countries with substantial nuclear power programs, including the U.S., Canada, and Russia, have accumulated large quantities of spent fuel, necessitating storage solutions that minimize human contact for millennia. Techniques for managing nuclear waste vary, including on-site treatment and storage at power plants, vitrification for liquid waste, and reprocessing to separate fissile material for further use. Reprocessing, however, introduces additional complexities, including the production of weapons-usable plutonium.

India, advancing its nuclear program with facilities like the Prototype Fast Breeder Reactor (PFBR), employs reprocessing plants in Trombay, Tarapur, and Kalpakkam to manage its nuclear waste. The country aims to utilize its thorium reserves in future reactor stages, which introduces additional waste management considerations. Despite technological advancements, the long-term storage and safety of nuclear waste remain significant global challenges, requiring meticulous planning, robust engineering, and adherence to strict environmental and safety standards to mitigate the risks associated with radioactive materials.

The Malayali diaspora's relief efforts during the Kerala floods-The Hindu text and context

-Disaster Management

Key takeaways:

Significant Role of the Malayali Diaspora: The Malayali diaspora significantly contributed to relief and reconstruction efforts during the 2018 Kerala floods through international remittances.

Impact of Remittances on Recovery: Remittances were crucial in aiding the state's recovery, showcasing the importance of the global Malayali community's support during crises.

Concerns Over Inclusivity of Aid Distribution: Despite the extensive aid mobilization, there were concerns about the equitable distribution of support, particularly regarding marginalized communities such as Dalits and Scheduled Tribes.

Prevalence of Established Networks in Aid Distribution: Aid distribution tended to favor individuals within established migrant networks, leading to disparities in who received assistance post-flood.

Temporary Nature of Intensive Transnationalism: The diaspora's intense mobilization of support during crises was found to be temporary, with long-term efforts reverting to pre-existing social and structural networks.

Need for Equitable Disaster Response Mechanisms: The Kerala flood response highlighted the limitations of relying solely on diaspora support for disaster recovery, emphasizing the need for government intervention to ensure aid reaches all societal segments equitably.

Mains easy explanation:

During the devastating 2018 floods in Kerala, the Malayali diaspora played a pivotal role in mobilizing aid and resources for the affected regions through international remittances, highlighting the significant impact of the global Malayali community in times of crisis. This support was instrumental in the state's recovery efforts, emphasizing the crucial role of diaspora contributions to Kerala's resilience against natural disasters. However, the distribution of aid raised concerns



about inclusivity, particularly regarding the marginalized communities within the state. Despite initial efforts to distribute aid without discrimination, long-term support tended to favor those within established migrant networks, often excluding marginalized groups such as the Dalits and Scheduled Tribes. This situation revealed the limitations of relying solely on diaspora and remittance-based aid for disaster recovery, underscoring the need for more equitable disaster response mechanisms. The Kerala flood response serves as a case study in leveraging international diaspora support in an inclusive and equitable manner, highlighting the importance of government intervention to ensure aid reaches the most vulnerable populations.

14th March 2024

FBR and energy security-Indian Express Explained

-Science and technology

Key takeaways:

What's Happening? India is working on a special type of nuclear reactor called a Fast Breeder Reactor (FBR) in Kalpakkam, Tamil Nadu. This is a big step in India's plan to use nuclear energy more effectively.

Why is it Important? The FBR can make more nuclear fuel than it uses. This is important because it helps India use its large reserves of a special kind of material called thorium, which is plentiful in the country. Thorium isn't directly usable in most nuclear reactors, but the FBR helps convert it into a form that can be used to produce energy.

What's Special About the FBR? Unlike most reactors that just use nuclear fuel to produce energy, the FBR can produce more fuel in the process. It takes a material that is not initially suitable for energy production (called "fertile" material) and converts it into a usable fuel ("fissile" material). This is a bit like a magical process where you use some seeds to grow a plant, and you end up with even more seeds than you started with.

India's Big Plan: India has a three-step plan for its nuclear energy future:

First Step: Use reactors that need uranium (a kind of nuclear fuel) to produce energy and plutonium (another type of fuel).

Second Step: Use the FBR to use plutonium and create more fuel. This step helps India get ready to use its thorium.

Third Step: Use thorium to produce energy. Since India has a lot of thorium, this could mean a lot of energy for a very long time.

Why Does This Matter? This plan is great for India because it means the country can use its own resources to produce energy. This makes energy more secure (because you're not relying on buying fuel from other countries) and can help provide plenty of electricity for India's growing needs.

The Big Picture: The work on the FBR and the plan to use thorium is all about making sure India has plenty of energy in the future, in a way that's reliable and makes the most of what India naturally has. It's like setting up a really smart system now that will keep providing energy for a very long time.

Mains easy explanation:

The initiation of core loading at the Kalpakkam Fast Breeder Reactor (FBR) is a landmark in India's nuclear energy journey, marking a critical advancement in its three-stage nuclear program aimed at achieving long-term energy security. This step reflects India's commitment to innovating within its nuclear sector, especially by utilizing its extensive thorium reserves through the unique capabilities of FBRs. These reactors are essential for India's strategy as they can create more fissile material than they consume, transforming fertile isotopes into valuable nuclear fuel.

Despite facing delays and technical challenges, India's persistence in developing the FBR underscores its ambition for nuclear self-reliance and a sustainable energy future. The FBR's ability to efficiently convert thorium into a usable energy source is crucial for India, given its limited uranium and abundant thorium resources. This progression from uranium-based reactors to thorium utilization embodies the vision of India's nuclear pioneers and is a key step towards reducing dependence on imported fuels.

As the FBR at Kalpakkam begins operation, it not only demonstrates India's capacity for innovation in nuclear technology but also strengthens its position in the global energy landscape. This development is instrumental in moving towards a thorium-rich energy future, offering a sustainable and self-sufficient pathway for India's growing power needs.

THE 'FIRST AUTONOMOUS' AI SOFTWARE ENGINEER:MEET DEVIN-Indian Express Explained



| Clear your doubts now.



-Science and technology

Key takeaways

Introduction of Devin: Cognition has introduced Devin, claimed to be the world's first AI software engineer, capable of passing practical engineering interviews and completing real jobs on the freelancing platform Upwork.

Capabilities: Devin showcases advanced software development skills including coding, debugging, problem-solving, and the ability to learn and adapt through machine learning algorithms. It's designed to execute complex engineering tasks efficiently and with precision.

Impact on Software Development: Devin promises to transform the software development process by automating repetitive tasks, generating code quickly, speeding up project timelines, and reducing development costs, all while maintaining a high standard of coding practices.

Concerns and Opportunities: While there are concerns about job displacement and the AI's ability to handle tasks that require human creativity, Devin is also seen as a potential collaborator that could enhance the productivity of software engineers and open new avenues for human-AI collaboration.

About Cognition: The company behind Devin, Cognition, focuses on developing AI teammates that surpass current AI tools in reasoning and planning. Devin is just the beginning of their ambition to tackle significant challenges in AI applications.

Availability: Devin will soon be available for engineering work, with companies currently invited to join a waitlist, indicating a growing interest in AI-driven software engineering solutions.

Mains easy explanation

Cognition has unveiled Devin, touted as the world's first AI software engineer, capable of passing engineering interviews and completing real tasks on Upwork. Through advanced machine learning, Devin offers skills in coding, debugging, and problem-solving, aiming to automate repetitive tasks and speed up software development, potentially reducing costs while maintaining high coding standards.

While Devin's emergence raises concerns about job security and its ability to handle tasks requiring human intuition, it also presents opportunities for human-AI collaboration, potentially boosting productivity in software engineering. Cognition's development of Devin underscores its focus on creating AI that excels in reasoning and planning, hinting at a future where AI collaborators play a crucial role in the tech industry. With Devin set to become available for work, the initiative marks a significant step towards integrating AI into the fabric of software development.

EXPRESS ADDA with Philosopher and author Professor Michael J Sandel-Indian Express Express Adda

-Ethics(Personalities)

Key takeaways

Challenges to Democratic Debate: Sandel notes a deterioration in the art of democratic debate, which has become associated with divisive and confrontational discourse on media platforms. He advocates for a redefinition of debate to align more closely with meaningful discourse and deliberation.

Market Economy and Equality: Questioning whether a free market economy can deliver on equality and the welfare state, Sandel expresses skepticism about the market's ability to address the climate agenda. He emphasizes the need for changing societal norms and attitudes, which cannot be solely achieved through economic incentives or market mechanisms.

Global Political Trends: Sandel touches upon the global political landscape, observing a shift neither towards the left nor the right, but rather a redefinition of these terms. He stresses the importance of addressing the deepest cultural and spiritual sources that drive both people's grievances and their aspirations.

The Role of Nationalism and Secularism: He critiques the liberal secular approach to politics that insists on a neutral public square devoid of moral and spiritual convictions. Sandel argues for a political dialogue that embraces these substantial questions, suggesting that progressive politics should not concede the themes of patriotism and national identity to conservative forces.

Media and Government Influence: Sandel discusses the challenge of ensuring a free press when the government is a major advertiser and has significant influence over media access. He suggests exploring alternative, not-for-profit funding models for media to maintain quality, fearless coverage, essential for a flourishing democracy.



| Clear your doubts now.



Addressing Majoritarianism in Democracies: He distinguishes democracy from majoritarianism, advocating for a public culture of deliberation beyond mere voting or majority rule. This perspective aligns with his broader view that democracy involves ongoing argument and contestation, not just the imposition of the majority's will.

Impact of Money in Politics: Reflecting on the American and Indian democratic experiences, Sandel warns against the dominance of money in politics and campaigns, urging for a focus on social equality and the passionate engagement with politics as seen in Indian democracy.

Complexity of Populist Governments: In dealing with populist governments elected or re-elected democratically, Sandel underscores the importance of respecting the democratic process while also engaging in efforts to persuade the public towards alternative visions of democracy and governance.

These takeaways from Sandel's interview provide insights into his perspectives on democracy, economic justice, political identity, and the challenges facing contemporary societies and their political systems.

Mains easy explanation

In an insightful interview, philosopher Michael Sandel shares his thoughts on some big issues affecting our world today. He's worried about how we argue about big decisions in democracy; it feels more like fighting than discussing important stuff. Sandel isn't sure the free market can solve all our problems, especially when it comes to making society more equal or tackling climate change. He thinks we need to change how we see things and not just rely on buying and selling to make everything better.

Sandel also talks about how countries are rethinking what being on the left or right politically means, emphasizing that we shouldn't ignore the deep concerns and hopes that drive people. He believes that discussions about what's right and wrong shouldn't be left out of politics, and that includes talking about our love for our countries in a way that's open to everyone.

Finally, Sandel is concerned about how much influence money has in politics and how this can drown out regular people's voices. He thinks democracy should be more about having real discussions and not just about who has the most votes or the most money.

How did Indians end up in the Russia-Ukraine war?-The Hindu Text and Context

-International relations

Key Takeaways:

Deceptive Recruitment: Indians were lured to Russia with promises of employment and education by a network of consultancy firms and local agents, exploiting their aspirations for a better life.

False Promises: Recruits were initially told they would not have to fight and were offered attractive salaries and bonuses. However, these promises were not fulfilled, as some did not receive the promised payments and were forced into combat roles.

Human Trafficking Network: The CBI's investigations across several Indian cities unveiled a sophisticated human trafficking operation. At least 17 consultancy companies across India were implicated in deceiving youths into traveling to Russia under false pretenses.

Government Intervention: The Indian government has acknowledged the plight of its citizens caught in this situation and is negotiating with Russian authorities for their early release. The government has also issued warnings against falling for such fraudulent job offers.

Educational Deceit: Apart from military recruitment, some students were duped into enrolling in dubious educational programs in Russia, highlighting the broader scope of the exploitation.

This episode underscores the vulnerabilities faced by individuals seeking better opportunities abroad and the need for vigilance against fraudulent schemes that exploit these aspirations. The Indian government's ongoing efforts aim to safeguard its citizens and prevent further exploitation by ensuring accurate information and support are available to those seeking opportunities overseas.

Mains easy explanation

The involvement of Indian nationals in the Russia-Ukraine war, coerced into combat on the Russian side, has come to light following the deaths of two Indians and investigations by the Central Bureau of Investigation (CBI). These investigations uncovered a human trafficking scheme falsely recruiting Indians for "security helper" positions or educational opportunities in Russia, only to force them into military service. Many were deceived by the promise of high





salaries and safe employment, but instead faced confiscation of their passports and were compelled to fight, contrary to their expectations and agreements.

The CBI's crackdown revealed a widespread network across India, involving at least 17 consultancy firms that exploited social media and local agents to lure individuals with the prospect of lucrative jobs in Russia. The reality, however, was starkly different, with recruits finding themselves in dire situations, some losing their lives and others desperately seeking government intervention for their release.

The Indian government, acknowledging the severity of the situation, is actively negotiating with Russian authorities for the safe return of its citizens and has issued warnings to prevent others from falling victim to similar scams. This episode highlights the need for increased awareness and protective measures against human trafficking and the exploitation of individuals seeking better opportunities abroad, emphasizing the importance of vigilance and government action in safeguarding citizens against such deceitful practices.

[A fresh stance-The Hindu Editorial](#)

-Economy

Key takeaways

India's Strategic Trade Engagement: The Trade and Economic Partnership Agreement (TEPA) with EFTA countries marks a pivotal shift in India's trade strategy, illustrating a proactive approach to forging global trade relations, especially with European nations.

Focus on Services and Investment: TEPA aims to boost market access for Indian services, simplify visa regulations, and attract significant foreign direct investment, setting ambitious targets like creating a million jobs and drawing \$100 billion in investment over 15 years.

Consumer and Producer Benefits: The agreement promises tangible benefits for Indian consumers through access to cheaper imports such as wines and chocolates, and for producers by making machinery more affordable.

Moving Past Trade Reluctance: India's engagement in this agreement, expected to be ratified by the end of 2024, signifies a departure from its previous hesitance towards trade pacts, as demonstrated by its withdrawal from the RCEP in 2019.

Incorporating Broader Concerns: The inclusion of labor, human rights, environment, and gender issues in TEPA for the first time in an Indian economic agreement reflects a willingness to engage with non-trade concerns, aligning India more closely with global standards and potential allies like the EU.

Mains easy explanation

India's Trade and Economic Partnership Agreement (TEPA) with the European Free Trade Association (EFTA) countries—Iceland, Liechtenstein, Norway, and Switzerland—signals a significant turn in India's trade policy, showing a readiness to engage in international trade agreements. Initiated in 2008 and reactivated recently, this pact focuses on improving market access for Indian services and professionals, with an aim to attract \$100 billion in foreign investment and create a million jobs over 15 years. It also envisions benefits for Indian consumers and producers through access to cheaper imports and machinery, respectively.

This agreement is part of a broader effort by India to re-establish itself on the global trade stage, moving past its previous aversion to trade pacts as seen with its exit from the RCEP in 2019. The deal with EFTA, which is expected to be ratified by the end of 2024, is notable for incorporating non-trade issues like labor, human rights, environment, and gender, reflecting India's willingness to align with international norms and address global concerns within its trade agreements.

[Alpha Geometry and the threat of AI's takeover of mathematics-The Hindu Science](#)

-Science

Key takeaways

Google DeepMind's AlphaGeometry, an artificial intelligence, has impressed mathematicians by solving very tough geometry problems similar to those in the International Mathematical Olympiad. Here's what makes it special:

Solving Hard Problems: AlphaGeometry solved 25 out of 30 really challenging geometry problems, doing better than many top human competitors.

How It Works: It uses a smart method to figure out geometry proofs by logically thinking through steps, similar to how a detective solves a case by linking clues. It can also draw diagrams to explain its answers, just like a teacher would on a blackboard.



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Creativity in Math: One of the big challenges in teaching a computer to do math is helping it be creative. Math problems often need clever tricks to solve, and AlphaGeometry has shown it can come up with some of these tricks on its own.

Future of Math with AI: This achievement shows that computers might soon be able to help solve many kinds of math problems, potentially changing how we learn and do math. It's like having a super smart math buddy who can help you out.

Big Achievement: Experts think AlphaGeometry's work is a big deal because it can write explanations that people can understand and make diagrams just like a human would. This is a big step toward computers being able to do more complex and creative tasks in math.

Mains easy explanation

AlphaGeometry, created by Google DeepMind, has made notable strides in solving complex geometry problems at an International Mathematical Olympiad level, surpassing the achievements of an average silver medalist. This AI distinguishes itself not just by solving intricate problems, but by explaining its solutions through clear, human-readable proofs and diagrams. Its success is driven by the innovative use of a "Deductive Database" and "Algebraic Rules," allowing it to navigate through logical and algebraic complexities with remarkable efficiency.

The AI's capability to engage in auxiliary constructions showcases its creative problem-solving skills, demonstrating that AI can indeed mimic human ingenuity in mathematics. AlphaGeometry's achievements suggest a transformative potential for AI in mathematics, extending from educational purposes to advanced research. This development marks a significant step towards a future where AI can work alongside humans to explore new mathematical frontiers, indicating a shift towards a collaborative approach in mathematical problem-solving and research.

Overcoming theoretical limits on solar cell capacity-The Hindu Science

-Science

Key takeaways

Shockley-Queisser Limit Explained: This principle sets a theoretical maximum efficiency for single-junction solar panels, indicating they can only convert about one-third of the sunlight they receive into electrical energy. This limit highlights the natural restrictions of current solar technology.

Challenges to Efficiency: The limit is mainly due to two factors: transparency loss, where some sunlight passes through the panel without being converted, and thermalisation, where excess energy from sunlight is lost as heat rather than being converted into electricity.

Innovative Solutions: Researchers are exploring advanced techniques to overcome this limit, such as carrier multiplication, which allows a single photon to create multiple electron-hole pairs, and hot carrier extraction, aimed at capturing high-energy photons before they convert to heat.

Goals of Research: The ultimate objective of these efforts is to significantly increase the amount of sunlight solar panels can convert into electricity, potentially making solar energy a more powerful and efficient source of renewable energy.

Impact on Renewable Energy: Successfully surpassing the Shockley-Queisser limit would mark a significant milestone in solar technology, potentially leading to the development of solar panels that are much more efficient, cost-effective, and capable of generating a higher proportion of our energy needs from the sun.

Mains easy explanation

The Shockley-Queisser limit is a theoretical concept in photovoltaics that defines the maximum efficiency a solar cell can achieve in converting light energy into electrical energy. This limit, named after physicists William Shockley and Hans-Joachim Queisser, is determined by factors such as transparency loss and thermalisation, which restrict the efficiency of conventional solar cells to about a third of the incident solar energy. Essentially, this limit is due to the solar cell's inability to utilize photons with energy below the band gap for electron excitation and its inefficiency in handling photons with energy significantly above the band gap without generating excess heat.

Researchers are exploring methods to exceed this limit and harness solar energy more efficiently. Two promising approaches include carrier multiplication, where a single photon generates multiple electron-hole pairs, and hot carrier extraction, which captures high-energy photons before they can dissipate as heat. Despite the challenges, these strategies offer potential pathways to improve solar cell efficiency beyond the constraints of the Shockley-Queisser limit, promising a future where solar technology can convert a higher portion of solar energy into electricity.

15th March 2024



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[Unpacking Kovind panel's report-Changes suggested in Constitution, how they will ensure simultaneous elections-Indian Express Explained](#)

-Polity

Key takeaways

Constitutional Mandate for Simultaneous Elections: Introduction of Article 82A mandates simultaneous Lok Sabha and state Assembly elections, aiming to streamline the electoral process.

Expanded Parliamentary Authority: Proposed expansion of Parliament's authority under Article 327 to include the conduct of simultaneous elections enhances legislative oversight and coordination.

Clarification of Legislative Tenures: Amendments to Articles 83 and 172 provide clear definitions of "full term" and "unexpired term," ensuring stability and continuity in governance.

Alignment of Union Territories Elections: Changes to UT laws ensure that their electoral schedules align with national and state-level polls, promoting consistency in electoral practices.

Reform for Local Body Elections: Proposed amendments facilitate simultaneous municipal and panchayat elections, aiming to improve governance effectiveness at the grassroots level.

Introduction of Single Electoral Roll: Implementation of a Single Electoral Roll simplifies voter registration processes and enhances data accuracy, contributing to a more efficient electoral system.

Mains easy explanation

The proposed changes to the Indian Constitution, as outlined by the High Level Committee on One Nation, One Election chaired by former President Ram Nath Kovind, signify a concerted effort towards synchronizing elections across various tiers of government. At the core of these recommendations is the introduction of Article 82A, mandating simultaneous elections for the Lok Sabha and state Assemblies. This move aims to streamline the electoral calendar, reduce logistical challenges, and minimize disruptions associated with staggered polls. Additionally, the expansion of Parliament's authority under Article 327 to include the conduct of simultaneous elections signifies a significant enhancement in legislative oversight and coordination. Amendments to Articles 83 and 172 provide clarity regarding the duration of legislative tenures, ensuring stability and continuity in governance. Furthermore, the proposed reforms seek to align Union Territories' electoral schedules with national and state-level polls, promoting uniformity in electoral practices. By facilitating simultaneous elections for municipal and panchayat bodies, the amendments aim to enhance governance effectiveness at the grassroots level. The introduction of a Single Electoral Roll further streamlines voter registration processes, contributing to a more efficient and transparent electoral system overall. These reforms collectively represent a strategic endeavor to strengthen democratic principles, improve governance efficiency, and enhance electoral integrity in India.

[Ratification By States: what it will take to make panel view legally tenable-Indian Express Explained](#)

-Polity

Key Takeaways:

Legal Framework Changes: The High-Level Committee on One Nation, One Election, led by former President Ram Nath Kovind, proposes significant legal framework changes. These include 15 Constitution Amendments, alterations to three statutes governing Delhi, Jammu and Kashmir, and other Union Territories, and a Presidential notification to establish an "appointed date" for synchronized elections.

Potential Implementation Timeline: The framework for simultaneous polls could potentially be initiated as early as June of the current year. This would involve the President issuing a notification to declare the "appointed date," marking the first sitting of the House of the People after a general election.

Constitutional Amendment Requirements: While some constitutional amendments, such as syncing Assembly elections with Lok Sabha polls, may not require state ratification, others related to the preparation of a common electoral roll and aligning municipal and panchayat elections with general elections would necessitate state ratification.

Article 368 Procedure: The power and procedure for amending the Constitution, outlined in Article 368, stipulate different requirements for amendment categories. While some amendments need a simple majority, others demand a special two-thirds majority, and certain "entrenched provisions" affecting federal structure or state powers require ratification by half the states.

Impact on State Powers: The proposed amendments would significantly impact states' powers, particularly regarding their residual authority over conducting Assembly elections. The Kovind panel emphasizes Parliament's authority under



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Article 327, highlighting that amendments for simultaneous elections do not necessarily fall under the purview requiring state ratification.

Judicial Review Possibility: The question of ratification could potentially be subject to judicial review. A precedent exists in the case of *Kihoto Hollohan v Zachillhu*, where the Supreme Court struck down a part of the law on disqualification of lawmakers due to lack of state ratification.

Mains easy explanation

The recommended legal framework changes for simultaneous elections in India, spearheaded by the High-Level Committee on One Nation, One Election, aim to streamline the electoral process and minimize disruptions. The proposed amendments, including alterations to the Constitution and statutes governing Union Territories, alongside a Presidential notification, form the backbone of this initiative. While the implementation timeline hints at potential commencement by June, the process necessitates a careful balance of constitutional requirements, particularly concerning the ratification by states. The discussion around Article 368 underscores the complexities involved, especially regarding provisions impacting state powers. Amidst these deliberations, the potential for judicial review looms, as demonstrated by past precedents. Overall, the proposed changes represent a significant step towards electoral reform in India, seeking to enhance governance efficiency and uphold democratic principles.

How terms of many state Assemblies could be reduced-Indian Express Explained

-polity

Key Takeaways:

Potential Term Reduction: If the Union government decides to implement simultaneous elections to Lok Sabha and state Assemblies in 2029, many state Assemblies could see their terms truncated significantly.

Roadmap for Transition: The process for implementing simultaneous elections would likely begin shortly after the 2024 Lok Sabha polls. The roadmap suggested by the High-Level Committee led by former President Ram Nath Kovind leaves it to the Centre to decide the readiness for this transition.

Impact on State Governments: States such as Himachal Pradesh, Meghalaya, Nagaland, Tripura, Karnataka, Telangana, Mizoram, Madhya Pradesh, Chhattisgarh, and Rajasthan, which underwent elections recently, would see their new governments in power for only about a year or less before the next round of polls in 2028.

Constitutional Amendments: To ensure compliance with the Constitution, the committee recommends amendments to Article 83 and Article 172, which deal with the duration of Lok Sabha and state Assemblies, respectively. These amendments would require parliamentary approval.

Transition Procedure: Once the appointed date is set, the terms of state Assemblies constituted after this date would end with the Lok Sabha's term expiry. If any Assembly gets dissolved before its full term, fresh elections would be conducted, lasting only for the remainder of the full term, termed the "unexpired term."

Disincentivizing No-Confidence Motions: The transition to simultaneous polls may discourage opposition parties from pursuing no-confidence motions, as the prospect of fresh elections may not be appealing given that the new government's term would be shorter.

Mains easy explanation

The proposal for simultaneous elections to Lok Sabha and state Assemblies in 2029 signifies a potential transformation in India's electoral landscape, with far-reaching implications for governance and political dynamics. The roadmap outlined by the High-Level Committee underscores the need for constitutional amendments and parliamentary approval to ensure the legal framework aligns with this ambitious initiative. However, the decision to proceed with simultaneous elections rests with the Union government, which must assess the logistical readiness and political feasibility of such a transition.

If implemented, this transition could lead to significant term reductions for many state governments, reshaping political strategies and recalibrating power dynamics across the country. The recommended amendments to Article 83 and Article 172 aim to facilitate this transition while upholding constitutional principles. Additionally, the proposal to disincentivize no-confidence motions underscores the committee's efforts to mitigate potential political disruptions during the transition period.

Overall, the proposal for simultaneous elections represents a paradigm shift in India's electoral framework, with the potential to enhance governance efficiency, reduce election-related costs, and foster political stability. However, the successful implementation of this initiative hinges on meticulous planning, bipartisan cooperation, and adherence to constitutional norms, ensuring a smooth transition towards a more synchronized and streamlined electoral process.



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Has poverty really dropped to 5% in India?-The Hindu Editorial

-Sociology

Key takeaways

Decline in Poverty: NITI Aayog's claim suggests a significant decline in poverty in India, with less than 5% of the population living below the poverty line, based on the Household Consumption Expenditure Survey (HCES) for 2022-23.

Definition Debate: The definition of the poverty line is under scrutiny, with calls for its revision to better reflect current economic conditions and the diverse needs of the population.

Data Reliability Concerns: Discrepancies exist between the reported growth in consumption expenditure and real wage incomes, raising questions about the reliability and accuracy of official data.

Politicization of Data: There are concerns about the politicization of data in India, with instances of selective publication and suppression of reports, undermining the credibility of government statistics.

Nutritional Challenges: Despite increased spending on non-basic food items, a significant portion of the population still cannot afford a minimum nutritious diet, highlighting persistent challenges in addressing malnutrition and ensuring food security.

Need for Transparent Reporting: The discussion underscores the importance of transparent and impartial reporting to inform policymaking and poverty alleviation efforts effectively, emphasizing the need for robust data collection methods and accountability mechanisms.

Mains easy explanation

The assertion by NITI Aayog's B.V.R. Subrahmanyam that less than 5% of Indians live below the poverty line, based on the Household Consumption Expenditure Survey (HCES) for 2022-23, has ignited a debate regarding the definition and measurement of poverty in India. Surjit Bhalla and Jayati Ghosh delve into this discussion, highlighting the need to reassess the poverty line to better reflect contemporary economic realities. Bhalla argues that while extreme poverty has significantly decreased, the poverty line needs adjustment to accurately capture the current socioeconomic landscape. Ghosh, however, raises concerns about the absence of a clear poverty line declaration by the government and the inadequacy of existing measures like the Tendulkar line.

The reliability of government data comes under scrutiny, with critics questioning the discrepancies between reported consumption expenditure growth and stagnant real wage incomes. While Bhalla cites data suggesting an increase in wages and consumption, Ghosh challenges this narrative, pointing to studies indicating minimal growth in real wages, particularly for marginalized workers. Moreover, concerns are raised about the politicization of data in India, with instances of selective publication and suppression of reports undermining the credibility of official statistics.

Amidst claims of economic progress, the discussion underscores persistent nutritional challenges, with a significant portion of the population unable to afford a minimum nutritious diet. Despite increased spending on non-basic food items, a large segment remains food insecure, highlighting the complexity of poverty alleviation efforts. The conversation emphasizes the importance of transparent and impartial reporting to inform policymaking effectively, stressing the need for robust data collection methods and accountability mechanisms to address socioeconomic disparities comprehensively.

CAA and status of judicial proceedings-The Hindu Text and Context

-Polity

Key Takeaways:

Implementation of CAA: The Ministry of Home Affairs has notified rules to implement the Citizenship Amendment Act (CAA), expediting citizenship for specific non-Muslim communities from neighboring countries.

Constitutional Challenges: Petitions in the Supreme Court challenge the CAA's constitutionality, arguing it violates Article 14 by making religion a qualifier for citizenship.

Legal Disputes: Fresh pleas seek a stay on the recently notified rules, critiquing the bypassing of tiered scrutiny for citizenship applications and the government's decision to implement rules before a final court decision.

Potential Discrimination: Concerns persist regarding the CAA's impact on Muslims, particularly when combined with proposed measures like the National Register of Indian Citizens (NRIC), which could disproportionately affect them.

Government Defense: The government asserts that the CAA aims to provide amnesty to specific persecuted communities and does not impede the legal, democratic, or secular rights of Indian citizens.

Supreme Court Proceedings: While the Supreme Court has heard arguments on the CAA's constitutionality, a final verdict is pending, with the court yet to deliver a conclusive decision on the matter.



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Mains easy explanation

The notification of rules to implement the Citizenship Amendment Act (CAA) has reignited legal challenges and debates surrounding its constitutionality and implications. Despite delays in its implementation, the CAA continues to face resistance in the form of petitions filed in the Supreme Court, challenging its legality under the Constitution.

Central to the controversy is the provision in the CAA that grants expedited citizenship to specific non-Muslim communities from neighboring countries, raising concerns about discrimination and the exclusion of Muslim immigrants. Critics argue that such legislation violates the fundamental principle of equality enshrined in Article 14 of the Constitution. Moreover, the government's assertion that the CAA does not infringe upon the rights of Indian citizens has been met with skepticism, particularly in light of the proposed National Register of Indian Citizens (NRIC), which could potentially target Muslims and exacerbate existing social tensions.

The legal proceedings in the Supreme Court, coupled with ongoing debates in the public sphere, underscore the complex and contentious nature of the CAA and its implications for India's secular and democratic fabric. The outcome of these legal challenges and the eventual interpretation of the CAA's constitutionality will have far-reaching consequences for the country's immigration policies and social cohesion.

What are the causes of the Flare-up in eastern Congo?-The Hindu text and context

-International relations

Key Takeaways:

Renewed Conflict: Renewed clashes between the Congolese army and Rwandan-backed M23 rebels in eastern Democratic Republic of Congo (DRC) have heightened global concerns.

Humanitarian Crisis: The conflict exacerbates the existing humanitarian crisis in the region, resulting in increased fatalities, displacements, and food security risks for the affected populations.

International Response: The United Nations and several Western countries have denounced the attacks and called on the M23 rebels to cease their offensive, urging for a peaceful resolution to the conflict.

Historical Context: The conflict in eastern DRC has its roots in decades of violence, stemming from ethnic tensions, civil wars, and regional power struggles dating back to the Rwandan genocide in 1994.

M23 Rebels: The M23 rebel group, formed in 2012, claims to defend Tutsi interests against Hutu militias. Their resurgence in 2022 has escalated tensions and worsened the humanitarian crisis in the region.

Regional Implications: The escalating violence between the DRC and Rwanda could lead to further regional tensions and involvement of more countries, posing a significant threat to peace and stability in the region.

Mains easy explanation

Renewed clashes between the Congolese army and Rwandan-backed M23 rebels in eastern DRC have intensified the long-standing humanitarian crisis, exacerbating casualties, displacements, and food insecurity. Stemming from historical ethnic tensions and civil strife, the resurgence of the M23 rebel group in 2012 has fueled the conflict, leading to escalating violence and instability in the region. Prompt condemnation from the UN and Western nations underscores the pressing need for swift international intervention to prevent further escalation and mitigate the humanitarian fallout. However, amidst global attention on other conflicts, concerns emerge regarding potential neglect of this crisis, highlighting the imperative for sustained focus and collaborative action to address underlying grievances and alleviate the suffering of affected communities. With tensions escalating between DRC and Rwanda, there looms the risk of broader regional entanglement, emphasizing the urgency for diplomatic dialogue and concerted efforts to facilitate peace and provide essential humanitarian assistance to vulnerable populations caught in the crossfire.

Springing no one: cardiac risk factors present even among the very poor-The Hindu Science

-Sociology(Health)

Key takeaways:

CVD Risk Factors in Extreme Poverty: Contrary to assumptions, individuals in extreme poverty exhibit prevalent cardiovascular disease (CVD) risk factors such as hypertension, diabetes, smoking, obesity, and dyslipidemia.

Inadequate Treatment Access: Despite the presence of CVD risk factors, most individuals in extreme poverty lack access to necessary medications and treatment, particularly for conditions like hypertension and diabetes.

Income Gradient for Diabetes and Obesity: While hypertension prevalence remains similar across income groups, diabetes and obesity show a clear income gradient, with higher-income individuals exhibiting a higher prevalence.





Need for Targeted Health Policies: The study underscores the importance of targeted health policies and care delivery for impoverished populations to address healthcare inequities and mitigate CVD risks effectively.

Models like Tamil Nadu's Healthcare Scheme: Initiatives such as Tamil Nadu's healthcare scheme, offering doorstep interventions and regular evaluation, serve as potential models for addressing healthcare challenges among impoverished communities.

Importance of Public Education: Public education, particularly regarding smoking hazards, is crucial for preventive measures and modifying community behaviors to reduce CVD risk factors.

Mains easy explanation:

The prevalence of cardiovascular disease (CVD) risk factors among individuals living in extreme poverty challenges conventional assumptions. A global study revealed hypertension, diabetes, smoking, obesity, and dyslipidemia among this demographic, with inadequate treatment access. Poverty was stratified by income, showing similar hypertension prevalence across income groups but an income gradient for diabetes and obesity. Access to medication for CVD-related conditions was notably low, with only a fraction receiving necessary treatment. The findings underscore the need for targeted health policies and care delivery for impoverished populations. Initiatives like Tamil Nadu's healthcare scheme offer potential models, emphasizing doorstep interventions and regular evaluation for effectiveness. Furthermore, public education, particularly regarding smoking hazards, is crucial for preventive measures. Addressing these challenges requires comprehensive approaches focused on detection, treatment, prevention, and ongoing assessment to bridge healthcare inequities and mitigate CVD risks among the impoverished.

Why govts. are seeing red on Rhodamine B in street food-the Hindu Science

-Science

Key Takeaways:

Rhodamine B Contamination: Several Indian states have taken action against the use of Rhodamine B, an industrial dye, in street food items like cotton candy and Gobi Manchurian due to its harmful effects on health.

Health Risks: Rhodamine B, primarily used as a textile dye, poses significant health risks when consumed in food. Long-term ingestion can lead to allergies, respiratory issues, and even cancer, affecting vital organs such as the kidneys, liver, and stomach.

Government Intervention: The recent bans and actions by state governments signal a growing recognition of the dangers associated with Rhodamine B. The medical fraternity has long advocated for such measures to protect public health.

Need for Regulation: The Food Safety and Standards Authority of India (FSSAI) has approved certain food colors and flavors deemed safe for consumption. However, the presence of harmful additives like Rhodamine B underscores the need for stricter regulations and oversight in the food industry.

Awareness and Education: Public awareness campaigns are crucial to inform consumers about the risks associated with consuming adulterated or contaminated food products. Education about safer alternatives and healthy dietary practices can help mitigate health hazards.

Medical Concerns: Healthcare professionals emphasize the severity of health issues caused by Rhodamine B ingestion, including cancer. Management of symptoms and diseases resulting from its consumption can be challenging and may require medical intervention and lifestyle modifications.

Mains easy explanation

The discovery of Rhodamine B, an industrial dye, in street food items like cotton candy and Gobi Manchurian has sparked government action and raised concerns about public health in India. Following Tamil Nadu's ban, other states like Karnataka and Andhra Pradesh have also taken measures to address the issue. Rhodamine B, commonly used in textiles, poses serious health risks when ingested, including allergies, respiratory problems, and an increased risk of cancer. The medical community has long urged government intervention to combat its usage. While certain food colors and flavors are deemed safe by the Food Safety and Standards Authority of India (FSSAI), the presence of harmful additives like Rhodamine B highlights the need for stricter regulations. Public awareness campaigns are crucial to educate consumers about the risks associated with contaminated food. Healthcare professionals emphasize the importance of managing symptoms and diseases resulting from Rhodamine B ingestion and advocate for safer alternatives in food preparation.





16th March 2024

AI, elections, disinformation-Indian Express Explained

-Science and technology

Key takeaways

The landscape of election disinformation has evolved significantly since the Cambridge Analytica scandal of 2018, with the rise of AI presenting new challenges and risks. Here's a breakdown of the key points and changes observed:

Scale of Disinformation: AI has drastically increased the scale of disinformation campaigns. It can generate and disseminate false information on a massive scale, potentially reaching thousands of times more people than before.

Deep Fakes: The emergence of hyper-realistic deep fakes poses a significant threat. Manipulated images, audio, and video can sway voters before they have a chance to be fact-checked, undermining the integrity of election narratives.

Microtargeting: AI enables highly personalized propaganda, surpassing the capabilities of previous methods like the Cambridge Analytica scandal. Microtargeting allows for tailored messaging, potentially influencing individual voters on a large scale.

Social Media Responsibility: Social media companies have faced criticism for cutting back on fact-checking and election integrity efforts. Despite some measures like labeling AI-generated content, there are concerns about the effectiveness of these safeguards.

Predictions and Studies: Research predicts a rise in AI-driven disinformation campaigns, with potentially dire consequences for election results in over 50 countries. This threat is underscored by experiences from recent elections in Slovakia and Argentina, where AI-generated content influenced outcomes.

Regulatory Response: Governments are grappling with how to regulate AI-driven disinformation. India, for example, is working on a legal framework to combat deep fakes and misinformation, though this has sparked debate over potential regulatory overreach and its impact on innovation.

Case Studies: Examples from Argentina, India, and Slovakia illustrate the real-world impact of AI-generated disinformation on elections. From manipulated images to fake videos, these incidents highlight the effectiveness of AI in shaping public opinion.

Overall, the proliferation of AI poses a significant threat to the integrity of democratic processes worldwide. Addressing this challenge will require a multi-faceted approach, involving collaboration between governments, tech companies, and civil society to develop effective regulatory frameworks and countermeasures against AI-driven disinformation.

Mains easy explanation

The evolution of election disinformation in the era of AI presents unprecedented challenges to democratic processes worldwide. AI technology has amplified the scale and sophistication of misinformation campaigns, allowing for the creation and dissemination of false narratives on a massive scale. Deep fake technology, in particular, poses a significant threat by producing hyper-realistic manipulated content that can sway public opinion before it can be debunked. Moreover, microtargeting capabilities enable highly personalized propaganda, surpassing the impact of previous methods such as the Cambridge Analytica scandal. Social media companies' reduced efforts in fact-checking exacerbate the problem, leaving the public vulnerable to manipulation. Governments are struggling to respond effectively, with debates over the balance between regulation and innovation intensifying. Real-world examples from elections in Argentina, India, and Slovakia underscore the tangible impact of AI-generated disinformation on electoral outcomes, highlighting the urgent need for comprehensive strategies to safeguard the integrity of democratic processes in the digital age.

ATMOSPHERIC RESEARCH TESTBED-Indian Express Explained

-Geography

Key takeaways

Purpose and Scope: The ART is a dedicated facility for observing and studying weather parameters, particularly focusing on the Monsoon Core Zone (MCZ) in Central India.

Operational Details: Developed by the Ministry of Earth Sciences, the ART spans 100 acres and houses 25 high-end meteorological instruments. It aims to conduct ground-based observations and analyze transient synoptic systems during the southwest monsoon season.

Importance of the MCZ: The MCZ plays a critical role in India's agriculture, receiving 70% of the country's annual rainfall and supporting Kharif cultivation. Understanding weather patterns in this region is vital for agricultural planning and management.



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Research Goals: Scientists at the ART seek to deepen understanding of cloud microphysics, precipitation, convection, and land-surface properties. This research will contribute to improving rainfall forecasts and supporting farmers in planning their activities.

Addressing Knowledge Gaps: Despite existing forecasts from the India Meteorological Department, there is limited understanding of synoptic systems' roles and their impact on monsoon rainfall. The ART aims to fill these knowledge gaps.

Climate Change Resilience: The research conducted at the ART will also help in addressing challenges posed by climate change-induced erratic rainfall patterns, contributing to better adaptation and resilience strategies.

Potential Economic Impact: Improved weather forecasts and agricultural planning facilitated by the ART can have significant positive effects on India's agricultural sector and overall economy.

Mains easy explanation

The Atmospheric Research Testbed (ART) in Central India represents a pivotal advancement in meteorological research, particularly within the Monsoon Core Zone (MCZ). Developed by the Ministry of Earth Sciences, this state-of-the-art facility boasts 25 advanced meteorological instruments spread across 100 acres in Silkheda, Madhya Pradesh. Its primary objective is to deepen understanding of weather patterns crucial to India's rain-fed agriculture, predominantly during the southwest monsoon season. By studying cloud microphysics, precipitation mechanisms, and land-surface properties, scientists aim to refine rainfall forecasts, aiding farmers in making informed decisions. Despite existing forecasts from the India Meteorological Department, gaps persist in comprehending the roles of synoptic systems, especially amid climate change-induced alterations in rainfall patterns. The ART's strategic location, coupled with its cutting-edge capabilities, positions it as a key player in bolstering agricultural productivity, mitigating risks associated with erratic weather, and fostering resilience in the face of evolving climatic conditions. Ultimately, investments in research infrastructure like the ART are vital for informed decision-making and sustainable development in India's agricultural sector.

Why Gaganyaan matters, what its success will mean for Indian science-Indian Express Explained

-Science and technology

Key takeaways

Gaganyaan's Milestone: Gaganyaan, India's maiden manned space mission, signifies the country's entry into elite company in human spaceflight, showcasing ISRO's capabilities and bolstering its global standing in space exploration.

Strategic Importance: Beyond a technological feat, Gaganyaan holds strategic significance for India, offering access to rights, resources, and cutting-edge technologies critical for economic growth and national development in the era of space exploration.

Tech Independence: India's pursuit of human spaceflight is driven by the imperative to break free from past experiences of technology denial, ensuring self-reliance in crucial sectors and safeguarding against external dependencies.

Scientific Imperative: Gaganyaan underscores India's commitment to advancing scientific research and innovation, with potential spin-off technologies benefiting diverse sectors from healthcare to defense.

Reforms and Challenges: While commendable initiatives have been undertaken in deep-tech sectors, sustained attention and structural reforms are needed to address challenges in enhancing India's scientific output and positioning the nation as a technology powerhouse.

Global Collaboration: Gaganyaan symbolizes India's growing engagement in international scientific projects, fostering collaboration and partnerships to leverage collective expertise and resources for further advancements in space exploration and beyond.

Mains easy explanation

Gaganyaan, India's inaugural manned space mission, heralds a significant milestone in the nation's space exploration journey. Scheduled for launch next year, it will feature the first Indian astronauts in four decades, positioning India alongside a select group of nations with human spaceflight capabilities. Beyond technological achievement, Gaganyaan holds strategic importance, offering access to resources and cutting-edge technologies crucial for economic growth and national development. However, it also symbolizes India's quest for technological independence, aiming to mitigate dependence on external sources for critical technologies. Despite commendable strides in deep-tech sectors like space, defense, and quantum computing, sustained attention and structural reforms are needed to enhance India's scientific output and solidify its position as a global leader in space exploration. Gaganyaan epitomizes India's commitment to scientific innovation and showcases its determination to harness the potential of space exploration for the betterment of humanity while asserting its self-reliance in the domain of advanced technologies.



| Clear your doubts now.



More chemicals in plastics than previously estimated: Study

-Environment

Key Takeaways:

Increased Chemicals in Plastics: A recent study conducted by European scientists revealed that there are at least 3,000 more chemicals in plastics than previously estimated by environmental agencies. This finding has raised concerns about pollution and consumer safety, particularly regarding the potential health impacts of these chemicals.

Extent of Hazardous Chemicals: Out of the more than 16,000 chemicals identified in plastics, approximately a quarter are believed to be hazardous to human health and the environment. These chemicals have been linked to adverse health outcomes, including fertility issues and cardiovascular diseases.

Everyday Exposure: Plastic products used in daily life contain hundreds, if not thousands, of chemicals, according to the study's authors. This widespread exposure underscores the need for comprehensive assessments of the health risks associated with plastic use.

Call for Action: While the plastics industry emphasizes the importance of recycling and reusing plastic to address environmental concerns, the study's authors argue that focusing solely on plastic waste management is insufficient to safeguard public health. They emphasize the necessity of implementing measures to reduce human exposure to hazardous chemicals in plastics.

Mains easy explanation

A recent study reveals a concerning reality: there are far more chemicals in plastics than previously recognized, posing significant implications for both environmental pollution and human health. With over 16,000 chemicals identified in plastics, a quarter of which are deemed hazardous, questions arise about the potential risks associated with everyday exposure to these materials. The study's authors emphasize the urgent need for more comprehensive assessments of plastic-related health risks and stress that addressing plastic waste alone is insufficient to protect public health. This revelation underscores the importance of reevaluating current approaches to plastic management and adopting measures aimed at reducing human exposure to harmful chemicals present in plastics.

THE WATER WARNING-Indian Express editorial

-Environment

Key takeaways

Severe Water Shortage: Bengaluru's water crisis stems from Karnataka's most severe drought in four decades, creating a dire situation for the city's nearly 14 million residents. The shortage has become a pressing issue affecting various aspects of daily life.

Drying Borewells: The scarcity of water has resulted in the drying up of over 7,000 borewells across the city, impacting crucial sectors such as education, healthcare, industry, and the city's technology hub. This depletion of groundwater sources exacerbates the already precarious situation.

Government Measures: To address the crisis, Bengaluru authorities have implemented stringent measures to curb water misuse and regulate the distribution of available water resources. Fixed rates for water tankers and the utilization of milk tankers for water supply reflect efforts to manage the shortage effectively.

Urbanization Impact: Rapid urbanization and unchecked development have contributed significantly to the city's water crisis. Bengaluru's expansion has encroached upon natural water bodies and green spaces, disrupting the local ecosystem and diminishing water retention capacities.

Nationwide Alert: Bengaluru's water crisis serves as a wake-up call for other Indian cities facing similar challenges. Studies warn of impending water scarcity in urban centers nationwide by 2030 if proactive measures are not taken to address the issue promptly.

Urgent Action Needed: The situation demands immediate action, including the widespread adoption of sustainable water management practices such as rainwater harvesting, groundwater recharge, and the reuse of wastewater. Without decisive intervention, the crisis could have far-reaching consequences for India's urban population and its socio-economic development.

Mains easy explanation

Bengaluru's water crisis, stemming from Karnataka's severe drought and exacerbated by rapid urbanization, underscores the urgent need for comprehensive water management strategies. With nearly 14 million residents affected, the city faces a critical shortage, evidenced by the drying up of thousands of borewells and disruptions across various sectors. In



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response, authorities have implemented strict measures to regulate water usage and explore alternative supply sources, such as utilizing milk tankers for water distribution. However, the crisis serves as a warning for other Indian cities, highlighting the pressing need for proactive measures to address water scarcity. Studies indicate a nationwide water crisis by 2030 if sustainable management practices are not adopted promptly. Urgent action, including rainwater harvesting and wastewater reuse, is imperative to mitigate the crisis's impact and ensure sustainable water access for urban populations across India. Failure to act decisively could lead to severe socio-economic repercussions, emphasizing the critical importance of prioritizing water conservation efforts nationwide.

[A penal code for AI-Indian Express editorial](#)

-Science and technology

Key Takeaways:

European Regulation: The European Parliament passed the groundbreaking Artificial Intelligence Act (AI Act, 2024), establishing comprehensive regulations for AI. This marks the first set of laws globally to govern AI, setting a precedent for future regulatory frameworks.

Scope of Regulation: The AI Act recognizes different levels of AI and their potential benefits and harms. It aims to regulate AI providers within the European Union, regardless of their location, emphasizing accountability for potential harm caused by AI systems.

Prohibited Practices: The law prohibits AI systems from employing manipulative or deceptive techniques that distort decision-making processes, posing a significant threat to individuals' autonomy and well-being.

Risk Categorization: AI systems are classified based on their potential for harm, with high-risk systems subject to stringent requirements ensuring safety, transparency, and human oversight.

Limited Risk Systems: AI systems presenting minimal risk, such as chatbots and emotion recognition systems, are subject to fewer regulatory obligations, promoting innovation while safeguarding against misuse.

Enforcement Mechanisms: The AI Act establishes a European Artificial Intelligence Board and national supervisory authorities to monitor compliance. Violations can result in substantial fines, reflecting the law's commitment to accountability and consumer protection.

Mains easy explanation

The European Parliament's groundbreaking enactment of the Artificial Intelligence Act (AI Act, 2024) marks a pivotal moment in global AI governance. Addressing the burgeoning influence of AI, the law establishes comprehensive regulations, setting a precedent for international standards. It distinguishes various levels of AI, from low to high risk, and imposes stringent requirements on high-risk systems to ensure safety and transparency. Notably, the law prohibits AI systems from employing manipulative techniques that could compromise individuals' autonomy and well-being. It introduces enforcement mechanisms, including substantial fines for non-compliance, underscoring its commitment to accountability and consumer protection. By prioritizing fundamental rights and ethical considerations, the AI Act seeks to strike a balance between promoting innovation and mitigating potential harms. As AI continues to revolutionize industries, this regulatory framework provides a crucial foundation for navigating the complex interplay between technological advancement and societal well-being on a global scale.

[Looking to the future on St. Patrick's Day-The Hindu Editorial](#)

-International relations

Key takeaways

St. Patrick's Day and Diplomatic Milestone: The celebration of St. Patrick's Day in 2024 holds special significance for India as it marks 75 years of diplomatic relations between Ireland and India, highlighting the longstanding partnership between the two nations.

Historical Connections and Freedom Struggles: Ireland and India share a proud history of collaboration in their respective struggles for independence from colonial rule, with exchanges and interactions between their founding figures shaping their paths toward modern republics.

Current Global Challenges: Despite the celebration, contemporary global events cast a shadow, including ongoing conflicts such as Russia's actions in Ukraine and terrorist attacks like Hamas' assault on Israel, prompting Ireland to take principled stands and advocate for humanitarian causes.



| Clear your doubts now.



Youth Engagement and Leadership: Young people are at the forefront of addressing pressing issues like climate change and advocating for international law and human rights, with Ireland highlighting the importance of youth participation during its recent term on the UN Security Council.

Economic Opportunities and Talent Pool: Ireland emphasizes its attractiveness for investment, trade, and study, boasting a dynamic workforce and a supportive environment for young entrepreneurs, with a strong presence of global tech and healthcare companies.

Cultural Exchange and Bilateral Relations: The significant presence of Indian students and residents in Ireland contributes to the bilateral relationship, reflecting the enduring partnership between the two countries, built on shared values and mutual support.

Mains easy explanation

The celebration of St. Patrick's Day in 2024 holds special significance for India as it marks 75 years of diplomatic relations between Ireland and India, highlighting the longstanding partnership between the two nations. Ireland and India share a proud history of collaboration in their respective struggles for independence from colonial rule, with exchanges between their founding figures shaping their paths toward modern republics. However, contemporary global challenges, including ongoing conflicts like Russia's actions in Ukraine and terrorist attacks such as Hamas' assault on Israel, cast a shadow over the festivities. Despite this, Ireland remains committed to taking principled stands and advocating for humanitarian causes. Young people are pivotal in addressing pressing issues like climate change and advocating for human rights, with Ireland emphasizing their importance during its recent term on the UN Security Council. Additionally, Ireland underscores its economic opportunities and talent pool, welcoming Indian students and residents, thus fostering cultural exchange and strengthening bilateral relations between the two countries.

17th March., 2024

Indian Team uses repurposed drug to treat oral cancer subtype- The Hindu Science

-Science tech

Key Takeaways:

Novel Fusion Transcript Discovery in Cancer Research:

Researchers in Mumbai have identified a novel fusion transcript in head and neck cancer patients, offering a new therapeutic target and advancing our understanding of cancer biology.

Pyrvinium Pamoate as a Potential Cancer Treatment:

An existing FDA-approved deworming medication, pyrvinium pamoate, has been identified as a potential treatment for head and neck cancer by targeting the signaling pathway activated by the fusion transcript.

Prevalence and Significance in Cancer Patients:

The fusion transcript was found in a significant portion of Indian oral cancer patients, suggesting its crucial role in the disease's progression and potential as a widespread therapeutic target.

Impact of Fusion on Signaling Pathways and Cancer Aggressiveness:

The UBE3C-LRP5 fusion transcript activates a signaling pathway known for promoting cancer cell growth and invasion, indicating the pathway's potential as a therapeutic target.

Promising Preclinical Results and Future Clinical Trials:

Preclinical studies have shown that pyrvinium pamoate can effectively reduce the aggressive behavior of cancer cells with the fusion transcript, leading to plans for clinical trials to further explore its therapeutic potential.

Easy Explanation:

Scientists in Mumbai have made an exciting discovery related to head and neck cancer. They found a special kind of genetic mix-up, called a fusion transcript, in some cancer patients. This mix-up can make the cancer cells grow and spread more aggressively.

Interestingly, they found that a drug that's usually used to treat worm infections, called pyrvinium pamoate, can interfere with the bad effects of this genetic mix-up. This means the drug might help treat cancer by slowing down the cancer cells' growth or stopping them from spreading.

The researchers noticed that a small but significant number of cancer patients have this genetic mix-up, which could make this drug a helpful treatment for many people. They've tested the drug in labs and on animals, and it looks promising. So, they're planning to start testing it on human patients soon to see if it can really help treat cancer effectively. This could be great news for finding new ways to fight cancer in the future.



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How Women in India have fared- The Hindu Science

-Science Tech

Key Takeaways:

UNDP Gender Social Norms Index:

The United Nations Development Programme's Index highlights biases against women in political, educational, economic, and physical integrity domains, indicating significant gender disparities globally.

Educational and Economic Disparities:

While men dominate income-generating roles, women are often relegated to domestic tasks and lower-wage jobs, particularly in developing nations, with limited access to education.

India's Progress in Gender Inclusivity:

India has made strides in offering free education to all children, including girls, up to high school, demonstrating inclusive policies that contrast with the broader global context of gender bias.

Gender Gap in STEM Fields:

Despite educational advances, India faces a gender gap in STEM fields, with women significantly underrepresented in higher education and faculty positions in prestigious institutions.

Women's Entrepreneurship in India:

An increasing number of Indian women are becoming entrepreneurs, notably in the biotechnology and medical fields, contributing to the nation's development and challenging traditional gender roles.

Political Leadership and Gender Bias:

Globally, there is a bias toward men in leadership roles, yet India showcases progress with women in significant political positions, contrasting with countries like the USA, which has yet to have a female president.

Regional Leadership Examples:

Neighboring countries in South Asia and Latin America also illustrate female leadership in government, emphasizing the potential for overcoming gender biases in political representation.

Easy Explanation:

International Women's Day celebrated progress but also reminded us of the existing gender biases worldwide. The UNDP's index showed how women are often seen as homemakers and caregivers, which limits their opportunities, especially in education and jobs, globally.

In contrast, India is making notable advancements. It provides free education for all, leading to significant female enrollment in schools and colleges. However, there's still a gap, particularly in science and technology fields, where women are less represented.

Despite these challenges, many Indian women are breaking stereotypes, especially in entrepreneurship and specialized medical fields, showcasing India's move toward becoming a developed nation regarding gender equality.

Politically, India stands out for having female presidents and leaders, which is still uncommon in many parts of the world, including some of the most developed countries. This achievement, along with similar progress in neighboring regions and Latin America, offers hope and inspiration for future Women's Days to celebrate more gender equality.

With Agni V test, India makes the MIRV leap- The Hindu FAQ

-Science Tech

Key Takeaways:

Successful Test of Agni V with MIRV Technology:

India's Defense Research and Development Organisation (DRDO) successfully tested the Agni V ballistic missile equipped with MIRV technology, marking a significant advancement in India's defense capabilities.

Understanding MIRVs:

MIRVs (Multiple Independently Targetable Re-entry Vehicles) allow a single ballistic missile to carry and deliver multiple nuclear warheads to different targets, enhancing the missile's effectiveness and strategic value.

Global Context of MIRV Technology:

Several countries, including the U.S., Russia, the U.K., France, and China, have developed MIRV technology. This technology is seen as a force multiplier, enabling a single missile system to perform the roles of multiple missiles.

India's Nuclear Doctrine and Deterrence Capabilities:

India's demonstration of MIRV technology aligns with its nuclear doctrine emphasizing 'no first use' and maintaining a



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credible minimum deterrence. MIRV enhances India's strategic deterrence, particularly against adversaries with advanced missile defenses.

Future Implications and Regional Dynamics:

The successful test of MIRV technology in Mission Divyastra is a step toward further validation and integration into India's defense framework. It also has implications for regional security dynamics, especially concerning China and Pakistan.

Easy Explanation:

India recently made headlines by testing a missile called Agni V, which now has a special technology called MIRV. This technology lets one missile carry several nuclear bombs and hit different targets at once. It's like one missile doing the job of many, which is a big deal in defense strategies.

Countries like the USA, Russia, and China already have this technology, and it makes their missiles very powerful. For India, having MIRVs means it can protect itself better against countries with strong missile defenses.

India follows a 'no first use' policy, meaning it won't use nuclear weapons unless attacked first. This MIRV technology fits into India's plan to have strong enough defense capabilities just to deter others from attacking, not to start conflicts.

This test is just the beginning, and India will do more tests to make sure everything works perfectly. Meanwhile, other countries, especially neighbors like China and Pakistan, will be paying close attention to this development, as it affects the balance of military power in the region.

Who will benefit from the new CAA rules- The Hindu FAQ

-Polity

Key Takeaways:

Implementation of the Citizenship Amendment Act (CAA), 2024:

The Ministry of Home Affairs has notified rules for implementing the CAA, which enables citizenship based on religion for six non-Muslim communities from three neighboring countries, amending the previous law to facilitate easier citizenship for these groups.

Documentation Requirements:

The new rules specify various documents applicants need to submit, including evidence of their origin and faith, to process their citizenship applications, indicating a structured approach to verifying the eligibility of the migrants.

Beneficiaries of the CAA:

The legislation is expected to benefit "lakhs and crores" of people according to government officials, although there are varying estimates of the actual number of immediate beneficiaries.

Impact on Specific Communities:

The CAA particularly aids Hindus and Sikhs from Pakistan and Afghanistan, reducing their waiting period for Indian citizenship. In West Bengal, the Matua community from Bangladesh sees potential benefits, while the situation in Assam is complex due to the existing National Register of Citizens (NRC).

Challenges and Controversies:

The CAA has sparked debate and concerns, particularly regarding its implications for different states and its alignment with India's secular constitution. Applicants in Assam face a dilemma, as claiming benefits under the CAA may contradict their previous assertions of Indian origin for the NRC.

Easy Explanation:

The Indian government has set rules for the Citizenship Amendment Act, which now allows people from certain non-Muslim communities in Afghanistan, Bangladesh, and Pakistan to get Indian citizenship more easily if they came here before the end of 2014. They need to provide specific documents to prove their identity and background.

This law aims to help many people, especially Hindus and Sikhs from neighboring countries, by making it quicker for them to become Indian citizens. In West Bengal, a group called the Matua community is happy about this change because it could benefit them. However, in Assam, where there's already been a big effort to list who's an Indian citizen, some people might not want to apply under this new law because it could contradict what they said before.

Overall, the CAA is meant to help certain religious groups get citizenship faster, but it has also caused a lot of discussions and concerns about what it means for India's traditional value of treating all religions equally.

18th March 2024



| Clear your doubts now.

How US plans to deliver Gaza aid-Indian Express Explained

-International relations

Key Takeaways:

- 1. Innovative Aid Delivery Strategy:** The US plans to address hunger in Gaza by constructing a floating pier using Joint Logistics Over-the-Shore (JLOTS) capabilities to deliver humanitarian aid, overcoming Israel's blockade on overland access to aid.
- 2. Operational Details of JLOTS:** JLOTS involves transporting cargo by sea when ports are unavailable, requiring joint operations by various forces. It is typically employed in military campaigns or to deliver aid in the absence of operational ports.
- 3. Construction of the Floating Pier:** The floating pier project in Gaza, facilitated by the private company Fogbow, consists of a floating dock and a 548-meter-long pier with a causeway. No US troops will be deployed on the ground for this project.
- 4. Logistics of Aid Delivery:** Cargo ships will deliver aid to the floating dock platform, which can be located up to a kilometer from the coast to avoid shallow waters. Smaller Logistics Support Vessels (LSVs) will transfer aid from the dock to the pier for distribution.
- 5. Construction Methods:** The pier can be constructed using various methods, including ribbon floating bridges, Mabey floating bridges, or foam floating bridges, depending on the specific requirements and conditions of the location.
- 6. Importance of Buoyancy:** Floating bridges remain afloat due to buoyancy principles, with hollow steel segments ensuring their buoyancy. The floating dock will also utilize hollow steel segments to maintain buoyancy.

Mains easy explanation

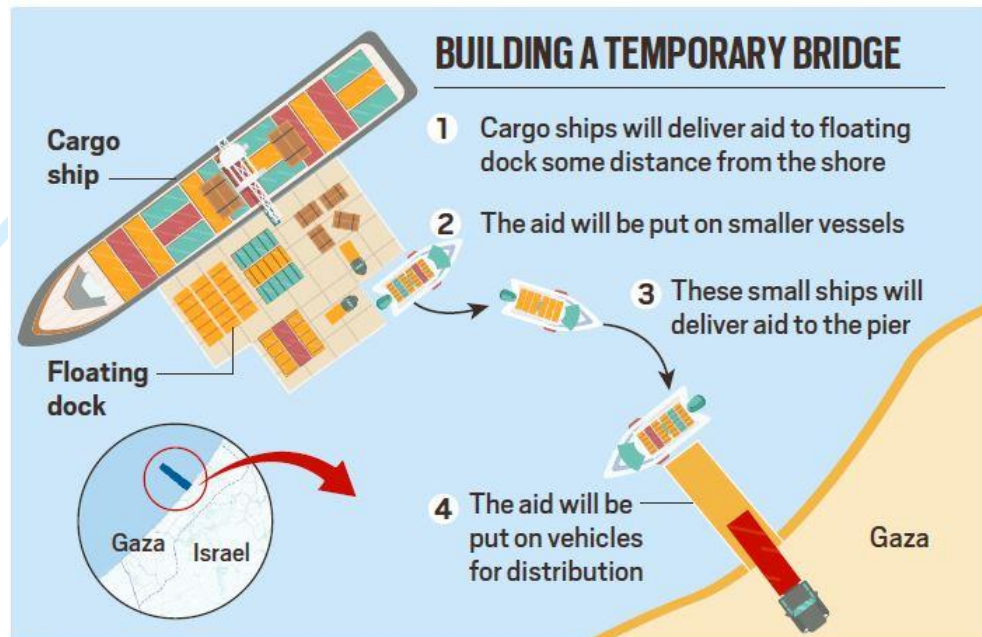
The United States is implementing an innovative strategy to deliver humanitarian aid to Gaza by constructing a floating pier using Joint Logistics Over-the-Shore (JLOTS) capabilities. This approach

circumvents Israel's blockade on overland access to aid and aims to address hunger and prevent an impending famine in the region. (Pic Credit-Indian Express)

The project, facilitated by the private company Fogbow, involves building a floating dock and a 548-meter-long pier with a causeway. Cargo ships will deliver aid to the floating dock platform, which can be located offshore to avoid shallow waters. Smaller Logistics Support Vessels (LSVs) will then transfer the aid to the pier for distribution.

Construction methods for the pier include ribbon floating bridges, Mabey floating bridges, or foam floating bridges, depending on the specific requirements of the location. These bridges remain afloat due to buoyancy principles, with hollow steel segments ensuring their buoyancy.

Overall, the US's initiative to deliver aid to Gaza through the construction of a floating pier demonstrates a creative and practical solution to overcome logistical challenges and provide essential assistance to the region's population in need.





Why Karnataka Has Banned Food Colouring Used In Cotton Candy-Indian express Explained

-sociology(health)

Key Takeaways:

- 1. Karnataka's Ban on Artificial Coloring:**Karnataka government has implemented a ban on the use of artificial coloring agents in popular snacks like gobi manchurian and cotton candy due to health concerns, with violators facing imprisonment and hefty fines.
- 2. Health Risks Associated with Rhodamine B:**Rhodamine B, one of the prohibited artificial colors, poses long-term health risks, including cancer. It is not fit for human consumption and can cause acute toxicity, eye damage, and respiratory tract irritation.
- 3. Occurrence of Rhodamine B in Food Products:**Rhodamine B is not frequently added to food products in India. It is often found in preparations from small roadside vendors in small cities due to a lack of awareness about its harmful effects. Commonly affected food items include gobi manchurian, potato wedges, butter chicken, pomegranate juice, cotton candy, and ice cream produced in small factories.
- 4. Permitted Food Colors Under FSSAI Regulations:**The Food Safety and Standards Authority of India (FSSAI) allows the use of a limited number of natural and synthetic colors in food items, with restrictions on their usage. Permitted natural colors include carotene, chlorophyll, riboflavin, caramel, annatto, saffron, and curcumin, while permitted synthetic colors include Ponceau 4R, Carmoisine, Erythrosine, Tartrazine, Sunset Yellow FCF, Indigo Carmine, and Brilliant Blue FCF.
- 5. Application of Permitted Colors:**Permitted colors are used in various food items such as ice cream, biscuits, cakes, confectionery, fruit syrups, custard powder, jelly crystals, and carbonated/noncarbonated beverages, adhering to regulations set by FSSAI to ensure food safety.

Mains easy explanation

The Karnataka government's decision to ban artificial coloring agents in snacks like gobi manchurian and cotton candy reflects growing concerns about their long-term health effects, including the risk of cancer. Rhodamine B, a prohibited colorant, is highlighted for its potential harm, leading to acute toxicity and various health complications.

Instances of Rhodamine B contamination primarily occur in preparations from small roadside vendors in smaller cities, where awareness about its adverse effects may be lacking. While larger cities tend to adhere to regulations and use permitted food colors, smaller establishments may resort to illegal additives to achieve desired appearances.

FSSAI regulations dictate the use of a limited number of natural and synthetic colors in food items, ensuring consumer safety. Permitted colors undergo strict scrutiny, with specific guidelines on their application in various food products to maintain standards and protect public health.

Diversify the basket-Indian Express Editorial

-Economy

Key takeaways

Diversification Urgency: Punjab and Haryana need to diversify their agricultural practices beyond wheat and paddy to enhance productivity and farmer incomes.

Agri-Value Disparity: Despite high physical productivity, Punjab lags in agri-value per hectare compared to states prioritizing high-value crops like Andhra Pradesh and West Bengal.

Success Stories: States like Andhra Pradesh excel in agriculture by focusing on high-value products such as inland fisheries, while Tamil Nadu leads in fruit cultivation with innovative practices.

Market-Driven Approach: Emulating West Bengal's shift to a market-driven agricultural model, focusing on vegetables and Agri-Export Zones (AEZs), could enhance Punjab's agricultural productivity and income.

Dairy Potential: Punjab's dairy sector presents growth opportunities, particularly in value-added processing, catering to both domestic and export markets, thus boosting agricultural incomes.

Path to Prosperity: Transitioning away from MSP-based cropping and embracing high-value agriculture is crucial for Punjab and Haryana's agricultural revitalization and the prosperity of their farmers.

Mains easy explanation

The agricultural landscape in Punjab and Haryana demands a radical shift from the conventional wheat and paddy-centric approach towards embracing a diversified, demand-driven high-value agricultural system. Despite their reputation for high physical productivity, these states rank surprisingly low in terms of agri-value creation per hectare compared to





counterparts prioritizing crops with higher economic returns, such as Andhra Pradesh and West Bengal. Notably, states like Andhra Pradesh have achieved remarkable success by focusing on high-value products like inland fisheries, while Tamil Nadu leads in fruit cultivation with innovative practices like Ultra High-Density Plantation (UHDP).

Emulating West Bengal's transition to a market-driven agricultural model, Punjab and Haryana could enhance productivity by concentrating on vegetables and establishing Agri-Export Zones (AEZs). The success of West Bengal's vegetable cultivation, with its strategic focus on market demands and impressive production figures, serves as a compelling example. Moreover, Punjab's dairy sector presents significant growth potential, suggesting opportunities for value-added processing to cater to both domestic and export markets.

In the pursuit of agricultural revitalization and the prosperity of farmers, Punjab and Haryana must shed the reliance on Minimum Support Price (MSP)-based cropping systems. Lessons from states like Andhra Pradesh, where farmers create substantially more value per hectare, underscore the need for a paradigm shift towards high-value agriculture. This transition is imperative not only for economic growth but also for sustainable agricultural practices and the overall well-being of farmers in Punjab and Haryana.

[What is SIMA, Google DeepMind's new AI that can play video games-Indian Express Explained](#)

-Science and technology

Key Takeaways:

1. Introduction of SIMA by Google DeepMind: Google DeepMind has introduced a new AI gaming agent called SIMA, or Scalable Instructable Multiworld Agent. SIMA is capable of following natural language instructions to perform tasks across various video game environments, effectively playing alongside human players.

2. Functionality of SIMA: SIMA represents a significant step towards AI that can intelligently collaborate with humans in real-world environments. It is described as a generalist AI agent capable of performing a variety of tasks, acting as a digital explorer within virtual worlds.

3. Operation of SIMA: SIMA "understands" commands in human language, such as building structures or finding objects, and can learn and adapt through interactions with users. With each interaction, SIMA becomes smarter, better understanding and fulfilling user requests.

4. Multi-Game Capability: Unlike traditional AI models, SIMA can function across multiple games, demonstrating its versatility and adaptability. Google DeepMind collaborated with eight game studios to test SIMA on nine video games, expanding its interactive capabilities and skillset.

5. Training of SIMA: SIMA was trained using a variety of video games and research environments, including those built with the Unity cross-platform game engine. Each game provided new interactive challenges, allowing SIMA to develop skills such as navigation, resource management, and menu usage.

[Mains easy explanation](#)

Google DeepMind's unveiling of SIMA marks a significant advancement in AI technology, particularly in the realm of gaming agents. SIMA's ability to understand and execute natural language instructions across multiple video game environments demonstrates its adaptability and potential for real-world applications.

By collaborating with game studios and utilizing various research environments, Google DeepMind trained SIMA to navigate complex virtual worlds, learn new skills, and interact effectively with users. This training process has positioned SIMA as a versatile AI agent capable of tackling diverse tasks and scenarios.

Moving forward, Google aims to leverage SIMA and similar AI agents to explore how AI systems can assist humans in accomplishing tasks more efficiently. By utilizing video games as interactive sandboxes, SIMA represents a promising step towards the development of AI systems that can seamlessly collaborate with humans in real-world settings.

[The problem of equity in IPCC reports-The Hindu Text and Context](#)

-Environment

Key Takeaways:

1. Analysis of Future Emissions Scenarios: Researchers analyzed over 500 future emissions scenarios assessed by the UN Intergovernmental Panel on Climate Change (IPCC) in its latest reports. These scenarios focus on mitigation actions like reducing carbon emissions and increasing carbon sequestration.

2. Persistent Disparities: Across all 556 scenarios studied, disparities in income, energy use, and emissions between developed and developing countries are projected to persist until 2050. This indicates ongoing inequalities in climate action efforts.



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3. IPCC Assessment Reports: IPCC assessment reports evaluate climate-related scientific literature and comprise Working Group reports on physical science, climate adaptation, and mitigation action, along with thematic special reports. These reports provide a comprehensive understanding of climate change issues.

4. Role of Integrated Assessment Models (IAMs): IAMs are utilized by the IPCC to model future scenarios, integrating human and earth systems. While IAMs offer policy-relevant insights into climate action, they prioritize least-cost assessments and often neglect equity considerations.

5. Findings of the New Study: The study conducted by researchers identified disparities between the Global North and South in terms of GDP, consumption patterns, and energy usage. Developing countries are projected to bear a disproportionate burden of mitigation actions and carbon removal technologies.

6. Importance of Equity: Equity principles, enshrined in the UN Framework Convention on Climate Change (UNFCCC), advocate for differentiated responsibilities based on historical contributions and capabilities. However, IPCC scenarios often overlook equity considerations, undermining climate justice.

7. Call for Equitable Scenario Building: The study underscores the need for IPCC scenarios to prioritize equity and environmental sustainability. Addressing this gap requires integrating questions of equity and climate justice into scenario building techniques.

Mains easy explanation

The study scrutinizes over 500 future emissions scenarios evaluated by the IPCC, revealing persistent disparities between developed and developing countries in climate action efforts. Despite the IPCC's comprehensive assessment reports, Integrated Assessment Models (IAMs) used to model future scenarios often overlook equity considerations, leading to disproportionate burdens on poorer nations.

Developing countries are projected to bear the brunt of mitigation actions and carbon removal technologies, exacerbating existing inequalities. Equity principles, integral to the UNFCCC, emphasize differentiated responsibilities, yet current IPCC scenarios fail to adequately address these principles.

To bridge this gap, the study advocates for equitable scenario building techniques that prioritize both environmental sustainability and fairness. By foregrounding questions of equity and climate justice, future IPCC assessments can contribute to more equitable and effective climate action strategies.

How were the new Election Commissioners selected?-The Hindu Text and Context

-Polity

Key Takeaways:

Appointment of New Election Commissioners: Gyanesh Kumar and Sukhbir Singh Sandhu, both retired IAS officers, appointed as Election Commissioners to fill vacancies in the three-member Election Commission of India.

Selection Process Under the New Law: Appointments made under the Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023. Selection committee includes Prime Minister, Union Home Minister, and Leader of the Indian National Congress in the Lok Sabha.

Historical Context of Appointment Process: Previously, appointments made by President without specific parliamentary law. Supreme Court mandated committee comprising Prime Minister, Leader of the Opposition, and Chief Justice of India until Parliament enacted law.

Legal Challenge Against the Act: Critics argue Act removes Chief Justice of India from selection panel, giving executive branch two-one majority. Despite challenges, Supreme Court upholds Act, sparking controversy over executive influence.

Controversy Over Executive Influence: Act criticized for increasing executive influence by replacing Chief Justice of India with Union Minister in selection committee. Debate highlights ongoing struggle over balance of power and independence in constitutional bodies like Election Commission.

Mains easy explanation

Retired IAS officers Gyanesh Kumar and Sukhbir Singh Sandhu have been appointed as Election Commissioners under the new Chief Election Commissioner and other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023. This Act replaced the previous process, establishing a selection committee consisting of the Prime Minister, Union Home Minister, and the Leader of the Indian National Congress in the Lok Sabha.

Previously, the appointment process lacked a defined parliamentary law, leading to ad-hoc selections by the President. A Supreme Court ruling temporarily introduced a committee including the Prime Minister, Leader of the Opposition, and Chief Justice of India. However, the 2023 Act altered this arrangement, sparking criticism for potentially tipping the



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balance of power towards the executive. Despite legal challenges, the Supreme Court upheld the Act, highlighting ongoing debates about the role of the executive in crucial constitutional appointments.

What is the HbA1C test and why is it used to check for diabetes?-The Hindu Text and Context

-Science

Key Takeaways:

1. What is the HbA1C Test?
 - a. The HbA1C test, also known as the glycosylated hemoglobin test, is widely used to diagnose pre-diabetes and diabetes (both type 1 and type 2) and to monitor blood sugar levels in individuals with diabetes.
2. Prevalence of Diabetes in India:
 - a. India faces a significant burden of diabetes and pre-diabetes, making early detection crucial for prevention and management.
 - b. All individuals over 30 years old and those with risk factors for diabetes should undergo screening, according to guidelines.
3. Recognition and Importance of the HbA1C Test:
 - a. The American Diabetes Association approved HbA1c as a diagnostic tool in 2009, recognizing its importance in assessing diabetes and cardiovascular risk.
 - b. HbA1c levels below 5.7% are considered normal, while levels between 5.7% and 6.4% may indicate pre-diabetes, and levels of 6.5% or higher may indicate diabetes.
4. Utility and Limitations of the HbA1C Test:
 - a. The test provides an average of blood glucose levels over the past two to three months, offering a more comprehensive assessment compared to traditional blood sugar tests.
 - b. Despite its widespread use, the HbA1C test has limitations and may need to be supplemented with additional tests, especially in cases with certain medical conditions or assay standardization challenges.
5. Considerations for HbA1C Testing in India:
 - a. Factors such as the prevalence of conditions like thalassemia and iron-deficiency anemia, as well as structural hemoglobin variants in the population, can impact the accuracy of HbA1C measurements.

Healthcare providers must consider these factors when interpreting test results and may need to use alternative indices for assessing glycemic control in some cases.

Mains easy explanation

The HbA1C test, also known as the glycosylated hemoglobin test, stands as a cornerstone in diagnosing pre-diabetes and diabetes, serving as a pivotal tool for monitoring blood sugar levels in those already diagnosed with diabetes. With India grappling with a substantial burden of diabetes and pre-diabetes, early detection remains paramount. Guidelines from the Indian Council of Medical Research advocate for screening all individuals above 30 years old and those with risk factors for diabetes. Recognizing its significance, the American Diabetes Association endorsed the HbA1c test in 2009, underscoring its role in assessing both diabetes and cardiovascular risk. HbA1c levels serve as crucial indicators, with readings below 5.7% considered normal, while values between 5.7% and 6.4% may signal pre-diabetes, and levels of 6.5% or higher may indicate diabetes.

Despite its widespread recognition, the HbA1C test is not without limitations. While it offers an average of blood glucose levels over the past two to three months, providing a more comprehensive assessment compared to traditional blood sugar tests, it may not always be sufficient on its own. Challenges in assay standardization and the prevalence of certain medical conditions, such as thalassemia and iron-deficiency anemia, can impact the accuracy of HbA1C measurements, necessitating supplementary tests in some cases. Healthcare providers must carefully interpret HbA1C test results, taking into account factors unique to the Indian population, such as structural hemoglobin variants, to ensure accurate diagnosis and effective management of diabetes.

Scientists build a camera to 'show' how animals see moving things-The hindu Science

-Science

Key takeaways

1. New Camera System for Animal Vision:
 - a. Researchers have developed a new camera system capable of capturing images in both visible and ultraviolet light, offering insights into how animals perceive their surroundings.



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- b. This innovative device combines multispectral photography techniques with advanced programming to translate visual data into colors recognizable to humans, revealing the otherwise invisible spectrum perceived by animals.
2. Potential Applications:
 - a. The camera's ability to visualize how animals perceive colors and patterns has vast potential in various fields, including wildlife conservation, filmmaking, and education.
 - b. By revealing ultraviolet reflections on flowers and identifying hidden pests in agricultural settings, the camera can aid in studying pollination dynamics and agricultural pest management.
3. Revolutionizing Filmmaking:
 - a. In filmmaking, the camera's vivid imagery could revolutionize wildlife documentaries, offering viewers a captivating glimpse into the natural world from a new perspective.
4. Educational Opportunities:
 - a. The camera's real-time visualization capabilities also hold promise for innovative educational experiences, from interactive exhibits for children to immersive learning tools, enhancing science communication and fostering appreciation for biodiversity.

Mains easy explanation

Researchers have engineered a groundbreaking camera system capable of recording scenes in both visible and ultraviolet wavelengths, providing invaluable glimpses into the visual perception of animals. This innovative technology represents a significant advancement in ecological research, offering researchers unprecedented insights into animal behavior and sensory capabilities. By decoding the visual cues animals rely on for survival, such as detecting ultraviolet markings or polarized light, this camera system has the potential to revolutionize our understanding of the natural world. Moreover, the application of this technology extends beyond scientific research, with promising implications for wildlife filmmaking and education. By capturing the world through the eyes of animals, filmmakers can create immersive and educational documentaries that resonate with audiences and inspire conservation efforts. Additionally, this camera system can be utilized in educational settings to engage students and the public, fostering a deeper appreciation for biodiversity and the interconnectedness of ecosystems.

Overall, the development of this innovative camera system opens new avenues for exploring and appreciating the wonders of the animal kingdom, driving advancements in conservation, filmmaking, and science communication.

19th March 2024

Disqualification over graft: Ravi vs TN govt again-Indian Express Explained

-Polity

Key Takeaways:

Disqualification Over Graft: K Ponmudy, a senior leader of the ruling DMK party in Tamil Nadu, was disqualified from his ministerial position after the Madras High Court convicted him in a disproportionate assets case.

Supreme Court Intervention: The Supreme Court stayed Ponmudy's conviction, suspending the disqualification pending a final decision.

Governor's Refusal: Despite the SC's stay, the Governor of Tamil Nadu refused to reinstate Ponmudy, citing ongoing corruption cases and the seriousness of the charges.

Constitutional Morality: The Governor argued that reinstating Ponmudy while he remains tainted by corruption would be against constitutional morality.

Legal Precedent: The case follows a similar pattern to other high-profile disqualifications where the SC stayed convictions, leading to reinstatement in other states like Gujarat and Lakshadweep.

Larger Political Tussle: The case is part of a broader tussle between the state government and the Governor regarding the Governor's role, especially in granting assent to bills. Recent Supreme Court rulings have emphasized the Governor's need to act on bills according to the "aid and advice" of the Council of Ministers.

Mains easy explanation

The case involving K Ponmudy's disqualification and subsequent attempt at reinstatement reveals the intricate interplay between legal rulings and political authority in Tamil Nadu. Despite the Supreme Court's intervention, suspending Ponmudy's conviction in a disproportionate assets case, the Governor declined his reinstatement, citing concerns



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regarding ongoing corruption allegations and the imperative of constitutional morality. This episode underscores a broader contention between the state government and the Governor, accentuating uncertainties surrounding the Governor's prerogatives, particularly concerning bill assent. Ponmudy's scenario echoes similar instances where SC-stayed convictions prompted reinstatements in other states, accentuating the precedence of legal interpretations in political governance. Essentially, this case illuminates the delicate equilibrium between legal intricacies, political power dynamics, and constitutional imperatives within India's democratic framework. Its implications reverberate through the functioning of democracy and the maintenance of the rule of law, spotlighting the complexities inherent in reconciling legal processes with political exigencies in the pursuit of effective governance.

[Oceans have a fever — here's why-Indian Express Explained](#)

-Geography

Key takeaways

Record-High Ocean Temperatures: February 2024 marked the highest global sea surface temperature (SST) ever recorded, highlighting a concerning trend of ocean warming.

Human-Induced Causes: Activities such as increased fossil fuel burning release greenhouse gases (GHGs), contributing significantly to global warming and subsequent ocean temperature rise.

Multiple Contributing Factors: While GHGs play a primary role, phenomena like El Niño events and reduced dust from the Sahara also contribute to ocean warming.

Consequences for Marine Ecosystems: Warmer oceans disrupt vital processes such as carbon absorption, nutrient cycling, and coral health, posing severe and irreversible consequences for marine ecosystems.

Increased Frequency of Marine Heatwaves: Rising ocean temperatures lead to more frequent and intense marine heatwaves, further stressing marine life and ecosystems.

Threats to Biodiversity: Coral bleaching, altered migration patterns of aquatic species, and disrupted food chains pose significant threats to marine biodiversity and fisheries.

Urgent Need for Action: The alarming trend of ocean warming underscores the urgent need for global action to reduce greenhouse gas emissions and mitigate the impacts of climate change on marine ecosystems and coastal communities.

Mains easy explanation

The oceans are experiencing unprecedented warming, with February 2024 recording the highest global sea surface temperature (SST) ever documented. Human activities, particularly the increased burning of fossil fuels, release greenhouse gases (GHGs) that trap heat in the atmosphere, contributing to global warming. This warming trend is exacerbated by phenomena like El Niño events and reduced dust from the Sahara, which further elevate ocean temperatures. Consequently, marine ecosystems face severe and irreversible consequences.

Rising ocean temperatures disrupt essential processes such as carbon absorption and nutrient cycling, leading to increased ocean stratification and reduced nutrient availability. This disruption threatens marine biodiversity, particularly phytoplankton populations, which form the base of marine food webs. Marine heatwaves become more frequent and intense, causing coral bleaching and altering the migration patterns of aquatic species. Moreover, warmer oceans may intensify hurricanes and cyclones, posing additional risks to coastal communities.

The World Meteorological Organization warns of a 66% chance of surpassing a 1.5-degree Celsius temperature rise above pre-industrial levels between 2023 and 2027. Urgent action to reduce GHG emissions is imperative to mitigate these impacts. However, global efforts remain insufficient, with GHG concentrations reaching record levels in 2023. Without decisive action, the world faces escalating environmental degradation, threatening marine ecosystems and coastal communities.

In summary, the unprecedented warming of the oceans underscores the urgent need for global action to address climate change. Efforts to reduce GHG emissions and mitigate the impacts of ocean warming are essential to safeguard marine biodiversity and protect vulnerable coastal populations from the growing threats of extreme weather events and ecosystem collapse.

[Heat, aridity, clear skies: why forests are already ablaze in the Nilgiris-Indian Express Explained](#)

-Environment

Key Takeaways:

Forest Fires in Nilgiris: Forest fires have been raging in the Coonoor forest range in the Nilgiris in Tamil Nadu for almost a week, prompting firefighting efforts by the state forest department and the Indian Air Force.



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Utilization of Bambi Bucket: The Indian Air Force deployed an Mi-17 V5 helicopter equipped with a Bambi Bucket to conduct firefighting operations, dumping around 16,000 liters of water on the fires.

Seasonality of Forest Fires in India: Forest fire season in India typically occurs from November to June, with April-May being the worst months. The Forest Survey of India reports that over 36% of India's forest cover is prone to frequent fires.

Vulnerable Regions: Dry deciduous forests are particularly susceptible to severe fires, while evergreen and semi-evergreen forests are less prone. Vulnerable regions include Northeast India, Odisha, Maharashtra, Jharkhand, Chhattisgarh, and Uttarakhand.

Recent Incidents: Recent years have seen notable forest fire incidents, including large bushfires in Goa in March 2023 and widespread fires in Uttarakhand, Himachal Pradesh, Nagaland, Manipur, Odisha, Madhya Pradesh, and Gujarat in 2021.

Current Situation: Forest fires have been reported in Mizoram, Manipur, Assam, Meghalaya, Maharashtra, southern Rajasthan, Madhya Pradesh, Odisha, Jharkhand, Andhra Pradesh, Karnataka, and Tamil Nadu. Contributing factors include high aridity, above-normal temperatures, clear skies, and calm winds.

Causes of Fires: Forest fires have both natural and man-made causes, with human negligence being a significant factor. Lightning is a common natural originator, while human activities like discarded cigarettes and burning debris also contribute.

Mains easy explanation

Forest fires are currently ravaging the Coonor forest range in the Nilgiris, with firefighting efforts underway by both the state forest department and the Indian Air Force. The utilization of specialized equipment like the Bambi Bucket underscores the severity of the situation. Forest fires are common in India from November to June, with dry deciduous forests being particularly vulnerable. Recent incidents in various states highlight the widespread nature of the problem. Contributing factors to the current spike in forest fires include high aridity, above-normal temperatures, and human negligence. The absence of rain and prevailing high temperatures have exacerbated the situation, with the IMD warning of an increased likelihood of heatwaves in southern India. Urgent measures are needed to combat forest fires and mitigate their impact on ecosystems and communities.

A BANK ACCOUNT OF HER OWN-Indian Express Editorial

-Sociology

Key Takeaways:

Importance of Financial Inclusion: Financial inclusion is crucial for a nation's development, as it is linked to various Sustainable Development Goals (SDGs). Closing the gender gap in financial inclusion is particularly essential for India's progress, considering its below-average performance in the Global Gender Gap Report 2023.

Progress in India: India has made significant strides in financial inclusion, with a notable increase in adult ownership of bank accounts and a substantial reduction in the gender gap in account ownership. Initiatives like the Pradhan Mantri Jan Dhan Yojana have played a key role in promoting financial inclusion, especially among women.

Impact of Programs: Various government schemes and initiatives, such as the Deendayal Antyodaya Yojana and Skill India Mission, have contributed to enhancing women's participation in the economy and improving their access to financial services.

Drivers of Financial Inclusion: NFHS data reveal several factors influencing women's access to financial services, including education, digital skills, occupation, and household characteristics. Educated and digitally skilled women are more likely to use digital modes of transaction, while women in women-headed households have favorable access to financial services.

Policy Implications: To increase financial inclusion, awareness programs should target women in households not headed by women and incorporate financial education modules into education and skill development frameworks. Additionally, promoting cyber safety in digital banking practices is crucial to mitigate financial cyber-crimes.

Mains easy explanation

Financial inclusion is imperative for a nation's development, with significant implications for achieving Sustainable Development Goals. India's progress in this regard, particularly in closing the gender gap, is notable, with initiatives like the Pradhan Mantri Jan Dhan Yojana playing a pivotal role. NFHS data highlights the drivers of women's access to financial services, emphasizing the importance of education, digital skills, and household characteristics.



| Clear your doubts now.



Policy implications include targeting awareness programs towards women in households not headed by women and integrating financial education into education and skill development frameworks. Moreover, ensuring cyber safety in digital banking practices is essential to combat financial cyber-crimes. Overall, leveraging insights from NFHS data can help fine-tune strategies to enhance financial inclusion, particularly among women, contributing to India's sustainable development goals.

On FTAs with European countries-The Hindu text and Context

-International relations

Key Takeaways:

India-EFTA Trade Agreement: The India-EFTA Trade and Economic Partnership Agreement (TEPA) marks India's deepening economic engagement with European Free Trade Association (EFTA) countries, including Switzerland, Norway, Iceland, and Liechtenstein.

Attractiveness of Indian Market: For trading partners, an FTA with India presents an opportunity to access a large market by surpassing India's high tariff walls.

Challenges of Rising Protectionism: The successful conclusion of the TEPA amidst rising protectionism globally signals India's commitment to trade liberalization. However, challenges persist in navigating protectionist sentiments across both developed and developing countries.

Key Features of TEPA: The TEPA aims to attract \$100 billion in investment from EFTA countries into India, creating one million jobs over 15 years. It includes provisions for investment, trade in goods, trade in services, sustainable development, and intellectual property rights.

Trade in Goods: EFTA countries will gain increased access to the Indian market due to tariff concessions, with India committed to eliminating tariffs on most products within seven to ten years. However, certain sensitive products like gold, dairy, soy, coal, and some agricultural items are excluded from tariff concessions.

Trade in Services: Both India and EFTA members have committed to liberalization across various service sectors, with provisions for skilled professionals' movement and easing recognition of qualifications.

Sustainable Development and Intellectual Property Rights: The TEPA includes chapters on trade and sustainable development, addressing environmental and labor concerns, and intellectual property rights, meeting demands from EFTA countries for enhanced protection.

Mains easy explanation

The India-EFTA Trade and Economic Partnership Agreement (TEPA) represents India's latest endeavor to deepen economic ties with European Free Trade Association (EFTA) countries, signaling its commitment to trade liberalization amid global protectionist trends. The agreement offers EFTA nations access to India's vast market by eliminating tariff barriers on most products over a period of seven to ten years. However, certain sensitive items like gold and agricultural products remain excluded from tariff concessions.

TEPA encompasses provisions for investment promotion, trade facilitation in goods and services, sustainable development, and intellectual property rights protection. It aims to attract significant investment from EFTA countries into India, fostering economic growth and job creation over the next 15 years.

In the realm of services, the agreement facilitates the movement of skilled professionals and streamlines qualification recognition processes. Additionally, TEPA includes chapters on sustainable development and intellectual property rights, reflecting India's willingness to address environmental and labor concerns and meet the demands of EFTA nations for enhanced IP protection.

While the successful conclusion of TEPA underscores India's proactive approach to global trade, its long-term impact will depend on effective implementation and the ability to navigate challenges posed by protectionist sentiments prevailing in both developed and developing economies.

Geologists can't agree when the Anthropocene began, but it did-The Hindu science

-Geography

Key Takeaways:

Anthropocene Proposal: The Anthropocene Working Group proposed formalizing the Anthropocene Epoch on the geological time scale, marking a period characterized by significant human impacts on the Earth's environment, including climate change and pollution.





Historical Context: While humans have long influenced the environment, heightened activity began with the Industrial Revolution, leading to large-scale impacts such as temperature rise, species extinction, accelerated erosion, and urbanization-related water shortages.

Debate and Rejection: The proposal to recognize the Anthropocene Epoch faced debate and was ultimately rejected by the Sub-commission of Quaternary Stratigraphy (SQS-AWG), citing concerns about scientific standards and the singularity of the proposed start date.

Commencement of Anthropocene: While the proposal suggested commencing the Anthropocene Epoch in 1952, opponents argue that human-induced changes have been ongoing for millennia, suggesting a commencement around the Industrial Revolution, circa 1760.

Evidence of Human Impact: Evidence of human impact, such as fallout from nuclear bomb tests and the presence of microplastics and pesticides in geological material, supports the notion of an Anthropocene Epoch.

Existential Threat: The rapid destabilization of the Earth's system since the Industrial Revolution poses existential threats to biological entities, with consequences unique to this era.

Mains easy explanation

The proposal to formalize the Anthropocene Epoch, denoting a period marked by significant human impacts on the Earth's environment, has sparked debate among scientists. While humans have influenced the environment throughout history, the Industrial Revolution marked a period of heightened activity, leading to widespread environmental changes.

Despite the rejection of the proposal by the Sub-commission of Quaternary Stratigraphy, the evidence of human impact is undeniable, with fallout from nuclear bomb tests and the presence of pollutants in geological material serving as markers of human activity. While the proposed start date of the Anthropocene Epoch faces criticism, the overarching concern remains the existential threat posed by rapid environmental destabilization since the Industrial Revolution.

The rejection of the proposal does not negate the need to acknowledge humanity's role in shaping the Earth's environment. Instead, it highlights the ongoing debate surrounding the commencement and recognition of the Anthropocene Epoch, underscoring the complex interplay between human activity and geological processes.

Plastic chemicals more than estimated: report-The Hindu Science

-Environment

Key Takeaways:

Plastic Chemicals: A report reveals that there are over 16,000 chemicals present in plastics, 3,000 more than previously estimated by environmental agencies. Approximately a quarter of these chemicals are considered hazardous to human health and the environment.

Health Concerns: Plastic chemicals have the potential to leach into water and food, posing risks to human health. Some of these chemicals have been linked to adverse health outcomes such as fertility issues and cardiovascular disease.

Transparency and Regulation: There is a lack of transparency regarding the chemicals used in plastics, including additives, processing aids, and impurities. Only 6% of these chemicals are internationally regulated, highlighting the need for greater transparency and regulatory measures.

Treaty Negotiations: Government negotiators are working on devising the world's first treaty to address plastic pollution, with discussions ongoing to finalize the treaty by December. The treaty aims to promote recycling and reuse of plastic while addressing the issue of harmful chemicals in plastics.

Mains easy explanation

A recent report highlights the extensive presence of chemicals in plastics, raising concerns about their impact on human health and the environment. With over 16,000 chemicals identified in plastics, including many hazardous ones, there is a pressing need for greater transparency and regulation in the industry.

The lack of basic information on many of these chemicals underscores the complexity of the plastics value chain and the challenges in regulating them. International efforts to address plastic pollution through a treaty are underway, with negotiations focusing on promoting recycling and addressing the issue of harmful chemicals in plastics.

As discussions continue, it's evident that addressing plastic pollution requires a comprehensive approach that considers the full lifecycle of plastics and tackles the issue of chemical complexity to ensure the safety of consumers and the environment.

All eyes are now on the Indian Ocean region-The Hindu Editorial

-International relations



| Clear your doubts now.



Key takeaways

Policy Pivot: India has shifted its focus from the Indo-Pacific to the Indian Ocean region since October 2023, prioritizing immediate neighborhood concerns over distant shores.

Regional Challenges: Maldives' alignment with China poses a challenge to India's interests, while Sri Lanka has shown sensitivity to Indian security concerns by restricting foreign research ships. Positive outcomes have been observed from India's SAGAR policy in enhancing maritime security in Mauritius.

Strategic Significance: Both the Western and Northern Indian Oceans have regained strategic importance due to events like the Israel-Hamas conflict impacting international shipping routes and China's efforts to expand its naval presence in the region.

Intensifying Rivalry: The strategic rivalry between China and India is escalating, fueled by China's attempts to undermine India's security through partnerships with neighboring countries and the quest for naval bases in strategic locations.

International Dynamics: While India and the US cooperate in the Indo-Pacific to counter China, European nations remain ambiguous about China's activities in the Indian Ocean despite concerns about its assertiveness in the South China Sea.

Policy Recommendations: India should prioritize the Indian Ocean region, reassess existing regional mechanisms like IORA and CSC, and consider establishing a new organization focused on maritime security and the Blue Economy. Additionally, investing in strengthening the navy is crucial for asserting India's presence and safeguarding its interests.

Mains easy explanation

India's strategic focus has shifted from the Indo-Pacific to the Indian Ocean region, driven by immediate neighborhood concerns. While the Maldives' alignment with China poses a challenge, Sri Lanka has exhibited sensitivity to Indian security interests. Positive outcomes from India's SAGAR policy, such as enhancing maritime security in Mauritius, highlight the region's importance. Both the Western and Northern Indian Oceans have regained strategic significance due to geopolitical events, including the Israel-Hamas conflict. China's expanding naval presence and partnerships in the region intensify the strategic rivalry with India. While India and the US collaborate to counter China, European nations remain ambiguous, despite concerns about China's assertiveness. Policy recommendations include prioritizing the Indian Ocean region, reassessing existing mechanisms like IORA and CSC, and establishing a new organization focused on maritime security and the Blue Economy. Strengthening the navy is crucial for India to assert its presence and safeguard its interests in the evolving geopolitical landscape.

The MIRV leap that fires up India's nuclear deterrence-The Hindu Editorial

-Science and technology

Key Takeaways:

Strategic Significance: India's test of the Agni-5 ballistic missile with Multiple Independently Targetable Re-entry Vehicles (MIRVs) marks a significant advancement in its nuclear deterrence capabilities, enhancing its potency and strategic importance.

Joining Elite Club: India joins a select group of countries possessing MIRV-capable missiles, including the US, Russia, China, France, and the UK, thereby strengthening its position in global nuclear dynamics.

Counter to China: The integration of MIRVs in Agni-5 enables India to counterbalance China's growing nuclear capabilities and ballistic missile defenses, restoring balance in the Sino-Indian nuclear deterrence relationship.

Technical Challenges: Developing MIRV-capable missiles entails overcoming complex technical hurdles, including nuclear warhead miniaturization, precise re-entry vehicle configuration, and accurate guidance systems, which India has successfully achieved.

Future Prospects: India's success with Agni-5 MIRV missile paves the way for further advancements in its nuclear arsenal, including the development of long-range Submarine Launched Ballistic Missiles (SLBMs), signaling its commitment to bolster its nuclear capabilities.

Deterrent Message: The successful test sends a clear message to China that India is prepared to counter any advancements in its missile and defense programs, thereby enhancing regional stability and security.

Mains easy explanation

India's recent test of the Agni-5 ballistic missile equipped with Multiple Independently Targetable Re-entry Vehicles (MIRVs) represents a significant leap in its nuclear deterrence capabilities, particularly in countering China's growing



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influence. By joining the exclusive club of countries possessing MIRV-capable missiles, India asserts its strategic importance in global nuclear dynamics. Overcoming daunting technical challenges, such as nuclear warhead miniaturization and precise re-entry vehicle configuration, India demonstrates its prowess in missile technology development. This achievement not only bolsters India's immediate security concerns but also lays the groundwork for future advancements, including the development of long-range Submarine Launched Ballistic Missiles (SLBMs). The successful test underscores India's commitment to maintaining regional stability and security while sending a deterrent message to China, indicating its readiness to counter any advancements in Chinese missile and defense programs. Overall, India's successful test of the Agni-5 MIRV missile marks a significant milestone in its quest to become a credible nuclear power on the global stage.

20th March 2024

Behind and beyond the water crisis in Bengaluru-Indian Express Explained

-Sociology(Urbanization)

Key Takeaways:

Water Crisis Extends Beyond Bengaluru: While Bengaluru has been in the spotlight for its water crisis, the scarcity extends to much of Karnataka and neighboring regions like Telangana and Maharashtra.

Causes of Water Shortage: The crisis stems from poor monsoon rains in 2023, with Karnataka experiencing an 18% rainfall deficit. Additionally, the nature of rocky aquifers in South India limits groundwater storage capacity, exacerbating the situation.

Depleting Reservoir Levels: Karnataka's reservoirs are currently holding only 26% of their capacity, well below expected levels. This depletion is forcing the state to draw more water even before the onset of summer.

Urban vs. Rural Impact: While urban areas like Bengaluru prioritize drinking water needs, rural areas may face even greater shortages. The crisis highlights the need for long-term structural solutions and resilience-building measures.

Future Challenges: As summer approaches, the water crisis may worsen, impacting not only households but also industries, agriculture, and hydropower sectors. Building resilience to multi-year droughts is crucial.

Mains easy explanation

The water crisis in Bengaluru, though receiving international attention, extends far beyond the city limits, affecting much of Karnataka and neighboring regions. Poor monsoon rains in 2023, coupled with the nature of rocky aquifers in South India, have exacerbated the situation. Karnataka's reservoirs currently hold only 26% of their capacity, prompting increased water extraction even before summer begins. While urban areas prioritize drinking water needs, rural regions may face even greater shortages. Long-term solutions are imperative to address structural issues, including unregulated construction and the destruction of natural water bodies like lakes. Building resilience to multi-year droughts is crucial, given the erratic nature of rainfall patterns. Additionally, there's a need to value water as a precious resource and implement policies to incentivize conservation and discourage wastage. The crisis highlights the necessity for proactive measures to ensure sustainable water management across urban and rural areas, safeguarding against future challenges posed by climate change and fluctuating water availability.

WHAT DOES HONG KONG'S NEW STRINGENT SECURITY LAW SAY?-Indian Express Explained

-International relations

Key takeaways:

Broadened Definitions: Hong Kong's new national security law expands the definitions of crimes like sedition, sabotage, and state secrets, potentially encompassing a wider range of activities.

Tougher Penalties: The law introduces harsher penalties, including life imprisonment, for offences related to national security, indicating a significant escalation in the consequences for violating these laws.

Sector-wide Impact: The law's implications extend beyond legal boundaries, potentially affecting various sectors such as business, academia, law, diplomacy, and media in Hong Kong, raising concerns about its impact on the city's autonomy and global standing.

Concerns for Defendants' Rights: Rights advocates express worries about the erosion of defendants' rights under the new law, highlighting expanded detention periods, limited access to legal representation, and restrictions on movement and release of prisoners as key areas of concern.



| Clear your doubts now.



Geopolitical Tensions: The enactment of this law further exacerbates tensions between Beijing and pro-democracy movements in Hong Kong, signaling ongoing challenges to Hong Kong's autonomy and rule of law.

Mains easy explanation

Hong Kong's new national security law significantly broadens the scope of crimes related to national security, introducing harsh penalties including life imprisonment. The law encompasses offences like sedition, possession of state secrets, external interference, espionage, and treason, with specific sentences outlined for each. This law could have far-reaching implications across various sectors in Hong Kong, potentially affecting individuals and organizations engaged in activities perceived as threatening national security. However, there are concerns raised by rights advocates regarding the impact on defendants' rights, as the law expands detention periods, limits access to legal representation, and imposes restrictions on movement and release of prisoners. This move further accentuates tensions between Beijing and pro-democracy movements in Hong Kong, continuing a trend that began with the imposition of the 2020 security law.

House term and poll schedule-Indian Express Explained

-Polity

Key Takeaways:

Change in Counting Date: The Election Commission of India (ECI) brought forward the counting date for Assembly elections in Sikkim and Arunachal Pradesh to June 2, aligning it with the end of their Legislative Assembly terms to ensure a smooth election process.

Constitutional Terms of Houses: According to the Constitution, the terms of State Assemblies and Lok Sabha last for five years from the date of their first sitting, unless dissolved sooner.

Factors Considered for Election Schedule: The ECI considers various factors such as weather, festivals, examinations, logistical requirements, and the expiration date of the term of the legislature while deciding election schedules.

Precedents and Changes: While the ECI has adjusted schedules in the past to accommodate festivals or local events, changing the counting date after announcement due to term expiration is relatively rare. In 2004, counting in Andhra Pradesh was scheduled earlier due to the Assembly's term ending on the same day as the national counting.

ECI's Flexibility: The ECI demonstrates flexibility in adjusting schedules to respect local sentiments or logistical constraints, ensuring the smooth conduct of elections while adhering to constitutional provisions.

Mains easy explanation

The Election Commission of India (ECI) adjusted the counting date for Assembly elections in Sikkim and Arunachal Pradesh to June 2, aligning it with the end of their Legislative Assembly terms to ensure a smooth election process. This move, rooted in constitutional provisions, demonstrates the ECI's commitment to conducting elections within legal frameworks while accommodating logistical constraints. The Constitution mandates a five-year term for State Assemblies and Lok Sabha from their first sitting, emphasizing the importance of completing the election process before term expiration. While changes to announced schedules are uncommon, the ECI showcases flexibility by adjusting dates to respect local sentiments or logistical challenges. This adjustment underscores the ECI's dedication to conducting free and fair elections while upholding constitutional principles. It also highlights the significance of proactive planning and adaptability in ensuring the integrity and efficiency of the electoral process, essential for maintaining public trust and democratic norms.

Does retweeting allegedly defamatory content amount to defamation?-Indian Express Explained

-Polity

Key Takeaways:

Retweets and Defamation: The Supreme Court restrained a trial court from proceeding with a criminal defamation case against Delhi Chief Minister Arvind Kejriwal for retweeting allegedly defamatory content. The court observed that a retweet may not always signify endorsement but could merely be sharing information found online.

Legal Viewpoints: While the Delhi High Court held that every retweet of defamatory content could amount to publication under Section 499 of the Indian Penal Code (IPC), legal experts suggest that the essential element of defamation lies in the lowering of one's reputation communicated to a third person.

Criminal Defamation: Defamation can be a civil wrong or a criminal offense. Criminal defamation, as per Section 499 of the IPC, can attract a jail term of up to two years, emphasizing the balance between the right to reputation and freedom of expression.



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Right to Free Speech: The Supreme Court, in various rulings, has upheld the constitutionality of criminal defamation, considering it a reasonable restriction on the right to freedom of expression under Article 19(1)(a) of the Constitution.

Consequences of Retweeting: Retweeting allegedly defamatory content can have significant ramifications, as noted by legal experts. The Delhi High Court ruled that retweeting such content, especially by public figures like Chief Ministers, could imply endorsement or acknowledgment, potentially exposing them to liability under defamation laws.

Mains easy explanation

The Supreme Court's intervention in a criminal defamation case against Delhi Chief Minister Arvind Kejriwal highlights the nuanced debate surrounding retweets and defamation. While the legal framework acknowledges the seriousness of defamatory statements communicated to a third party, the interpretation of retweets as endorsements or mere information sharing remains contentious. Legal experts emphasize the balance between protecting reputation and safeguarding freedom of expression, as enshrined in the Constitution. The Delhi High Court's ruling underscores the potential liability associated with retweeting defamatory content, particularly for public figures, due to their wider reach and social influence. This case prompts a broader reflection on the intersection of social media dynamics and legal liability, urging clarity in defining responsibilities and consequences for online actions.

An election debate not joined-Indian Express Editorial

-International relations

Key takeaways:

Lack of Foreign Policy Debate: Despite India's growing international influence, there is a noticeable absence of political discourse on foreign policy matters, particularly in the context of the ongoing general election. This absence raises questions about the extent of genuine consensus and declining interest in global affairs among the opposition parties.

Modi's Foreign Policy Success: Prime Minister Narendra Modi's handling of India's foreign policy has been widely regarded as successful, benefitting from his strong leadership and majority government, which has allowed for more decisive action and a clearer foreign policy direction.

Opposition's Silence: The main opposition party, Congress, has largely refrained from challenging the government's foreign policy trends. This lack of opposition critique suggests either a tacit agreement or a declining interest in engaging with foreign policy issues.

Left's Diminished Influence: The Left's influence on India's foreign policy has declined significantly over the years, impacting the overall debate and discourse on international affairs within the political landscape.

Need for Robust Debate: Despite the government's successes in foreign policy, there is a pressing need for robust debate and discussion on key foreign policy issues, such as India's changing role in the international order, economic challenges, relations with China, and the evolving geopolitical landscape. Such debates are essential for shaping India's future foreign policy direction and ensuring meaningful engagement with global affairs.

Mains easy explanation:

The article highlights the notable absence of a substantive foreign policy debate in Indian politics, particularly during the current general election. Despite India's increasing global significance and Prime Minister Narendra Modi's successful stewardship of foreign affairs, there is a conspicuous lack of engagement from opposition parties, especially the Congress. Unlike previous instances where opposition parties, particularly the Left, played a significant role in shaping India's foreign policy discourse, the current scenario presents a muted opposition.

The decline in opposition critique and engagement can be attributed to various factors, including the dominance of the ruling party, the BJP, and the diminishing influence of the Left. While India's foreign policy under Modi has seen significant advancements and strategic realignments, there remains a need for robust debate and scrutiny. Key issues such as India's role in the changing global order, economic challenges, relations with China, and strategic autonomy warrant thorough discussion.

The article emphasizes the importance of fostering a meaningful dialogue on foreign policy to address emerging challenges and opportunities. It underscores the need for political parties to engage in substantive debates, offering alternative perspectives and policy alternatives. With India's increasing global stature and complex geopolitical dynamics, a vibrant foreign policy discourse is essential for charting a course that aligns with the country's interests and aspirations on the global stage.

Ties that epitomise India's neighbourhood First policy-The Hindu Editorial

-International relations



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Key Takeaways:

India-Bhutan Relations: The article highlights the longstanding close relationship between India and Bhutan, emphasizing mutual respect, trust, and cooperation over the past 50 years.

Equality and Respect: Despite vast differences in size and population, both nations treat each other as equals, respecting Bhutan's sovereignty, unique identity, and desire for economic prosperity.

Recent Developments: Recent high-level visits between the leaders of India and Bhutan signify the ongoing efforts to strengthen bilateral ties and collaboration.

Gelephu Mindfulness City: Bhutan's plan to develop Gelephu into a Mindfulness City, with a focus on sustainability, well-being, and environmental concerns, presents opportunities for India's participation and cooperation in various sectors, including business and technology.

Hydropower Cooperation: Hydropower cooperation remains a cornerstone of India-Bhutan relations, contributing to Bhutan's economic development and India's energy needs.

Development Assistance: India's significant contribution to Bhutan's development, coupled with attention to the priorities of the Bhutanese people, underscores the successful partnership between the two countries.

Future Collaboration: Suggestions for future collaboration include initiating direct flights, sharing technology and expertise, promoting tourism and business exchanges, and encouraging Indian businesses to invest in Gelephu.

Regional Impact: The success of the Gelephu Mindfulness City is expected to have positive socio-economic impacts not only on Bhutan but also on neighboring regions of West Bengal and Assam, further enhancing regional cooperation.

Mains easy explanation

The article explores the enduring and mutually beneficial relationship between India and Bhutan, characterized by respect, trust, and cooperation. It highlights recent developments, including high-level visits and Bhutan's plan to develop Gelephu into a Mindfulness City, presenting opportunities for India's participation. Emphasizing hydropower cooperation as a cornerstone of bilateral relations, it underscores India's significant contribution to Bhutan's development. Suggestions for future collaboration, such as initiating direct flights and promoting tourism, aim to further enhance bilateral ties. The article portrays India's commitment to supporting Bhutan's priorities while fostering regional socio-economic development. Overall, it depicts a robust partnership built on shared values and interests, reflecting India's "Neighbourhood First" policy and underscoring the importance of continued dialogue and cooperation between the two nations.

[The curious case of Sosamma Iype and the Vechur cow-The Hindu Editorial](#)

-Economy(Agriculture)

Key Takeaways:

Padma Shri Recognition: Dr. Sosamma Iype's efforts in saving the indigenous Vechur cow breed earned her the prestigious Padma Shri award in 2022.

Balancing Industrialization and Biodiversity: The story reflects India's challenge in balancing rapid industrialization with the preservation of biodiversity, especially indigenous cattle breeds.

Impact of Agrarian Transformations: Agrarian transformations such as the Green and White Revolutions led to the decline of smaller indigenous breeds like the Vechur cow.

Discovery and Mission: Dr. Iype's dedication and a student's discovery of a surviving Vechur cow sparked a mission to conserve not only the Vechur but also other endangered indigenous breeds.

Facing Obstacles: Despite facing obstacles and criticism, Dr. Iype's Vechur Conservation Project became a national template adopted by governmental institutions.

Empowering Farmers: The project empowered impoverished farmers and promoted community participation in conservation efforts.

Dr. Iype's Legacy: Dr. Iype's selfless dedication embodies the spirit of a true Indian heroine, leaving a lasting impact on India's cultural and agricultural heritage.

Mains easy explanation

The story revolves around Dr. Sosamma Iype's remarkable endeavor to save the indigenous Vechur cow breed, earning her the Padma Shri in 2022. Amid India's pursuit of rapid industrialization and agricultural modernization post-independence, traditional cattle breeds like the Vechur faced extinction due to neglect. Dr. Iype's student's discovery of a surviving Vechur cow ignited her mission to conserve it and other endangered breeds. Despite facing obstacles and criticism, Dr. Iype's Vechur Conservation Project gained national recognition and became a template for conservation



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efforts. The project not only saved the Vechur but also empowered impoverished farmers through community participation. Dr. Iype's selfless dedication reflects the essence of a true Indian heroine, leaving an indelible mark on India's cultural and agricultural landscape. Her legacy extends beyond mere scientific achievement, embodying the ethos of giving back to society and preserving traditional heritage.

Changing cancer nomenclature can improve treatment outcomes: doctors-The Hindu Science

-Science

Key takeaways

Shift Towards Molecular Classification: The article discusses the need to reclassify cancer based on molecular characteristics rather than the traditional organ-based classification system. This shift is driven by advancements in precision oncology, allowing for targeted therapies based on genetic mutations.

Challenges with Traditional Approaches: Traditional cancer treatments, such as surgery and radiation, focus on the organ where the tumor originates. However, metastatic cancers, which cause most cancer-related deaths, require systemic drug treatments.

Delays in Treatment Access: Sequential testing of drugs in clinical trials, based on organ-specific classifications, has led to delays in treatment access for patients with specific genetic mutations. This sequential approach has caused missed opportunities for effective treatment.

Benefits of Molecular-Based Classification: Reclassifying cancer based on molecular features could streamline clinical trials, reduce delays in treatment access, and help patients understand the rationale behind their therapies.

Implementation Challenges: Implementing the proposed molecular-based classification system requires regulatory approval, clarification from scientific groups and insurance companies, and improved accessibility to genetic testing. Additionally, considerations such as the cost and availability of genetic testing and the need for robust trial methodologies must be addressed.

Opportunities for Improved Outcomes: Despite challenges, transitioning to a molecular-based classification system presents opportunities to improve treatment outcomes, enhance patient understanding, and accelerate drug development processes in oncology.

Mains easy explanation

The article discusses the potential benefits of reclassifying cancer based on molecular characteristics rather than the traditional organ-based classification. This shift is motivated by advancements in precision oncology, which allow for the identification of genetic mutations responsible for tumors and targeted drug therapies. Currently, most cancer treatments focus on the organ of origin, but metastatic cancers, which are responsible for most cancer-related deaths, require systemic drug treatments.

The need for change arises from the delays caused by sequential testing of drugs in clinical trials, which are conducted separately for different types of cancer based on their organ of origin. This approach has led to missed opportunities for patients with specific genetic mutations to access potentially life-saving drugs.

Reclassifying cancer based on molecular features could streamline clinical trials, reduce delays in treatment access, and help patients understand the rationale behind their therapies. However, implementing this change requires regulatory approval, clarification from scientific groups and insurance companies, and improved accessibility to genetic testing.

While the proposed classification system offers promising benefits, challenges remain, including the cost and availability of genetic testing, the need for robust trial methodologies, and the consideration of disease location alongside molecular signatures for treatment outcomes.

Overall, transitioning to a molecular-based classification system for cancer presents opportunities to improve treatment outcomes, enhance patient understanding, and accelerate drug development processes, albeit with certain hurdles that need to be addressed.

21st March 2024

Small-scale LNG, a big idea-Indian Express Explained

-Economy

Key takeaways:

Small-Scale LNG (SSLNG) Revolution: India has inaugurated its first SSLNG unit at GAIL (India) Ltd's Vijaipur complex in Madhya Pradesh, marking a significant step towards leveraging LNG's advantages in a smaller-scale operation.



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Government Push for Natural Gas: With aims to increase the share of natural gas in the energy mix to 15% by 2030, the government sees natural gas as a cleaner and cheaper alternative to coal and oil, reducing pollution and foreign exchange expenditure.

Transportation and Distribution Challenges: Large-scale use of LNG is hindered by transportation and distribution challenges, especially in areas not connected by pipeline infrastructure. SSLNG offers a solution by facilitating the supply of LNG to regions without pipeline connectivity.

SSLNG Process: The SSLNG process involves liquefaction of natural gas in smaller-scale operations using cryogenic technology. This liquefied gas is transported to consumers via specialized trucks and vessels, eliminating the need for extensive pipeline infrastructure.

Business Opportunities: SSLNG presents significant business opportunities for oil and gas companies in India. GAIL is leading the way with its SSLNG unit, but other major players are also eyeing this high-growth segment.

LNG as Automotive Fuel: There is a growing interest in using LNG as a direct fuel for long-haul trucks and buses due to its lower emissions and cost compared to diesel. However, challenges such as vehicle availability, initial costs, and retail infrastructure need to be addressed for widespread adoption.

Foreign Exchange Savings: Substituting diesel with LNG in commercial vehicles could lead to substantial foreign exchange savings for India, as LNG imports constitute a smaller portion of the country's energy imports compared to crude oil.

Future Prospects: Despite challenges, companies like GAIL and Petronet are actively working to build a viable ecosystem for LNG transportation and usage in India, including establishing LNG dispensing stations along major highways.

Mains easy explanation

India has inaugurated its first Small-Scale Liquefied Natural Gas (SSLNG) unit at GAIL's Vijaipur complex, marking a significant move towards leveraging LNG as a cleaner and cheaper alternative to diesel. The government aims to increase the share of natural gas in its energy mix to 15% by 2030 to reduce pollution and foreign exchange expenditure. SSLNG addresses the challenges of transportation and distribution hindering large-scale LNG use, particularly in areas lacking pipeline infrastructure. It involves liquefying natural gas on a smaller scale and transporting it via specialized trucks and vessels to consumers.

This initiative presents lucrative business opportunities for oil and gas companies in India, with GAIL leading the way. The adoption of LNG as automotive fuel, especially for long-haul trucks and buses, could result in significant foreign exchange savings due to reduced emissions and lower costs compared to diesel.

However, challenges remain, including the need to address vehicle availability, initial costs, and retail infrastructure for widespread adoption. Despite these hurdles, companies like GAIL and Petronet are actively working to build a viable ecosystem for LNG transportation and usage in India, including establishing LNG dispensing stations along major highways.

Overall, the inauguration of India's first SSLNG unit signifies a crucial step towards expanding the use of natural gas and transitioning towards cleaner and more sustainable energy solutions in the country.

[INDIA TO PRODUCE 600KT OF SOLAR WASTE BY 2030, NEW RESEARCH SAYS-Indian Express Explained](#)

-Economy

Key Takeaways:

Solar Waste Projection: A study by the Ministry of New and Renewable Energy (MNRE) and the Council on Energy, Environment and Water (CEEW) predicts that India's solar waste generation will reach 600 kilotonnes (kt) by 2030, with an expected increase to about 19,000 kt by 2050.

Solar Capacity Growth: India's current solar capacity stands at 66.7 GW as of March 2023 and is projected to jump to 292 GW by 2030. This rapid expansion will significantly contribute to the generation of solar waste.

Sources of Solar Waste: Solar waste is generated during both manufacturing and the operational lifetime of solar modules. While the study focuses only on waste generated during the project lifetime, it identifies various sources including transportation and handling, damage during the module's lifetime, and end-of-life disposal.

Regional Distribution of Waste: The majority of solar waste is expected to be produced by states with high solar capacity, namely Rajasthan, Gujarat, Karnataka, Tamil Nadu, and Andhra Pradesh. These states are likely to continue expanding their solar capacity in the coming years.



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Policy Recommendations: The study emphasizes the importance of maintaining a comprehensive database of installed solar capacity to estimate future waste generation accurately. It calls for incentivizing recyclers and stakeholders to effectively manage the growing volume of solar waste.

Market for Solar Recycling: There is a need to create a market for solar recycling in India. The report highlights that solar waste generation is not just a problem of the future but also of the present, emphasizing the urgency of addressing it.

Mains easy explanation

India's solar energy sector is poised for significant growth, with installed capacity expected to surge to 292 GW by 2030. However, this expansion comes with challenges, particularly in managing the resulting solar waste. The MNRE and CEEW study forecasts a substantial increase in solar waste generation, reaching 600 kt by 2030 and a staggering 19,000 kt by 2050.

The bulk of this waste will be generated in states with high solar capacity, which are expected to continue expanding their renewable energy infrastructure. To address this issue, policymakers are urged to maintain accurate data on installed solar capacity, incentivize recycling initiatives, and promote effective waste management practices. It is emphasized that creating a market for solar recycling is crucial, as solar waste generation is not just a future concern but an immediate challenge that requires urgent attention.

INCLUSION OF CONVENIENCE-Indian express Editorial

-Sociology

Key takeaways

Selective Celebrations: Recent advancements in disability rights, such as accessibility measures in cinema halls, are often celebrated without addressing deeper systemic issues and inequalities within the disability community.

Inclusionism: The concept of "inclusionism" propagated by market forces and nation-states aims to integrate persons with disabilities into mainstream society as consumers, prioritizing their normalcy within the capitalist paradigm.

Democratic Deficits: Inclusion initiatives often overlook the diverse experiences of marginalized persons with disabilities, leading to democratic and demographic deficits in disability empowerment discourse.

Limited Accommodations: Accessibility measures typically cater to mainstream, non-controversial individuals, neglecting the needs of socioeconomically disadvantaged or politically dissenting members of the disability community.

Broader Discourse: A more inclusive and comprehensive approach to disability rights is necessary to address systemic inequalities and ensure genuine empowerment for all individuals with disabilities.

Mains easy explanation

Recent advancements in disability rights, such as consultations by the Supreme Court and accessibility measures in cinema halls, mark significant progress. However, these developments are often celebrated uncritically, overlooking systemic issues and inequalities that persist within the disability community.

The concept of "inclusionism" promoted by market forces and nation-states aims to assimilate persons with disabilities into mainstream society as consumers, prioritizing their normalcy within the capitalist paradigm. This approach overlooks the diverse experiences and voices of marginalized persons with disabilities, leading to democratic and demographic deficits in disability empowerment discourse.

While celebrating accessibility measures, it's essential to acknowledge the limitations of such accommodations and the broader societal injustices faced by persons with disabilities. Accommodations often cater to mainstream, non-controversial individuals, neglecting the needs of socioeconomically disadvantaged or politically dissenting members of the disability community. Therefore, a more inclusive and comprehensive approach to disability rights is necessary to address systemic inequalities and ensure genuine empowerment for all individuals with disabilities.

YOUNG AND LISTLESS-Indian Express Editorial

-sociology

Key Takeaways:

Global Trends in Youth Happiness: The latest World Happiness Report indicates a sharp increase in weariness and despair among young people in Western countries such as the US, UK, and Australia, possibly due to factors like economic uncertainty and the negative impact of social media.



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Contrasting Trends in India: In contrast to Western countries, young people in much of the rest of the world, including India, are generally happier. However, India ranks relatively low in the global happiness index, reflecting widespread challenges despite pockets of happiness.

Demographic and Social Factors: In India, the elderly, particularly upper-caste men with higher education qualifications, tend to report higher levels of happiness, optimism, and inclusion. This reflects the influence of factors such as caste, gender, and class on social well-being and psychological security.

Lack of Confidence in the Future: The lower levels of well-being among Indian youth may also indicate a lack of confidence in the future, possibly influenced by socioeconomic factors and uncertainties.

Reflection on Aging: The article reflects on the common sentiment of older individuals reminiscing about their youth and suggests that amidst the challenges faced by today's youth, older generations may find solace in their current age.

Mains Easy Language:

The latest World Happiness Report reveals divergent trends in youth happiness globally. While Western countries experience increased despair among young people due to factors like economic uncertainty and social media, youth in many other regions, including India, display higher levels of happiness. However, India's overall ranking remains low, highlighting persistent societal challenges.

In India, demographic factors strongly influence happiness levels, with elderly upper-caste men with higher education reporting higher levels of well-being. This underscores the impact of caste, gender, and class on social and psychological security. Despite this, there's a notable disparity in well-being, indicating underlying societal issues and a lack of confidence in the future among youth.

This disparity prompts reflection among older generations, who may find solace in their current age compared to the challenges faced by today's youth. Overall, the report emphasizes the complex interplay of demographic, socioeconomic, and cultural factors in shaping happiness. By understanding these dynamics, policymakers can work towards creating a more inclusive environment that fosters happiness for people of all ages and backgrounds.

On the mass kidnappings in Nigeria-The Hindu Text and context

-International relations

Key takeaways

Resurgence of Kidnappings: Nigeria is grappling with a resurgence of kidnappings, with over 600 people abducted since the end of February, including schoolchildren, women, and internally displaced persons.

Suspected Perpetrators: Suspected perpetrators include Boko Haram militants and local armed groups known as bandits, with ransom payments serving as a key motivation for these abductions.

Root Causes: The surge in kidnappings stems from a combination of economic challenges, high unemployment rates, inflation, and instability in the Niger delta, contributing to the rise of kidnapping as a lucrative industry.

Government Response: President Bola Tinubu has rejected ransom payments for the victims, reflecting the government's policy stance against negotiating with kidnappers. Security forces are working to secure the release of the abducted individuals, but challenges remain in navigating remote forest areas.

Calls for Dialogue: Activists advocate for dialogue with bandits to resolve the crisis peacefully, emphasizing the need for comprehensive solutions to address Nigeria's security challenges.

Concerns and Challenges: Concerns are raised about the potential consequences of using force to combat kidnappings, highlighting the complexities of the situation and the importance of a nuanced approach.

Mains easy explanation

In Nigeria, a surge in kidnappings, predominantly targeting vulnerable groups, has exacerbated the country's security crisis. Over 600 individuals, including schoolchildren and displaced persons, have been abducted since late February, reflecting systemic economic challenges and regional instability. Suspected perpetrators, including Boko Haram and local armed groups known as bandits, exploit these conditions to demand ransom payments. President Bola Tinubu has rejected ransom payments, emphasizing a firm stance against such actions. Security forces are engaged in efforts to secure the release of abducted individuals, while calls for dialogue with bandits grow louder to address underlying grievances and pursue peaceful resolutions. However, concerns persist about the potential consequences of using force to combat kidnappings, highlighting the need for a balanced approach that integrates security measures with long-term socio-economic development strategies.

Right whales may never breed after run-ins with Fishing gear-The Hindu Science



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-Environment

Key takeaways

Grave Threat from Entanglement: North Atlantic right whales face serious risks from entanglement in fishing gear, with even minor incidents causing significant harm to the critically endangered species.

Impact on Reproduction: Minor entanglements have been found to disproportionately affect potential mothers, reducing their chances of breeding and contributing to plummeting calving rates among right whales.

Declining Population: The number of reproductively mature female right whales has declined significantly in recent years, with only a fraction of the population capable of sustaining the species' numbers.

Inadequate Regulations: Despite existing legal protections and conservation efforts, current regulations fall short in effectively addressing the entanglement threat, highlighting the need for more comprehensive conservation strategies.

Urgent Action Required: Eliminating entanglements is crucial for the long-term survival of North Atlantic right whales, emphasizing the urgent need for whale-friendly fishing practices and conservation measures.

Hope for Stabilization: While population estimates suggest some stabilization, ensuring the species' survival hinges on eliminating entanglements and promoting effective conservation efforts to protect these majestic creatures.

Mains easy explanation

The recent discovery of a dead North Atlantic right whale entangled in fishing gear off Martha's Vineyard underscores the dire threat entanglements pose to these critically endangered creatures. Despite legal protections, entanglements persist, resulting in declining reproductive rates among female whales. Shockingly, even minor entanglements significantly decrease the likelihood of breeding, exacerbating the challenge of sustaining the already dwindling whale population. Existing regulations aimed at mitigating entanglement risks have proven inadequate, highlighting the urgent need for more robust conservation strategies. Eliminating entanglements, rather than merely mitigating them, is crucial for preventing the extinction of this species. Every entanglement, regardless of severity, poses a grave risk to the whales' survival. Therefore, comprehensive efforts are essential to protect North Atlantic right whales and ensure their long-term viability in the face of mounting threats from fishing gear entanglements.

NASA craft that diverted space rock also dented it-The Hindu Science

-Science and technology

Key takeaways

Successful Trajectory Alteration: NASA's DART spacecraft effectively diverted the trajectory of the asteroid Dimorphos in 2022, demonstrating the feasibility of planetary defense strategies.

Shape Transformation: The collision with DART not only redirected Dimorphos' path but also altered its shape, changing it from a spherical object to a triaxial ellipsoid.

Target and Mission Objective: Dimorphos, a moonlet orbiting Didymos, was selected as the target for NASA's DART mission, aimed at testing kinetic impactors for planetary defense against near-Earth asteroids.

Impact Details: The collision occurred at a speed of approximately 22,530 kph, resulting in significant changes to Dimorphos' orbital trajectory and period.

Orbital Dynamics Modification: The impact caused Dimorphos' orbit to become elliptical instead of circular, with a shorter orbital period compared to pre-collision measurements.

Long-Term Effects: Continued monitoring by NASA scientists reveals ongoing changes in Dimorphos' orbit, attributed to the influence of rocky debris ejected during the impact.

Mains easy explanation

NASA's DART spacecraft successfully altered the trajectory of the asteroid Dimorphos in 2022, demonstrating the capability to deflect celestial objects if they pose a threat to Earth. The collision not only changed Dimorphos' path but also its shape, transforming it into a triaxial ellipsoid from its previous spherical form. This significant shape change resulted from Dimorphos' composition, described as a loosely packed assemblage of debris. The DART mission aimed to redirect Dimorphos, a moonlet of Didymos, a near-Earth asteroid, to evaluate the efficacy of kinetic impactors in planetary defense. The collision, which occurred at a speed of about 22,530 kph, altered Dimorphos' orbital path, making it elliptical and reducing its orbital period. The impact caused rocky debris to scatter into space, affecting the asteroid's rotation and angular momentum. NASA scientists continue to monitor Dimorphos' orbit as it gradually decays due to ongoing debris leakage from the system.

Eliminating diseases, one region at a time-The Hindu Editorial



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-Science

Key Takeaways:

Progress Towards Eradication: The Carter Center's report highlights significant progress in the near-eradication of guinea worm disease, marking a monumental achievement in disease elimination efforts globally.

Shift in Attention: The success story of guinea worm disease underscores the increasing focus on disease elimination as the initial step towards eradicating various infectious diseases, aligning with the UN's Sustainable Development Goals.

Distinguishing Elimination from Eradication: Disease elimination involves achieving zero transmission within a defined region, contrasting with eradication, which signifies the permanent cessation of infection. The distinction underscores the complexity of public health strategies.

Benefits and Challenges: While disease elimination energizes public health systems and garners international support, it poses resource-intensive challenges and risks diverting attention from other essential health functions, particularly in weaker health systems.

Strategic Approach: India's approach to disease elimination emphasizes focusing efforts on diseases with significant population impact and low prevalence, ensuring feasibility and sustainability through careful planning and informed political support.

Regional Focus: Implementing disease elimination regionally enables multisectoral collaboration, innovation, and efficient resource allocation, facilitating better disease management while progressing towards national and global eradication goals.

Mains easy explanation

The Carter Center's recent report highlights significant progress towards eradicating guinea worm disease, with cases plummeting from 3.5 million annually in 1986 to just 13 in five countries by 2023. This underscores the global focus on disease elimination, a crucial step towards eradicating infectious diseases as per the UN's Sustainable Development Goals.

Elimination targets zero transmission in defined regions, energizing public health systems but requiring rigorous planning due to its resource-intensive nature and potential impact on other health priorities, particularly in weaker systems.

India's approach prioritizes diseases with high population impact and low prevalence, ensuring feasibility and sustainability through careful planning and political support. Regional implementation allows for efficient resource allocation and monitoring, paving the way for scaled-up efforts nationwide.

Ultimately, achieving national elimination goals necessitates a phased approach, starting regionally and progressively advancing to address challenges effectively and sustainably.

22nd March 2024

Why SC has stayed Govt's 'Fact Check Unit' for now-Indian express Explained

-Polity

Key takeaways

Amended IT Rules and FCU: The amended IT Rules, notified in April 2023, empowered the government to appoint a FCU under the Press Information Bureau. This unit was tasked with identifying and flagging what it deemed to be false information related to the central government and its agencies on social media platforms.

Challenges in Bombay High Court: Various petitioners, including comedian Kunal Kamra and media organizations, challenged these rules in the Bombay High Court, citing violations of fundamental rights such as free speech guaranteed under Article 19(1)(a) and (g) of the Constitution.

High Court's Split Verdict: The Bombay High Court delivered a split verdict on the challenge, with one judge striking down the amended rules and another upholding them. A third judge was assigned to give an opinion on the split verdict.

SC Stay: Before the third judge could deliver a final decision, the Supreme Court intervened and stayed the operation of the amended rules until the Bombay High Court reaches a final decision. Chief Justice of India (CJI) DY Chandrachud emphasized the need to maintain the status quo, particularly considering one judge's explicit finding of unconstitutionality.

Legal and Constitutional Implications: The decision to stay the rules before a final ruling on their constitutionality reflects a nuanced balance between judicial review and Parliament's legislative authority. While laws made by Parliament carry a presumption of constitutionality, the interim stay suggests serious concerns regarding potential violations of fundamental rights.



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Precedent and Context: The Supreme Court's decision to stay laws pending judicial review is not unprecedented. Past cases, such as the interim stay on Maharashtra's reservation law and the farm laws, demonstrate the court's willingness to intervene when fundamental rights are at stake.

Mains easy explanation

The Supreme Court's decision to stay the amended Information Technology (IT) Rules, particularly concerning the establishment of a "Fact Check Unit" (FCU) by the government, highlights the complex interplay between freedom of speech and government regulation in the digital era. These rules, introduced in April 2023, aimed to empower the government to appoint the FCU, tasked with identifying and flagging false information related to the central government on social media platforms. However, facing legal challenges in the Bombay High Court, the rules encountered a split verdict, with one judge striking them down and another upholding them. Amidst this judicial uncertainty, the Supreme Court intervened, suspending the rules' implementation until the Bombay High Court delivers a final decision. Chief Justice of India (CJI) DY Chandrachud stressed the importance of preserving the status quo, especially given the concerns of potential violations of fundamental rights.

This decision underscores the delicate balance between judicial review and parliamentary authority, as laws made by Parliament carry a presumption of constitutionality. It also underscores broader concerns about government overreach and the safeguarding of individual freedoms in the digital sphere. The outcome of this case will significantly shape the legal landscape governing online expression and establish crucial precedents for future cases involving technology, free speech, and government intervention in the digital realm.

Aspects of inequality in India-Indian Express Explained

-Sociology

Key takeaways

Rising Inequality Since the 1980s: The research by the World Inequality Lab highlights a concerning trend of increasing wealth and income inequality in India since the early 1980s. This contrasts with a period of declining inequality post-independence until the 1980s.

Emergence of Billionaires: The study reveals a significant rise in the number of very high net worth individuals in India since 1990, with their numbers increasing from 1 in 1991 to 162 in 2022. This indicates a notable concentration of wealth among a select few.

Extreme Levels of Inequality: The share of national income and wealth held by the top 1% of the population has reached unprecedented levels, surpassing even those observed during the British colonial era. This extreme inequality poses significant social and economic challenges.

Global Comparisons: India ranks among the highest globally in terms of income inequality, particularly when compared to countries like Brazil, China, France, South Africa, the UK, and the US. This underscores the severity of the inequality issue within the country.

Potential Underestimation: The research suggests that the true extent of inequality in India may be underestimated due to poor quality economic data. This implies that the actual levels of inequality could be even higher than reported.

Policy Recommendations: To address the rising inequality, the paper proposes implementing a super tax on Indian billionaires and multimillionaires, coupled with tax restructuring to include both income and wealth. This revenue could then be used for crucial public investments in education, health, and infrastructure.

Mains easy explanation

The recent working paper by the World Inequality Lab sheds light on the scale of wealth and income inequality in India, revealing a stark trend of rising inequality since the early 1980s. While average incomes have grown steadily, the emergence of very high net worth individuals, with their numbers skyrocketing since 1990, underscores the extreme concentration of wealth. Additionally, the percentage of national income and wealth held by the top 1% of the population has reached alarming levels, surpassing even those seen during the British colonial era. Income inequality in India ranks among the highest globally, particularly when compared to countries like Brazil, China, France, South Africa, the UK, and the US. The data also suggests a likely underestimation of inequality due to poor economic data quality. To address this growing disparity, the paper suggests implementing a super tax on Indian billionaires and multimillionaires, coupled with restructuring the tax system to include both income and wealth, thereby generating revenue for essential public investments in education, health, and infrastructure.

MEET TWIN STARS OF THE UNIVERSE, WHICH GOBBLE UP PLANETS-Indian Express Explained

-Science



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Key takeaways

Planetary Instability: The study reveals that not all planetary systems are as stable as our solar system, with a significant number of twin stars showing signs of having ingested planets. This challenges the notion of universal stability in planetary systems.

Twin Star Characteristics: Twin stars are pairs of stars that formed within the same interstellar cloud, sharing similar chemical compositions, mass, and age. Despite their similarities, they are not gravitationally bound binary systems.

Chemical Composition Changes: Researchers identified stars that had ingested planets by detecting changes in their chemical compositions, particularly elevated levels of certain elements like iron, nickel, or titanium.

Causes of Ingestion: Potential reasons for planets colliding with their host stars include disturbances in their orbits caused by larger planets or close encounters with other stars. These disturbances can lead to planets being expelled from stable orbits.

Implications for Planetary Dynamics: The findings suggest that instability in planetary systems may be more common than previously thought. Understanding the factors contributing to this instability could provide insights into the diversity and evolution of planetary systems.

Future Research Directions: Further research may explore the prevalence of planetary ingestion in different types of stellar pairs and its broader implications for planetary formation and dynamics. This could enhance our understanding of the processes shaping planetary systems across the universe

Mains easy explanation

The recent study by the World Inequality Lab illuminates a concerning trend in India's socioeconomic landscape, revealing a significant rise in wealth and income inequality since the early 1980s. This stark shift contrasts with a period of declining inequality post-independence until the 1980s. The emergence of very high net worth individuals, soaring from 1 in 1991 to 162 in 2022, underscores the extreme concentration of wealth within a select few. Moreover, the share of national income and wealth held by the top 1% has reached unprecedented levels, surpassing even those observed during the British colonial era.

Globally, India ranks among the highest in income inequality, particularly when compared to countries like Brazil, China, France, South Africa, the UK, and the US. However, the study suggests that the true extent of inequality may be underestimated due to poor quality economic data, indicating that the actual levels of inequality could be even higher than reported.

In response to these alarming findings, the paper proposes policy interventions to address rising inequalities, advocating for the implementation of a super tax on Indian billionaires and multimillionaires. Coupled with tax restructuring to include both income and wealth, this revenue could fund essential public investments in education, health, and infrastructure. Overall, the study underscores the urgent need for comprehensive measures to tackle growing socioeconomic disparities and promote inclusive development in India.

From Gwadar, a warning-Indian Express Editorial

-International relations

Key takeaways

Recent Attacks in Gwadar: Pakistan's security forces recently thwarted an attack on the Gwadar Port Authority Complex by militants from the Majeed Brigade of the Balochistan Liberation Army (BLA), indicating the increasing capability of armed Baloch groups.

Baloch Insurgency Momentum: The insurgency in Balochistan has been gaining momentum, with insurgents regularly launching bold attacks against Pakistani military and paramilitary installations, highlighting the growing challenge to state security.

Government Repression: The Pakistani government's decades-old policy of repressing the Baloch population has only fueled the insurgency, with reports of economic deprivation, lack of political freedom, forced disappearances, and extrajudicial killings exacerbating the situation.

Importance of Balochistan and Gwadar Port: Balochistan, and specifically the Gwadar port, are crucial for Pakistan's strategic interests, especially for the China-Pakistan Economic Corridor (CPEC) project, part of China's Belt and Road Initiative. However, security failures have jeopardized these projects.





Public Protests and Forced Disappearances: The issue of forced disappearances has triggered public protests and a fresh public movement in Balochistan, with significant participation from women-led groups, drawing attention to human rights abuses.

Violent Response and Claims of Revenge: The ill-treatment of protesters, especially women, has led to a surge in violence by Baloch groups, including claims of revenge for the torture of women and openness to international alliances against the common enemy.

Regional and International Implications: The continued instability and violence in Balochistan, along with strained relations with neighbors and the inability to secure vital projects like CPEC, pose significant challenges to Pakistan's regional standing and security considerations.

Mains easy explanation

The article sheds light on the intensifying insurgency in Balochistan, Pakistan, exemplified by a recent militant attack on the Gwadar Port Authority Complex by the Balochistan Liberation Army (BLA). This incident underscores the growing challenge faced by Pakistani security forces amidst a broader surge in insurgent activities. The Pakistani government's repressive policies in Balochistan, characterized by economic neglect, political disenfranchisement, forced disappearances, and extrajudicial killings, have exacerbated the insurgency. Balochistan's strategic significance, notably due to its role in the China-Pakistan Economic Corridor (CPEC) and the Gwadar port, highlights the potential regional and international ramifications of the unrest. Public protests, particularly led by women, against human rights abuses have gained momentum. The increasing violence, including retaliatory attacks by Baloch groups and their openness to international alliances against Pakistan, signals a dire security threat. The article concludes that the escalating violence in Balochistan not only poses a significant challenge to Pakistan's internal security but also has broader implications for regional stability and Pakistan's international relations, especially concerning its commitments to major projects like CPEC.

Nuclear energy: Fixing the Finance -The Hindu Text and context

-Economy

Key takeaways

Urgent Reassessment Needed: There's an urgent call to reevaluate nuclear financing policies in Multilateral Development Banks (MDBs) to incorporate private capital or blended financing models for nuclear energy projects due to limited investment.

Role of Nuclear Energy: Nuclear energy is crucial for climate change mitigation, emitting less carbon and providing uninterrupted energy. The UN Climate Change Conference highlighted its importance, calling for tripling nuclear energy capacity by 2050.

Technological Advancements: Recent advancements in nuclear technology, like Small Modular Reactors (SMRs), have the potential to reduce risks and emissions, but they lack significant financial backing.

Successful Financing Models: Cooperative funding models in countries like France, South Korea, and Russia, where investors raise credit and take project responsibility, serve as successful examples for nuclear project financing.

Challenges in Nuclear Infrastructure: Despite growth ambitions, challenges like project overruns and rising costs have hindered nuclear projects, with companies like NuScale Power facing setbacks.

India's Nuclear Industry: India aims for significant nuclear industry expansion, attracting private investments and planning capacity tripling by 2031-2032. Despite competitive energy prices, challenges like stigma and regulatory hurdles persist.

Mains easy explanation

The Nuclear Energy Summit held in Brussels marks a pivotal moment in recognizing the importance of nuclear energy in combating climate change. However, despite its potential, nuclear energy faces significant challenges in financing, necessitating a reassessment of policies in Multilateral Development Banks (MDBs) to attract private capital or blended financing models. While nuclear power offers numerous advantages, including lower carbon emissions and reliable energy production, recent technological advancements such as Small Modular Reactors (SMRs) have not received adequate financial support.



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Successful financing models observed in countries like France highlight the potential for cooperative funding approaches, where investors collectively raise credit and assume project responsibility. However, challenges such as project overruns and rising costs have led to setbacks in nuclear projects, underscoring the need for innovative financing solutions.

India's nuclear industry presents a mixed picture, with ambitious plans for expansion alongside persistent challenges. Despite offering competitive energy prices, factors such as stigma, regulatory hurdles, and high upfront costs impede widespread adoption. Nevertheless, India's nuclear sector is undergoing liberalization, with plans for substantial growth and investment, signaling a promising future.

In conclusion, while nuclear energy holds immense potential as a clean and reliable energy source, addressing financing barriers is essential for its widespread adoption. Collaborative efforts between MDBs, private investors, and innovative financing models are crucial to unlocking the full potential of nuclear energy in the global transition to a sustainable energy future.

How water insecurity affects women-The Hindu editorial

-Sociology

Key Takeaways:

Gendered Burden: In water-scarce areas, the responsibility of collecting water primarily falls on women and girls, impacting their daily lives, household dynamics, and social relationships.

Impact on Education: Water insecurity affects girls' school attendance and academic performance due to the time spent collecting water, highlighting the intersectionality of water access and education for girls.

Health and Safety Concerns: Women face gender-based violence during water collection trips, impacting their mental health. Lack of access to water also leads to open defecation, exposing women to health risks and increased vulnerability to sexual violence.

Policy Responses: Initiatives like the Jal Jeevan Mission aim to provide household tap connections, reducing the burden of water collection on women. These programs also focus on women's empowerment through participation in community engagement and water quality monitoring.

Positive Outcomes: Studies show that improved access to safe drinking water under such missions reduces women's time spent on water collection, leading to better household management, children's schooling, and childcare. Additionally, women's empowerment indicators are positively correlated with better water and sanitation access.

Need for Gender Mainstreaming: While progress is being made in water access and sanitation, it's crucial to continue mainstreaming gender considerations in policies. Monitoring progress against gender-specific goals, such as reducing school dropout rates among girls and minimizing drudgery among rural women, is essential for improving socio-economic outcomes.

Mains easy explanation

The article discusses how water insecurity disproportionately affects women and girls, particularly in rural areas, where they bear the primary responsibility for water collection. Lack of access to safe drinking water not only impacts their daily lives but also hinders their education and exposes them to health and safety risks. Policy responses like the Jal Jeevan Mission aim to address these challenges by providing household tap connections and empowering women through participation in water management initiatives. Studies highlight the positive outcomes of improved water access on women's time allocation, household management, and overall empowerment indicators. However, the article underscores the need for continued efforts to mainstream gender considerations in water access policies and monitor progress against gender-specific goals for ensuring improved socio-economic outcomes for women.

Should judges accept official posts after retirement?-The Hindu Editorial

-Polity

Key Takeaways:

Judicial Independence: The decision of former Calcutta High Court judge Abhijit Gangopadhyay to join a political party after resigning from his judicial position has raised concerns about judicial impropriety and the independence of the judiciary.

Need for Judicial Norms: While there is no legal bar against judges accepting official posts after retirement, there is a growing call for the Supreme Court to restate the values expected from judges of superior courts. This includes laying down norms on post-retirement behavior to uphold judicial independence.



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Cooling-off Period: There is a suggestion for implementing a cooling-off period of at least two years before retired judges can take up active political roles or other official posts. This period aims to mitigate concerns about judges being influenced by the expectation of post-retirement benefits.

Public Perception: There is a concern that judges who decide cases favorably for the government may be more likely to secure post-retirement benefits, leading to doubts about the impartiality of their judgments.

Retirement Age: Increasing the retirement age of judges is proposed as a solution, but there are concerns about the mental and physical faculties of judges being affected with age. Lifetime appointments, as seen in the US, could burden the judiciary and hinder the entry of fresh talent.

Alternatives to Post-Retirement Appointments: Instead of relying on retired judges for tribunal and commission chairmanships, there is a suggestion for creating separate services for these roles, with recruitment based on merit rather than judicial status.

Monetary Perks: There is a debate about whether increasing post-retirement monetary perks, such as pension, could reduce the reliance of judges on post-retirement appointments. However, it's argued that the desire for power, rather than money, drives judges to seek such positions.

Mains easy explanation

The controversy surrounding former Calcutta High Court judge Abhijit Gangopadhyay's decision to join a political party after resigning from his judicial position has sparked debates about judicial integrity and independence. While there is no legal prohibition against judges accepting official posts post-retirement, concerns have been raised about the potential influence of such appointments on judicial impartiality. Some argue that a cooling-off period of at least two years before retired judges can take up active political roles or other official positions could mitigate these concerns. Additionally, increasing the retirement age of judges is proposed as a solution, although there are concerns about the potential impact on judges' mental and physical faculties. Alternatives to post-retirement appointments, such as creating separate services for tribunal and commission chairmanships, are also suggested to ensure merit-based recruitment rather than relying solely on judicial status. There is a debate about whether increasing post-retirement monetary perks, such as pension, could reduce judges' reliance on such appointments, with some arguing that the desire for power, rather than money, drives judges to seek such positions. Overall, the discussion underscores the importance of upholding judicial independence and public trust in the judiciary while addressing concerns about post-retirement engagements.

Navigating the global waterscape, its challenges-The Hindu Editorial

-Geography

Key takeaways

Global Water Crisis: Around two billion people lack access to clean water, highlighting a pressing global challenge that threatens individual well-being and global peace.

World Water Day 2024 Theme: The theme "Leveraging water for peace" underscores the critical link between water security and peace, as advocated by the United Nations World Water Development Report 2024.

Impact of Climate Change: Climate change exacerbates water insecurities, with phenomena like erratic monsoons impacting agriculture and economies dependent on freshwater.

Importance of Water Diplomacy: Enhanced collaboration and governance in water sharing, particularly for transboundary waters, are essential to prevent conflicts and promote regional stability.

Urban-Rural Water Access Disparity: There's a pronounced divide in access to clean drinking water between urban and rural areas, with rural populations facing significant challenges.

Agriculture's Water Use: Agriculture, a major user of global freshwater, requires investments in technology and infrastructure to improve water efficiency and sustainability.

Transboundary Water Pollution and Governance: Addressing water pollution in shared water bodies and establishing effective cross-border water governance are crucial for equitable resource allocation and sustainability.

Mains easy explanation

The article emphasizes the global challenge of securing clean water for approximately two billion people, highlighted on the 31st World Water Day with the theme "Leveraging water for peace." The United Nations World Water Development Report 2024, "Water for Prosperity and Peace," underscores the importance of water in human civilization and conflict, advocating for water diplomacy as a key to addressing climate-induced water insecurities and supporting agriculture, which heavily relies on freshwater resources.



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The report points out the critical shortage of water quality data and the significant urban-rural divide in access to drinking water, especially in rural India where agriculture is vital. It suggests that investments in water infrastructure and the use of AI in agriculture could improve water efficiency and sustainability. Furthermore, it highlights the challenges of transboundary water pollution and the necessity for sophisticated governance to ensure equitable water allocation among nations sharing water resources.

In conclusion, the document calls for global collaboration and inclusive governance to manage water resources sustainably, emphasizing the role of water diplomacy in achieving peace and meeting the Sustainable Development Goals (SDGs) amid climate change pressures.

Timely treatment can limit disability in children with Juvenile Arthritis'-The Hindu Science

-Science

Key takeaways

World Young Rheumatic Disease Day: Recently observed, it underscored the importance of raising awareness and early diagnosis of rheumatic diseases in children.

Juvenile Idiopathic Arthritis (JIA): This condition, encompassing various inflammatory arthritis subtypes, is the most common pediatric rheumatic disorder globally.

Symptoms and Diagnosis: Children with JIA often present with joint pain, swelling, and functional limitations, with morning stiffness being a prominent feature. Timely diagnosis is crucial to prevent long-term complications.

Treatment Options: Treatment for JIA has evolved, with available drugs including steroids, disease-modifying antirheumatic drugs (DMARDs), and newer biologics. Physiotherapy is also integral to management.

Challenges: Access to effective treatments remains a challenge due to cost constraints, and there is a lack of awareness about pediatric rheumatic disorders in the community, leading to delays in diagnosis and mismanagement.

Importance of Early Intervention: Early intervention significantly improves outcomes in children with JIA, emphasizing the need for timely referral to specialists and multidisciplinary management involving various healthcare providers.

Preventing Disability: Untreated and prolonged illness can result in permanent disabilities in children with JIA, highlighting the urgency of early detection and intervention to mitigate long-term impacts.

Mains easy explanation

The recent observance of World Young Rheumatic Disease Day highlighted the critical need for raising awareness and ensuring early diagnosis of rheumatic diseases in children. Juvenile Idiopathic Arthritis (JIA), the most common pediatric rheumatic disorder globally, presents with symptoms like joint pain, swelling, and functional limitations, often accompanied by morning stiffness. Timely diagnosis is essential to prevent long-term complications.

Treatment options for JIA have advanced, including steroids, disease-modifying antirheumatic drugs (DMARDs), and newer biologics, along with physiotherapy. However, access to these treatments remains challenging due to cost constraints and limited awareness in the community.

Early intervention significantly improves outcomes, emphasizing the importance of timely referral to specialists and multidisciplinary management involving various healthcare providers. Delayed diagnosis and mismanagement can lead to permanent disabilities in children with JIA, underscoring the urgency of early detection and intervention to minimize long-term impacts.

23rd March 2024

GULAAL GOTA:A BEAUTIFUL, UNIQUE HOLI TRADITION OF JAIPUR-Indian Express Explained

-Art and culture

Key Takeaways:

Gulaal Gota Tradition: A unique Holi tradition in Jaipur where instead of water balloons, small balls filled with gulaal (dry color) called "gulaal gota" are thrown at people.

Craftsmanship: Gulaal gotas are made by Muslim lac artisans known as manihaars, who learned the craft from Hindu lac makers. The tradition dates back around 400 years.

Raw Materials: Lac, a resinous substance secreted by insects, is sourced from Chhattisgarh and Jharkhand. Gulaal is bought from the market.



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Historical Significance: Kings in Jaipur used to ride elephants through the city on Holi, tossing gulaal gotas to the public. The royal family also ordered gulaal gota for their festivities.

Economic Aspects: Gulaal gota production is seasonal, with lac bangles being the main source of sustenance for artisans. However, the demand for lac-only bangles has fallen due to cheaper, chemical-based alternatives.

Future Outlook: Artisans are seeking government support, including Geographical Indication (GI) tags, to preserve and promote the tradition. Some artisans have gained recognition internationally for their craft.

Mains easy explanation

The gulaal gota tradition of Jaipur is a unique aspect of Holi celebrations, dating back centuries. Crafted by skilled Muslim lac artisans known as manihaars, these small balls filled with dry color hold historical significance, favored by royalty and continuing as a cherished tradition. However, economic challenges and the rise of cheaper alternatives threaten its sustainability. To preserve this cultural heritage, artisans seek governmental support and international recognition, emphasizing its uniqueness through Geographical Indication tags. Despite challenges, the tradition persists, showcasing the resilience and craftsmanship of Jaipur's artisans. Lac bangles, the main source of sustenance for artisans, face declining demand due to cheaper, chemical-based alternatives. Through initiatives like artisan cards and international showcases, artisans strive to sustain their craft and cultural legacy. The demand for lac-only bangles has fallen, highlighting the need for preserving traditional practices amidst modernization. The gulaal gota tradition symbolizes Jaipur's rich cultural heritage and the ongoing efforts to safeguard it for future generations.

Relevant to case: predicate offence, proceeds of crime-Indian Express Explained

-polity

Key Takeaways:

Money Laundering and Predicate Offence: The Prevention of Money Laundering Act (PMLA) targets individuals involved in activities related to the proceeds of crime, which are derived from scheduled offences, also known as predicate offences.

Kejriwal's Case: Despite not being named in the corruption case directly, Delhi Chief Minister Arvind Kejriwal could face charges under PMLA for laundering proceeds of crime linked to the Delhi excise policy case.

Legal Interpretations: Recent court judgments clarify that individuals accused of assisting in concealing or using proceeds of crime linked to scheduled offences can be prosecuted under PMLA, even if they are not accused in the predicate offence itself.

Judicial Precedents: The Supreme Court rulings emphasize that the accused's involvement in concealing or using tainted money must be tied to the scheduled offence, regardless of whether they are named as an accused in the predicate offence.

Trial Implications: Kejriwal's potential involvement in using allegedly tainted money will be determined during trial, contingent upon the completion of the trial in the excise scam case.

Mains easy explanation

In the context of Arvind Kejriwal's case, the debate on money laundering hinges on the interconnection between predicate offences and PMLA charges. Despite not being named in the predicate offence directly, Kejriwal could face charges under PMLA for his alleged involvement in laundering proceeds of crime derived from the Delhi excise policy case. Recent court rulings clarify that individuals can be prosecuted under PMLA for their role in concealing or using tainted money linked to scheduled offences, irrespective of their status as an accused in the predicate offence itself. The resolution of Kejriwal's case awaits trial proceedings, contingent upon the completion of proceedings in the excise scam case.

Pakistan's Taliban problem, on either side of the Afghanistan border-Indian express Explained

-International relations

Key Takeaways:

Pakistan's Airstrikes: Pakistan conducted airstrikes against Tehreek-e-Taliban Pakistan (TTP) militants in Afghanistan following an attack on an army outpost. The Taliban regime in Kabul accused Pakistan of killing civilians instead.

TTP's Origins and Links: Formed in 2007, the TTP aims to impose strict Islamic rule in Pakistan and has ideological ties to the Afghan Taliban. Pakistan expected the Afghan regime to suppress TTP activities but claims Kabul has not acted.

Impact of US Intervention: The original Taliban leadership relocated to Pakistan's Balochistan province after the US bombing in 2001. The TTP emerged from Afghanistan but gained momentum in Pakistan.



| Clear your doubts now.



Terrorist Attacks: TTP claimed significant attacks including the assassination attempt on Malala Yousafzai and the massacre at the Army Public School in Peshawar in 2014.

Pakistan's Countermeasures: Operation Zarb-e-Azb targeted militants including the TTP, showcasing Pakistan's capacity but raising concerns about selective actions.

Concerns and Strategies: The Afghan Taliban's alleged links with TTP raise concerns about the use of modern weapons and the absence of a coherent strategy in Pakistan, leading to calls for decisive action against all terror outfits.

International Dynamics: India sees an opportunity for Pakistan to address terrorism comprehensively, hoping for dialogue amidst regional tensions.

Mains easy explanation

Pakistan's ongoing struggle with the Tehreek-e-Taliban Pakistan (TTP) reflects broader challenges in the region. Recent airstrikes against TTP militants in Afghanistan underscore Pakistan's frustration with the Afghan regime's alleged inaction. The TTP's origins in Afghanistan and subsequent influence in Pakistan highlight the complex interplay between the two countries. Despite past military operations, concerns persist about Pakistan's selective approach to counterterrorism. The alleged links between the Afghan Taliban and TTP raise further apprehensions about regional stability. Amidst these challenges, there are calls for Pakistan to adopt a more comprehensive strategy against all terrorist groups. The situation presents an opportunity for dialogue and cooperation, particularly as India emphasizes the need for decisive action against terrorism.

[A chilling moment-Indian Express Editorial](#)

-Polity

Key takeaways

Critical Moment for Democracy: Arvind Kejriwal's arrest marks a significant point in India's political landscape, illustrating a concerning move towards authoritarian practices. This event underscores the urgency to safeguard democratic values and constitutionalism.

Government's Aggressive Stance: The incident reflects the government's broader strategy of suppressing dissent, targeting opposition figures, and manipulating legal systems to consolidate power and instill a culture of fear among critics and political adversaries.

Kejriwal's Unique Political Position: Despite facing numerous challenges from the central government, Kejriwal's distinct political stance and the innovative governance model have made him a notable figure in Indian politics, challenging traditional political narratives.

Erosion of Democratic Norms: Kejriwal's arrest during an election period raises serious concerns about the erosion of democratic norms and the rule of law in India, suggesting a systematic attempt to eliminate political competition and silence opposition.

Judiciary and Legal System's Role: The incident calls attention to the discretionary application of laws and the judiciary's role in upholding or undermining democratic principles. The mixed record of the courts on matters of bail and support of executive actions highlights the need for a judicial reassessment to protect constitutional values.

Opposition's Response: The political opposition's reaction to Kejriwal's arrest is crucial. A united and forceful response, beyond legal avenues, is necessary to challenge the government's authoritarian tendencies and demonstrate a commitment to democratic principles.

Public Awareness and Mobilization: The situation serves as a wake-up call for citizens to recognize the threats facing India's democracy and the importance of mobilizing in defense of constitutional rights and freedoms, transcending partisan lines to combat the rise of tyranny.

Mains easy explanation

Arvind Kejriwal's arrest signifies a pivotal moment in India's democratic trajectory, reflecting a deepening authoritarian tilt. This event not only exposes the government's strategy of suppressing opposition and dissent through legal and administrative manipulation but also challenges the foundational principles of democracy and constitutionalism in India. Kejriwal, a figure who has managed to carve out a distinct political identity and governance model, now becomes a symbol of the struggle against the erosion of democratic norms. The broader implications of his arrest underscore an alarming trend towards authoritarian governance, highlighting the critical need for the judiciary to reassess its role in safeguarding democratic values. Moreover, this moment demands a unified and robust response from the political





opposition and civil society, urging a collective defense of democratic principles and an active resistance against authoritarian encroachments, making it a litmus test for the resilience of India's democratic fabric.

Two wars, the consequences for America's standing-The Hindu Editorial

-International relations

Key takeaways

U.S. Support for Ukraine: U.S. aid to Ukraine faces uncertainty amid political divisions and congressional debates, potentially affecting Ukraine's capacity to counter Russian forces.

Shift in U.S.-Israel Relations: High-profile criticisms of Israel's actions in Gaza suggest a shift in the strong U.S.-Israel relationship, reflecting changing U.S. public opinion and political discourse, especially among younger Americans.

Impact of U.S. Election Politics: The role of U.S. election-year politics on the Ukraine and Gaza conflicts is uncertain, with potential policy shifts depending on the 2024 presidential election outcomes.

The Trump Factor: Donald Trump's potential presidency return could majorly change U.S. policies towards Ukraine and Israel, signaling possible cessation of military aid to Ukraine and continued strong support for Israel.

Broader Implications for U.S. Global Standing: The U.S.'s approach to the Ukraine and Israel-Hamas conflicts, influenced by internal politics and presidential election outcomes, will significantly impact America's global leadership role and its international relationships.

Mains easy explanation

The United States finds itself at a critical juncture regarding its involvement and stance on two significant conflicts: the ongoing war in Ukraine and the escalating tensions between Israel and Hamas. As the 2024 presidential elections approach, the future of U.S. foreign policy hangs in the balance, with potential shifts that could reshape its global standing and relationships with key allies. The U.S.'s support for Ukraine, characterized by significant military and civil aid, is threatened by internal political divisions and the looming possibility of a policy pivot should former President Donald Trump return to office. Trump's previous indications suggest a willingness to end military support for Ukraine, a move that could alter the dynamics of the conflict significantly.

Simultaneously, the U.S.'s historically strong ties with Israel are under scrutiny, as high-profile criticisms from within the U.S. signal a potential reevaluation of its unconditional support amidst Israel's actions in Gaza. This shift reflects broader changes in U.S. public opinion, particularly among younger demographics, who show increased empathy towards Palestinians.

These developments underscore the intricate challenges facing U.S. foreign policy. The outcomes of the conflicts in Ukraine and Gaza, coupled with the domestic political landscape, will have profound implications for America's role on the international stage, its ability to influence global security and stability, and its relationships with allies and adversaries alike. As the U.S. navigates these complexities, the world watches closely, anticipating the impact of election-year politics on its foreign policy trajectory.

24th March, 2024

Can a pig's kidney work for a transplant?- Indian Express Your Health

-Science Tech

Key Takeaways:

Successful Kidney Transplant from a Genetically Modified Pig: Richard Slayman received a kidney transplant from a genetically modified pig, demonstrating a significant advancement in xenotransplantation — the process of transplanting organs from animals to humans — using CRISPR-Cas9 gene-editing tools.

Gene Modifications to Enhance Compatibility: The pig kidney was modified in three crucial ways to enhance compatibility with human bodies, including removing genes that produce antibodies recognized by the human immune system, adding human genes to prevent rejection, and editing out pig-specific viruses.

Challenges and Concerns: Despite the technological advancements, there are significant challenges, such as managing the complex human immune response to non-human genes and the risk of introducing new infections to humans.

Potential to Address Organ Shortage: Xenotransplantation could provide a solution to the current organ shortage crisis, offering hope to the thousands of people who require transplants each year.





Ongoing Research and Future Prospects: While this marks a promising start, xenotransplantation is still years from becoming standard care, with ongoing research into organ growing with stem cells and disease management as potential alternatives.

Easy Explanation:

Imagine needing a kidney transplant and instead of waiting for years for a human donor, you could get one from a genetically modified pig. This is what happened to Richard Slayman in the United States, thanks to scientists using advanced gene-editing tools like CRISPR-Cas9. They made the pig's kidney more compatible with human bodies by making several genetic changes, including removing certain pig genes and adding human ones to prevent the body from rejecting the organ.

This breakthrough is exciting because it could help solve the shortage of organs available for transplant. However, there are big challenges, like making sure the human body accepts these animal organs and dealing with new types of infections that could come from them.

Although this is a big step forward, we're still a long way from using pig organs as a common treatment. Researchers are also looking at other ways to solve the organ shortage, like growing organs in labs or finding new ways to prevent diseases that cause organ failure in the first place.

Dispersal out of Africa might have occurred during arid period- The Hindu Science

-Science Tech

Key Takeaways:

New Study on Human Migration:

A recent study suggests the major migration of humans out of Africa around 74,000 years ago may have occurred during an arid period after the Toba super-volcano eruption, challenging the belief that humid periods facilitated early human dispersals.

Evidence from Ethiopia:

Researchers, including Dr. John Kappelman, analyzed sediments, tools, and animal remains near the Shinka River in Ethiopia, finding evidence of human presence and the arid conditions following the Toba eruption.

Innovative Survival Strategies:

The study highlights how humans adapted to the arid environment by relying more on fishing, as shrinking rivers during dry seasons trapped fish in waterholes, making them easier to catch. This adaptation may have facilitated their migration out of Africa by following seasonal rivers or "blue highway" corridors.

Implications for Human Evolution:

The behavioral flexibility and innovative survival strategies demonstrated by these early humans were likely crucial for their survival and successful dispersal out of Africa, enabling them to thrive in diverse climates worldwide.

Easy Explanation:

Imagine humans living in Africa around 74,000 years ago, when the world was much drier because of a massive volcano eruption in Indonesia. Instead of waiting for wet periods to move, these early humans found a way to survive and move during this tough time. Researchers found evidence in Ethiopia that these people started fishing a lot because rivers would shrink and leave fish trapped in small pools, easy to catch. This smart way of getting food might have helped them travel along rivers out of Africa into new lands. This finding challenges old ideas about how and when humans spread across the globe, showing how clever and adaptable they were, even facing harsh conditions.

Anemia prevalence in eight states found to be overestimated- the Hindu Science

-Science Tech

Key Takeaways:

Study on Anemia Prevalence in India:

A comprehensive study across eight Indian states with 4,613 participants revealed that the prevalence of anemia has been overestimated in previous surveys. The study used venous blood for hemoglobin measurement, which is more accurate than capillary blood used in prior surveys.

Findings on Anemia Types and Prevalence:

The study found most anemia cases to be of mild variety, with overall 18.4% mildly anemic, 14.7% moderately, and 1.8% severely anemic. Anemia was more prevalent in women than men, with significant state-wise variations in prevalence.



| Clear your doubts now.

**Iron Deficiency Not the Sole Cause:**

Interestingly, iron deficiency accounted for a smaller proportion of anemia cases than previously thought. Only about a third of anemic women were iron deficient, suggesting other factors contribute to anemia.

Implications for Public Health Policies:

The findings challenge the assumption that iron deficiency is the main cause of anemia in India and call for a reconsideration of widespread iron supplementation policies due to the potential harm of excess iron.

Diet and Nutritional Recommendations:

The study recommends focusing on reducing inflammation through natural means like increased fruit consumption and dietary diversity. It also suggests diversifying from cereals to millets to improve nutrient intake in light of climate change impacts on food nutrition.

Easy Explanation:

A big study in India looked at anemia, a condition where you don't have enough healthy red blood cells, in over 4,600 people. Unlike earlier surveys that used a simpler method, this study used a more accurate blood test and found that fewer people might be anemic than previously thought. It also showed that not all anemia is because of not having enough iron, which is a common belief.

This means that the way we've been trying to fix anemia by giving lots of people iron might not be the best approach, especially since too much iron can be harmful. The study suggests we should also pay attention to other ways to stay healthy, like eating more fruits and different kinds of foods, including millets, which are good for you and can grow well even as the climate changes.

Who may vote from home in LS Elections?- The Hindu FAQ

-Polity

Key Takeaways:**Expansion of 'Vote-from-Home' Facility:**

The Election Commission has extended the 'vote-from-home' option to persons with disabilities and senior citizens aged 85 and above for the Lok Sabha elections, enabling over 85 lakh senior citizens and 88.4 lakh persons with disabilities to use postal ballots.

Eligibility and Implementation:

Eligibility criteria include a benchmark disability of not less than 40% as certified by the authority. This initiative aims to make election participation more inclusive by providing alternatives to physically visiting polling stations.

Previous Trials and Extensions:

The 'vote-from-home' facility was previously available during Assembly elections for select groups. This year, the age limit for elderly voters has been raised, and the option has been extended to media personnel, essential service workers, and service voters.

Process and Requirements:

Voters interested in this option must submit Form 12D to the Assistant Returning Officer (ARO) to inform them of their inability to visit polling stations. There are suggestions for making this process more accessible, such as allowing online submissions.

Challenges and Recommendations:

Logistical challenges and the need for extensive awareness campaigns are anticipated to ensure smooth implementation. Recommendations include online submission of forms and ensuring awareness among both voters and polling officers.

Easy Explanation:

The Election Commission in India has made it easier for older people (over 85) and those with disabilities to vote in the upcoming Lok Sabha elections without leaving their homes. They can now vote using postal ballots, which means they won't have to deal with the hassle of going to polling stations, especially during the hot weather. This change is meant to include more people in the voting process, especially those who might find it hard to get to polling sites.

Before, some steps were taken to help people vote more easily, like making polling stations more accessible. But now, with postal voting, those who qualify won't even have to go to the polling stations. This has been tested in some places before and is being expanded to include more voters, like those in certain jobs or away from their homes.

Voters have to fill out a special form to say they'll vote by mail, and then election workers will come to their houses to help them vote. This new way of voting is great but also needs some planning to make sure it works well. It's a big job to



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organize, and everyone involved needs to know how it will work to make sure no one who wants to vote this way misses out.

25th March 2024

HOLI IS BECOMING WARMER THAN BEFORE:WHAT A NEW STUDY SAYS-Indian express Explained

-Environment

Key Takeaways:

Warmer March and April: A recent study by Climate Central reveals that March and April have become warmer across India since 1970, increasing the likelihood of uncomfortably hot conditions, even surpassing 40 degrees Celsius in some states during the Holi festival.

Regional Temperature Changes: Northern and western regions of India, especially Jammu and Kashmir, have experienced significant warming, with average temperatures rising by around 2.8 degrees Celsius since 1970. Mizoram in the northeast has also seen notable warming, with an increase of roughly 1.9 degrees Celsius in April temperatures.

Increased Probability of Hot Temperatures: In the early 1970s, only three states had more than a 5% chance of temperatures exceeding 40 degrees Celsius around Holi. Presently, nine states, including Rajasthan, Gujarat, and Telangana, have such high probabilities, with Maharashtra reporting the greatest probability at 14%.

City Temperature Risks: Among 51 cities examined, approximately 73% now have at least a 1% chance of experiencing temperatures above 40 degrees Celsius, with 11 cities having a probability exceeding 10%. Bilaspur has the highest risk, with a 31% chance, significantly higher than in the 1970s.

Global Warming's Impact: The primary driver behind the warmer temperatures is global warming, resulting from the increased release of heat-trapping greenhouse gases since the Industrial Revolution. The Indian subcontinent has experienced a rise of 0.7 degrees Celsius since 1900, contributing to the overall warming trend.

Mains easy explanation

The Climate Central study highlights a worrying trend: temperatures in India during March and April have surged since 1970, increasing the risk of dangerously hot conditions during festivities like Holi. This shift, particularly pronounced in northern and western regions such as Jammu and Kashmir, signifies a concerning departure from historical norms. Urban areas, including Bilaspur, face heightened risks, with a majority of cities experiencing increased probabilities of extreme heat events. These trends underscore the urgent need for targeted adaptation strategies and concerted global efforts to mitigate greenhouse gas emissions. Addressing these challenges is crucial to safeguard public health and ensure the resilience of India's communities in the face of escalating temperatures and climate change.

Pak's basmati seed 'piracy'-Indian Express Explained

-Economics

Key Takeaways:

Basmati Seed 'Piracy' Concerns: There are concerns about the "illegal cultivation" of improved basmati rice varieties developed by the Indian Agricultural Research Institute (IARI) in Pakistan. Promotional videos by Pakistani seed firms showcasing these varieties have raised alarm among Indian scientists and industry stakeholders.

Basmati Exports from India: Despite a slight dip in overall merchandise exports, basmati exports from India have seen a significant increase, both in dollar value and quantity. The fiscal year ending March 2024 is expected to witness record-high basmati shipments, highlighting the importance of this commodity to India's export economy.

Threat from Pakistan: The alleged seed piracy and unlawful cultivation of IARI-bred basmati varieties in Pakistan pose a threat to India's basmati industry. These varieties, known as Pusa Basmati (PB), dominate India's basmati exports, making up a significant portion of the country's export revenue.

Significance of IARI Varieties: The IARI-bred basmati varieties offer superior traits such as higher yields and shorter maturity periods compared to traditional basmati varieties. These varieties have played a crucial role in India's dominance in the global basmati market.

Concerns and Competition: While Pakistan's basmati exports are a fraction of India's, there are concerns about potential challenges posed by Pakistan's adoption of superior IARI varieties and its competitive advantage in international markets, including West Asia.

Mains easy explanation



| Clear your doubts now.



The issue of "illegal" cultivation of Indian Agricultural Research Institute's (IARI) improved basmati rice varieties in Pakistan has raised significant concerns within India's agricultural and export sectors. Despite a decline in overall merchandise exports, basmati exports from India have been on the rise, contributing substantially to export revenue. However, the alleged seed piracy and cultivation of IARI varieties in Pakistan threaten India's basmati industry's dominance and export earnings.

The significance of IARI-bred basmati varieties lies in their superior traits, including higher yields and shorter maturity periods, compared to traditional varieties. These varieties have been instrumental in India's success in the global basmati market. However, the emergence of these varieties in Pakistan, coupled with competitive factors such as the adoption of parboiling technology and favorable currency exchange rates, poses challenges to India's market leadership.

India has legal frameworks in place, such as the Protection of Plant Varieties and Farmers' Rights Act and the Seeds Act, to protect the rights of breeders and regulate the cultivation of specific varieties within designated geographical areas. Violations of these rights, such as the unauthorized cultivation of IARI varieties in Pakistan, can be addressed through bilateral discussions and international forums like the World Trade Organization. These actions are crucial to safeguard India's interests and maintain its position as a leading exporter of basmati rice globally.

[1.29 by 2050: impact of India's falling fertility rate-Indian Express Explained](#)

-Sociology

Key Takeaways:

Falling Fertility Rate: India's total fertility rate (TFR) is projected to decline sharply to 1.29 by 2050, significantly below the replacement level of 2.1 children per woman. This trend indicates a substantial shift towards an aging population in India.

Factors Driving Decline: The decline in fertility rates is attributed to various factors, including historical population control efforts, increased female literacy and workforce participation, delayed childbirth, and economic considerations where parents perceive fewer benefits from having children.

Long-term Consequences: The consequences of declining fertility rates include a significant increase in the proportion of elderly individuals in the population, potential labor force shortages, and social imbalances due to gender preferences.

Challenges and Solutions: Addressing the challenges posed by declining fertility rates requires comprehensive strategies, including investments in childcare and healthcare, gender equity initiatives, economic policies promoting growth and job creation, and reforms in social security and pension systems.

Global Trend: India's experience reflects a global trend, with a majority of countries projected to have fertility rates below replacement levels by 2050. Addressing the implications of declining fertility rates requires both national and international efforts, emphasizing the need for sustainable solutions to demographic shifts on a global scale.

Mains easy explanation

The Lancet study forecasts a significant decline in India's fertility rate to 1.29 by 2050, highlighting the country's transition towards a rapidly aging population. This trend, influenced by factors such as government policies, female empowerment, and economic considerations, poses various challenges for India's socio-economic landscape.

The consequences of declining fertility rates include a growing elderly population, potential labor force shortages, and gender imbalances. To address these challenges, comprehensive strategies are needed, encompassing measures such as affordable childcare, healthcare investments, gender equity initiatives, and economic policies promoting growth and job creation.

India's experience mirrors a global trend, with the majority of countries projected to have fertility rates below the replacement level by 2050. Mitigating the impact of declining fertility rates requires not only national but also international efforts, emphasizing the importance of ethical immigration policies and sustainable strategies to address demographic shifts on a global scale.

[Water crisis in Karnataka, reservoir levels worrying in many places-Indian Express Explained](#)

-Environment

Key Takeaways:

Severe Water Crisis in Karnataka: Karnataka, including its capital city Bengaluru, is grappling with a severe water shortage, leading to strict curbs on water usage and the deployment of water tankers to meet drinking water needs. The crisis has prompted professionals to leave the city, and there are concerns about hosting Indian Premier League (IPL) matches due to water usage restrictions.



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Impact of Water Shortage: The water shortage has disrupted daily life, affecting the availability of drinking water and hindering operations such as watering plants in iconic parks. Additionally, the Fire and Safety Department is facing challenges in accessing water for firefighting purposes, further exacerbating the situation.

Causes of Water Shortage: The deficient rainfall in Karnataka, particularly during crucial monsoon seasons, has contributed to the shortfall in drinking water. Despite normal overall rainfall, the monsoon seasons recorded negative deviations, leading to lower storage levels in reservoirs across the state.

Regional Water Scarcity: The water scarcity extends beyond Karnataka, with many other southern states facing below-normal water stocks in reservoirs. Data from the Central Water Commission indicates that several major reservoirs in southern India have dipped below 40% of their total capacity, posing challenges for water management during peak summer.

National Water Situation: At the national level, major reservoirs are holding only about 38% of their total capacity, with southern India experiencing particularly low usable water reserves. Maharashtra, in particular, is facing significant water stress, with several large reservoirs reporting below-average water stocks.

Mains easy explanation

Karnataka is experiencing a severe water crisis, with Bengaluru residents facing challenges in accessing drinking water. The situation is exacerbated by deficient rainfall during crucial monsoon seasons, leading to lower storage levels in reservoirs across the state. This regional water scarcity extends to other southern states, with several major reservoirs reporting below-normal water stocks.

The national water situation is also concerning, with major reservoirs holding only a fraction of their total capacity. Maharashtra is facing significant water stress, with several large reservoirs reporting below-average water stocks. Addressing the water crisis requires immediate action to manage water resources effectively and implement sustainable water management practices to mitigate the impact of future water shortages.

THE UNLEVEL FIELD-Indian Express Editorial

-Sociology

Key Takeaways:

Rising Inequality: A recent working paper by the World Inequality Lab suggests that economic inequality in India has surged since the early 2000s, reaching unprecedented levels. The paper compares this inequality to the colonial era, warning of potential social and political unrest if such disparities persist.

Sobering Data: The paper presents alarming statistics, indicating that in 2022-23, 22.6% of India's national income went to the top 1%, the highest level recorded since 1922. Wealth inequality is also highlighted, with the top 1% holding 40.1% of the country's wealth, the highest since data collection began.

Data Limitations: The authors acknowledge that the quality of economic data in India is poor, suggesting that their estimates may actually underestimate the true extent of inequality.

Policy Implications: Policy recommendations proposed in the paper include implementing a super tax on Indian billionaires and multimillionaires, as well as restructuring the tax schedule to address both income and wealth disparities.

Debate and Disagreement: Despite the paper's findings, some economists argue to the contrary, citing recent consumption expenditure survey results to claim a decline in both urban and rural inequality. This highlights the need for a comprehensive examination and a broader debate on economic inequality in India.

Mains easy explanation

The working paper by the World Inequality Lab sheds light on the concerning trajectory of economic inequality in India, suggesting that it has surged to unprecedented levels since the early 2000s. Drawing comparisons to historical periods, the paper warns of potential social and political upheaval if such disparities persist unchecked. Through sobering statistics, it illustrates the extreme concentration of income and wealth among the top percentile, indicating a stark departure from equitable distribution.

However, the paper acknowledges the limitations of economic data in India, suggesting that the actual levels of inequality may be even higher than estimated. Despite proposing policy measures such as imposing a super tax on billionaires and restructuring the tax schedule, there exists dissenting viewpoints from other economists. Some argue, based on alternative data interpretations, that there has been a decline in both urban and rural inequality in recent years.

This divergence in perspectives underscores the complexity of the issue and emphasizes the need for a comprehensive examination and broader debate. While the paper serves as a catalyst for discourse on economic inequality, it highlights





the necessity for nuanced analysis and evidence-based policymaking to address the multifaceted challenges posed by inequality in India.

On the resurgence of mumps in Kerala Is Kerala-The Hindu Text and Context

-Science

Key Takeaways:

Resurgence of Mumps in Kerala: Kerala is experiencing a significant resurgence of mumps cases, with outbreaks reported in various districts. The number of cases has escalated rapidly, raising concerns among public health experts about potential complications such as meningoencephalitis and pancreatitis.

Public Health Concerns: While mumps is often considered a mild, self-limiting disease, the recent surge in cases, along with complications such as encephalitis and reproductive gland issues, has heightened public health concerns. Mumps cases are underreported, leading to a gross underestimation of the actual disease burden.

Exclusion from Immunization Program: Mumps vaccine has not been included in the Universal Immunization Programme (UIP) in India due to perceived low mortality and public health significance. However, experts argue that the disease's impact on long-term morbidity, including reproductive health, necessitates reconsideration of its inclusion.

Control Measures: Health officials emphasize the importance of public awareness, isolation of infected individuals, and improving immunization coverage to control the current outbreaks. Close integration of mumps vaccination strategies with existing measles and rubella control efforts is recommended by the World Health Organization (WHO).

Vaccination Strategy: Advocacy for the use of MMR (Mumps-Measles-Rubella) vaccine in the UIP is supported by the Indian Academy of Pediatrics (IAP). While Kerala previously introduced MMR vaccination, it reverted to MR (Measles-Rubella) vaccine in the UIP. Efforts are underway to advocate for the reinstatement of MMR vaccine in the UIP to address the mumps resurgence effectively.

Mains easy explanation

Kerala is witnessing a resurgence of mumps cases, leading to concerns about potential complications and the disease's long-term impact on public health. Despite being vaccine-preventable, mumps has been excluded from the national immunization program due to perceived low mortality. However, the recent surge in cases and complications necessitate reconsideration of its inclusion.

Control measures focus on public awareness, isolation of infected individuals, and improving immunization coverage. Integration of mumps vaccination strategies with existing measles and rubella control efforts is recommended by WHO. Advocacy for the use of MMR vaccine in the UIP is supported by experts, highlighting the need for comprehensive vaccination strategies to address the mumps resurgence effectively.

What are the new rules for elephant transfers?-The Hindu Text and Context

-Environment

Key Takeaways:

New Rules for Elephant Transfers: The Centre has introduced the Captive Elephant (Transfer or Transport) Rules, 2024, which liberalize the conditions for transferring elephants within or between states. These rules provide relaxations for changing ownership or transferring elephants under certain circumstances.

Previous Provisions: Earlier, the Wildlife Protection Act categorized elephants as Schedule I species, prohibiting their capture or trade. However, captive elephants, due to their historical roles, were allowed to be owned under strict regulations. Transfer or possession of captive elephants required written permission from the Chief Wildlife Warden of the state, and transactions were not to be of a 'commercial nature.'

Laxity in Law: Amendments made in 2021 broadened the interpretation of elephant transfers for 'religious or any other purposes,' potentially accelerating trafficking and illegal commercial transactions. Activists and experts expressed concerns about the impact of these amendments on elephant conservation efforts.

Updated Rules: The new rules ease restrictions on elephant transfers by allowing transfers when the owner cannot maintain the elephant or when better upkeep is required. Health certification by a veterinarian and habitat suitability assessment are mandatory before transfers within or between states.

Implications: While the Wildlife Protection Act aims to curb wildlife trafficking, concerns arise regarding the laxity in elephant protection laws. The establishment of private zoos, like the one in Jamnagar, Gujarat, hosting a large number of elephants, raises questions about the sourcing of elephants, including the possibility of sourcing from the wild.

Mains easy explanation



| Clear your doubts now.



The Captive Elephant (Transfer or Transport) Rules, 2024, introduced by the Centre, aim to ease restrictions on transferring captive elephants within or between states. Despite requirements for health certification and habitat assessments, critics fear they may lead to exploitation and trafficking. The establishment of private zoos, like the one in Jamnagar, Gujarat, further fuels concerns about elephant sourcing, including from the wild. This highlights broader issues around wildlife conservation and underscores the need for stricter regulations to ensure the welfare of these endangered animals. As elephants are a Schedule 1 species under the Wildlife Protection Act, their capture or trade under any circumstances is prohibited. However, the relaxed rules raise questions about the law's effectiveness in curbing wildlife trafficking and protecting these majestic creatures. Efforts to integrate elephant transfer regulations with existing conservation strategies are crucial to address these concerns and safeguard elephant populations in India.

Digital Financial frauds in India: a call for improved investigation strategies-The Hindu Text and Context

-Internal security

Key takeaways

Alarming Scale of Fraud: Digital financial frauds in India amounted to a staggering ₹1.25 lakh crore over the past three years, signaling a significant threat to the country's financial security.

Rising Cybercrime Incidents: With 6.94 lakh complaints in 2023 alone, cybercrimes are proliferating rapidly, causing substantial losses to individuals and organizations alike.

Sophisticated Fraud Techniques: Fraudsters employ various tactics, including impersonation, phishing, and social engineering, to trick victims into divulging sensitive information or transferring money.

Complex Money Laundering Networks: Following a fraud, siphoned funds undergo intricate processes involving multiple accounts and transactions, making it challenging for law enforcement to trace and recover the money.

Urgent Need for Enhanced Investigation Strategies: Implementing preventive measures such as device verification, data standardization, and improved information access for enforcement agencies is crucial to combatting digital financial fraud effectively.

Mains easy explanation

The exponential rise of digital financial frauds in India, amounting to ₹1.25 lakh crore over three years, demands urgent attention. Cybercrime, including digital financial frauds, poses a significant threat, with 6.94 lakh complaints reported in 2023 alone. Fraudsters employ various tactics, such as impersonation and phishing, to deceive victims into transferring money or disclosing sensitive information. After siphoning funds, fraudsters route money through multiple accounts, making detection and recovery challenging for law enforcement. Preventive measures, including disabling screen-sharing features and enhancing transaction data clarity, can mitigate risks. However, law enforcement faces hurdles in tracing money trails and accessing timely information. Mandating standardized data formats and recording device IMEI numbers can expedite investigations. Recognizing interstate digital fraud networks as organized crime and imposing stringent bail conditions are crucial steps. Collaboration between tech industries and law enforcement can bolster prevention, detection, and prosecution efforts, ultimately curbing digital financial frauds and safeguarding citizens' financial security.

Can 'good sounds' help coral islands recover from bleaching?-The Hindu Science

-Environment

Key takeaways

Coral Bleaching Crisis: Rising sea temperatures due to global warming are causing widespread coral bleaching, leading to the death of coral reefs worldwide, including in places like Lakshadweep, India.

Impact on Island Communities: Coral destruction poses a significant threat to island communities like Tuvalu and Vanuatu, which face the prospect of submergence due to rising sea levels caused by climate change.

Role of Sound in Coral Recovery: Research suggests that playing healthy reef sounds can enhance coral settlement rates in degraded reefs, offering a potential tool for reef restoration efforts.

Experimental Findings: Studies conducted in the Virgin Islands indicate that playing healthy reef sounds near degraded coral reefs can increase coral settlement rates, especially in close proximity to the sound source.

Hope Amidst Challenges: While the study provides promising insights, it underscores the need for further research and experimentation to fully understand and implement sound-based interventions for coral reef recovery in the face of climate change.

Mains easy explanation



| Clear your doubts now.



The deteriorating health of coral reefs, exacerbated by global warming-induced bleaching events, presents a grave concern for both marine ecosystems and coastal communities. Islands like Lakshadweep in India and nations such as Tuvalu and Vanuatu are particularly vulnerable to the adverse effects of coral degradation, including rising sea levels and the threat of submergence. However, amidst these challenges, recent research offers a glimmer of hope: playing recordings of healthy reef sounds near degraded coral reefs could potentially enhance coral settlement rates. Studies conducted in the Virgin Islands indicate that this intervention may indeed bolster coral recovery efforts, albeit with the need for further research and experimentation to refine the technique. While the findings are promising, they underscore the urgency of addressing climate change and its impact on coral reefs, emphasizing the critical importance of implementing strategies to mitigate global warming and protect marine biodiversity.

27th March 2024

Footing the climate action bill-Indian Express Explained

-Environment

Key Takeaways:

1. **Climate Finance Commitments:** Developed countries pledged to raise \$100 billion annually for climate action in 2009. However, this target has not been met, prompting discussions for a new climate finance budget ahead of COP29 in Baku.
2. **Loss and Damage Fund:** The 2022 climate change conference in Sharm el-Sheikh established a Loss and Damage Fund to assist developing countries in recovering from climate disasters.
3. **Global Stocktake (GST):** The Dubai conference emphasized the Global Stocktake, highlighting the need to transition away from fossil fuels and triple global renewable energy capacity by 2030.
4. **New Collective Quantitative Goal (NCQG):** Negotiators are focusing on establishing a new annual climate finance target, expected to exceed the \$100 billion commitment made by developed countries from 2020 onwards.
5. **Financial Requirements for Climate Action:** Estimates suggest that trillions of dollars annually are needed to implement climate action plans. Developing countries require significant financial support, with assessments indicating the need for \$6 trillion annually between now and 2030.
6. **Prospects for Realistic Targets:** Expectations for the new annual climate finance target vary, with some advocating for at least \$1 trillion per year primarily in grants and concessional finance. However, achieving such targets requires substantial commitments from developed countries.
7. **Challenges and Funding Shortages:** Despite the pressing need for climate finance, organizations like UN Climate Change face financial challenges, hindering their ability to fulfill their mandates effectively.
8. **Utilization of Climate Finance:** Transparent and inclusive processes are essential for monitoring and measuring climate finance delivery. Developing countries advocate for a fair distribution of funds across various needs, including mitigation, adaptation, and loss and damage.

Mains easy explanation:

Negotiators are grappling with the challenge of establishing a new annual climate finance target ahead of COP29 in Baku. The failure to meet the \$100 billion commitment made by developed countries underscores the urgency of addressing climate finance gaps. Estimates indicate that trillions of dollars annually are needed to implement climate action plans, with developing countries particularly vulnerable and in need of support.

The prospects for realistic targets remain uncertain, with debates ongoing regarding the magnitude and distribution of climate finance. Developing countries advocate for significant commitments, emphasizing the importance of grants and concessional finance. However, achieving such targets requires substantial efforts from developed countries, who face their own financial challenges.

Transparency and inclusivity in the allocation and utilization of climate finance are crucial to ensure effective implementation of climate action plans. As discussions continue, the international community must work together to bridge the climate finance gap and address the pressing challenges of climate change.

ASI will 'delist' some lost monuments.What's Happening, and why? -Indian Express Explained

-Art and Culture

Key Takeaways:



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1. **Delisting of Monuments:** The Archaeological Survey of India (ASI) has decided to delist 18 centrally protected monuments that it deems not of national importance. These monuments were previously categorized as "untraceable" due to factors such as urbanization, encroachments, neglect, or submersion by dams/reservoirs.
2. **Meaning of Delisting:** Delisting a monument means it will no longer be conserved and protected by the ASI. Construction-related activities will be allowed in the area, which was previously restricted under the Ancient Monuments and Archaeological Sites and Remains Act, 1958.
3. **Untraceable Monuments:** The ASI, responsible for protecting monuments over 100 years old, has faced challenges in maintaining and monitoring these sites. Encroachments, neglect, and lack of resources have contributed to the loss of several historically significant monuments.
4. **Historical Losses:** A Ministry of Culture report submitted to a Parliamentary Standing Committee revealed that 50 out of 3,693 centrally protected monuments were missing. These losses were attributed to urbanization, submersion by reservoirs/dams, and being untraceable.
5. **Security Concerns:** The report highlighted the inadequate security measures at protected monuments, with security personnel posted at only a fraction of the sites due to budgetary constraints.
6. **Previous Reports:** A 2013 report by the Comptroller and Auditor General (CAG) of India had identified 92 missing monuments. While efforts were made to locate some, a significant number remained untraceable due to the lack of comprehensive surveys and periodic inspections.

Mains easy explanation:

The decision by the Archaeological Survey of India to delist 18 centrally protected monuments reflects the ongoing challenges in preserving India's rich cultural heritage. Factors such as urbanization, neglect, and inadequate resources have contributed to the loss of historically significant sites, with many monuments categorized as "untraceable."

The Ministry of Culture's acknowledgment of missing monuments underscores the need for improved monitoring and conservation efforts. Inadequate security measures further exacerbate the vulnerability of these sites to encroachments and damage.

Efforts to locate missing monuments have been limited by the lack of comprehensive surveys and periodic inspections. While some progress has been made in identifying and accounting for lost monuments, significant challenges remain in safeguarding India's diverse cultural heritage for future generations.

How Delhi talks to world-Indian Express Editorial

-International relations

Key Takeaways:

Evolution of Diplomatic Vocabulary: India's foreign policy lexicon has shifted towards greater self-assurance and assertiveness over the past decade, reflecting its rising global stature.

Political Polarization's Impact: Despite India's growing international prominence, sharp political polarization within the country has delayed the emergence of a widely accepted diplomatic lexicon, hindering cohesive discourse on Delhi's global role.

Opposition's Role: The opposition needs to acknowledge and contribute to India's transformation into a major power rather than opposing it outright. While India's ascent is acknowledged, there's a need to remind the nation of the challenges ahead to bridge the gap with superpowers like the US and China.

Changing Diplomatic Language: India's diplomatic language has shifted from defensive and passive-aggressive to more confident and assertive, reflecting its economic growth and global ambitions.

Future Challenges: Despite India's growing power, developmental challenges remain significant, requiring comprehensive strategies addressing economic, technological, environmental, and global order concerns. The opposition, particularly the Congress, bears a crucial role in shaping these debates and articulating concrete goals for India's development and global engagement.

Mains easy explanation

The article delves into India's evolving diplomatic vocabulary and its ramifications on both domestic and international fronts. Despite India's burgeoning global significance, entrenched political polarization has stymied the development of a unified diplomatic lexicon. While the government extols India's ascent, the opposition's stance remains ambivalent, impeding constructive discourse. India's diplomatic language, transitioning from defensive to assertive, mirrors its burgeoning economic prowess and global ambitions. However, formidable developmental hurdles persist, necessitating comprehensive strategies encompassing economic, technological, and environmental facets. The opposition, notably the



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Congress, shoulders a pivotal role in shaping these deliberations and delineating tangible objectives for India's developmental trajectory and global engagement. As India's domestic priorities intersect with its international imperatives, fostering coherent dialogue on foreign policy becomes imperative for national advancement. Embracing India's evolving role as a major global player, while addressing inherent challenges, is vital for steering the nation towards a prosperous and influential future on the international stage.

The need to curb black carbon emissions-The Hindu Text and Context

-Economy

Key takeaways:

1. **Black Carbon Impact:** Black carbon, emitted during incomplete combustion of biomass and fossil fuels, contributes to global warming and poses severe health risks, with the residential sector being the largest contributor in India.
2. **Pradhan Mantri Ujjwala Yojana (PMUY):** PMUY aims to provide free LPG connections to households below the poverty line, reducing reliance on traditional biomass fuels and subsequently lowering black carbon emissions.
3. **Challenges Persist:** Despite PMUY's progress, challenges like affordability, availability, and low refill rates hinder its effectiveness, with many beneficiaries still relying on traditional fuels.
4. **Government Initiatives:** The government has increased LPG subsidies to make clean fuel more affordable, but addressing last-mile connectivity issues and exploring alternative cleaner fuel sources are necessary for further progress.
5. **Global Implications:** Prioritizing black carbon reduction not only improves regional health outcomes but also aligns with India's global commitments to sustainable development goals and carbon neutrality aspirations.

Mains easy explanation:

India's efforts to curb black carbon emissions, primarily from the residential sector, are crucial for both public health and environmental sustainability. The Pradhan Mantri Ujjwala Yojana (PMUY) stands as a significant initiative in providing cleaner cooking fuel alternatives to households below the poverty line, thereby reducing dependency on traditional biomass fuels responsible for high black carbon emissions. However, challenges such as affordability, availability, and low refill rates persist, hindering the program's full effectiveness.

The government's role in enhancing access to clean cooking fuels through subsidies and infrastructure development is essential, but more concerted efforts are needed to address existing gaps in the distribution network and explore alternative cleaner fuel options. India's actions in mitigating black carbon emissions not only benefit regional health outcomes but also contribute to global climate mitigation efforts, aligning with its commitments to sustainable development goals and carbon neutrality aspirations.

Can AI help in navigating mental health?-The Hindu Text and Context

-Science and technology

Key takeaways:

1. **AI in Mental Health:** Natural language processing (NLP) programs powered by AI offer text-based therapy and support, improving access to mental health care while maintaining privacy and anonymity.
2. **Patient Benefits:** NLP-powered chatbots provide personalized care, validate emotions, and offer support in reframing thoughts, helping users cope with mental health issues even when professional therapy is unavailable.
3. **Clinician Support:** AI tools assist clinicians by summarizing vast datasets, including clinical notes and patient conversations, helping them make quicker and more accurate diagnoses, as well as streamline treatment decisions.
4. **Predictive Capabilities:** Advanced NLP programs can forecast responses to medications and create e-triaging systems, reducing wait times and enabling more focused care for severe mental illnesses.
5. **Future Directions:** Continued refinement of NLP applications, incorporation of diverse datasets to minimize bias, adherence to global compliance standards, and rigorous testing are essential for maximizing the potential of AI in mental health care.

Mains easy explanation:

The utilization of Artificial Intelligence (AI) in mental health care, particularly through Natural Language Processing (NLP) programs, has emerged as a significant advancement in the field. These AI-driven systems facilitate text-based therapy, offering immediate and personalized support to individuals seeking mental health assistance. By interpreting human



| Clear your doubts now.



language, NLP programs enable users to express their emotions and concerns, receive validation, and learn coping strategies, all while maintaining privacy and anonymity.

For patients, these AI-powered chatbots serve as accessible and affordable alternatives, especially in areas where traditional therapy may not be readily available. They play a crucial role in improving help-seeking behavior and enhancing patient outcomes. Moreover, these systems contribute to continuity of care, offering resources for coping with distress and reducing instances of relapse.

In parallel, clinicians benefit from AI tools by leveraging vast datasets to streamline diagnosis and treatment decisions. NLP programs assist in summarizing clinical information, providing insights from patient conversations, clinical notes, and other data sources. Predictive capabilities further enhance clinical decision-making, enabling better forecasts of treatment responses and optimizing resource allocation.

Looking ahead, the future of AI in mental health care hinges on refining these applications, minimizing bias through diverse datasets, and ensuring compliance with global standards. Continuous testing and refinement are essential to maximize the potential of AI-driven systems in improving mental health outcomes and expanding access to care.

Is unemployment a major factor in shaping the vote choice of the youth?-The Hindu Text and Context

-Economy

Key Takeaways:

1. **Youth Employment Realities:** Data from a Lokniti-CSDS survey reveals that a significant majority of youth in Delhi perceive securing employment as difficult, reflecting the challenges within the job market. Despite claims of economic growth, job creation remains a major challenge, impacting the opinions of young individuals about their future prospects.
2. **Preference for Government Jobs:** The survey highlights a prevalent preference among youth for government jobs, with three in five aspiring for such positions. This preference underscores a desire for stability and security in employment, despite the BJP's narrative of promoting entrepreneurship and self-reliance.
3. **Government's Role in Job Creation:** The debate over responsibility for employment generation oscillates between governmental bodies and individual citizens. While some attribute the lack of job opportunities to the Central government, others believe in the efficacy of government efforts but feel they have fallen short of expectations.
4. **Impact on Voting Preferences:** Unemployment emerges as a critical issue shaping the voting preferences of Delhi's youth, overshadowing concerns such as inflation and leadership. Nearly four in five youngsters assert that unemployment and inflation would influence their voting decision, highlighting the centrality of economic issues in electoral calculus.
5. **BJP's Positioning and Perceptions:** Ahead of the 2024 Lok Sabha elections, the BJP has strategically positioned itself as a proponent of development and inclusivity, particularly targeting the youth demographic. However, despite the party's emphasis on entrepreneurship, the youth's preference for stable government jobs persists, indicating a desire for security amid economic uncertainties.

Mains easy explanation:

The discourse on youth employment in Delhi, as evidenced by the Lokniti-CSDS survey, reveals deep-seated concerns and aspirations among the young electorate. Despite the BJP's narrative of promoting entrepreneurship and self-reliance, the preference for government jobs underscores the overarching desire for stability and security in employment. This preference reflects the challenges within the job market, where securing employment is perceived as increasingly difficult. Moreover, the attribution of responsibility for rising unemployment exposes the politicization of economic issues, with divergent perceptions of the government's effectiveness in addressing this challenge. While some hold the Central government accountable, others acknowledge government efforts but express dissatisfaction with their outcomes. Ultimately, the issue of unemployment emerges as a pivotal factor shaping the voting preferences of Delhi's youth, highlighting the centrality of economic concerns in electoral calculus. As parties vie for their support in the upcoming elections, addressing youth employment challenges and providing viable solutions will be crucial in securing their trust and votes.

Inaccessibility and cost cripple efforts to treat sickle cell disease-The Hindu Science

-Science

Key takeaways:



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1. **Healthcare Accessibility:** Marginalized tribal communities, like Suraj's family, face significant challenges in accessing basic healthcare and diagnostics for sickle cell disease (SCD) due to under-resourced health systems and high expenditure.
2. **Prevalence and Impact:** SCD is prevalent among tribal communities in India and leads to various health complications, including anemia, organ damage, severe pain episodes, and premature death.
3. **Treatment Barriers:** Despite efforts to address SCD, treatments like hydroxyurea and blood transfusions are often unavailable or limited in availability, while advanced options like bone marrow transplantation and CRISPR-based therapies face accessibility and affordability challenges.
4. **Ethical Considerations:** The development and adoption of CRISPR-based gene therapies raise ethical concerns, highlighting the need for regulatory frameworks to ensure equity, access, and justice in the use of such treatments, with input from civil society and patients' advocacy groups.
5. **Equity in Healthcare:** Efforts to improve healthcare access must prioritize addressing broader health inequities and disparities, integrating multiple facets such as diagnostics, drugs, health information, and community support to ensure equitable access for all individuals affected by SCD.

Mains easy explanation:

Access to healthcare for conditions like sickle cell disease (SCD) remains a significant challenge for marginalized communities in India. Despite efforts to address SCD through initiatives like the National Sickle Cell Anaemia Elimination Mission, treatment options are often inaccessible or limited in availability, exacerbating the burden of the disease on affected individuals and families.

The emergence of advanced therapies like CRISPR-based gene editing holds promise for treating SCD but raises ethical and accessibility concerns. While India has approved projects for developing CRISPR therapies, ensuring equity in access to such treatments requires addressing broader issues of health inequities and disparities.

Regulatory frameworks must be expanded to involve inputs from civil society and patients' advocacy groups, ensuring that the development and implementation of gene therapies prioritize ethical considerations and equitable access. Ultimately, efforts to improve healthcare access must focus on integrating multiple facets, including diagnostics, drugs, health information, and community support, to ensure that all individuals, including children like Suraj, have the opportunity to live healthy lives.

NASA touts research in 'space labs' to fight cancer-The Hindu Science

-Science

Key takeaways:

1. **Unique Research Environment:** Conducting cancer research in space offers a unique environment where cells age more rapidly and exhibit purer structures due to the absence of gravity. This environment facilitates better analysis of molecular structures, potentially leading to significant advancements in cancer treatment.
2. **Enhanced Drug Development:** Experiments conducted aboard the International Space Station (ISS) have shown promising results in enhancing the effectiveness of cancer drugs. For example, research with Merck's Keytruda demonstrated accelerated and more uniform crystal formation in space, suggesting improved drug development processes.
3. **Innovation in Cancer Treatment:** Insights gained from space research have the potential to inform the development of new, more potent cancer drugs that can be administered with greater ease. Pharmaceutical companies like Merck aim to leverage space-derived techniques to create drugs that offer less invasive alternatives to traditional chemotherapy.
4. **Historical Context:** While cancer research in space has been ongoing for over 40 years, recent advancements represent a significant leap forward. Former Vice President Joe Biden's "Cancer Moonshot" initiative, inspired by John F. Kennedy's visionary goals, underscores the commitment to revolutionizing cancer treatment and saving millions of lives.
5. **Collaborative Partnerships:** The collaboration between NASA, pharmaceutical companies, and research institutions highlights the importance of interdisciplinary cooperation in cancer research. By pooling expertise and resources, scientists strive to push the boundaries of knowledge and develop innovative solutions to combat cancer effectively.

Mains easy explanation:

The article explores the role of space-based research in advancing cancer treatment, particularly focusing on recent experiments conducted aboard the International Space Station (ISS). NASA officials and pharmaceutical companies have



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capitalized on the unique environment of space to accelerate cancer research and enhance drug development processes. By studying the behavior of cells in microgravity, researchers aim to gain insights into cancer biology and develop more effective treatments. The historical context, including Vice President Joe Biden's "Cancer Moonshot" initiative, highlights the significance of leveraging space exploration for medical advancements. Overall, the article underscores the potential of space-based experiments to revolutionize cancer treatment by providing a deeper understanding of molecular structures and facilitating the development of innovative therapeutic strategies.

28th March 2024

India-Pak: question of trade-Indian Express Explained

-International relations

Key Takeaways:

1. **Potential Resumption of Trade:** Pakistan's Foreign Minister Muhammad Ishaq Dar has hinted at the possibility of resuming trade with India, citing the dire state of Pakistan's economy and the logic of efficiency in trade routes.
2. **Economic Imperatives vs. Political Challenges:** While there is a growing imperative for improving economic ties with India, there is no clear consensus within Pakistan's political landscape. Trade decisions are complicated by domestic politics, including opposition from hardliners and the influence of the military.
3. **History of Trade Relations:** Trade between India and Pakistan has been historically hindered by political tensions, especially regarding the Kashmir issue. Attempts to improve trade relations in the past have often been derailed by political and military factors on both sides.
4. **Challenges to Normalization:** Several challenges exist to the normalization of trade between India and Pakistan, including demands for the reversal of decisions like Article 370, concerns about terrorism, and domestic political inertia.
5. **Potential for Quiet Diplomacy:** Despite challenges, there is room for quiet diplomacy between the two countries, with potential steps like the return of ambassadors and encouragement from regional players like the UAE.
6. **Potential Benefits of Resuming Trade:** Resuming trade could benefit both countries economically, with opportunities for mutually beneficial trade terms and potential support from business communities on both sides.

Mains easy explanation:

The potential resumption of trade between India and Pakistan, hinted at by Pakistan's Foreign Minister Muhammad Ishaq Dar, is driven by the dire state of Pakistan's economy and the logic of efficiency in trade routes. However, there are significant political challenges within Pakistan, including opposition from hardliners and uncertainty about the military's stance. Additionally, historical tensions and demands for preconditions like the reversal of Article 370 present obstacles to normalization.

Despite these challenges, there is a potential for progress through quiet diplomacy, with regional players like the UAE playing a facilitating role. Resuming trade could bring economic benefits to both countries, but it requires navigating complex political dynamics and longstanding grievances. Ultimately, finding a path forward will require both countries to overcome domestic obstacles and prioritize economic pragmatism over historical animosities.

State of employment in India: what a new report says about youths & women, concerns & caution-Indian Express Explained

-Economy

Key Takeaways:

1. **Paradoxical Improvements:** The India Employment Report 2024 highlights paradoxical improvements in labor market indicators amidst economic distress, both before and during the COVID-19 pandemic.
2. **Concerns:** The report raises concerns about poor employment conditions, including a slow transition to non-farm employment, increased informal employment, stagnant or declining wages, and low female labor force participation rates.
3. **Employment Quality:** Informal employment has risen, with self-employment and unpaid family work increasing, especially among women. The majority of the workforce is engaged in the informal sector, with self-employment being the primary source of employment.
4. **Participation of Women:** Female labor force participation rates remain among the world's lowest. While there has been a recent increase, the gender gap in labor force participation remains considerable.
5. **Structural Transformation:** There has been a reversal in the slow transition towards non-farm employment after 2018-19, with a rise in agricultural employment.



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6. **Youth Employment:** Youth employment has increased, but concerns persist about the quality of work, particularly for qualified young workers. Unemployment rates among educated youth have intensified over time.
7. **Policy Recommendations:** The report suggests promoting job creation, improving employment quality, addressing labor market inequalities, strengthening skills and active labor market policies, and bridging knowledge deficits on labor market patterns and youth employment.
8. **Impact of AI:** The rise of artificial intelligence could disrupt employment patterns, particularly in industries like outsourcing. Investment and regulations are needed in emerging sectors like the care and digital economies.
9. **Economic Policies:** Economic policies should focus on boosting productive non-farm employment, supporting micro, small, and medium-sized enterprises, and providing tools such as digitalization and AI to enhance productivity.

Mains easy explanation:

The India Employment Report 2024 highlights paradoxical improvements in labor market indicators amidst economic distress. Despite improvements, concerns persist about poor employment conditions, including a slow transition to non-farm employment, increased informal employment, stagnant wages, and low female labor force participation rates. Informal employment has risen, with self-employment and unpaid family work increasing, particularly among women. While there has been a recent increase in female labor force participation rates, the gender gap remains considerable. Structurally, there has been a reversal in the slow transition towards non-farm employment, with a rise in agricultural employment. Youth employment has increased, but concerns about the quality of work persist, especially among educated youth.

To address these challenges, the report recommends policy actions such as promoting job creation, improving employment quality, addressing labor market inequalities, strengthening skills and active labor market policies, and focusing on emerging sectors like the care and digital economies. Additionally, economic policies should aim to boost productive non-farm employment and support small and medium-sized enterprises.

On sustainable building materials-The Hindu Text and Context

- Environment

Key Takeaways:

1. **Importance of Addressing Energy Inefficiency:** Given India's increasing energy and cooling demand due to factors like economic growth, urbanization, heat islands, and climate change, it's crucial to address energy inefficiency in residential buildings.
2. **Residential Envelope Transmittance Value (RETV):** The Residential Envelope Transmittance Value (RETV) measures heat transfer through a building's envelope. Lower RETV values lead to cooler indoor environments and decreased energy usage, thus improving occupant comfort and lowering utility expenses.
3. **Optimal Building Material - Autoclaved Aerated Concrete (AAC) Blocks:** AAC blocks consistently exhibit the lowest RETV across all climatic conditions, indicating their potential as a thermally efficient material. Compared to other materials like red bricks and monolithic concrete, AAC blocks have lower embodied energy and contribute less to emissions and waste.
4. **Comparison of Building Materials:** Monolithic concrete construction, while favored for its speed and scalability, has the highest embodied energy and significant environmental impact. On the other hand, AAC blocks offer a better balance between embodied energy and construction time, making them a more sustainable choice.
5. **Next Steps for Sustainable Construction:** There is significant untapped potential for innovative building materials in India. Interdisciplinary collaborations and innovative strategies, such as optimizing building orientation and window-wall ratio, can unlock the potential for a sustainable built environment. Manufacturers need to develop cost-effective, scalable, and durable solutions with superior thermal performance and climate resilience.

Mains easy explanation:

The construction boom in India presents both economic opportunities and environmental challenges, particularly in terms of energy consumption and climate impact. Addressing energy inefficiency in residential buildings is critical given the country's growing energy demand. Initiatives like the Residential Envelope Transmittance Value (RETV) aim to improve thermal performance and reduce energy usage.

Among various building materials, Autoclaved Aerated Concrete (AAC) blocks stand out for their low RETV and relatively lower embodied energy compared to alternatives like red bricks and monolithic concrete. While monolithic concrete offers speed and scalability, it comes with significant environmental drawbacks.



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Moving forward, sustainable construction requires interdisciplinary collaboration, innovative design strategies, and the development of environmentally friendly building materials. By prioritizing sustainability in construction practices, India can move towards a greener future and improve the quality of life for its residents.

Why are Rohingya refugees risking their lives at sea?-The Hindu Text and Context

-International relations

Key Takeaways:

1. **Identity of Rohingya Refugees:** The Rohingya are a Muslim minority ethnic group with their roots in Myanmar's Rakhine State, formerly known as Burma. They are culturally and religiously distinct from the majority Buddhist population in Myanmar. However, Myanmar has refused to recognize them as citizens since 1982, rendering them the world's largest stateless population.
2. **Persecution and Exoduses:** The Rohingya have faced persecution and violence in Myanmar, particularly in Rakhine State. The largest exodus occurred in August 2017, following a wave of violence by security forces, leading to over 750,000 Rohingya seeking refuge in Bangladesh.
3. **Conditions in Refugee Camps:** Rohingya refugees in Bangladesh, particularly in Cox's Bazar, live in overcrowded and harsh conditions with inadequate access to food, water, sanitation, healthcare, and education. Security conditions have also deteriorated due to gang violence and attacks within the camps.
4. **Desperate Sea Journeys:** Faced with dire conditions in refugee camps and the impossibility of returning to Myanmar, increasing numbers of Rohingya are undertaking dangerous sea journeys across the Bay of Bengal and the Andaman Sea to reach Muslim-majority nations like Indonesia and Malaysia.
5. **Exploitation and Risks:** Human traffickers exploit the desperation of Rohingya refugees, charging exorbitant fees for treacherous boat journeys. These voyages often result in horrifying accounts of abuse, including violence against women, and many refugees do not survive the journey.
6. **Rising Death Toll:** The UNHCR estimates that one in eight Rohingya refugees who attempt the sea route die or disappear, making the Andaman Sea and Bay of Bengal among the deadliest stretches of water in the world. The death toll and the number of sea journeys have increased significantly in recent years.

Mains easy explanation:

The Rohingya, a persecuted Muslim minority from Myanmar, endure dire conditions in overcrowded refugee camps in Bangladesh. Facing severe restrictions on movement and lacking access to basic necessities, many Rohingya feel compelled to seek safety elsewhere. Consequently, they embark on perilous sea journeys, often facilitated by ruthless human traffickers who exploit their desperation. Tragically, these voyages have proven deadly, with one in eight refugees perishing or disappearing along the way.

Despite the risks, the number of Rohingya undertaking these treacherous journeys continues to rise, underscoring the urgent need for international intervention. Addressing the root causes of the crisis, including the systematic persecution and denial of citizenship by Myanmar's government, is paramount. Additionally, efforts to disrupt human trafficking networks and provide safer pathways for Rohingya to seek asylum are imperative.

The international community must come together to provide humanitarian aid, uphold human rights, and ensure the safety and dignity of the Rohingya people. Only through concerted action can we mitigate the suffering and provide hope for a better future for the Rohingya and other displaced communities worldwide.

Study unravels the recipe that gives Kashmiri rice variety unique aroma-The Hindu Science

-Economy(Agriculture)

Key Takeaways:

1. **Unique Aroma of Mushk Budiji:** Researchers at SKUAST discovered that altitude and temperature significantly influence the development of aroma in mushk budiji, an indigenous rice variety cultivated in the Kashmir Himalayas.
2. **Revival Program:** Despite facing challenges such as rice blast disease and low yield, a revival program initiated by SKUAST scientists in 2007 has helped mushk budiji make a slow comeback.
3. **Aromatic Compounds:** The study identified around 35 aromatic compounds in mushk budiji rice samples collected from altitudes between 5,000 and 7,000 feet across the Kashmir valley, using analytical techniques like GC-MS and an electronic nose.



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4. **Presence of 2-AP:** Specific volatile organic compounds (VOCs), including 2-acetyl-1-pyrroline (2-AP), known for their aromatic properties, were found in samples from higher altitudes, particularly in districts like Budgam and Kupwara.
5. **Genetic Mechanisms:** Gene-expression analysis revealed genetic pathways associated with aroma synthesis in mushk budiji, shedding light on how environmental factors influence aroma development.
6. **Optimizing Cultivation:** Insights from the study can help optimize the cultivation of mushk budiji by selecting locations where environmental conditions favor the expression of flavor compounds.
7. **Export Potential:** Understanding the factors influencing aroma development could maximize the export potential of mushk budiji and contribute to economic growth in the agricultural sector of Kashmir.
8. **Further Research:** While the study provides valuable insights, further research is needed to explore global gene expression and address limitations such as focusing solely on altitude as a factor influencing aroma development.

Mains easy explanation:

Researchers at the Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST) in Srinagar conducted a study on the indigenous rice variety, mushk budiji, known for its unique aroma. They found that altitude and temperature play a crucial role in the development of this aroma. The revival program initiated in 2007 by SKUAST scientists has helped in the resurgence of mushk budiji despite challenges like rice blast disease and low yield. Using analytical techniques like GC-MS and an electronic nose, the researchers identified around 35 aromatic compounds in mushk budiji rice samples collected from different altitudes in the Kashmir valley. Specific volatile organic compounds (VOCs), including 2-acetyl-1-pyrroline (2-AP), were found in samples from higher altitudes, particularly in districts like Budgam and Kupwara. Gene-expression analysis revealed genetic pathways associated with aroma synthesis in mushk budiji, providing insights into how environmental factors influence aroma development. This study could help optimize the cultivation of mushk budiji and maximize its export potential, contributing to economic growth in the agricultural sector of Kashmir. However, further research is needed to explore global gene expression and address limitations such as focusing solely on altitude as a factor influencing aroma development.

Is Australia's carbon credit scheme a 'catastrophe'?-The Hindu Science

-Environment

Key Takeaways:

1. **Carbon Credit Scheme Criticism:** Australia's carbon credit scheme, which relies on reforestation projects to offset emissions, has been criticized as a "catastrophe" due to underperforming outcomes.
2. **Reforestation Project Shortcomings:** Research revealed that vast areas designated for native forest regeneration in Australia's Outback have shown stagnant forest growth or shrinking woodlands.
3. **Questionable Carbon Credits:** Despite these findings, Australia has banked millions of tonnes of questionable carbon credits from these projects, which are used to offset emissions from polluting industries.
4. **Doubts on Carbon Sequestration:** The study, conducted using satellite imagery, raises doubts about the effectiveness of Australia's reforestation efforts in sequestering carbon.
5. **Integrity of Carbon Credits:** Each tonne of carbon sequestered is converted into a carbon credit, which is sold to industries to offset their emissions. However, the study suggests that Australia may be selling credits based on inaccurate assumptions.
6. **Defensive Responses:** Despite criticism, Australia's Clean Energy Regulator maintains the integrity of the carbon credits issued, while the Climate Change and Energy Minister defends the scheme's underlying assumptions.
7. **Challenges in Climate Policy:** Australia's climate policy has faced challenges, and despite commitments to reduce emissions, it remains a significant exporter of gas and thermal coal.
8. **Emission Reduction Commitments:** The research was published in the Nature Communications journal, Earth & Environment, highlighting Australia's commitment to cutting emissions but its high carbon dioxide emissions per person.

Mains easy explanation:

Australia's carbon credit scheme, aimed at offsetting emissions through reforestation projects, faces severe criticism following research revealing its underperformance. Vast areas allocated for native forest regeneration in the Outback have shown stagnant growth or shrinking woodlands, casting doubt on the effectiveness of the scheme. Despite this, Australia has accrued millions of questionable carbon credits from these projects, sold to industries to offset emissions. The integrity of these credits is disputed, with concerns raised about selling credits based on inaccurate assumptions. Defensive responses from authorities maintain the scheme's credibility, yet Australia's climate policy remains contentious



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amid its status as a major exporter of gas and thermal coal. The study underscores challenges in achieving emission reduction commitments, despite Australia's pledge to cut emissions by 43% by 2030.

Preventing a China-Taiwan conflict-The Hindu editorial

-International relations

Key Takeaways:

1. **Status Quo Maintenance:** India has a vested interest in maintaining the current status quo regarding Taiwan, as it promotes economic growth and stability, with trade between India and Taiwan flourishing over the years.
2. **Economic and Security Concerns:** Any conflict between China and Taiwan would have disastrous consequences for India's economy and security, disrupting global trade and potentially escalating into wider conflicts.
3. **Long-term Implications:** A conflict outcome favoring China could significantly impact India's long-term international position, potentially undermining regional security architecture and necessitating a reassessment of strategic partnerships.
4. **Policy Options:** India can contribute to deterring conflict by leveraging international law, diplomatic efforts, economic measures, information operations, and potentially providing military support to US forces in the Indian Ocean.
5. **Strategic Self-Interest:** Enacting tougher policies to prevent a China-Taiwan conflict serves India's strategic interests, enhances its cooperation with the US, and establishes India as a leader in deterring Chinese aggression.
6. **Cost-Benefit Analysis:** While these policies may invite Chinese retaliation, the costs of inaction outweigh the risks, and India's expanding interests necessitate proactive measures to safeguard its stability and growth.

Mains easy explanation:

India faces increasing pressure to prevent a potential conflict between China and Taiwan, given its expanding national interests and entanglement in disputes across Asia. While India is unlikely to engage in a conflict over Taiwan, it has strong reasons to maintain the status quo, primarily due to economic and security interests tied to Taiwan's peaceful governance. Any Chinese aggression against Taiwan would have catastrophic consequences for India, disrupting global trade and potentially sparking wider conflicts with significant economic and security implications. Therefore, preventing a conflict over Taiwan is crucial for India's stability and growth. India can contribute to deterrence efforts through various policy options, including leveraging international law, diplomatic messaging, economic measures, and military support to the US forces in the Indian Ocean. These policies not only serve India's interests but also enhance its strategic position and cooperation with the US, positioning India as a leader in deterring Chinese aggression. Despite potential challenges and Chinese retaliation, enacting these policies is essential for safeguarding India's interests amidst its expanding ambitions and the escalating geopolitical landscape.

WTO's investment facilitation negotiations are not illegal-The Hindu Editorial

-Economy

Key Takeaways:

1. **Non-Adoption of IFD Agreement:** At the 13th Ministerial Conference of the WTO, the agreement on investment facilitation for development (IFD) was not adopted, despite support from a majority of member countries.
2. **Legality of IFD Negotiations:** India, along with South Africa, played a crucial role in preventing the IFD agreement from becoming part of the WTO rulebook, citing concerns over the process followed and the nature of investment within the WTO framework.
3. **Investment and Trade Relationship:** India argues that investment is not inherently trade and questions the legality of conducting negotiations on investment within the WTO framework.
4. **Negative Mandate and Plurilateral Negotiations:** India highlights the negative mandate against launching negotiations on new issues multilaterally, raising questions about the legality of IFD negotiations conducted on a plurilateral basis.
5. **Function of WTO and Plurilateral Agreements:** The WTO's decision-making process faces challenges due to the requirement for consensus, leading to a deadlock in updating and making new trade rules. Plurilateral agreements like the proposed IFD agreement are seen as crucial for revitalizing the WTO's legislative function.
6. **India's Defensive Approach:** India, as a major global economy, is urged to reconsider its defensive stance towards plurilateral agreements like the IFD agreement, recognizing their potential to address the complexities of international trade governance and reinvigorate the WTO's effectiveness.



| Clear your doubts now.



Mains easy explanation:

At the 13th Ministerial Conference of the World Trade Organization (WTO), the adoption of the investment facilitation for development (IFD) agreement faced opposition from countries like India, despite significant backing from major economies and a majority of WTO member nations. India's concerns revolved around the fundamental question of whether investment should be considered within the WTO's domain and procedural issues regarding negotiations without consensus. This disagreement highlights broader debates surrounding the scope of the WTO's authority and the legitimacy of plurilateral agreements in shaping global trade governance. It underscores the urgent need for WTO reform to address contemporary trade challenges effectively.

India's stance reflects a defensive approach toward plurilateral agreements like the proposed IFD Agreement within the WTO framework. However, as one of the world's largest economies, India is urged to reconsider its position and engage constructively in discussions about the role of plurilateral agreements and investment governance within the WTO. This proactive engagement could not only enhance India's influence in shaping global trade rules but also contribute to revitalizing the WTO's legislative function, which has been hampered by challenges in achieving consensus among member states.

29th March 2024

Why Nov-Dec temperatures may decide the rabi output-Indian Express Explained

Economy(agriculture)

Key Takeaways:

1. **Impact of Temperature on Crop Production:** Temperature fluctuations, particularly in November and December, have significant effects on wheat and potato crops in India. Unusually warm temperatures followed by cold, sunless periods have affected the growth and yield of these crops.
2. **Wheat Production Challenges:** Late onset of winter and above-normal temperatures in November and December have led to premature initiation of flowering in wheat crops, especially in central India. This resulted in poor pollination and seed-setting, potentially reducing grain yields.
3. **Regional Variances:** Northwestern and eastern India also experienced above-normal temperatures, but the deviations weren't as severe as in central India. The timing of wheat sowing differs across regions, affecting crop growth and vulnerability to temperature variations.
4. **Crop Yield Impact:** Farmers report lower yields in wheat and potato crops due to adverse weather conditions. Central India, particularly Madhya Pradesh, faced challenges in wheat production, leading to reduced yields per acre compared to previous years.
5. **Market Effects:** Decreased crop yields have implications for market prices. Retail prices of potatoes, onions, and tomatoes have increased due to lower production levels. Dry weather and water shortages in certain regions further exacerbate the situation.
6. **Sugar Production Outlook:** Despite challenges in wheat and potato production, the sugar industry anticipates a positive outlook. Favorable weather conditions in Maharashtra and government regulations contribute to higher-than-expected sugar output and comfortable stock levels.

Mains easy explanation:

The article highlights the critical role of temperature fluctuations, particularly in November and December, in determining crop yields in India. With a focus on wheat, potato, and sugar crops, it discusses how weather variations have impacted different regions differently. Central India, especially Madhya Pradesh, faces challenges in wheat production due to late winter onset and above-normal temperatures, resulting in lower yields. Farmers report reduced yields in both wheat and potato crops, leading to market price increases. However, the sugar industry expects a positive outlook due to favorable weather conditions and government regulations. Overall, the article underscores the importance of temperature management for ensuring stable crop production and addressing market fluctuations in agricultural commodities.

Governor's assent to state laws-Indian Express Explained

-Polity

Key Takeaways:

1. **Conflict Between State Governments and Governors:** The Kerala government has moved to the Supreme Court, alleging that both the President and the Governor have withheld assent to several bills without providing reasons, leading to a deadlock in the legislative process.



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2. **Constitutional Provisions:** Articles 200 and 201 of the Indian Constitution outline the process of assent for bills passed by state legislatures. Governors have the authority to either give assent, withhold assent, or reserve bills for consideration by the President.
3. **Governor's Role:** Governors withholding assent to bills for extended periods has been a point of contention, leading to accusations of arbitrary actions and undermining the legislative process by opposition-led states.
4. **President's Role:** The President can also withhold assent to bills referred for consideration. This further complicates the legislative process as bills may lapse if not reconsidered within a specified period.
5. **Legal Battles:** Opposition-led states like Tamil Nadu, Telangana, and Punjab have also approached the Supreme Court over similar issues, highlighting the ongoing legal battles regarding the powers and responsibilities of Governors in the lawmaking process.
6. **Court Interpretations:** The Supreme Court has expressed concerns over Governors withholding assent to bills indefinitely and has emphasized the importance of Governors following constitutional procedures. However, definitive timelines for assent decisions remain ambiguous, prompting further legal challenges.

Mains easy explanation:

The ongoing conflict between opposition-led state governments and Governors over the withholding of assent to bills has reached a critical stage, with Kerala's recent move to challenge these actions in the Supreme Court. The dispute revolves around the interpretation of constitutional provisions and concerns about arbitrary actions and political interference.

Legal battles in states like Tamil Nadu, Telangana, and Punjab, alongside Kerala, highlight broader questions about federalism and the balance of power between the center and states. While the Supreme Court has emphasized the importance of Governors adhering to constitutional procedures, the absence of clear timelines for assent decisions remains a key challenge.

The resolution of these conflicts will have significant implications for the functioning of state governments and Indian federalism as a whole, necessitating a broader dialogue on institutional norms and constitutional principles.

From birds to animals on land, sea: what's driving deadly strain of H5N1?-Indian Express Explained

-Science

Key Takeaways:

1. **Spread of H5N1 Avian Influenza:** The highly pathogenic H5N1 strain of avian influenza, previously devastating wild bird populations, has now been detected in domestic animals like dairy cattle and goats in the United States. It has caused significant mortality in various bird species across the globe since its emergence in 2020.
2. **Impact Across Species:** Besides birds, H5N1 has affected a wide range of animals, including marine mammals like sea lions and seals, leading to mass mortalities. The virus has also been reported in terrestrial mammals such as foxes, pumas, skunks, and bears, along with farmed minks.
3. **Human Risk:** While humans are theoretically at risk of contracting bird flu, cases are rare and usually involve individuals who have direct contact with infected birds. The recent case in Cambodia, involving a 9-year-old boy, highlights the potential human impact.
4. **Factors Driving Spread:** The precise factors behind the large-scale spread of the virus remain unclear, but some scientists suggest that climate change could play a role. Rising global temperatures may alter bird behavior, leading to increased interactions between species and facilitating the spread of the virus. Higher sea surface temperatures could also weaken marine mammals, making them more susceptible to disease.

Mains easy explanation:

The highly pathogenic H5N1 avian influenza strain, previously devastating wild bird populations, has now spread to domestic animals like dairy cattle and goats in the United States. It has caused significant mortality in various bird species globally since 2020 and has affected marine mammals like sea lions and seals, leading to mass mortalities.

While humans are theoretically at risk of contracting bird flu, cases are rare and usually involve direct contact with infected birds. Climate change is suggested as a possible factor driving the virus's spread, altering bird behavior and facilitating interactions between species.

Addressing the spread of H5N1 requires understanding its ecological dynamics and potential environmental factors like climate change.

A FRAGILE CORRIDOR-Indian Express Editorial

-International relations

Key Takeaways:



| Clear your doubts now.



1. **Vulnerability of CPEC and Pakistan:** The recent spate of attacks on strategic sites in Pakistan, particularly those related to the China-Pakistan Economic Corridor (CPEC), highlights the vulnerability of both the CPEC and Pakistan as a whole.
2. **Chinese Nationals Killed:** The attacks resulted in the deaths of Chinese nationals, raising concerns about the security of Chinese workers and investments in Pakistan, crucial for China's Belt and Road Initiative (BRI).
3. **China's Reaction:** China has reacted strongly to the attacks, urging Pakistan to hunt down the perpetrators and emphasizing the importance of safeguarding China-Pakistan cooperation.
4. **Broader Security Concerns:** The attacks underscore broader security challenges faced by Pakistan, including conflicts with neighboring countries and internal insurgencies, beyond just a military response.
5. **Overreliance on CPEC:** Pakistan's overreliance on the CPEC for economic development has made it more vulnerable, necessitating a systemic overhaul and diversification of the economy.
6. **Need for Economic Diversification:** Opening up trade ties with India could signal maturity on Pakistan's part and help diversify its economy, reducing its dependence on China and mitigating security risks associated with disruptions to the CPEC.
7. **Addressing Instability:** Diversifying the economy and reducing reliance on the CPEC can contribute to making Pakistan safer by reducing the attractiveness of CPEC sites and personnel as targets for disruption.

Mains easy explanation:

The recent string of attacks on strategic sites in Pakistan, including those related to the China-Pakistan Economic Corridor (CPEC), underscores the country's vulnerability and broader security challenges. These attacks, resulting in the deaths of Chinese nationals, have raised concerns about the security of investments crucial for China's Belt and Road Initiative (BRI). China's strong reaction highlights the importance of safeguarding China-Pakistan cooperation.

Pakistan's overreliance on the CPEC for economic development has made it more vulnerable, necessitating a systemic overhaul and diversification of the economy. Addressing security concerns requires more than just a military response, as Pakistan faces conflicts with neighboring countries and internal insurgencies.

To mitigate risks and promote stability, Pakistan needs to open up trade ties with India, signaling maturity and diversifying its economy. This move would reduce dependence on China and alleviate security risks associated with disruptions to the CPEC. Overall, a broader-based economy not only fosters economic growth but also enhances security by reducing vulnerabilities to targeted attacks on CPEC infrastructure and personnel.

Tech giants facing EU scrutiny-The Hindu text and Context

-Science and Technology

Key takeaways:

1. **EU Investigations:** The European Commission has initiated non-compliance investigations against tech giants like Apple, Meta, Google's Alphabet, and Amazon, aiming to ensure fair competition and contestable markets in the digital sector.
2. **DMA Compliance:** Concerns have been raised regarding these companies' compliance with the Digital Markets Act (DMA) obligations, including issues related to steering customers to in-house services, marketplace ranking practices, and consumer choice.
3. **'Gatekeeper' Designation:** Designated as 'gatekeepers' in September 2023, these companies were expected to fully comply with DMA obligations by March 2024, but doubts persist about their adherence to regulatory requirements.
4. **Penalties for Non-Compliance:** Non-compliance could result in significant penalties, including fines of up to 10% of global turnover or divestment of business segments, highlighting the seriousness of the EU's regulatory scrutiny.
5. **Fair Competition:** The investigations underscore the EU's commitment to ensuring fair competition and consumer choice in the digital market space, reflecting broader efforts to regulate tech giants and promote a level playing field.

Mains Easy Language:

The European Commission has launched non-compliance investigations against tech giants like Apple, Meta, Google's Alphabet, and Amazon, aiming to ensure fair and contestable markets in the digital sector, as outlined in the Digital Markets Act (DMA). These investigations focus on alleged violations related to steering customers to in-house services, marketplace ranking practices, and compliance with DMA obligations.



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The Commission's concerns stem from doubts about the companies' adherence to fair competition practices and consumer choice. Despite being designated as 'gatekeepers' and expected to comply with DMA obligations by March 2024, Alphabet, Apple, and Meta face scrutiny over their practices. Potential penalties for non-compliance include fines of up to 10% of global turnover or divestment of business segments.

The investigations underscore the EU's commitment to regulating digital markets effectively and ensuring fair competition. However, stakeholders remain cautious about the implications of these investigations and the potential for overlapping regulatory frameworks.

Measuring internet freedom in India in the last 10 years-The Hindu Text and Context

-Polity

Key takeaways:

1. **Top Global Imposer:** India consistently leads in imposing internet shutdowns globally, accounting for approximately 60% of all recorded blackouts worldwide over the past decade.
2. **Reasons for Shutdowns:** Shutdowns are often justified by the Indian government citing national security and threats to public order, notably during events such as protests against the Citizenship Amendment Act, the abrogation of Article 370, and the introduction of Farm Bills.
3. **Legal Basis and Challenges:** Indian States and Union Territories can impose shutdowns under the Indian Telegraph Act, but the law lacks clear definitions for what constitutes an emergency or safety issue. Legal challenges have been raised, with courts ruling that shutdowns violate fundamental rights to freedom of expression.
4. **Regional Disparities:** Regions like Jammu and Kashmir have experienced the highest number of shutdowns, with specific incidents lasting for months. Manipur witnessed the longest blackout in 2023 amid ethnic clashes.
5. **Global and National Trends:** Internet freedom globally has declined, with India's ranking reflecting this trend. The number of websites and social media URLs blocked in India has risen significantly, often attributed to the escalating threat of cybercrime.

Mains easy explanation:

Over the past decade, India has consistently led the world in imposing internet shutdowns, with approximately 60% of global blackouts occurring within its borders. These shutdowns have been enforced by the government under the pretext of national security and maintaining public order, notably during times of socio-political unrest such as protests against legislative changes and ethnic tensions.

The legal framework allowing for these shutdowns, outlined in the Indian Telegraph Act, lacks clear definitions of what constitutes a "public emergency" or a threat to "public safety." Despite legal challenges asserting that such shutdowns violate fundamental rights to freedom of expression, they continue to be implemented, particularly in regions like Jammu and Kashmir and Manipur, which have seen the highest number and longest durations of blackouts.

In addition to shutdowns, India has seen a significant rise in the blocking of websites and social media URLs, often attributed to the growing threat of cybercrime. However, concerns have been raised about the proportionality and necessity of these actions, especially considering their impact on freedom of information and expression.

Globally, internet freedom has been on the decline, and India's ranking in this regard has reflected this trend. While the government justifies these measures as necessary for maintaining security and order, critics argue that they stifle dissent and limit access to information, ultimately undermining democratic principles and human rights online.

Eradication of TB remains a distant goal as systemic challenges persist-The Hindu Science

-Science

Key Takeaways:

1. **Urgent Need for Expanded Efforts:** Despite India's commitment to eliminate TB by 2025, Survivors Against TB emphasized the urgent need for expanded efforts to address the country's TB crisis.
2. **Persistent Challenges:** The letter to the Prime Minister identified six key challenges hindering progress in TB management, including issues related to diagnosis, access to treatment, nutrition, stigma, economic support, and quality care.
3. **Biomedical Strategies:** Current biomedical strategies for TB management include vaccination, preventive treatment, and newer drug regimens. However, challenges such as insufficient diagnosis and treatment access persist.





4. **Addressing Social Determinants:** TB is not just a biomedical issue but also linked to social determinants such as undernutrition, stigma, and economic barriers. Addressing these factors is crucial for effective TB management.
5. **Holistic Approach Needed:** Combating TB requires a holistic approach that goes beyond biomedical interventions to address social determinants such as undernutrition, stigma, and economic barriers.
6. **Comprehensive Care Models:** Implementing comprehensive care models, nutritional support, and triaging strategies are crucial steps in improving TB management and reducing the burden of the disease in India.

Mains easy explanation:

Amid preparations for World TB Day, Survivors Against TB, a collective of TB survivors, has called upon the Prime Minister to intensify efforts to address India's persistent tuberculosis crisis. Despite the government's commitment to eliminate TB by 2025, significant challenges remain. These encompass inadequate access to diagnosis and treatment, nutritional deficiencies, social stigma, economic barriers, and the necessity for improved quality care. While biomedical interventions such as vaccination and drug therapies exist, the impact of TB is exacerbated by social determinants like undernutrition. To achieve meaningful progress, implementing comprehensive care models, bolstering nutritional support, and adopting effective triaging strategies are imperative steps in combating the TB epidemic.

Did the electoral bonds scheme enable extortion?-The Hindu Editorial

-Polity

Key takeaways:

1. **Potential Misuse of Electoral Bonds:** Data suggests that companies facing regulatory actions purchased electoral bonds, raising concerns about whether the scheme was exploited for extortion purposes, with donations potentially influencing ongoing investigations.
2. **Quid Pro Quo Practices:** The practice of quid pro quo in political donations is highlighted, where companies donate to advance their business interests. The electoral bonds scheme aimed to enhance transparency but may have still facilitated such exchanges in a less traceable manner.
3. **Shell Companies and Anonymity:** The scheme's design allowed even loss-making companies to donate, leading to concerns about the creation of shell companies for anonymous political contributions, potentially undermining transparency and accountability.
4. **Discrepancies in Statements:** Contradicting statements regarding the recording of alphanumeric codes associated with electoral bonds raise questions about transparency and the integrity of the electoral process, warranting thorough investigation.
5. **Role of State Bank of India:** Scrutiny of the State Bank of India's handling of sensitive electoral bond information underscores the importance of upholding transparency and fairness in the electoral process, calling for reforms to address these concerns effectively.

Mains easy explanation:

The debate surrounding electoral bonds in India raises significant concerns about transparency, accountability, and the integrity of the electoral process. Data indicating the involvement of companies facing regulatory actions in purchasing electoral bonds, coupled with questions about quid pro quo and the proliferation of shell companies, underscores the need for comprehensive scrutiny and reform. Critics argue that while the electoral bonds scheme aimed to bring transparency to political funding, it may have inadvertently facilitated anonymity and obscured the source of political contributions. The role of the State Bank of India in handling sensitive information related to electoral bonds is also under scrutiny, highlighting the importance of upholding transparency and fairness in the electoral process. Ultimately, addressing these concerns requires thorough investigation and potential reform to ensure transparency, accountability, and integrity in political funding mechanisms.

Jobs outlook bleak-The Hindu Editorial

-Economy

Key Takeaways:

1. **Grim Youth Employment Outlook:** The report highlights a bleak employment scenario for India's youth, with a significant proportion of educated young people facing unemployment, indicating a mismatch between job opportunities and qualifications.



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2. **Rising Unemployment Among Graduates:** Despite higher education levels, graduates experience significantly higher unemployment rates compared to those with lower educational attainment, underscoring issues with job availability and quality.
3. **Closing Window of Demographic Dividend:** India's demographic advantage is at risk of being squandered, with the youth population set to decline by 2036. Urgent policy interventions are needed to harness this potential before it diminishes further.
4. **Challenges in Female Workforce Participation:** Gender disparity persists in workforce participation, with women's participation significantly lower than men's. Addressing this imbalance is crucial for inclusive economic growth.
5. **Lack of Comprehensive Policy Vision:** The prevalence of informal employment and poor working conditions underscores the need for a coherent policy framework aimed at creating better job opportunities and improving the quality of education and training.

Mains easy explanation:

The "India Employment Report 2024" paints a concerning picture of youth employment in India, with a large and growing proportion of educated young people facing unemployment. Despite economic growth, job creation has not kept pace with the influx of young workers into the labor force, exacerbating the unemployment crisis. Moreover, the quality of education and training is inadequate, leaving many graduates ill-prepared for available job opportunities.

The report also highlights the imminent decline in India's youth population, emphasizing the need for immediate policy interventions to capitalize on the demographic dividend before it diminishes. Gender disparity in workforce participation and the prevalence of informal employment further underscore the need for a comprehensive policy vision to address these challenges.

As India's political landscape evolves, policymakers must prioritize job creation and invest in education and training programs tailored to the needs of a rapidly evolving economy. Failure to do so risks squandering India's demographic advantage and stalling economic progress.

30th March 2024

Why US allowed UNSC resolution on Gaza ceasefire to pass-Indian Express Explained

-International relations

Key takeaways:

1. **UNSC Resolution and US Abstention:** The UN Security Council (UNSC) passed a resolution demanding an immediate ceasefire between Israel and Hamas, and the release of hostages. The United States, traditionally a staunch supporter of Israel, abstained from the vote instead of using its veto power as it has done historically.
2. **Political Context and Domestic Impact:** The decision to abstain reflects a shift in US policy influenced by domestic political considerations. President Biden seeks support from Arab and Muslim voters as well as the Democratic Party's left-wing, which have grown critical of Israel's actions. Swing states with significant Muslim populations are crucial in upcoming elections.
3. **Rare US Position:** While the US has distanced itself from Israel's position before, it's rare for the US to not provide cover for Israel in the UNSC. Historically, the US has vetoed numerous resolutions critical of Israel.
4. **Resolution's Binding Nature:** UNSC resolutions can be binding, especially under Chapter 7 of the UN Charter, but enforcement options are limited if the concerned country refuses to accept it.
5. **Domestic Reaction and Republican Response:** The abstention may affect domestic politics in the US, with Republicans already seeking to exploit the situation by inviting Netanyahu to address Congress. Traditionally, Democrats have enjoyed strong support from the Jewish community.
6. **No Fundamental Change in US Position:** Despite the abstention, there's no fundamental change in the US position on Israel. The US remains committed to the broader US-Israel relationship, including aid, trade, and defense partnerships.
7. **Limited Impact on Conflict:** While the resolution sends a political message, it's unlikely to end the conflict between Israel and Hamas. Israel's goals, including the elimination of Hamas, may be difficult to achieve and lack sustainable international support.

Mains easy explanation:

The UN Security Council's recent resolution demanding an immediate ceasefire between Israel and Hamas, coupled with the United States' surprising decision to abstain from the vote instead of using its traditional veto power, highlights a



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significant shift in US policy towards Israel. This change is influenced by domestic political considerations, with President Biden seeking support from Arab, Muslim, and left-wing Democratic voters critical of Israel's actions, particularly in swing states with sizable Muslim populations. Despite this abstention, there's no fundamental alteration in the US stance on Israel, as the broader US-Israel relationship remains intact, including substantial aid, trade, and defense partnerships. While the resolution sends a potent political message, its impact on resolving the conflict between Israel and Hamas is likely limited, given Israel's ambitious goals and the lack of sustainable international support for its actions.

'PROTECTING DAVID'S DIGNITY: ITALY'S HERITAGE CODEVS.COPYRIGHT LAW-Indian Express Explained

-International relations

Key takeaways:

1. **Michelangelo's David Commercialization:** Concerns have been raised about the commercialization of Michelangelo's David through the sale of souvenirs and merchandise that focus on David's genitalia, potentially eroding the statue's religious and political significance.
2. **Legal Action by Galleria dell'Accademia:** Cecile Hollberg, director of Galleria dell'Accademia in Florence, has initiated legal action against those profiting from unauthorized use of David's image, aiming to protect the statue's dignity and artistic integrity.
3. **Italy's Cultural Heritage Code:** Italy's Code of Cultural Heritage and Landscape, established in 2004, grants public bodies and cultural institutions the authority to regulate the use and reproduction of cultural property, extending copyright protections to museums and institutions that own such artworks.
4. **Enforcement of Cultural Heritage Laws:** Recent court cases have seen museums successfully challenging unauthorized use of artworks, such as the reproduction of David's image on a magazine cover and a puzzle featuring Leonardo Da Vinci's Vitruvian Man.
5. **Extension of Copyright Protections:** Italy's cultural heritage code effectively extends copyright protections indefinitely for certain artworks, contrary to traditional copyright law frameworks that typically grant protection for the lifetime of the artist plus 70 years.
6. **Legal Ambiguities and Debates:** The tension between Italy's cultural heritage code and traditional copyright law raises questions about the treatment of artwork once it enters the public domain, with ongoing debates regarding the compatibility of cultural heritage laws with established copyright frameworks.

Mains easy explanation:

In Italy, the discourse surrounding Michelangelo's David revolves around its commercial exploitation and the intricate interplay between cultural preservation and copyright legislation. The Galleria dell'Accademia has taken legal measures to safeguard David's image, leveraging Italy's Code of Cultural Heritage and Landscape. Recent court rulings have underscored the enforcement of these regulations while also prompting debates about the prolonged extension of copyright protections. This ongoing discussion highlights the complex dynamic between preserving cultural heritage, navigating legal frameworks, and addressing commercial interests within Italy's vibrant art scene. The tension between protecting iconic artworks like David and reconciling them with modern commercialization underscores the multifaceted challenges inherent in managing cultural heritage in a contemporary context.

Power threat to the bustard-Indian Express Explained

-Environment

Key takeaways:

1. **Supreme Court Review:** The Supreme Court of India is reviewing its directive from 2021 to bury power lines in the habitat of the critically endangered Great Indian Bustard (GIB) due to practical challenges raised by the Centre.
2. **Threat to GIB:** Power lines pose a significant threat to the survival of the Great Indian Bustard, with collisions causing fatalities due to the bird's limited frontal vision and large size.
3. **Technical and Cost Constraints:** The Centre argues that underground power lines are not feasible due to technical constraints, maintenance challenges, transmission losses, and the high cost implications, which run into thousands of crores.
4. **Impact of Power Lines:** The Wildlife Institute of India estimates that power lines kill around 84,000 birds annually in GIB habitats, highlighting the urgent need for mitigation measures.
5. **Other Threats to GIB:** In addition to power lines, GIBs face threats from free-ranging dogs, pesticide use, loss of grassland habitat, and reduced support from local communities.



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6. **Conservation Efforts:** Despite challenges, conservation efforts include initiatives like captive breeding and habitat restoration, although the effectiveness of these measures depends on addressing infrastructure threats.
7. **Balancing Conservation and Development:** There is a delicate balance between sustainable development goals, such as renewable energy projects, and the conservation needs of endangered species like the GIB.
8. **Supreme Court's Consideration:** The Supreme Court is considering modifying the scope of burying power lines in priority GIB areas, underscoring the complexity of balancing environmental protection with development goals.
9. **Expert Committee Recommendations:** An expert committee appointed by the court has until July 31 to make recommendations on measures to protect the GIB and mitigate the threats posed by power lines.

Mains easy explanation:

The Supreme Court of India is reassessing its directive to bury power lines in the habitat of the endangered Great Indian Bustard (GIB) due to challenges cited by the Centre. Power lines pose a significant threat to the GIB population, with collisions causing fatalities. The Centre argues that underground power lines are impractical due to technical constraints and high costs. Conservation efforts, including captive breeding and habitat restoration, are underway, but infrastructure threats persist. Balancing conservation with development goals is crucial, particularly in prioritizing renewable energy projects while safeguarding endangered species. The Supreme Court is considering modifying the scope of burying power lines in priority GIB areas. An expert committee has been appointed to recommend measures to protect the GIB and mitigate infrastructure-related threats. This highlights the complex interplay between environmental conservation, infrastructure development, and legal considerations in safeguarding endangered species.

AFRICA AT THE CENTRE India Must place the region at the heart of its Global South strategy-Indian Express Editorial

-International relations

Key Takeaways:

1. **Africa's Importance:** Africa's economic potential and demographic profile make it a key partner for India's Global South strategy.
2. **Economic Opportunities:** Indian investments and trade with Africa present significant economic opportunities for both regions.
3. **Global Governance:** Africa's influence in global forums is crucial for India's advocacy of inclusive global governance.
4. **Sectoral Collaboration:** Collaboration in sectors like critical minerals can bolster mutual growth and address shared challenges.
5. **Capacity Building:** Enhancing technical capacity building in Africa can facilitate skill development and industry-specific training.
6. **Geopolitical Significance:** India's multifaceted relationship with African nations is poised for transformation amid geopolitical shifts.
7. **Historical Partnerships:** Leveraging historical partnerships with African countries is essential for India's future in the Global South.

Mains easy explanation:

India's strategic engagement with Africa holds paramount importance in its Global South strategy, as underscored by President Droupadi Murmu's recent visit to Mauritius. The visit marked the inauguration of numerous community development projects, symbolizing India's commitment to bolstering ties with African nations. With Africa's burgeoning growth rate, youthful demographic, and immense economic potential, it emerges as a pivotal partner for India's economic and geopolitical aspirations. Economic collaboration between India and Africa has flourished, with significant investments, trade volumes, and developmental projects. Furthermore, Africa's representation in global forums is crucial for India's vision of reforming the existing global governance architecture towards inclusivity and development-oriented policies. Leveraging partnerships in critical sectors such as minerals and enhancing technical capacity building exemplify avenues for mutual growth and cooperation. As India navigates geopolitical realignments, nurturing historical ties and deepening engagement with African nations remains pivotal for shaping the trajectory of the Global South and advancing shared development goals.

TAKING ON TB-Indian Express Editorial

-Science

Key Takeaways:



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1. **Progress in TB Diagnosis and Treatment:** India has made strides in closing the gap between estimated and reported TB cases, achieving a 95% treatment initiation rate in diagnosed patients.
2. **Challenges in TB Elimination Goals:** Despite recent successes, India faces hurdles in achieving its goal of eliminating TB by next year, particularly with the rise of multidrug-resistant (MDR) TB.
3. **Advancements in MDR-TB Testing:** There has been significant progress in testing for MDR-TB, with close to 60% of diagnosed individuals now offered tests for drug resistance, up from 25% in 2015.
4. **Patient Adherence to Treatment:** While several drug regimens exist for MDR-TB, patient adherence remains low, with less than 60% completing the full course. Transitioning to shorter-duration drugs like bedaquiline could improve adherence rates.
5. **Opportunities with Generic Bedaquiline:** India's decision not to renew Johnson and Johnson's patent on bedaquiline opens the door for the development of cheaper generic versions, potentially improving access to essential treatment.
6. **Recognition of Mental Healthcare:** Mental health support is increasingly recognized as crucial in TB treatment, yet patient handholding through therapy remains inadequate in India, highlighting the need for comprehensive care strategies.

Mains easy explanation:

The India TB Report 2024 highlights both progress and challenges in the country's fight against tuberculosis (TB). While there has been significant improvement in diagnosing and initiating treatment for TB cases, particularly with the closing gap between estimated and reported cases, India still faces obstacles in achieving its goal of TB elimination by next year. Multidrug-resistant TB (MDR-TB) remains a major concern, with efforts being made to improve testing and treatment options. The decision not to renew Johnson and Johnson's patent on bedaquiline presents an opportunity for the development of cheaper generic versions, potentially enhancing access to vital medication. Additionally, there is growing recognition of the importance of mental healthcare in TB treatment, although patient support in this aspect remains inadequate. Moving forward, a combination of advanced technology and compassionate care strategies will be crucial in building on the gains made in TB control efforts.

Bonds, big money and an imperfect democracy-The Hindu Editorial

-Polity

Key takeaways:

1. **Electoral Bonds Scheme Failure:** Despite its intent to curb black money in elections, the electoral bonds scheme in India did not effectively address the underlying issues in political funding.
2. **Undemocratic Practices:** Indian politics has become increasingly undemocratic, with elected leaders prioritizing the interests of financial backers over those of their constituents.
3. **Gap Between Ideals and Reality:** There exists a significant gap between the professed ideals of democracy and the actual practices of politicians, undermining the democratic process.
4. **Illicit Financing in Elections:** Elections in India are characterized by the widespread use of illegal funds due to the exorbitant costs of campaigning, perpetuating inequalities and marginalization.
5. **Opaque Donations:** The electoral bonds scheme, criticized for its lack of transparency, provided a channel for opaque donations from vested interests seeking to influence policy decisions.
6. **Cronyism and Corruption:** Data on political donations obtained through the scheme reveal instances of cronyism and corruption, highlighting the deep-rooted challenges within the political system.
7. **Erosion of Democratic Principles:** The failure of the electoral bonds scheme underscores the erosion of democratic principles and the growing influence of vested interests in Indian politics.

Mains easy explanation:

The article explores the failure of India's electoral bonds scheme and its implications for democracy. Despite its aim to curb black money in politics, the scheme did not address the fundamental issues in political funding. Indian politics has become increasingly undemocratic, with elected leaders prioritizing the interests of financial backers over constituents. There exists a significant gap between democratic ideals and political realities, undermining the integrity of the democratic process. Elections are marred by the widespread use of illegal funds, perpetuating inequalities and marginalization. The electoral bonds scheme, criticized for its lack of transparency, facilitated opaque donations from vested interests seeking to influence policy decisions. Data on political donations obtained through the scheme reveal instances of cronyism and corruption, highlighting systemic challenges within the political system. Overall, the failure of the electoral bonds scheme reflects the erosion of democratic principles and the growing influence of vested interests in Indian politics.



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31st March 2024

Naturally occurring bile acid can blunt statin-induced diabetes-The Hindu Science

-Science

Key Takeaways:

1. **Statin-Induced Diabetes:** Statins, commonly prescribed for individuals at risk of cardiovascular disease, have been associated with an increased risk of glucose intolerance and diabetes.
2. **Role of UDCA:** Ursodeoxycholic acid (UDCA), a naturally occurring bile acid, may counteract the tendency of statins to induce glucose intolerance and diabetes.
3. **Study Findings:** A study conducted in China found that individuals taking atorvastatin showed alterations in their gut microbiome, specifically a reduction in Clostridium bacteria, leading to changes in bile acid profiles.
4. **Mechanism:** The reduced presence of Clostridium bacteria inhibited enzymes responsible for UDCA production, potentially impairing glucose metabolism.
5. **UDCA Administration:** Administering UDCA to individuals on statins resulted in improved glucose homeostasis without affecting the lipid-lowering effect of the medication.
6. **Clinical Implications:** These findings suggest a potential therapeutic approach to mitigate the risk of statin-induced diabetes by supplementing with UDCA.

Mains easy explanation:

In a study from China, researchers investigated statins' potential to induce diabetes and discovered a correlation with alterations in the gut microbiome, particularly a decrease in Clostridium bacteria. This led to changes in bile acid profiles, notably a reduction in UDCA, which in turn was linked to impaired glucose metabolism. Administering UDCA to individuals on statins effectively improved glucose regulation without compromising the drugs' lipid-lowering effects. These findings propose a promising strategy to counteract statin-induced diabetes by supplementing with UDCA. However, further randomized clinical trials are imperative to validate these findings and elucidate their clinical significance fully. Understanding the interplay between statins, gut microbiota, and bile acids could provide insights into preventing metabolic complications associated with statin therapy.

Tropical cyclones of higher intensity demand a new category-The Hindu FAQ

-Geography

Key takeaways:

1. **Increasing Cyclone Intensity:** Global warming has led to a rise in the intensity of tropical cyclones, with wind speeds exceeding those categorized under the traditional Category 5 scale.
2. **Proposal for Category 6:** A new category, Category 6, is being proposed to accommodate tropical cyclones with peak wind speeds above 309 km/hour, reflecting the escalating severity of these storms.
3. **Impact of Climate Change:** Rising greenhouse gas emissions have intensified ocean heat content, favoring the formation and strengthening of tropical cyclones, posing heightened risks to coastal communities and infrastructure.
4. **Growing Frequency:** Observations show a significant increase in the frequency of intense tropical cyclones, with a notable surge in storms exceeding Category 5 thresholds, indicating a pressing need for updated classification systems.
5. **Importance of Preparedness:** The proposal underscores the importance of enhancing disaster management strategies and early warning systems to mitigate the impacts of increasingly powerful cyclones, especially in vulnerable regions like the North Indian Ocean.

Mains easy explanation:

As global warming accelerates, tropical cyclones are intensifying, surpassing the thresholds of the traditional Category 5 classification. This trend has prompted a proposal for the introduction of a new classification, Category 6, to accommodate cyclones with peak wind speeds exceeding 309 km/hour. Rising greenhouse gas emissions have heightened ocean heat content, fueling the formation and strengthening of these storms. Observations indicate a significant uptick in the frequency of intense tropical cyclones, highlighting the urgent need for updated classification systems to accurately reflect the escalating severity of these weather events. Enhanced disaster management strategies and early warning systems are crucial for mitigating the impacts of these increasingly powerful cyclones, particularly in vulnerable regions such as the North Indian Ocean.

Why is unemployment high among the youth?-The Hindu FAQ



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-Economy

Key Takeaways:

1. **Youth Unemployment:** The India Employment Report 2024 highlights that unemployment is predominantly a challenge among the youth, with an increasing trend over time. Educated youth, particularly those with secondary level education or higher, face significant unemployment rates.
2. **Informal Sector Dominance:** A significant portion of jobs in India, both in the formal and informal sectors, are of an informal nature. This exacerbates the challenge of unemployment, especially for youth seeking secure and formal employment opportunities.
3. **Gender Disparities:** The report underscores significant gender gaps in the labor market, with low rates of female labor force participation. Women, particularly young women, face obstacles in accessing employment opportunities, with a large proportion not engaged in education, employment, or training.
4. **Quality of Employment:** Despite economic growth, jobs in India remain low-productive and low-earning, with declining or stagnant real wages. Many workers, including both regular and casual workers, do not receive the prescribed minimum wage, contributing to wage depression.
5. **Policy Recommendations:** To address the challenges identified, the report recommends several measures, including making production and growth more employment-intensive, improving job quality, overcoming labor market inequalities, enhancing skills training and active labor market policies, and bridging knowledge deficits on labor market patterns and youth employment.

Mains easy explanation:

The India Employment Report 2024 reveals a concerning trend of youth unemployment, exacerbated by the dominance of informal employment and significant gender disparities in the labor market. Despite economic growth, the quality of employment remains low, with many workers experiencing wage depression and lack of basic rights. The report urges policymakers to implement targeted measures to address these challenges, including promoting employment-intensive growth, enhancing job quality, and bridging labor market inequalities. Additionally, there is a call for policies that boost women's participation in the labor force and support entrepreneurship. By prioritizing these recommendations, India can work towards creating a more inclusive and sustainable labor market that provides meaningful opportunities for all segments of society.

Will global forest expansion hit tribals?-The Hindu FAQ

-Sociology

Key takeaways:

1. **Threat to Indigenous Communities:** The implementation of the Global Biodiversity Framework (GBF) alongside forest conservation measures poses a significant threat to the rights and existence of indigenous tribes in India.
2. **Corporate Interests vs. Indigenous Rights:** Concerns arise that the GBF may prioritize corporate interests over the rights of indigenous communities, potentially leading to displacement and denial of basic rights for indigenous peoples.
3. **Government Policy and Tribal Rights:** Activists emphasize the need for the Indian government to recognize and respect the rights of indigenous tribes, including the right to free, prior, and informed consent in conservation efforts.
4. **Human Rights Violations:** There are calls for addressing human rights violations within protected areas, including ensuring access to education, healthcare, and housing for indigenous peoples.
5. **Policy Recommendations:** Suggestions include amending laws to prioritize tribal rights, ensuring tribal representation in decision-making processes related to conservation efforts, and addressing human rights violations within protected areas.
6. **Equity, Justice, and Sustainability:** By prioritizing tribal rights and addressing human rights concerns, India can ensure that conservation efforts align with principles of equity, justice, and sustainability, fostering a more inclusive and sustainable approach to biodiversity conservation.

Mains easy explanation:

The implementation of the Global Biodiversity Framework (GBF) alongside forest conservation measures presents significant challenges to indigenous communities in India. Concerns are raised regarding potential displacement, denial of basic rights, and prioritization of corporate interests over indigenous rights. Activists emphasize the need for the Indian government to recognize and respect tribal rights, including free, prior, and informed consent in conservation efforts. Calls are made to address human rights violations within protected areas and ensure access to education, healthcare, and



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housing for indigenous peoples. Policy recommendations include amending laws to prioritize tribal rights, ensuring tribal representation in decision-making processes, and fostering equity, justice, and sustainability in conservation efforts. By addressing these concerns, India can promote a more inclusive and sustainable approach to biodiversity conservation while safeguarding the rights and livelihoods of indigenous communities.

