

3 ALY CURRENT AFFAIRS

17 September 2024























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GSI

1. Global Transformer Shortage Delays Grid Access for Green Energy Developers

Source: The Indian Express

Prelims: Renewable Energy, Infrastructure Development, Transformer Supply **Mains**: Energy Transition, Supply Chain Constraints, Renewable Energy Goals

Context: Global demand for high-voltage transformers is delaying transmission infrastructure, impacting

India's green energy projects and threatening renewable energy targets.

Key Developments:

• Global Transformer Supply Crunch:

- The demand for high-voltage direct current (HVDC) transformers exceeds supply, causing delays in grid access for renewable energy projects in India, especially in Rajasthan and Gujarat.
- Developers warned in June 2024 that some projects might not have evacuation systems ready until 2029.
- India's Domestic Manufacturing Challenges:
 - India has only three HVDC transformer manufacturers, all multinational.
 - This could impact India's goal of adding over 50 GW annually to reach 500 GW of green energy by 2030.
- Programme-Based Ordering as a Solution:
 - European program-based ordering helps manufacturers plan for long-term demand, potentially easing supply issues. In contrast, India's project-based system creates bottlenecks during demand surges.

Challenges Impacting Project Timelines:

- Long Lead Times for Equipment:
 - Lead times for HVDC transformers have increased from 50 weeks in 2021 to 120 weeks by 2024, risking project delays for about 25% of global renewable projects.
- Grid Availability Issues:
 - o Infrastructure development delays, land acquisition challenges, and legal issues (e.g., Supreme Court ruling on transmission lines in Great Indian Bustard habitats) are affecting green energy projects.
 - The deadline for ISTS charges waiver ends in June 2025, increasing pressure on developers.

Conclusion:

- Delays in transformer availability and transmission infrastructure could impede India's renewable energy targets.
- While programme-based ordering could enhance planning and supply chain resilience, significant investments in domestic manufacturing are essential to meet the growing demand for green energy infrastructure.









GS II

2.Odisha's Subhadra Scheme to be Launched by PM Modi

Source: The Indian Express

Prelims: Subhadra Yojana, Direct Benefit Transfer (DBT), Women Empowerment Schemes

Mains: Social Welfare Schemes, Financial Inclusion, Women-Centric Policies

Context: On September 17, Prime Minister will launch Odisha's Subhadra Yojana, providing eligible

women aged 21 to 60 with Rs 10,000 annually in two instalments.

Key Features of Subhadra Scheme:

• Targeted Beneficiaries:

- The scheme aims to support over 1 crore women in Odisha.
- Eligible women will receive Rs 5,000 each on Raksha Bandhan and International Women's Day.

Eligibility:

- Excludes women from economically well-off families, government employees, and income tax payees.
- Those receiving Rs 1,500 or more per month under other government schemes are also ineligible.

Aadhaar-Linked Transactions:

- Beneficiaries need to complete e-KYC, and the transfers will be made to Aadhaar-enabled bank accounts.
- A Subhadra Debit Card will also be issued for digital transactions.

Political and Financial Context:

- **Budget Allocation:**The Odisha government has allocated Rs 55,825 crore for the scheme, spread over five years (2024-2029), with Rs 10,000 crore set aside for the first year.
- **Political Impact**:The Subhadra scheme was a direct response to the Mission Shakti program, which empowered women through self-help groups.

Conclusion:

- The Subhadra Yojana reflects a strategic focus on women's financial inclusion and empowerment.
- Its implementation is expected to strengthen women standing in Odisha, while providing financial support to millions of women across the state.

3. Women-Led Development in the Rajya Sabha

Source: The Hindu

Prelims: Women Empowerment, Gender Parity, Women's Reservation Bill

Mains: Women in Governance, Parliamentary Reforms, Women-Led Development

Context:During India's G20 presidency, the Rajya Sabha is actively promoting women-led development. This initiative focuses on women's leadership in shaping developmental agendas, beyond just participation.











Key Themes:

Women-Led Development in Governance:

- The goal is to position women as key decision-makers.
- It has been introduced to measures in the Rajya Sabha to actively promote women's leadership.

Historic Move with the Women's Reservation Bill:

• The Nari Shakti Vandan Adhiniyam (2023) led to the appointment of an all-women panel of vice-chairpersons in the Rajya Sabha, with notable firsts like S. Phangnon Konyak and P.T. Usha assuming leadership roles.

Alignment with SDGs:

• The New Delhi Leaders' Declaration under India's G20 presidency reaffirmed the importance of women's empowerment for achieving SDG 5.5, focusing on women's leadership in various spheres.

Initiatives in the Rajya Sabha Secretariat:

• Initiatives include training women officers for prominent roles, introducing the Vahan app for safe transport, and appointing women to high-profile positions.

Recognition and Gender Sensitization:

- Regular gender sensitization workshops and recognition for top-performing women officers are emphasised.
- Women also play key roles in organising events and showcasing their talents.

Conclusion:

• The Rajya Sabha sets a precedent for women-led development in governance, potentially inspiring similar practices across India.

4. Impact of Emergency Provisions on Centre-State Relations

Source: The Hindu

Prelims: Federalism, Emergency Provisions, Articles 355 and 356

Mains: Centre-State Relations, Role of President's Rule, Judicial Safeguards

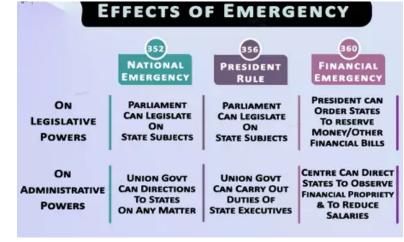
Context: Recent violence in Manipur has revived debate on the Centre's use of emergency provisions and their effect on Centre-State relations using Articles 355 and 356 which enable such intervention.

Federal Structure in India:

- India's Constitution establishes a federal system with distinct Centre and State governments.
- The Seventh Schedule allocates power between them, with law and order primarily under State jurisdiction.

Part XVIII of the Constitution includes emergency provisions:

- Article 355: Mandates the Centre to protect States from external aggression and internal disturbances, ensuring the proper functioning of State governments under the Constitution.
- **Article 356:** Allows the imposition of President's rule if a State's government cannot operate according to constitutional principles. This









provision gives the Centre the authority to dismiss State governments under extreme circumstances.

Constitutional Safeguards and Ambedkar's Vision:

- Dr. B.R. Ambedkar hoped that provisions like Article 355 would remain "a dead letter" and not be invoked lightly.
- Article 355 justifies Centre interference under Article 356, ensuring such interventions are based on constitutional obligations rather than political motives.

Judicial Rulings and Misuse of Article 356:

- Article 356 has historically been misused to dismiss democratically elected State governments for political reasons, such as after Lok Sabha election losses or local law and order issues.
- The Supreme Court's S.R. Bommai case (1994) curbed this misuse, limiting President's rule to constitutional breakdowns and emphasising judicial review to prevent political abuse.

Broadening the Scope of Article 355:

• The Supreme Court has broadened Article 355, allowing the Centre to take wide-ranging measures to protect States and ensure constitutional adherence, as seen in Naga People's Movement (1998) and Sarbananda Sonowal (2005).

Recommendations and Reports:

• Commissions like Sarkaria (1987), National Commission to Review the Working of the Constitution (2002), and Punchhi (2010) recommend using Article 356 only as a last resort during severe crises, emphasising that the Union should first act under Article 355 to address state issues.

Current Scenario in Manipur:

- Despite severe violence and armed attacks, President's rule has not been invoked in Manipur, likely due to political considerations, as the same party governs both Centre and State.
- The Centre, under Article 355, is providing instructions and support to restore order.

Conclusion:

- Articles 355 and 356 are crucial for Centre-State relations.
- While judicial oversight limits misuse of Article 356, Article 355 allows the Centre to intervene when necessary, balancing federalism with central intervention in crises.











GS III

5. Calm as a Monk: A Look into the Discreet Lives of Barn Owls

Source: The Indian Express

Prelims: Barn Owl (Tyto alba), Owl Species, Global Distribution, Owl Behaviours **Mains:** Owl Conservation, Silent Flight Mechanism, Barn Owl Role in Ecosystems

Context: The barn owl, tranquil by day, transforms into an effective and lethal predator by night. Despite its eerie calls and fearsome reputation in some cultures, it is a skilled hunter and crucial for controlling rodent populations.

Physical Description:

Barn owls stand around a foot tall with a creamy white breast, gold-speckled wings, and a distinctive heart-shaped face.

Their calm, monk-like appearance during the day hides their nocturnal predatory skills.

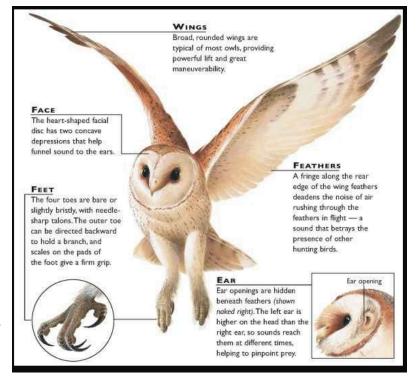
Behavioural Traits:

• Silent Hunters:

- Equipped with serrated feathering, especially on the edges of their wings, barn owls fly in total silence.
- Their exceptional hearing and asymmetrical ears help them locate prey with precision.

• Global Presence:

- Barn owls are one of the most widely distributed birds, found almost everywhere except polar regions and some parts of Southeast Asia.
- Their adaptability allows them to thrive in both rural and urban areas.



Diet: They are especially fond of rats and bandicoots, making them vital for pest control in agricultural regions.

Breeding and Nesting:

Mating for Life:

- Barn owls form lifelong pairs, raising large families (up to five chicks) in tree hollows or abandoned buildings.
- The male provides food for his mate during incubation, demonstrating a strong bond.









• Protective Mothers:

 Female barn owls are fiercely protective of their young, and intruders can face aggressive defence, as documented by bird photographers.

Conclusion:

• Barn owls, with their quiet grace and predatory efficiency, are fascinating birds of prey.

• Despite their unsettling shrieks, they play a critical role in balancing ecosystems, showcasing the remarkable diversity and adaptability of nature.

6. Two Years of Project Cheetah: Awaiting Kenya's Approval for New Batch

Source: The Indian Express

Prelims: Project Cheetah, Wildlife Conservation, India-Africa Relations

Mains: Biodiversity Conservation, Reintroduction Programs, International Wildlife Collaboration

Context: Project Cheetah, India's effort to reintroduce cheetahs into the wild, marks its two-year milestone with cheetah deaths, cub births, and continued imports from Africa.

Key Developments in Project Cheetah: Cheetah Population in India:

- 20 cheetahs have been translocated to Kuno National Park, Madhya Pradesh — 8 from Namibia in 2022 and 12 from South Africa in 2023.
- Currently, 24 cheetahs, including 12 cubs, are in enclosures. However, 8 cheetahs have died since their arrival.

Kenya's Approval for New Batch:

 India is awaiting Kenya's approval to bring a new batch of cheetahs, with plans to establish a breeding center in Gujarat's Bunni grasslands but (MoU) for this is underway.

Breeding and Expansion Plans:

• The 'Action Plan for Reintroduction of Cheetah in India' targets bringing 12-14

cheetahs annually from Africa over five years to build a viable population.

The Gujarat breeding center will initially house 16 cheetahs.

Challenges and Conservation Strategy:

• **Mortality Concerns:** Eight cheetahs have died, with causes including infections under thick winter coats and drowning. Detailed post-mortems revealed no signs of poisoning.

Cheetah Reintroduction in India:









- **Prey Population:** Successful reintroduction relies on a sufficient prey base in Kuno National Park. Officials are monitoring prey levels to ensure the environment can support more cheetahs.
- Health and Medicine Administration: Cheetahs receive prophylactic medicines to prevent infections. Tranquillisers are used for administration, but if these fail, cheetahs may need to be recaptured.

Conclusion:

- Project Cheetah aims to revive India's extinct cheetah population. Despite progress, challenges persist, including managing prey populations and cheetah health.
- The project depends on international collaboration, with India awaiting Kenya's approval for the next reintroduction phase.

7.India's Solar Revolution and Green Energy Initiatives: PM Vision

Source: The Indian Express

Prelims: Renewable Energy, Solar Power, Green Hydrogen

Mains: Energy Transition, Climate Commitments, India's Net-Zero Goals

Context: India's leadership in the global solar and green energy sectors was highlighted, with ambitious goals emphasised during the 4th Global Renewable Energy Investors Meet and Expo in Gandhinagar.

Key Developments:

- India's 21st Century Leadership:
 - India as a leading player for the 21st century, with its solar revolution central to its goal of becoming a developed nation by 2047.
 - o The focus is on renewable energy sources like solar, wind, nuclear, and hydro power.
- Green Energy Commitments:
 - India has surpassed its Paris climate commitments nine years early.
 - Key initiatives include transforming 17 cities into model solar cities and promoting solar-powered homes and services.
- Renewable Energy Targets:
 - o India aims for net-zero emissions in rail operations by 2030, is investing ₹20,000 crore in green hydrogen, and heavily in offshore wind projects.
 - By 2030, it targets 500 GW from renewable sources.

Initiatives and Investments:

- Research and Innovation: A ₹1 trillion fund supports bio-manufacturing and renewable energy research under the new Bio E3 policy.
- **Solar and Hydrogen Projects:** Key projects include a 31,000 MW hydrogen power initiative with ₹12,000 crore approved and a ₹7,000 crore viability gap funding scheme for offshore wind energy.
- State-Level Initiatives (Gujarat):
 - o Gujarat leads in renewable energy with a solar power policy and climate ministry.
 - The state drives rooftop solar schemes, including 13 million families under the PM Surya Ghar Muft Bijli Yojana.

Conclusion:

• India's robust renewable energy initiatives and investments position it as a global leader in the clean energy transition, aiming to fulfill its vision of becoming a developed nation by 2047.









8. How Quantum Computing Can Enhance Large Language Models

Source: The Hindu

Prelims: Quantum Computing, Quantum Natural Language Processing (QNLP), Time-Series Forecasting

Mains: Enhancing LLMs, Quantum Generative Models, Sustainable AI

Context: Quantum computing offers potential to improve large language models (LLMs) in NLP,

developed by AI leaders like OpenAI and Google, though challenges remain.

Challenges with Current LLMs:

• High Energy Consumption:

- Training and Usage: Models like GPT-3 consume massive energy. For example, training GPT-3 used 1,287 MWh, comparable to the energy used by an average U.S. household in 120 years.
- Carbon Footprint: Training models with billions of parameters can emit up to 284 tonnes of CO2, exceeding the energy consumption of large data centers.

• Limited User Control:

- **Hallucinations:** Pre-trained LLMs sometimes generate contextually correct but factually inaccurate text.
- Syntactic Limitations:
 - LLMs excel at understanding meaning but often struggle with syntax, leading to less contextually accurate outputs.

Quantum Computing as a Solution:

- **Energy Efficiency:** Quantum computing can reduce energy use by utilising quantum principles like superposition, enabling Quantum NLP (QNLP) models to function with fewer parameters.
- **Improved Understanding:** QNLP enhances both syntax and semantics by integrating grammatical rules with quantum phenomena, resulting in deeper language understanding.
- **Reducing Hallucinations:** QNLP models improve accuracy by better distinguishing context, minimising incorrect outputs.
- Advanced Time-Series Forecasting: Quantum Generative Models (QGen) improve forecasting by handling complex data more efficiently than classical models, as shown in recent Japanese research.









Editorial, Ideas and Opinions

Demand for Caste Census Rises: Revisiting the 1931 Exercise

Source: The Indian Express

Prelims: 1931 Census, Mandal Commission, OBC Reservations, Varna Hierarchy

Mains: Caste Census, Colonial Census Challenges, Fluidity of Caste Identity, Social Stratification in India Context: The call for a caste census today echoes the 1931 Census, the last instance of caste counting in India. Conducted by the British, it faced challenges like caste fluidity, regional differences, and disruptions from the freedom movement.

Historical Context of the 1931 Census:

- British-Administered Caste Enumeration: The 1931 Census was the last extensive caste enumeration in India, influencing the Mandal Commission's 1980 recommendation for 27% OBC reservations, implemented in 1990.
- **Challenges Faced:** Census noted issues such as non-cooperation, anti-colonial movements, and Congress-led boycotts.
- **Methodological Shifts:** Unlike the 1901 Census, which used the varna hierarchy system causing agitation, the 1931 Census shifted to occupation-based classification.

Key Issues with Caste Enumeration:

- Fluidity of Caste Identity: Caste identities were often fluid, with groups changing their caste status between censuses.
- Regional Variability in Caste Names: Caste names and social standings varied across regions, complicating standardization.
- Occupation-Based Classification: While Hutton used occupation as a proxy for caste, it varied in social significance across regions, complicating accurate classification.

Challenges for Modern Caste Census:

- Caste Fluidity and Fusion: Modern caste groups continue to change identities, complicating enumeration.
- Lack of Consensus on Methodology: There is no universally agreed-upon method for caste enumeration, making it difficult to accurately reflect social hierarchies for affirmative action.

Conclusion:

- The 1931 Census highlighted the complexities of caste enumeration, including identity fluidity and regional variations.
- These challenges will likely re-emerge in any contemporary caste census, necessitating careful methodological considerations.







In Brief

10. Rights of Future Generations Must Guide **Climate Debate**

Source: The Hindu

Prelims: Climate Change, Intergenerational Equity, Sustainable Development

Mains: Climate Justice, Legal Frameworks for Future Generations, Planetary Boundaries

Context: Ahead of the UN's Summit of the Future in New York on September 22-23, 2024, highlights the importance of protecting the rights of future generations amidst global challenges like climate change, pollution, and income inequality.

Future Generations and Climate Justice:

Ensuring a livable planet for future generations is central to climate justice.

This raises questions about whether current generations have a legal duty to prevent damage from today's decisions.

Debate on Legal Obligation:

- The European Journal of International Law debates whether protecting future generations' rights is legally valid.
- While some argue it may distract from current issues, others see it as crucial for long-term justice. **Judicial Support for Intergenerational Equity:**
 - Courts worldwide, including in Colombia, Pakistan, India, Kenya, and South Africa, have reinforced the need to protect natural resources for future generations.

The Maastricht Principles:

These principles link human rights to future generations, advocating for legal actions to ensure their protection and representation in decision-making.

Planetary Overshoot and Urgency for Action:

• Earth's ability to regenerate resources is declining, with overshoot day moving from December 30 in 1970 to August 1 in 2024, highlighting the need for urgent corrective actions.

Conclusion:

- The Summit of the Future underscores the moral and legal need to protect future generations'
- Achieving climate justice and sustainable development is essential for the well-being of both present and future populations.







Daily Quiz

Q1. Consider the following statements regarding the global transformer shortage and its impact on India's green energy projects:

- 1. The shortage of high-voltage direct current (HVDC) transformers is delaying grid access for renewable energy projects, particularly in Rajasthan and Gujarat.
- India has sufficient domestic manufacturing capacity for HVDC transformers, which helps mitigate the supply chain challenges for green energy projects.
- 3. The deadline for the waiver of ISTS charges for green energy developers ends in June 2025, adding pressure on project developers to meet deadlines.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

Q2. Consider the following statements regarding Odisha's Subhadra Scheme:

Statement 1: The Subhadra Scheme provides eligible women aged 21 to 60 with Rs 10,000 annually in two instalments—on Raksha Bandhan and International Women's Day.

Statement 2: Women who are receiving Rs 1,500 or more per month under other government schemes are eligible for Subhadra Scheme benefits.

Which of the following is correct in respect of the above statements?

- A. Both statements are correct, and Statement 2 provides further context on the eligibility criteria.
- B. Both statements are correct, but Statement 2 contradicts the key features of the scheme.
- C. Statement 1 is correct, and Statement 2 is incorrect.

D. Statement 2 is correct, and Statement 1 is incorrect.

Q3. Which of the following statements about the initiatives in the Rajya Sabha Secretariat to promote women-led development is NOT accurate?

- A. The Rajya Sabha Secretariat has launched training programs for women officers to equip them for prominent leadership roles.
- B. The Vahan app was introduced to ensure the safe transport of women employees working in the Rajya Sabha.
- C. Gender sensitization workshops for both male and female officers are regularly conducted to enhance gender sensitivity in governance.
- D. Women are only assigned administrative positions, without any opportunity to showcase their talents in organising high-profile events.

Q4. Consider the following statements about the constitutional safeguards concerning the misuse of emergency provisions:

- 1. Dr. B.R. Ambedkar believed that Article 355 would be used frequently to intervene in State matters.
- 2. The S.R. Bommai case of 1994 provided judicial safeguards against the misuse of Article 356.
- 3. Commissions like Sarkaria and Punchhi recommend that Article 356 should only be used as a last resort after other measures under Article 355 have failed.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3





Q5. Consider the following statements regarding Barn Owls:

Statement 1: Barn owls are primarily found in polar regions and Southeast Asia, where they thrive due to their adaptability to cold environments.

Statement 2: Barn owls are known for their silent flight, which is enabled by serrated feathering on the edges of their wings.

Which of the following is correct in respect of the above statements?

- A. Both statements are correct, and Statement 2 emphasizes the owl's hunting adaptations.
- B. Both statements are correct, but Statement 1 contradicts the key distribution facts of barn owls.
- C. Statement 1 is correct, and Statement 2 is incorrect.
- D. Statement 2 is correct, and Statement 1 is incorrect.

Q6. Which of the following complexities associated with Project Cheetah's mortality rate presents the greatest challenge to its success?

- A. The combination of infections under thick winter coats and drowning incidents, which point to adaptation issues in the cheetah population.
- B. The failure to develop a sustainable prey base in Kuno National Park, leading to malnutrition and starvation.
- C. Post-mortem reports indicating signs of poisoning as the primary cause of cheetah deaths in the wild.
- D. The reliance on prophylactic medicines, which may cause long-term health complications in translocated cheetahs.

Q7. Consider the following pairs:

Column I	Column II
1. India's Paris Climate Commitments	India surpassed its Paris climate goals nine years ahead of schedule.

2.	Green Hydrogen Initiative	India has invested ₹12,000 crore in green hydrogen projects, aiming for 31,000 MW by 2030.
3.	PM Surya Ghar Muft Bijli Yojana	A central government scheme aimed at making rooftop solar power accessible to 13 million families.
4.	Gujarat's Leadership in Solar Energy	Gujarat drives rooftop solar schemes and is a pioneer in renewable energy policy.

How many pairs are correctly matched?

- A. 1 pair
- B. 2 pairs
- C. 3 pairs
- D. All are Correct

Q8. Consider the following statements regarding the challenges faced by current large language models (LLMs) and their environmental impact:

- 1. Training models like GPT-3 consumes a significant amount of energy, comparable to the energy used by an average U.S. household in 120 years.
- 2. The carbon footprint of training LLMs with billions of parameters can exceed the energy consumption of large data centers.
- 3. LLMs have no issues with syntax and always generate contextually and factually accurate outputs.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3







Q9. Consider the following statements regarding the challenges faced during the 1931 Census:

- 1. The fluidity of caste identity made it difficult to accurately classify groups.
- 2. Congress-led boycotts during the anti-colonial movement had no significant impact on the 1931 Census process.
- 3. Regional differences in caste names and social standings complicated standardization efforts.

Which of the above statements is/are correct?

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

Q10. Consider the following statements regarding the debate on protecting the rights of future generations in climate discussions:

Statement 1: The Maastricht Principles advocate for the protection and representation of future generations in

decision-making processes, emphasizing the linkage between human rights and intergenerational equity.

Statement 2: Some argue that the legal obligation to protect future generations' rights could distract from addressing immediate climate issues and may not be legally valid.

Which of the following is correct in respect of the above statements?

- A. Both statements are correct, and Statement 2 highlights concerns about potential distractions from current climate issues.
- B. Both statements are correct, but Statement 2 contradicts the principles advocated in Statement 1.
- C. Statement 1 is correct, and Statement 2 is incorrect
- D. Statement 2 is correct, and Statement 1 is incorrect.





Solutions

1. Correct Answer is C Explanation:

- Statement 1 is correct because the transformer shortage is indeed delaying grid access, especially in states like Rajasthan and Gujarat.
- Statement 2 is incorrect as India has only three manufacturers of HVDC transformers, all of which are multinational, indicating insufficient domestic capacity.
- Statement 3 is correct because the deadline for the waiver of ISTS (Inter-State Transmission System) charges does indeed end in June 2025, pressuring developers to complete projects.

2. Correct Answer is C Explanation:

- Statement 1 is correct as the Subhadra Scheme provides eligible women Rs 10,000 annually in two instalments, on Raksha Bandhan and International Women's Day.
- Statement 2 is incorrect because
 women who are receiving Rs 1,500
 or more per month under other
 government schemes are ineligible
 for the Subhadra Scheme benefits.
 The scheme excludes economically
 well-off families, government
 employees, and income tax
 payees, aligning with its aim to
 target financially vulnerable
 women.

3. Correct Answer is D Explanation:

- Women in the Rajya Sabha Secretariat are not limited to administrative roles.
- They are actively involved in organizing events and showcasing their talents, which contributes to

- breaking traditional gender stereotypes in governance.
- The Rajya Sabha has emphasized the inclusion of women in various capacities, supporting both leadership and talent development.

4. Correct Answer is B Explanation:

- **Statement 1 is incorrect** because Dr. B.R. Ambedkar hoped that Article 355 would remain "a dead letter," implying it should not be frequently invoked.
- **Statement 2 is correct** as the S.R. Bommai case provided safeguards to prevent the political misuse of Article 356 by emphasizing judicial review.
- Statement 3 is correct as the Sarkaria and Punchhi Commissions recommended using Article 356 as a last resort, with Article 355 being the first line of action to address crises.

5. Correct Answer is D Explanation:

- Statement 1 is incorrect because barn owls are not found in polar regions or some parts of Southeast Asia. They are one of the most widely distributed bird species, thriving in various environments except these regions.
- Statement 2 is correct as barn owls have specialized serrated feathers on the edges of their wings, enabling them to fly silently while hunting, which is a key feature of their predatory behavior.







6. Correct Answer is A Explanation:

- The primary challenge in Project Cheetah's mortality rate stems from adaptation issues, including infections due to thick winter coats and drowning, both of which point to difficulties in acclimating to their new environment.
- Poisoning has not been identified as a cause of death, and there is no evidence that the prophylactic medicines have caused long-term health problems.

7. Correct Answer is C Explanation:

- Correct Pair: India's Paris Climate Commitments: India indeed surpassed its Paris climate commitments nine years early.
- Correct Pair: Green Hydrogen
 Initiative: India is investing
 ₹20,000 crore in green hydrogen
 projects, but ₹12,000 crore is
 approved for hydrogen power
 projects, aiming for 31,000 MW.
- Incorrect Pair: PM Surya Ghar Muft Bijli Yojana: This is a state-level initiative by Gujarat, not a central government scheme.
- Correct Pair: Gujarat's Leadership in Solar Energy: Gujarat leads in renewable energy with solar power policy and rooftop solar schemes, including 13 million families.

8. Correct Answer is A Explanation:

- Statement 1 is correct as training models like GPT-3 consumes around 1,287 MWh, which is comparable to 120 years of energy consumption for an average U.S. household.
- Statement 2 is correct because the carbon footprint of training such models can emit up to 284 tonnes

- of CO2, surpassing the energy consumption of large data centers.
- Statement 3 is incorrect since LLMs can sometimes struggle with syntax and generate factually inaccurate outputs (hallucinations).

9. Correct Answer is C Explanation:

- Statement 1 is correct as caste identities were often fluid, with groups changing their caste status between censuses, making classification difficult.
- Statement 2 is incorrect as Congress-led boycotts during the anti-colonial movement did affect the census process, causing disruptions.
- Statement 3 is correct because regional variations in caste names and social standings complicated efforts to standardise the census.

10. Correct Answer is A Explanation:

- **Statement 1 is correct** because the Maastricht Principles indeed advocate for protecting future generations' rights by linking human rights to intergenerational equity and promoting their involvement in decision-making.
- Statement 2 is also correct as there is a debate over whether the legal obligation to protect future generations' rights might detract from addressing current climate issues, with some questioning the practical and legal validity of this approach.















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