

22 May 2024

TOPICS COVERED

1. Tamluk (GS Paper I: Ancient History)
2. Buddha Purnima (GS Paper I: Culture)
3. 30 flamingos fall dead, rammed by jet on glide path to Mumbai airport (22 May) (GS Paper III: Environment)
4. X chromosome revival in older women increases risk of autoimmune disease (22 May) (GS Paper III: Basic Science)
5. Why a waterfall appears white? (22 May) (GS Paper III: Basic Science)
6. Climate change, a passing cloud in Indian politics (22 May) (GS Paper II&III: Polity & Environment)
7. Spotlighting pre-eclampsia, ensuring safe motherhood (22 May) (GS Paper III: Basic Science)
8. End the punishment (22 May) (GS Paper IV: Ethics)
9. The risks of Russia's nuclear posturing (22 May) (GS Paper II: Nuclear Doctrine)
10. The changing rules on onion export could impact election results (22 May) (GS Paper III: Environment)
11. RBI's proposed framework to administer project financing (22 May) (GS Paper III: Banking Sector)

Tamluk is a town in West Bengal, India, and the headquarters of the Purba Medinipur district.

- Tamluk is the site of the ancient city Tamralipta, visited by Chinese traveler Hieun Chang.
- Tamluk is located on the banks of the Rupnarayan River, near the Bay of Bengal.

History:

- The ancient kingdom and port city was bordered by the Bay of Bengal, Rupnarayan River, and Subarnarekha River.
- These water bodies created a prosperous navigational system, boosting commerce, culture, and agriculture.
- Archaeological remains show continuous settlement from about the **3rd century BC**.
- Tamluk was known by various names in ancient texts, including Tramralipta, Tamralipta, Tamalika, Tamalitti, and Tamoluk.

Buddha Purnima: (GS Paper I: Culture)

Celebrating the Birth, Enlightenment, and Parinirvana of Gautama Buddha

Buddha Purnima, also known as Vesak or Buddha Jayanti commemorate three significant events in the life of Gautama Buddha. These events are:

- **Birth:** Buddha is believed to have been born on this day in Lumbini, Nepal, around 563 BCE.
- **Enlightenment:** After years of seeking spiritual truth, Siddhartha Gautama attained enlightenment under a Bodhi tree in Bodh Gaya, India, and became known as the Buddha, meaning "the Awakened One."
- **Parinirvana:** This refers to Buddha's complete liberation from suffering and the cycle of rebirth. Parinirvana is traditionally believed to have occurred on the same day as his birth and enlightenment.

Date:

The exact date of Buddha Purnima varies each year as it is based on the lunisolar calendar.



30 flamingos fall dead, rammed by jet on glide path to Mumbai airport (22 May) (GS Paper III: Environment)

- Over 30 flamingos were found dead in the Ghatkopar area.
- The incident occurred early on Tuesday morning.
- The flamingos were hit by an aircraft on its way to the international airport.
- The aircraft involved was Emirates EK 508, flying from Dubai to Mumbai.
- The flight landed safely before 8:40 p.m. on Monday.
- The Boeing 777-300ER jet struck the flock of birds during its approach.
- Following the incident, the aircraft underwent a full-scale inspection.
- This inspection was conducted under safety mandates.
- As a result of the inspection, the return flight was delayed by a day.

First occurrence

- This is the first time that such a large flock of birds has been killed in a hit by an aircraft near the Chhatrapati Shivaji Maharaj International Airport.
- The incident has prompted an investigation by the Maharashtra Forest Department.
- Carcasses and samples have been collected from the site where the migratory birds fell after being hit.
- The pilot's statement is expected to be taken as part of the investigation.
- Stalin Dayanand, conservationist and director of Vanashakti, an NGO, reported that over 30 carcasses have been retrieved so far.

Investigation on

- **Factors such as flight altitude and deviation from the landing funnel path are being studied to investigate the cause of the incident.**
- Forest Department officials expressed surprise as such an incident had not occurred before.
- They believe the migratory birds were hit while flying towards the flamingo sanctuary in Thane.

Conservationists, however, have different theories:

- According to Mr. Dayanand, one theory is that the new power lines through the sanctuary area are disorienting the birds.
- Another theory suggests that the birds have been disturbed in the wetlands of Navi Mumbai.

- Mr. Dayanand alleged that people may have chased the birds out at night, causing them to attempt to fly towards Thane Creek and come into the path of the jet.

Wetland protection

- Mr. Dayanand cited the example of the Thane Creek Flamingo Sanctuary, which had no history of bird hits, in arguments two weeks prior to the incident.
- He mentioned this in defense of protecting the Panje wetlands, which the government proposed to eliminate for the construction of the Navi Mumbai airport.
- According to Mr. Dayanand, the government's decision was to eliminate all waterbodies to ensure the safety of the airport under construction.
- He questioned whether the incident was a coincidence happening just two weeks after these arguments.
- Mr. Dayanand urged waiting for more details to come out before drawing conclusions.
- The flamingos migrate from Siberia to Mumbai via the Rann of Kutch in Gujarat.
- They stay in the wetlands and mudflats along Mumbai's eastern coast between November and May.
- During their stay, they feed on algae and small organisms.

X chromosome revival in older women increases risk of autoimmune disease (22 May) (GS Paper III: Basic Science)

Researchers have suggested for a while that a number of immune diseases — including systemic lupus erythematosus, rheumatoid arthritis, and Sjögren's syndrome — are more common in females than males. Of particular note are autoimmune diseases in which antibodies act against specific proteins

Chromosomes: The Threads of Inheritance

- Chromosomes are thread-like structures found within the nucleus of most living cells.
- They carry the genetic information, or DNA, that determines the inherited traits of an organism.
- Each chromosome contains a single, long molecule of DNA tightly coiled around proteins called histones.
- This packaging helps condense the DNA and allows it to fit within the nucleus.

Structure:

- **DNA:** Deoxyribonucleic acid (DNA) is the hereditary material that contains the instructions for building and maintaining an organism. It's a double-stranded molecule with a characteristic double helix shape.
- **Histones:** These are proteins that package and organize DNA within the chromosome.
- **Centromere:** The centromere is a specialized region of the chromosome that attaches sister chromatids (identical copies of a chromosome) during cell division.
- **Telomeres:** Telomeres are repetitive DNA sequences at the ends of chromosomes that protect them from fraying or deteriorating during cell division.

Types of Chromosomes:

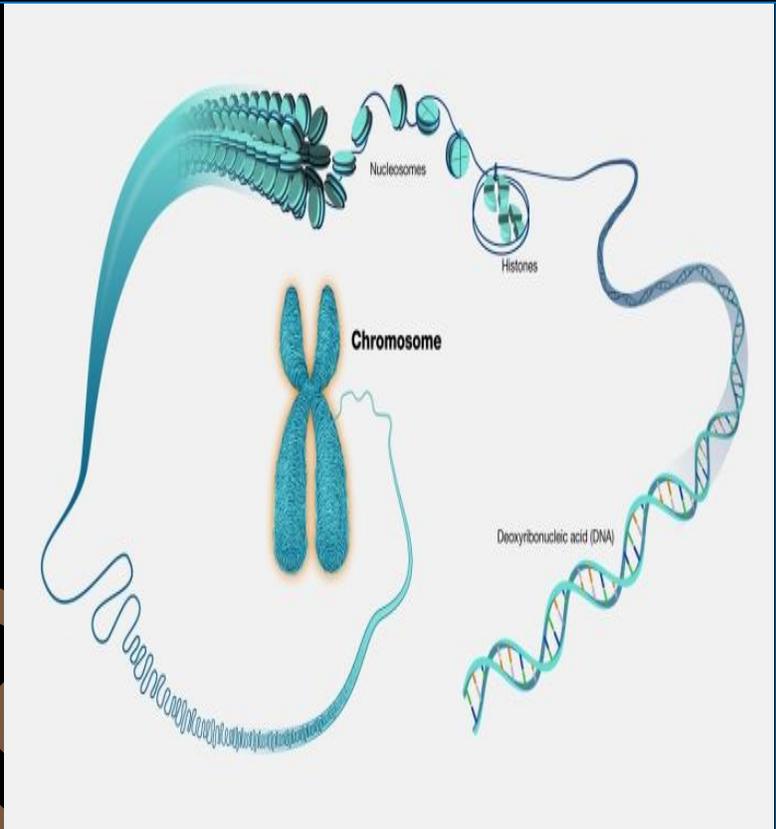
- There are two main types of chromosomes:
- **Autosomes:** These are non-sex chromosomes and come in matching pairs (e.g., humans have 22 pairs of autosomes).
- **Sex chromosomes:** These chromosomes determine the sex of an organism (e.g., XX for females and XY for males in humans).

Function:

- Chromosomes play a vital role in several cellular processes:
- **Cell division:** During cell division (mitosis and meiosis), chromosomes are replicated and passed on to daughter cells, ensuring the continuity of genetic information.
- **Gene expression:** Genes are specific regions of DNA that code for proteins. Chromosomes regulate gene expression by controlling access to DNA by cellular machinery responsible for protein synthesis.
- **Cellular development:** Chromosomes determine the characteristics of an organism by directing the production of proteins that influence cell development, function, and overall organismal form.

Genetic Disorders:

- Abnormalities in chromosome number or structure can lead to various genetic disorders. Some examples include:
- Down syndrome (trisomy 21): Caused by the presence of an extra copy of chromosome 21.



- Turner syndrome (monosomy X): Occurs when a female has only one X chromosome.
- Klinefelter syndrome (XXY): Occurs when a male has two X chromosomes and one Y chromosome.

Importance:

- Chromosomes are the foundation of heredity and play a crucial role in shaping the biological characteristics of living things. Understanding chromosomes is essential in various fields, including genetics, medicine, biotechnology, and evolutionary biology.
 - In mammals, females have two copies of the X chromosome, while males have one.
 - The X chromosome is crucial for determining sex and plays a significant role in various biological functions.
 - Recent genomic studies have revealed that the X chromosome influences sex-specific susceptibility to certain diseases.
 - The human X chromosome encodes around 800 genes, which produce proteins essential for biological processes.
 - Loss of function in these genes can lead to various genetic diseases.
 - X-linked genetic diseases primarily affect males because they only have one X chromosome.
 - Examples of X-linked diseases include red-green color blindness, Duchenne muscular dystrophy, and agammaglobulinemia.
 - The X chromosome can also be involved in **diseases influenced by XCI escape (X chromosome inactivation) and X-chromosome aneuploidy.**
 - **Klinefelter syndrome (XXY) and Turner syndrome (X instead of XX) are examples of numerical abnormalities of the X chromosome.**

Inactivation of X chromosome

- In mammals, females have two X chromosomes, while males have one X and one Y chromosome.
- Mary Frances Lyon proposed in 1961 that one of the X chromosomes in females is randomly inactivated to prevent overexpression of X-linked genes.
- This process is known as **X chromosome inactivation (XCI)** and occurs during early embryonic development.
- XCI involves epigenetic changes that silence most genes on one of the X chromosomes.
- XCI ensures a balance in gene expression between males and females.
- Issues such as incomplete inactivation or skewed inactivation can lead to abnormal gene expression and contribute to genetic disorders.
- XCI is regulated by non-protein-coding RNAs, Xist and Tsix, which play a crucial role in deactivating the X chromosome.
- Approximately a quarter of genes on the X chromosome may escape inactivation and continue to express themselves.
- Researchers at the Whitehead Institute discovered these mechanisms and published their findings in the journal Cell Genomics.

Autoimmune diseases

- **Certain immune diseases like lupus, rheumatoid arthritis, and Sjögren's syndrome are more common in females than males.**
- These diseases involve antibodies that act against specific proteins, known as autoimmune diseases.
- French researchers published a study in Science Advances on May 3, showing that altering the expression of Xist, a gene that triggers X chromosome inactivation (XCI), in female mice led to reactivation of previously inactive genes.
- Genes involved in the Toll-like receptor 7 signaling pathway in immune cells were particularly affected by this reactivation.
- The female mice with altered XCI showed signs similar to lupus, such as increased levels of autoantibodies and changes in immune cell populations.
- Reactivation of specific X-linked genes varied across different types of immune cells, affecting diverse molecular pathways.
- These reactivation events in various cell types and global changes in gene expression likely contribute to the development of autoimmune diseases.
- The study underscores the connection between altered XCI and autoimmune diseases at a molecular level.
- The findings suggest that new drugs targeting XCI pathways could potentially treat autoimmune diseases in the future.

X and Alzheimer's disease

- **Alzheimer's disease shows a sex bias, with women having a higher risk compared to men.**
- Worldwide, nearly twice as many women are affected by Alzheimer's disease as men.
- Researchers from Case Western Reserve University suggest that a gene called ubiquitin-specific peptidase 11 (USP11), which is involved in modifying proteins, encourages the accumulation of tau protein in the brain.
- Studies on mice brains indicate that USP11 escapes X chromosome inactivation and is expressed more in females.
- This finding suggests new avenues for developing treatments for Alzheimer's disease.
- Over time, the Y chromosome has been shrinking, making the X chromosome evolution's primary focus and a crucial factor in human health and disease.
- Evolutionary genomics of the X chromosome and emerging insights into its role in biological processes highlight the complex interaction between genetic inheritance, epigenetic modifications, and disease development.
- Understanding these complexities could lead to the development of new drugs and therapies in the future.

Why a waterfall appears white? (22 May) (GS Paper III: Basic Science)

- When all colors are reflected from the surface of an object, it appears white.
- In a waterfall, water drops are suspended in air, creating an inhomogeneous mixture of water and air.
- Light entering from air into water undergoes reflection and refraction.
- In a waterfall, light undergoes multiple reflections and refractions due to the water drops.
- The light refracted by one layer of drops contributes to reflection at subsequent layers, leading to whiteness.
- Other substances like mist, paper, water vapor, colloidal solutions, clouds, talcum powder, snow, white paint, and sugar also appear white due to similar mechanisms.
- White paint contains transparent oxides of zinc, lead, and titanium in a transparent solution, not white pigments.
- To see a waterfall as white, light should come from all directions; directional light would show colors like a rainbow.



Climate change, a passing cloud in Indian politics (22 May) (GS Paper II&III: Polity & Environment)

- The fifth phase of India's general election has concluded.
- Major parties, BJP and Congress, have not focused on climate change in their campaigns.
- This is concerning given the global environmental crises and need for sustainable development.
- Environmental activist Sonam Wangchuk highlighted ecological degradation in Ladakh.
- Wangchuk emphasized the importance of including climate action in national policies.
- His calls for environmental security in Ladakh were widely supported by the public and on social media.
- The Modi government's response has been minimal.

- This reflects a broader political unwillingness to prioritize environmental issues in elections.

A calculated omission

- Both BJP and Congress deliberately avoid focusing on climate change in their electoral platforms.
- Addressing climate change would require balancing industrial growth with environmental sustainability.
- Acknowledging this balance could alienate influential industrial sectors reliant on fossil fuels.
- Manifestos of both parties mention climate policies vaguely and without specific commitments.
- Congress's manifesto includes a chapter on environment and proposes a Green New Deal, but lacks specific carbon reduction targets.
- BJP's manifesto highlights past initiatives but lacks forward-looking strategies for climate change.
- Both parties avoid making substantial climate commitments that would align with global scientific recommendations for urgent action.
- Indian politics often prioritizes short-term economic gains over long-term environmental sustainability.
- India is highly vulnerable to climate impacts: rising sea levels, extreme weather, severe air pollution.
- Ignoring climate change in electoral discussions disappoints educated, middle-class voters who are concerned about environmental issues.
- This demographic wants more than token mentions; they demand actionable plans and adherence to international commitments like the Paris Agreement.
- There is a gap between the electorate's needs and political offerings due to the perceived political cost of ambitious climate policies.

Comprehensive climate strategies might involve unpopular measures like:

1. Phasing out coal
 2. Increasing taxes or prices on carbon emissions
 3. Enforcing strict environmental regulations
- These measures, though beneficial in the long term, are seen as politically risky in the short term.

What we have now

- **National Action Plan on Climate Change:** Guides India's climate policies, spread across various documents and laws.

- **2023 Key Policies:**
 - **National Electricity Plan 2023**
 - **National Green Hydrogen Mission**
 - **Energy Conservation (Amendment) Act, 2022**
- **Coal Commitment:** No commitment to phasing out coal.
- **Top-Down Approach:** Policies are made by top leaders based on international trends and immediate needs.
- **Lack of Bottom-Up Demand:** Few citizens demand corrective climate policies.
- **Climate Action Tracker Rating:** India's policies rated as "Highly Insufficient" for 2030 projections.
- **State and Local Action:** States, especially vulnerable ones, need to develop plans to reduce projections below 2-degree pre-industrial levels.
 - **Example:** Mumbai Climate Action Plan by the municipality, in collaboration with C40 and World Resources Institute.
- **Climate Jurisprudence:**
 - **Supreme Court Ruling (March 2024):** In **M.K. Ranjitsinh and Others vs Union of India**, the Court ruled that Indians have the right to be free from adverse climate effects, based on Articles 21 and 14 of the Constitution.
 - This ruling subjects government climate policies to legal scrutiny and accountability to citizens.

The challenge

- **Challenge for India:**
 - Bridge the gap between electoral politics and climate policy.
 - Shift political focus from immediate economic benefits to long-term environmental and social gains.
- **Role of Media and Civil Society:**
 - Highlight inadequacies in current political discourse on climate change.
 - Drive a narrative for environmental sustainability in India's development agenda.
- **2024 General Election Opportunity:**

- Voters, especially the middle class, should demand proactive climate action from leaders.
- Support policies that ensure sustainable growth and environmental security.
- **Electoral Impact:**
 - Push for integrating climate policy into national development strategies.
 - Ensure current progress does not compromise future security.
- **Global Influence:**
 - Choices made will impact the global fight against climate change.
 - Affect the future of sustainable development worldwide.

Spotlighting pre-eclampsia, ensuring safe motherhood (22 May) (GS Paper III: Basic Science)

- A friend once remarked, "Isn't it a miracle to give birth to a physically normal, neurologically intact baby?"
- This highlighted the critical importance of perinatal care for both mother and newborn.
- **Safe Motherhood and Birth:**
 - Ensuring safe birth involves addressing congenital anomalies and neurological challenges in newborns.
- **Prevalence of Issues:**
 - Congenital anomalies and neurological challenges are more common than often acknowledged.
- **Cause of Neurological Deficits:**
 - Neurological deficits in newborns can result from inadequate antenatal and perinatal care.
 - This is a significant issue that needs focused attention.

A collective responsibility

- **Stakeholders in Perinatal Care:**

- Involves obstetricians, radiologists, fetal medicine specialists, neonatologists, and frontline workers like ASHA and Anganwadi workers.
- Emphasizes collective responsibility for proper antenatal care.
- **Importance of Antenatal Care:**
 - "Life begins before birth" highlights the impact of antenatal care on lifelong health.
- **Preventable Conditions:**
 - Conditions like prematurity, low birth weight, growth restriction, and pre-eclampsia contribute to maternal and neonatal morbidity and mortality.
 - Hypertensive disorders of pregnancy (HDP) can cause these conditions and have long-term effects.
- **Long-term Complications:**
 - HDP can lead to adulthood hypertension, metabolic syndrome, heart disease, dyslipidemia, and stroke.
 - These complications increase the economic burden on the healthcare system.
- **Emerging Evidence on HDP:**
 - Pre-eclampsia increases risk of heart failure, coronary heart disease, stroke, and cardiovascular mortality in mothers.
- **Postnatal Cardiovascular Health:**
 - Focus on postnatal cardiovascular assessment can improve health outcomes for women.
 - Post-partum maternal cardiovascular health, especially after pre-eclampsia, is a neglected research area.

The data

- **Importance of Addressing Pregnancy Health Concerns:**
 - India accounts for nearly a quarter of the world's adverse pregnancy outcomes.
 - Addressing these concerns is both a moral imperative and an economic necessity.
- **NFHS-5 Statistics:**
 - Perinatal mortality rate: 32 per 1,000 pregnancies.

- Neonatal mortality rate: 25 per 1,000 live births.
- Hypertensive disorders in pregnancy are a leading cause of maternal death.
- **Pre-eclampsia (PE) Prevention Month:**
 - May is "PE Prevention Month," with World PE Day on May 22.
 - Pre-eclampsia is a hypertensive disorder causing multiorgan dysfunction in mothers.
 - Symptoms include high blood pressure, swelling, severe headaches, vision changes, abdominal pain, and difficulty breathing.
- **Proactive Measures for Safe Motherhood:**
 - Implement screening for pre-eclampsia and fetal growth restriction in the first trimester.
 - Manage high-risk pregnancies with established protocols.
- **Screening and Management:**
 - Clinical criteria alone are inadequate for predicting adverse outcomes of pre-eclampsia.
 - Use combined screening methods:
 - Maternal history
 - Demographics
 - Colour Doppler ultrasound
 - Mean arterial pressure
 - Placental biomarkers
 - Timely pharmacological intervention for high-risk pregnancies.
- **Comprehensive Care:**
 - Conduct second and third-trimester screenings for pre-eclampsia for surveillance and early identification.
 - Use colour Doppler ultrasound as the cornerstone for optimizing maternal and fetal outcomes throughout all trimesters.

A programme in India

- **Combatting Pre-eclampsia:**

- Importance: Pre-eclampsia is a serious, predictable, and preventable hypertensive disorder during pregnancy.
- Need: Spread awareness about the disorder.
- **IRIA's Samrakshan Programme:**
 - Mission: Extend safe motherhood initiatives across all districts in India.
 - Goals:
 - Reduce pre-eclampsia incidence from 8%-10% to 3%.
 - Reduce fetal growth restriction from 25%-30% to 10% by the decade's end.
 - Exemplifies dedication to mitigating risks for pregnant women and newborns.
- **Community Engagement and Leadership:**
 - Essential for success: Engage the community and maintain sustained leadership.
 - Objective: Ensure safe motherhood so every woman can give birth with confidence and security.

Vote for a change (22 May)

Kashmiris have sought to use the ballot box to seek change from the status quo

- **Voter Turnout in Kashmir Valley:**
 - **Srinagar Turnout:** 38.5%
 - **Baramulla Turnout:** 59.1%
 - **National Average:** 66.95% in first four phases, 61.61% in the fifth phase.
- **Comparison with Past Elections:**
 - **2019 Turnout:** 13% in Srinagar, 34.6% in Baramulla.
 - **Historical Context:** Baramulla's highest turnout since 1984 (61.1%).
 - **Political Context:**
 - Assembly dissolved.
 - State bifurcated into two Union Territories.
 - Special status abrogated by BJP-led government.
 - Internet shutdowns and arrests of politicians.

- High security and militant violence.
- **Interpretation of Increased Turnout:**
 - **Ambiguity:** Not clearly a sign of reduced alienation.
 - **Desire for Change:** Voters seeking change in status quo due to lack of political activity since 2018.
 - **Representation Needs:** Increased participation reflects need for representation and addressing livelihood concerns.
- **Government Response:**
 - **Amit Shah's Statement:** Higher turnout seen as validation of abrogating special status (Article 370).
 - **Criticism of Statement:** Lack of BJP candidates in the Valley indicates different local perception.
 - **Conclusion:** Increased voter participation should be seen as a call for political solutions and listening to the people's grievances.

End the punishment (22 May) (GS Paper IV: Ethics)

Assange should be set free, and not extradited to the U.S

- **Julian Assange's Legal Reprieve:**
 - **Outcome:** Granted permission to appeal against extradition to the U.S.
 - **Conditions for Appeal:** U.S. must assure that Assange can rely on the First Amendment (freedom of speech), won't face prejudice for being a foreign national, and won't face the death penalty.
 - **Assurances:** U.S. provided an "unambiguous executive promise" to avoid the death penalty.
- **Background of the Case:**
 - **April 2010:** WikiLeaks published videos of a U.S. helicopter strike in Baghdad.
 - **Subsequent Leaks:** Included U.S. military documents and diplomatic cables.
 - **Charges:** Assange accused of violating the Espionage Act by the U.S. government in 2019.

- **Assange's Detention:** Seven years in the Ecuadorian Embassy and five years in Belmarsh Prison, UK.
- **Comparison:** Chelsea Manning, who leaked documents to WikiLeaks, initially sentenced to 35 years, commuted in 2017.
- **Legal Arguments and Controversies:**
 - **Criticism:** Assange's failure to redact names put individuals at risk according to the U.S. government.
 - **Defense:** Exposed human rights violations, such as civilian targeting during war.
 - **Public Service:** WikiLeaks argued it served a role similar to conscience-driven journalism.
 - **Punishment:** Considering Assange's lengthy confinement, there are calls for him to be allowed to return home.
- **Global Attention and Significance:**
 - **Impact:** Case has raised issues of freedom of speech, press freedom, and government transparency.
 - **Legal Precedent:** Potential implications for international law and extradition agreements.
- **Next Steps:**
 - **Preparation for Appeal:** Assange has a few months to prepare his appeal against extradition.
 - **Awaiting Decision:** Outcome of the appeal will determine whether he will be extradited to the U.S.

The risks of Russia's nuclear posturing (22 May) (GS Paper II: Nuclear Doctrine)

- The war between Russia and Ukraine has entered its second year with no end in sight.
- Russia recently announced plans to conduct drills simulating the use of tactical nuclear weapons along the Ukrainian border.
- Earlier, Russia mentioned it would station nuclear weapons in Belarus, raising concerns.
- Russia cited statements by leaders of countries supporting Ukraine, such as French President Emmanuel Macron and British Foreign Secretary David Cameron, as reasons for its nuclear posturing.

- Macron suggested potential troop deployment to Ukraine, while Cameron mentioned providing long-range weapons to Ukraine to strike Russia.
- This nuclear posturing amidst ongoing conflict has raised international worry and concern.
- It also raises concerns about potential escalation and the safety of the region.
- The situation continues to be monitored closely by the international community.
- Efforts for a peaceful resolution and addressing the humanitarian crisis caused by the conflict are ongoing.

Shift in understanding

- Russia's plans to simulate the use of tactical nuclear weapons and station nuclear weapons in Belarus appear to be attempts at brinkmanship and coercion rather than responses to a genuine existential threat.
- Russia's claims that comments by leaders like Emmanuel Macron and David Cameron constitute an existential threat requiring nuclear preparedness are exaggerated. Neither France nor the U.K. has taken actions that genuinely threaten Russia's survival.
- On the surface, Russia's nuclear posturing may seem like a move to deter further intervention by Ukraine and its allies.
- Threatening the first use of nuclear weapons for deterrence is a tactic used by nuclear powers like North Korea facing threats from larger adversaries.
- However, Russia is considering lowering the threshold for the use of nuclear weapons in the current crisis.
- If lowering the threshold for nuclear use becomes an accepted norm, it could have significant consequences.
- The situation raises international concerns about potential escalation and the safety of the region.
- Efforts for a peaceful resolution and addressing the humanitarian crisis caused by the conflict continue.
- For decades after the Cold War, nuclear deterrence has relied on the principle of mutually assured destruction, which means any use of nuclear weapons would result in mutual destruction for both parties.
- Countries have historically reserved the nuclear option for existential threats posed by adversaries.
- In the current Russia-Ukraine war, the conflict is primarily destabilizing on conventional levels and does not directly threaten Russia's survival.
- Despite this, Russia has indicated its willingness to consider using nuclear weapons.
- Russia's nuclear doctrine historically allowed for nuclear first use only in extreme cases threatening its survival.
- The fact that these long-standing nuclear red lines are being stretched and redrawn during this conflict is concerning.

- These shifts represent worrying changes in the fundamental understanding of nuclear deterrence.

Dangerous precedent

- Russia's explicit nuclear threats during lower levels of conflict are concerning and dangerous.
- If nuclear powers begin routinely threatening to use nuclear weapons as a coercive tactic in conventional conflicts, it could set a precedent.
- This behavior might encourage smaller nuclear-armed nations like Iran and North Korea to also openly brandish their nuclear capabilities.
- These nations may believe that flaunting their nuclear deterrent would force stronger opponents to back down out of fear of escalation.
- Although the likelihood of Russia conducting a tactical nuclear strike remains low, its nuclear signaling creates a risky precedent.
- Nuclear weapons, traditionally seen as weapons of last resort, are now being integrated into coercive strategies.
- The clear distinction between nuclear and conventional warfare is gradually eroding in the context of this conflict.
- Russia's recent nuclear threats are setting dangerous precedents.
- These actions undermine efforts towards non-proliferation and disarmament of nuclear weapons.
- Non-nuclear states are now more vulnerable to aggression from nuclear-armed states.
- Russia's actions may motivate other countries to seek nuclear weapons as a deterrent.
- Ukraine's decision to give up its nuclear arsenal in the 1990s now seems ill-advised in light of current events.
- Iran's statement about revisiting its nuclear doctrine in response to perceived existential threats from Israel undermines non-proliferation efforts.
- This could discourage smaller nations like North Korea from giving up their nuclear capabilities or pursuing disarmament.
- The situation has created a new nuclear flashpoint, raising the risk by lowering the threshold for the use of nuclear weapons.
- Russia's actions highlight how nuclear weapons provide asymmetric advantages in conventional warfare.
- This has increased proliferation anxieties in regions with longstanding tensions between states.
- The potential for nuclear war and nuclear instability is growing, overshadowing efforts towards deterrence and disarmament.

A worrying prospect for the Congress (22 May)

The party has faced a daunting task this election

- BJP is putting in strong efforts to establish itself in Kerala's bipolar political landscape.
- Congress, as the opposition, faces a tough challenge in the current scenario.
- Lok Sabha election results will help Congress leadership understand and navigate the challenges.
- K. Sudhakaran, KPCC president, resumed his role after contesting from Kannur.
- Sudhakaran fought aggressively to retain his position amid concerns of possible leadership changes.
- His reinstatement is not guaranteed even if Congress performs well, due to regular reshuffles in the party.
- Rahul Gandhi and K.C. Venugopal, senior Congress leaders, contested elections from Kerala.
- Gandhi is expected to win in Wayanad, but faces strong opponents like Annie Raja and K. Surendran.
- There's a possibility that Gandhi's victory margin in Wayanad might reduce from the previous 4.31 lakh.
- Rahul Gandhi also contested from Rae Bareilly, Uttar Pradesh.
- If K.C. Venugopal wins in Alappuzha, he will take away the lone seat won by CPI(M) in 2019.
- The margin of victory for Venugopal will be closely watched.
- BJP State vice president Shobha Surendran's entry into the Alappuzha contest has changed the election dynamics.
- BJP nominated Shobha Surendran to prevent an easy win for Venugopal, who is the second in rank after AICC president Mallikarjun Kharge.
- Several high-profile Congress candidates are contesting in three-way contests.
- Former KPCC president and current MP of Vadakara, K. Muraleedharan, is contesting from Thrissur against actor-politician Suresh Gopi of the BJP.
- Suresh Gopi secured nearly one-third of the total votes in 2019.
- If Muraleedharan loses in Thrissur, it may indicate that Padmaja Venugopal, who joined BJP before the elections, has more influence in the region.
- Thrissur was the political stronghold of their late father K. Karunakaran.
- Padmaja Venugopal herself has not won any electoral battles despite her familial political background.
- Some of K. Muraleedharan's supporters view his candidature against Suresh Gopi as a form of martyrdom due to his decision to heed the party leadership's request.
- All sitting Congress MPs were renominated except T.N. Prathapan, the Thrissur MP, who was replaced.

- Shashi Tharoor's potential fourth consecutive victory in Thiruvananthapuram would enhance his stature in Kerala politics and nationally.
- A defeat for Shashi Tharoor could severely impact his political career in Kerala and might lead to his withdrawal from the capital city's political arena.
- Critics within the Congress might use a potential defeat to highlight Tharoor's contentious style of functioning and his tendency to antagonize senior party leaders.
- Benny Behanan is seeking re-election from Chalakudy constituency.
- Twenty20, a new political party backed by a corporate group, has fielded a candidate against Benny Behanan in Chalakudy.
- If Benny Behanan loses, Congress will need to address the aspirations of the Christian middle-class population dominant in the constituency.
- The Christian middle-class population has shown an inclination towards Twenty20's brand of politics.
- Congress nominated ShaꞤ Parambil, its legislator from Palakkad, to contest from Vadakara.
- The decision to nominate ShaꞤ Parambil aimed to retain the seat after K. Muraleedharan was shifted to Thrissur.
- Congress did not have a single Muslim candidate and chose ShaꞤ Parambil to contest from a sensitive seat.
- There is uncertainty about whether nominating ShaꞤ Parambil was the right move.
- There are talks of several disgruntled Congress leaders preparing to leave the party.
- BJP is aggressively pursuing its agenda to poach disgruntled Congress leaders.
- The trend of Congress leaders leaving the party for BJP may intensify if the INDIA bloc fails to dislodge the BJP-led government at the Centre.

The changing rules on onion export could impact election results (22 May)

In Maharashtra, the impact of the Centre's flips-flops on onion export policy may be felt in at least 12 parliamentary constituencies

- In December 2023, the Centre imposed a ban on onion exports to curb rising local prices.
- The ban led to a significant drop in onion arrivals in Mumbai markets, causing prices to surge to over ₹60 per kg.
- Farmers in onion-growing districts like Nashik, Maharashtra, protested against the export ban, blocking highways and disrupting auctions.
- On April 25, 2024, the Centre partially relaxed the ban, allowing immediate export of 2,000 tonnes of white onions from Gujarat.
- This decision was criticized by Opposition leaders and onion farmers in Maharashtra.
- On April 27, the Centre permitted the export of more than 99,000 tonnes of onions, primarily from Maharashtra, to six neighboring countries.
- On May 4, the Centre lifted the ban on onion exports and imposed a minimum export price of \$550 per tonne and an export duty of 40%.
- The onion-growing districts of Maharashtra voted on May 13 and May 20, 2024.
- Onion farmers in Maharashtra are upset due to frequent changes in onion export policies.
- On May 15, more than 50 farmers were detained in Nashik before Prime Minister Narendra Modi's visit.
- They planned a protest against the government's decisions on onion exports.
- Farmers and traders in Nashik have been protesting for months, suspending onion auctions and going on strike to show their anger.
- Nashik district, particularly reliant on onion exports, is concerned about the fluctuating export policies.
- The district accounts for about 90% of India's onion exports.
- There are 12 parliamentary constituencies in the 'onion belt' of Maharashtra, including Dindori and Nashik.
- These constituencies have shown increasing support for the Bharatiya Janata Party (BJP) over the years.
- BJP's vote share in these constituencies has grown from 25% in 2009 to 36% in 2019.
- The Nationalist Congress Party (NCP) and Shiv Sena also hold significant vote shares ranging from 15% to 27%.
- Both NCP and Shiv Sena have split into factions, supporting different political alliances.

Are some parties in an (onion) soup?

The data for the charts are sourced from Lok Dhaba, the Commerce Ministry and the National Horticulture Board



Chart 1: Average retail price for per kilogramme of onion in Mumbai and the arrivals of onions in tonnes in the city's markets (month-wise)

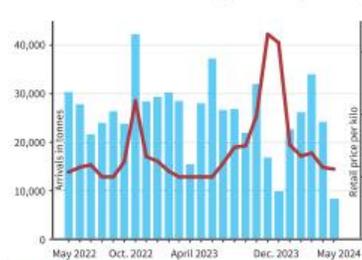


Chart 2: The chart shows the top onion-exporting districts in India and their share in onion exports

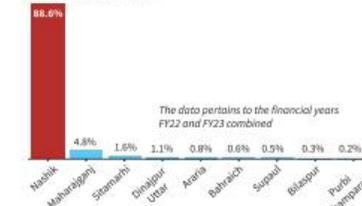


Table 3: The table shows the party-wise vote share split in the onion belt constituencies in last three LS polls

Party	2009	2014	2019
BJP	24.7%	33.1%	36.0%
NCP#	27.5%	21.1%	22.7%
SHS#	15.8%	17.7%	16.7%
INC	9.3%	11.8%	13.7%
VBA ^A	-	-	4.9%
IND*	6.4%	2.9%	2.9%
NOTA	-	0.9%	0.8%
CPM	1.2%	0.7%	0.8%
BSP	3.0%	1.7%	0.6%

Table 4: The table shows the seats secured in the onion belt constituencies in the last three Lok Sabha elections

Party	2009	2014	2019
SHS	3	4	3
NCP	2	1	2
INC	2	-	-
BJP	5	7	7

^A Vanchit Bahujan Aghadi
* Independents
The NCP and the Shiv Sena have split into two parties each

The authors are interning with The Hindu Data Team

- In Nashik, factions of Shiv Sena are in direct competition in the 2024 elections.
- In Dindori, Sharad Pawar's NCP is contesting against the BJP.
- Congress has a relatively lower vote share but has seen an increase across elections.
- Past vote share and seat share data for these constituencies are available in Tables 3 and 4.

Analysing local environmental footprints

(22 May) (GS Paper III: Environment)

- Climate change is a global issue, but problems like water scarcity and air pollution are often specific to certain areas.
- For instance, using too much water in one area doesn't necessarily affect water availability in another.
- It's important to focus on local environmental issues.
- Understanding how individual households impact the environment is key to addressing these local problems.

How are household environmental footprints distributed in India?

- A recent study looks at the environmental impact of wealthy individuals in India.
- It focuses on how their luxury consumption affects CO2 emissions, water use, and air pollution (PM2.5).
- The study compares the environmental footprints of luxury items with those of non-luxury items.
- Luxury items include things like dining out, vacations, furniture, and social events.

How were environmental impacts assessed in this study?

- The study used an input/output analysis to understand the environmental impact of household consumption.
- This method links household consumption to the resources used in production.
- It captures environmental impacts at each production stage.
- The water footprint measures water use in production and by households directly.
- The PM2.5 footprint includes both emissions from production and direct household activities (e.g., fuelwood, kerosene, vehicle fuels).
- The CO2 footprint tracks both embedded and direct CO2 emissions from household consumption.

What were the key findings?

- Richer households have higher environmental footprints.
- The richest 10% have double the average footprint.
- Big increase in footprints from the ninth to the tenth decile.
- Air pollution footprint increases by 68%.
- Water footprint increases by 39%.
- CO2 emissions increase by 55%.
- Wealthiest consumers have much higher environmental impacts.
- Increased footprints are due to spending on luxury items.

What are the key contributors?

- Eating out significantly increases environmental footprints for the richest households.
- Fruits and nuts consumption drives higher water footprint in the top decile.
- Luxury items (personal goods, jewellery, eating out) raise CO2 and air pollution footprints.
- Poorer households still use firewood, impacting modern energy transition.
- Transitioning from biomass to LPG reduces direct footprints but affluent lifestyles increase PM2.5 and CO2 footprints.
- Top decile in India has a per capita CO2 footprint of 6.7 tonnes per year.
- This is higher than the global average (4.7 tonnes in 2010) and the target for the Paris agreement (1.9 tonnes).
- Policymakers need to address elite lifestyles to align with sustainability goals.

What are the implications?

- Sustainability efforts often focus on global climate change.
- Global environmental footprints don't always match local and regional footprints.
- Luxury consumption worsens local and regional issues, affecting marginalized communities more.
- Marginalized groups suffer more from water scarcity and air pollution.
- Affluent people can afford protection (e.g., air-conditioned cars, air purifiers).
- Multi-footprint analysis is important for addressing environmental justice.
- Ensuring equitable sustainability efforts is crucial.
- Soumyajit Bhar is an Assistant Professor at BML Munjal University, Gurugram.

RBI's proposed framework to administer project financing (22 May) (GS Paper III: Banking Sector)

What are some of the more important provisions recommended by the Reserve Bank of India?

- The Reserve Bank of India (RBI) has issued draft regulations for consultation.
- These regulations aim to strengthen the regulatory framework.
- They focus on long-gestation period financing for projects.
- The sectors covered include infrastructure, non-infrastructure, and commercial real estate.
- Stakeholders and the public are invited to provide comments on the draft regulations.
- The consultation period for submitting comments ends on June 15.

What is purpose of the framework?

- Infrastructure projects typically have long gestation periods.
- They often face challenges in becoming financially viable.
- These projects require loans with longer tenures due to their scale and technology.
- Many infrastructure projects encounter delays and cost overruns.
- A March review by the Ministry of Statistics and Programme Implementation covered 1,837 projects.
- Out of these, 779 projects were delayed and 449 faced cost overruns.
- Delays are commonly attributed to issues like land acquisition and environmental clearances.
- Changes in project scope and size are also contributing factors.
- Banks are cautious due to the risks associated with infrastructure projects.
- Banks adjust their risk pricing accordingly on their books.

What are the key revisions?

- The RBI's focus is on preventing credit events such as defaults, project delays, or the need for additional financing.
- A key revision in the draft framework concerns provisioning, which is setting aside funds in anticipation of potential losses.
- The proposed framework suggests maintaining a general provision of 5% at the construction stage, before the Date of Commencement of Commercial Operations (DCCO).
- Previously, the provisioning rate was 0.4%.
- This increase in provisioning is expected to dampen the interest of infrastructure developers in bidding for projects in the medium term.

- The 5% provisioning requirement will be phased in gradually.
- This change will affect the appetite of infrastructure developers bidding for projects.

What about prudential conditions?

- The framework requires all mandatory prerequisites to be fulfilled before financial closure, which is the finalization of financial conditions for the project.
- An indicative list of prerequisites includes environmental, regulatory, and legal clearances specific to the project.
- The Date of Commencement of Commercial Operations (DCCO) must be clearly defined.
- Financial disbursements and equity infusion progress will be based on stages of completion.
- Banks are required to appoint an independent engineer or architect to certify the project's progress.
- RBI proposes that a positive Net Present Value (NPV) must be established before project finance is approved.
- Lenders must independently re-evaluate the project's NPV annually to proactively manage stress and implement necessary action plans.

Can repayment norms be revised?

- The framework proposes that the repayment tenure, including the moratorium period, should not exceed 85% of the economic life of the project.
- RBI recommends specific criteria for evaluating a change in repayment schedule due to an increase in project outlay or scope.
- Any revision in repayment schedule must occur before the Date of Commencement of Commercial Operations (DCCO).
- Lenders must conduct a satisfactory reassessment of the project's viability if the risk in project cost, excluding any cost overrun, increases by 25% or more of the original outlay.
- The framework introduces guidelines for triggering a standby credit facility at the time of financial closure to fund overruns caused by delays.

What have initial observations been?

- ICRA (Investment Information and Credit Rating Agency), a ratings agency, stated in a report that the higher provisioning requirement for projects under implementation would affect the near-term profitability of non-banking financial companies (NBFCs) and infrastructure financing companies.
- SBI, Union Bank of India, and Bank of Baroda expressed confidence during their recent earnings call that the proposal would not have any significant impact.
- The comments were made in response to the RBI's proposed framework for infrastructure financing, which includes increased provisioning requirements.

- The banks believe that the impact on their operations will not be significant despite the higher provisions.

Non-Banking Financial Company (NBFC)

An NBFC, or Non-Banking Financial Company, is a company registered under the Companies Act, 1956 that offers banking-like services but doesn't hold a full banking license. This means they are subject to different regulations than traditional banks.

Key Activities of NBFCs:

- **Providing Loans:** NBFCs offer a variety of loans, including personal loans, vehicle loans, and business loans. They may target specific demographics or niche markets that traditional banks don't serve.
- **Accepting Deposits:** Certain types of NBFCs are allowed to accept deposits from the public for a fixed term, typically between 1 and 5 years. However, unlike banks, they cannot offer checking or savings accounts and cannot accept deposits that can be withdrawn on demand.
- **Investment Products:** Some NBFCs offer investment products such as mutual funds or debentures.

Examples of NBFCs:

- **Housing Finance Companies:** These NBFCs specialize in providing home loans.
- **Investment Companies:** These NBFCs manage investment portfolios for individuals and institutions.
- **Microfinance Institutions (MFIs):** These NBFCs provide small loans to individuals and small businesses, often in rural areas.
- **Loan Against Property Companies:** These NBFCs provide loans to individuals secured by real estate.

Benefits of NBFCs:

- Increased access to credit, particularly for those who may not qualify for traditional bank loans.
- Cater to specific financial needs not met by traditional banks.
- Can play a significant role in financial inclusion.

Important to Note:

- NBFCs are regulated by the Reserve Bank of India (RBI) but not to the same extent as traditional banks.
- Before investing with an NBFC, it's important to research the company's reputation and financial health.

ICRA (Investment Information and Credit Rating Agency)

Function: ICRA is an independent and professional investment information and credit rating agency.

- **History:** Established in 1991 as a joint venture between Moody's Investors Service and various Indian financial institutions [ICRA Limited]. It became a public company in 2007.
- **Services:** ICRA provides credit ratings for various debt instruments, including those issued by commercial banks, financial institutions, and government bodies. They also offer research and advisory services.
- **Ratings:** ICRA's credit ratings are assigned on an Indian scale specifically for Indian Rupee denominated debt and represent their opinion on the creditworthiness of the issuer.
- **Significance:** ICRA's ratings play a crucial role in Indian capital markets by informing investment decisions and promoting transparency

PRELIMS PRACTICE QUESTIONS:

<p>Question 1: Consider the following pairs : Wetland/Lake Location</p> <ol style="list-style-type: none">1. Hokera Wetland -Punjab2. Renuka Wetland -Himachal Pradesh3. Rudrasagar Lake -Tripura4. Sasthamkotta - Tamil Nadu Lake <p>How many pairs given above are correctly matched ?</p> <p>(a) Only one pair (b) Only two pairs (c) Only three pairs (d) All four pairs</p>	<p>Answer: (b) Only two pairs</p> <p>Explanation: Pair 1 is not correctly matched: It is located at the northwest Himalayan biogeographic province of Kashmir, back of the snow-draped Pir Panchal.</p> <p>Pair 2 is correctly matched: Renuka Wetland is located in Himachal Pradesh. It is a natural wetland with freshwater springs and inland subterranean karst formations.</p> <p>Pair 3 is correctly matched: Rudrasagar Lake, also known as Twijilikma, is a lake located in Melaghar, Tripura, India. The Government of India's Ministry of Environment and Forest has identified Rudrasagar as one of the wetlands of National Importance for conservation and sustainable use based on its biodiversity and socio economic importance.</p> <p>Pair 4 is not correctly matched: Sasthamcotta Lake or Sasthamkotta Lake, also categorized as a wetland, is the largest fresh water lake in Kerala. Sasthamkotta lake is also known as the Queen of Lakes.</p>
<p>Question 2: Which of the following syndromes is characterized by an extra X chromosome (XXY)?</p> <ol style="list-style-type: none">1. Down syndrome2. Turner syndrome3. Klinefelter syndrome4. Edwards syndrome	<p>Answer: (3). Klinefelter syndrome</p> <p>Explanation: Klinefelter syndrome is characterized by the presence of an extra X chromosome in males (XXY).</p> <p>Option 1: is not correct, Down syndrome, is caused by the presence of an extra chromosome 21 (trisomy 21).</p> <p>Option 2: is not correct, Turner syndrome, is characterized by the presence of a single X chromosome (X0) in females.</p> <p>Option 4: is not correct, Edwards syndrome, is caused by an extra chromosome 18 (trisomy 18).</p>
<p>Question 3: Which syndrome is associated with an increased risk of Alzheimer's disease in women?</p> <ol style="list-style-type: none">1. Turner syndrome2. Klinefelter syndrome3. Fragile X syndrome4. Marfan syndrome	<p>Answer: (1) Turner syndrome</p> <p>Explanation:</p> <ul style="list-style-type: none">• Turner syndrome is associated with an increased risk of Alzheimer's disease in women.• Women with Turner syndrome have only one X chromosome (X0), which has been linked to an increased risk of developing Alzheimer's disease later in life. <p>Incorrect Options Explanation:</p> <p>Klinefelter syndrome: Klinefelter syndrome is characterized by the presence of an extra X chromosome in males (XXY). It is not associated with an increased risk of Alzheimer's disease.</p> <p>Fragile X syndrome: Fragile X syndrome is caused by a mutation in the FMR1 gene on the X chromosome. It is associated with intellectual disability and autism spectrum disorder, not Alzheimer's disease.</p> <p>Marfan syndrome: Marfan syndrome is caused by mutations in the FBN1 gene on chromosome 15.</p>

	It is associated with connective tissue disorders and cardiovascular abnormalities, not Alzheimer’s disease.
<p>Question 4: Why does a waterfall appear white?</p> <p>A. Due to the scattering of light by water droplets</p> <p>B. Due to the absorption of all wavelengths of light</p> <p>C. Due to the refraction of light through water</p> <p>D. Due to the presence of white pigments in the water</p>	<p>Answer: A. Due to the scattering of light by water droplets</p> <p>Explanation: Waterfalls appear white because light is scattered by the water droplets suspended in the air.</p> <p>Incorrect options explained:</p> <p>B. Incorrect. Absorption of all wavelengths of light would result in darkness, not whiteness.</p> <p>C. Incorrect. Refraction occurs when light passes from one medium to another and bends, but it does not cause a waterfall to appear white.</p> <p>D. Incorrect. There are no white pigments in waterfalls; the whiteness is due to scattering of light.</p>
<p>Question 5: Which of the following statements is correct regarding ICRA (Investment Information and Credit Rating Agency) ?</p> <p>A. ICRA is a subsidiary of the Reserve Bank of India (RBI).</p> <p>B. ICRA provides credit ratings for bonds and fixed deposits only.</p> <p>C. ICRA is headquartered in New Delhi.</p> <p>D. ICRA does not provide credit ratings for financial institutions.</p>	<p>Answer: (C). ICRA is headquartered in New Delhi.</p> <p>Explanation: ICRA (Investment Information and Credit Rating Agency) is headquartered in New Delhi, India. ICRA is registered with Securities and Exchange Board of India (SEBI).</p> <p>Option A is incorrect because ICRA is not a subsidiary of the RBI; it is an independent credit rating agency.</p> <p>Option B is incorrect because ICRA provides credit ratings for various financial instruments, including bonds, fixed deposits, and more.</p> <p>Option D is incorrect because ICRA does provide credit ratings for financial institutions, along with other entities.</p>
<p>Question 6: Which of the following statements is correct regarding the National Green Hydrogen Mission?</p> <p>A. It aims to produce green hydrogen using renewable energy sources.</p> <p>B. It focuses on promoting grey hydrogen production from fossil fuels.</p> <p>C. It aims to import blue hydrogen from other countries.</p> <p>D. It primarily focuses on nuclear energy for hydrogen production.</p>	<p>Answer: (A). It aims to produce green hydrogen using renewable energy sources.</p> <p>Explanation: The National Green Hydrogen Mission aims to produce green hydrogen using renewable energy sources like solar, wind, and hydropower.</p> <p>Option B (Grey hydrogen) and Option C (Blue hydrogen) are incorrect because the mission specifically focuses on green hydrogen.</p> <p>Option D (Nuclear energy) is incorrect as the mission does not focus primarily on nuclear energy for hydrogen production.</p>
<p>Question 7: Which ministry is responsible for implementing the National Green Hydrogen Mission in India?</p> <p>A. Ministry of New and Renewable Energy</p> <p>B. Ministry of Petroleum and Natural Gas</p> <p>C. Ministry of Environment, Forest and Climate Change</p> <p>D. Ministry of Finance</p>	<p>Answer: A. Ministry of New and Renewable Energy. National Green Hydrogen Mission aims to achieve a production target of green hydrogen by the year 2030.</p> <p>Explanation: The Ministry of New and Renewable Energy is responsible for implementing the National Green Hydrogen Mission in India.</p> <p>Option B (Ministry of Petroleum and Natural Gas) deals with conventional fuels.</p> <p>Option C (Ministry of Environment, Forest and Climate Change) focuses on environmental policies.</p> <p>Option D (Ministry of Finance) handles financial matters.</p>

Question 8: What is the main objective of the National Electricity Plan 2023?

- A. To achieve 100% electrification in rural areas by 2025.
- B. To promote renewable energy and reduce carbon emissions.
- C. To increase coal-based power generation to meet growing demand.
- D. To privatize all state-owned electricity distribution companies.

Answer: (B) To promote renewable energy and reduce carbon emissions.

Explanation: The main objective of the National Electricity Plan 2023 is to promote renewable energy sources and reduce carbon emissions in the power sector.

Option A (100% electrification in rural areas) is a different goal.

Option C (Increasing coal-based power generation) contradicts the objective of reducing carbon emissions.

Option D (Privatizing electricity distribution companies) is unrelated to the objectives of the plan.

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