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Governance

Ayushman Bharat: All seniors above 70 can avail health coverage except those in Delhi, West Bengal

Why in News?

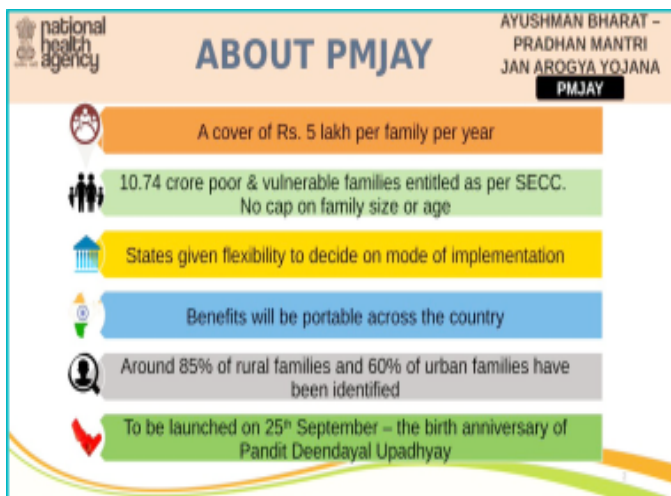
On Ayurveda Day Oct 29, 2024, PM launches initiatives for validating traditional herbal medicine, promoting Indian medical systems, and ensures PM-JAY eligibility for senior citizens regardless of income.

Overview

The Union government has expanded the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY), providing healthcare coverage to all senior citizens aged 70 and above, irrespective of income. However, this coverage excludes senior citizens in Delhi and West Bengal, as these states have not adopted the scheme.

Ayushman Bharat PM-JAY (Pradhan Mantri Jan Arogya Yojana)

- Launched in 2018, PM-JAY provides health coverage of up to ₹5 lakh per family per year for secondary and tertiary care.
- It targets economically vulnerable families across India, improving access to healthcare services.



Expanded Coverage under PM-JAY

- **Eligibility:** All individuals aged 70+ can avail themselves of the scheme benefits across India, except in Delhi and West Bengal.
- **Benefit:** Provides up to ₹5 lakh for hospitalization expenses, significantly reducing out-of-pocket costs for seniors.
- **Ayushman Vaya Vandana Card:** Issued to elderly beneficiaries, facilitating easy access to healthcare services under PM-JAY.

Criticism

The Delhi and West Bengal governments have not implemented PM-JAY, which leaves seniors in these states without access to benefits due to political reasons.

Ayurveda and Traditional Medicine Promotion

- **Ayurveda Day Initiatives:** ₹12,850 crore worth of projects announced on Dhanvantari Jayanti (Ayurveda Day), highlighting India's commitment to traditional healthcare.
- **Global Interest in Ayurveda:** Celebrations in over 150 countries emphasise Ayurveda's increasing popularity.

Technological Advancements in Healthcare

- **e-Sanjeevani:** Telemedicine platform aiding over 30 crore citizens through online consultations, helping to bridge healthcare access gaps.
- **Drone and Helicopter Services:** Expanded healthcare access, particularly at AIIMS, Rishikesh.
- **PLIs for Medical Devices:** Five projects under the Production Linked Incentive (PLI) scheme are set to manufacture critical medical devices and drugs domestically, advancing the Make in India mission.

Investment in Medical Infrastructure

- **New Facilities:** Establishment of four Centres of Excellence under the Ayush Health scheme, new AIIMS expansions, medical and nursing colleges, and Critical Care Blocks.
- **Traditional Medicine Validation:** Validation studies on Ashwagandha, turmeric, and black pepper to enhance their market potential and scientific credibility.

Conclusion

Ayushman Bharat's expansion for seniors and Ayurveda integration enhances healthcare inclusivity, aiming to reduce costs and improve access to services.

Question : Evaluate the challenges and prospects of integrating traditional medicine with modern healthcare systems in India.

Source : [The Hindu](#)



Polity

PMLA cannot be used as tool for incarceration: High Court

Why in News?

HC makes the remark while granting bail to 2 accused in money laundering case involving AAP's Satyendar Jain; accused in such cases can't be equated with those held for heinous crimes, it says

Context

The Delhi High Court granted bail to two individuals in a money laundering case.

The court highlighted concerns about the stringent bail conditions under the Prevention of Money Laundering Act (PMLA) and its potential misuse in denying bail.

Prevention of Money Laundering Act (PMLA)

Enacted in 2002, the Prevention of Money Laundering Act (PMLA) addresses money laundering by penalising conversion of illicit gains to legal assets, ensuring transparency and curbing financial crime.

Key Provisions

- **Section 3:** Defines money laundering as activities attempting to disguise illegally obtained money.
- **Section 4:** Imposes a maximum penalty of 7 years imprisonment.
- **Section 45:** Establishes strict bail conditions (twin conditions), requiring the accused to prove prima facie innocence and non-reoffense.

Purpose and Enforcement

- **Objective:** To combat financial crime and aid in recovering proceeds of crime.
- **Enforcement Directorate (ED):** Authorised to investigate and prosecute under PMLA.

Judicial Interpretation

- Courts, including the Delhi HC, have ruled that PMLA provisions should ensure fair trial principles, with "bail as the rule," especially for non-violent offences, reinforcing Article 21 (Right to Liberty).

Observations from ongoing case

The court's ruling clarifies the application of PMLA's Section 45, which imposes two bail conditions:

- **Prima Facie Innocence:** The accused must prove a likelihood of innocence.
- **Non-reoffense Assurance:** The accused must convince the court that they would not reoffend while on bail.

The HC observed that these provisions should not create a "**tool for incarceration**" when the trial is expected to be prolonged and delays are beyond the accused's control.

It asserted that individuals accused under PMLA cannot be equated with those involved in heinous crimes like murder or rape, as this would contradict the principle that "**bail is the rule, jail an exception.**"

Key Takeaways and Legal Precedents

- **Right to Liberty:** The court reinforced that under Article 21, life and personal liberty cannot be deprived without lawful procedure.
- **Bail as a Rule:** The principle of "bail, not jail" was emphasised as a safeguard against extended pre-trial detention for non-violent financial offences.
- **Precedents in Money Laundering Cases:** This case adds to jurisprudence ensuring balanced bail conditions, particularly under economic offences laws like PMLA.

Implications for Law and Governance

- The ruling underscores the need for a proportionate approach in applying stringent economic crime laws.
- It suggests a shift towards evaluating the specific context of financial crime cases over a blanket application of strict conditions designed for violent crimes.

Conclusion

The Delhi HC's ruling reinforces that PMLA provisions should balance individual liberty with state interest, emphasising "bail as the rule, jail as exception."

Question : Discuss the challenges in balancing individual liberty and state interest in the context of economic offences under the Prevention of Money Laundering Act (PMLA).

Source : [The Hindu](#)



Why this Census is crucial for delimitation, women's quota, what's the legal roadmap

Why in News?

Hints of a 2021 Census in 2025 reignite discussions on constituency delimitation and women's seat reservations, spotlighting the legal and political roadmap ahead.

Introduction

The impending Census of 2021, now expected to take place in 2025 and conclude by 2026, revives critical discussions on **two pivotal issues: delimitation of constituencies and the reservation of seats for women.** Understanding the legal and political framework guiding these processes is essential for grasping their implications for Indian democracy.

Delimitation

It is the process of redrawing the boundaries of electoral constituencies based on population data, ensuring fair representation in legislative bodies.

Constitutional Provisions

- **Article 82:** Mandates the reallocation of Lok Sabha seats post-Census.
- **Article 170:** Governs delimitation for State Legislative Assemblies.
- **42nd Amendment (1976):** Frozen delimitation until the first Census after 2000 is published, extended in 2001 for 25 years.

Timeline of Delimitation

Year	Census	Delimitation
1951	First Census	1952
1961	Second Census	1963
1971	Third Census	1973
2001	Fourth Census	2002
2021	Fifth Census (Delayed)	TBD (Post-2026)

Political Implications

- **Census Impact:** The 2021 Census data will provide the necessary demographic basis for the delimitation exercise.
- **Increased Seats:** Current Lok Sabha has 543 seats based on the 1971 Census, with possible increases anticipated due to population growth, projected to reach around 1.5 billion.
- **Consensus Challenges:** Southern states, with better population control, may lose representation, creating political tension.

Women's Reservation

The Constitution (One Hundred and Twenty-eighth Amendment) was passed in September 2023, mandating 33% reservation for women in the Lok Sabha and state Assemblies.

Political Landscape

- **Current Composition:** The Lok Sabha currently has 467 male members. Implementing the women's quota could reserve 182 seats, leaving 363 for men.
- **Future Dynamics:** If the Lok Sabha expands to 770 seats post-delimitation, women could occupy 257 seats, impacting party strategies.

Conclusion

The intertwined processes of delimitation and women's reservation are pivotal for enhancing representation in Indian democracy.

With the upcoming Census set to redefine the political landscape, addressing legal frameworks and building political consensus is crucial.

Question : Evaluate the significance of the women's reservation bill in promoting gender equality in Indian politics.

Source : [The Indian Express](#)



Science

Study offers clues to why COVID-19 vaccine protection wanes quickly

Why in News?

While most vaccines generate memory B-cells, not all of them turn into long-lasting plasma cells, and herein lies the rub

Overview

Vaccination is a cornerstone in controlling infectious diseases, yet many contemporary vaccines, including those for COVID-19, struggle with issues related to durability and long-lasting protection. This article discusses recent findings on the waning immunity from COVID-19 vaccines, focusing on the role of **long-lasting plasma cells (LLPCs)**.

LLPCs are a subset of plasma cells that migrate to the bone marrow and survive for extended periods, continuously secreting antibodies.

- **Role in Immunity:** LLPCs contribute to long-term immunity by maintaining antibody levels in the bloodstream, which is essential for rapid response upon re-exposure to pathogens.
- **Mechanism of Formation:**
 - LLPCs develop from B-cells in germinal centres through a process called affinity maturation.
 - Factors influencing their generation include:
 - B-cell receptor (BCR) cross-linking with antigens.
 - Specific signals from T-cells.
- **Significance in Vaccination**
 - Vaccines that effectively induce LLPCs provide longer-lasting protection.
 - Studies have shown that many vaccines, including mRNA COVID-19 vaccines, may not generate sufficient LLPCs, leading to rapid waning immunity.
- **Implications for Vaccine Development:**
 - Understanding LLPC generation is critical for designing more effective vaccines.
 - Future vaccine strategies may focus on optimising immunogens and adjuvants to enhance LLPC induction.

B-Cells

- **Definition:** B-cells (B-lymphocytes) are a type of white blood cell responsible for producing antibodies.
- **Functions: Antibody Production:** Upon encountering an antigen, B-cells

differentiate into plasma cells that secrete specific antibodies to neutralize pathogens.

- **Memory Formation:** Some B-cells develop into memory B-cells, which persist long-term and enable a faster response upon re-exposure to the same antigen.
- **Activation:** B-cells are activated when their B-cell receptors (BCRs) bind to specific antigens. T-helper cells also provide necessary signals for full activation.

T-Cells

- **Definition:** T-cells (T-lymphocytes) are another type of white blood cell essential for cell-mediated immunity.
- **Types**
 - **Helper T-Cells (CD4+ T-cells):** Assist in activating B-cells and cytotoxic T-cells by releasing cytokines.
 - **Cytotoxic T-Cells (CD8+ T-cells):** Directly kill infected or cancerous cells by recognizing antigens presented on their surface.
- **Functions**
 - **Immune Regulation:** Helper T-cells modulate the immune response by signaling other immune cells.
 - **Cellular Defense:** Cytotoxic T-cells target and destroy infected cells, preventing the spread of pathogens.
- **Activation:** T-cells require antigen presentation by major histocompatibility complex (MHC) molecules on the surface of antigen-presenting cells (APCs) to become activated.

Immune Mechanism

1. **B-cells and Plasma Cells:**
 - B-cells: Produce antibodies; not all mature into LLPCs.
 - Plasma Cells: Some migrate to the bone marrow as LLPCs for long-term immunity.
2. **Germinal Centers (GCs):** Sites where B-cells undergo affinity maturation to become memory B-cells.
3. **Cross-linking and Activation:** B-cell receptor (BCR) cross-linking with



antigens is essential for LLPC production.

Study Findings

A recent study analysed bone marrow aspirates from 19 healthy volunteers who received mRNA COVID-19 vaccines. Key findings include:

- High levels of short-lived antibody-secreting cells (ASCs) were observed for COVID-19, but LLPCs specific to COVID-19 were notably absent.
- In contrast, LLPCs for influenza and tetanus vaccines were present, suggesting a crucial gap in the immunity conferred by COVID-19 vaccines.

The Role of Vaccine Design

- The study posits that the unique surface structure of the SARS-CoV-2 virus, specifically the spacing of its spike proteins, may inhibit effective BCR cross-linking, thus limiting LLPC formation.

- This may explain the rapid decline in immunity post-vaccination.

Future Directions

For improved vaccine efficacy against current and emerging infectious diseases, it is essential to:

- Investigate LLPC induction mechanisms.
- Design new immunogens and improve adjuvant efficacy.

Conclusion

The research underscores the need for innovative vaccine designs to ensure robust and lasting immunity against COVID-19 and other infectious diseases. The focus on LLPCs could guide future vaccine strategies.

Question : Analyse the challenges faced by contemporary vaccines in providing long-lasting protection. What measures can be taken to enhance vaccine durability?

Source: [The Hindu](#)

General Electric may deliver F-404 engines by March or April; India invokes penalty clause

Why in News?

The engines are now expected by March-April 2025, which is a two-year delay from the contractual terms

Context

The Indian Air Force's Light Combat Aircraft (LCA) Mk1A, designed to enhance domestic defence capabilities, has encountered delays in engine delivery.

The F-404 engines, produced by General Electric (GE) and critical to the LCA-Mk1A's performance, are now expected by March-April 2025.

The delay has led India to invoke a penalty clause, as per contractual obligations, against GE.

Background of the Deal

- In 2021, India's Ministry of Defence signed a ₹48,000-crore contract with Hindustan Aeronautics Limited (HAL) to produce 83 LCA Mk1A aircraft.
- HAL further contracted GE for 99 F-404 engines. The intended schedule aimed to

deliver the first set of three LCA Mk1As by February 2024.

- The delay, caused by supply chain disruptions, has affected this timeline.

Strategic Importance of LCA-Mk1A

- The LCA Mk1A, a more advanced version of the LCA Mk1, is integral to India's self-reliance in defence.
- By incorporating advanced avionics and a more powerful engine, it bolsters India's air defence and lessens dependency on foreign fighter jets.

Challenges Faced

- **Supply Chain Disruptions:** GE cited unprecedented supply chain pressures as the reason for the delay.



- **Impact on IAF Readiness:** The delay in engine delivery has pushed HAL to seek interim solutions.

Actions Taken by India

1. **Penalty Invocation:** India enforced penalty clauses for breach of delivery timelines, a common practice in high-value defence contracts.
2. **Diplomatic Interventions:** Indian and U.S. National Security Advisers and defence officials discussed the delay to expedite resolution.
3. **Interim Measures:** HAL plans to deploy Category-2 engines until the new engines are available.

Future Projections

- The Indian government has sanctioned the procurement of an additional 97 LCA

Mk1A aircraft, bringing the total to 180 units.

- This significant investment, valued at approximately ₹1.15 lakh crore, underscores India's commitment to bolstering its air defence capabilities with indigenous technology.

Conclusion

The LCA Mk1A project highlights India's push for defence self-reliance, with challenges in timely delivery underscoring the need for resilient supply chains and accountability.

Question : Discuss the strategic importance of the LCA Mk1A in India's defence ecosystem and the challenges faced in its timely production and deployment.

Source: [The Hindu](#)

Mobile app for birth and death registration launched

Why in News?

Home Minister says the app will make the process of registration hassle-free

Overview

The Union Home Minister launched the Civil Registration System (CRS) mobile application, aimed at digitizing and simplifying the process of birth and death registration in India.

This move integrates advanced technology with governance to facilitate a more efficient and user-friendly registration experience for citizens.

Purpose and Benefits

- The CRS mobile app is designed to ease the registration process, allowing users to register birth or death events anytime, anywhere.
- This step is expected to significantly reduce time delays and administrative challenges. Additionally, digitized birth certificates will now serve as a single, unified document for various services.
- **Centralised Data for Governance:** The digital database will support multiple systems such as the National Population Register (NPR), ration cards, property registrations, and electoral rolls.

- **National Population Register (NPR):** This mobile app aids in updating NPR records, collected initially in 2010 and updated in 2015, covering over 119 crore residents.

Symbolic Gesture

The Home Minister also unveiled a statue of Sardar Vallabhbhai Patel at the Census Building in New Delhi, symbolising Patel's dedication to unity and democratic values, which underpin India's national identity.

Additional Facts for Enhanced Understanding

1. Digital Transformation in Governance:

- The CRS app aligns with the Digital India initiative, emphasising the modernization of public services.
- This initiative also contributes to achieving the UN's Sustainable Development Goal (SDG) 16: promoting peaceful and inclusive societies by creating effective, accountable institutions.



2. Role in Census and NPR:

- The NPR serves as a preliminary step towards the National Register of Citizens (NRC) under the Citizenship Act.
- Data from this centralised platform can enhance demographic analyses and targeted policy-making.

Conclusion

The launch of the CRS mobile app signifies a transformative step in governance, enhancing birth and death registration while promoting digital access and data management in India.

Question: Examine how digitized systems like the Civil Registration System (CRS) can contribute to national security and socio-economic planning.

Source: [The Hindu](#)

New guidelines promote Ayurveda, regulate use of antibiotics in veterinary treatment

Why in News?

Move meant to reduce antimicrobial resistance, bring down irrational use of antibiotics and provide cheaper treatment options for farmers

Context

In a landmark initiative, the Union Ministry of Animal Husbandry has introduced the Standard Veterinary Treatment Guidelines (SVTG), aiming to regulate the use of antibiotics in veterinary care and encourage the use of Ayurvedic and ethnoveterinary practices.

These guidelines target antimicrobial resistance (AMR), ensuring economically viable treatment for farmers and promoting animal welfare.

Standard Veterinary Treatment Guidelines (SVTG)

- SVTG represents a significant initiative by the Indian government to streamline veterinary practices, particularly concerning the treatment of diseases in livestock and poultry.
- Released by the Union Ministry of Animal Husbandry, these guidelines aim to improve animal health management while addressing critical issues such as antimicrobial resistance (AMR).

Objective of SVTG

- Reduce irrational use of antibiotics in livestock.
- Minimise antimicrobial resistance (AMR) risks.

- Introduce Ayurvedic and herbal alternatives for specific treatments.
- Enhance treatment accessibility for small-scale farmers with cost-effective options.

SVTG's Role in Reducing AMR

According to Indian Veterinary Research Institute (IVRI), India's SVTG is among the first to standardise treatment across nearly all livestock diseases, targeting reduced antibiotic use and antimicrobial resistance.

Ayurvedic and Herbal Treatments

- The guidelines encourage Ayurvedic medicine usage, proven effective by the National Dairy Development Board (NDDB) for ailments like mastitis.
- These validated practices not only reduce treatment costs but also prevent environmental impacts, such as soil carbon depletion associated with antibiotic residues, as reported by the Indian Institute of Science (IISc).



Expected Benefits of SVTG

1. **Animal Health:** Standardised guidelines for quality treatment.
2. **Economic Impact:** Reduced costs of treatment for farmers.
3. **Environmental Impact:** Lower carbon footprint and less drug residue in soil and food

Challenges and Considerations

While the SVTG provides a robust framework for veterinary care, several challenges may arise:

- **Implementation:** Ensuring that all veterinary professionals are adequately trained and equipped to follow these guidelines.
- **Awareness:** Increasing awareness among farmers about the availability and benefits of alternative treatment options.
- **Monitoring:** Establishing a system to monitor adherence to the guidelines and assess their effectiveness in reducing AMR.

Way Forward for Effective SVTG Implementation

1. **Training and Capacity Building:** Conduct workshops for veterinary professionals and include SVTG in veterinary curricula to familiarize future vets with protocols.
2. **Awareness Campaigns:** Educate farmers on cost benefits and safety of SVTG,

highlighting AMR risks and alternatives to antibiotics.

3. **Policy Support:** Offer incentives for SVTG adherence, regulate antibiotic use, and ensure penalties for non-compliance.
4. **Monitoring and Evaluation:** Regularly assess SVTG impact, track antibiotic use, and monitor outcomes on animal health.
5. **Research and Development:** Promote research on Ayurvedic treatments and innovative alternatives to reduce antibiotic dependence.
6. **Public-Private Partnerships :** Collaborate with industry and NGOs for wider SVTG adoption, especially in rural areas.

Conclusion

The Standard Veterinary Treatment Guidelines (SVTG) promote better animal health in India by regulating antibiotics, endorsing Ayurvedic practices, supporting farmers, and enhancing food safety.

Question : Discuss the importance of India's Standard Veterinary Treatment Guidelines (SVTG) in addressing antimicrobial resistance (AMR) and promoting sustainable livestock management.

Source : [The Hindu](#)



Economy

A picture of a growing economic divide in India

Why in News?

Data from the paper titled, 'Relative Economic Performance of Indian States: 1960-61 to 2023-24', show a growing gap that is leading to the questioning of federalism

Introduction

The Economic Advisory Council to the Prime Minister (EAC-PM) report, "Relative Economic Performance of Indian States: 1960-61 to 2023-24," highlights increasing economic disparities across Indian states, especially after economic liberalisation in 1991.

The divide raises concerns over federalism as richer states contribute significantly to national income but argue they receive less than they contribute, while poorer states struggle with low investment and slower growth.

Key Findings

Parameter	Observation
Leading Contributors	Maharashtra, Gujarat, Tamil Nadu, Karnataka
High Per Capita Income	Maharashtra (~150% of national average), Delhi, Haryana
Lagging States	Bihar, Uttar Pradesh, Jharkhand, Odisha
Factors of Economic Divide	Liberalisation (1991), urbanisation, coastal access, private sector bias

Factors Contributing to Economic Divide

1. Investment Patterns

- Private investment favours regions with strong infrastructure, markets, and profitability.
- Richer states, with better infrastructure and governance, attract more investment.
- Poorer states see limited private sector investment, reinforcing economic disparity.

2. Policy Influence

- Liberalisation (post-1991) shifted focus towards organised sectors in urban and developed areas, leaving rural and unorganised sectors behind.
- Financial sector growth post-1991 favoured richer states, widening

the credit-deposit gap.

3. Regional Characteristics

- Coastal areas, with access to exports and imports, have economic advantages.
- Border states and those with insurgency (e.g., Jammu & Kashmir, North-East) received less public investment for security reasons.

4. Governance and Black Economy

- States with better governance see improved investment climate and infrastructure.
- Black economy prevalence in poorer states weakens investment inflow and economic growth.

Policy Recommendations

- **State-Level Reforms:** Improve governance, reduce corruption, and enhance social sector spending in lagging states.
- **Investment Redistribution:** Shift policy to balance organised and unorganised sectors to uplift marginal incomes, spurring demand in poorer states.
- **Strengthen Federalism:** Ensure equitable resource distribution to all states to maintain unity and balanced growth.

Threats to Federalism

- The economic divide strains federal relationships as richer states question their net fiscal contribution to the centre.
- Regional disparities, if unchecked, may deepen social and economic divisions, weakening national unity.

Conclusion

The growing economic disparity among Indian states threatens federalism, necessitating policy reforms to promote equitable growth and strengthen national unity while addressing regional inequalities.

Question: Discuss the impact of growing regional economic disparity on the principles of Indian federalism. Suggest measures to address these disparities.

Source : [The Hindu](#)



Despite a slow start, States' capex likely to rise further this year

Why in News?

Tamil Nadu, Gujarat, Karnataka and Maharashtra are expected to have adequate fiscal space to meet their budgeted capex goals for 2024-25

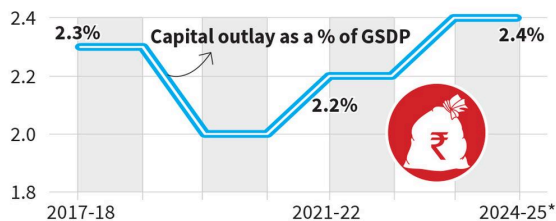
Introduction

Capital expenditure (capex) by Indian States is crucial for economic growth.

Despite a slow start in the fiscal year 2024-25, recent analyses indicate an upward trend in state capex for the remaining months.

This report examines projections for state capex and the fiscal health of prominent states.

Despite a slow start on public capex this year, 18 major States are expected to clock 7%-9% growth in capital spends with an outlay of ₹7.2 lakh crore, as per Crisil Ratings



States include: Maharashtra, Gujarat, Karnataka, Tamil Nadu, Uttar Pradesh, Telangana, Rajasthan, West Bengal, Madhya

ICRA Limited

- ICRA Limited is a prominent Indian credit rating agency, established in 1991, that provides ratings, research, and risk assessments.
- Moody's Corporation, a global credit rating agency, holds a significant stake in ICRA, aligning it with international standards.

Functions of ICRA

- **Credit Ratings:** Covers corporates, banks, infrastructure projects, and public finance.
- **Research & Analysis:** Publishes economic and sectoral insights used by investors and policymakers.
- **Risk Assessment & Advisory:** Assists businesses in risk mitigation and capital allocation decisions.

Importance in Indian Financial Sector

- Enhances transparency in creditworthiness assessments.
- Assists in capital allocation, supporting economic stability.
- Essential for regulatory compliance, especially in the banking and finance sectors.

Recent Relevance

ICRA recently projected a 13% rise in state capital expenditure in 2024-25, highlighting fiscal health and investment trends critical to economic planning.

Current Trends

1. Initial Decline in Capex

- Capital expenditure dropped by 7% year-on-year by August 2024, primarily due to the impact of general elections on state budgets.

2. Positive Outlook

- Rating agencies, including Crisil and ICRA, predict a recovery in capex outlays in the latter half of the fiscal year.
- Factors such as increased borrowings (26% YoY in Q2) and fiscal capacity in states like Gujarat, Karnataka, Maharashtra, and Tamil Nadu support this optimism.

3. Projected Growth

- **Crisil Ratings:** Anticipates a 7-9% increase in capex, achieving approximately 90% of budgeted targets.
- **ICRA:** Foresees a 13% rise in capex among 13 major states, though slightly below budget estimates.

Implications

- The projected increase in capex is expected to bolster infrastructure development and economic recovery in the aftermath of initial setbacks.
- Growth rates may vary by state, influenced by local economic conditions and revenue generation capabilities.

Conclusion

The capex landscape for Indian States in 2024-25 indicates a promising recovery despite a challenging start. The focus on infrastructure and fiscal management will play a pivotal role in sustaining this growth trajectory.

Question : Analyse the role of credit rating agencies like ICRA in enhancing economic transparency and investment in India. Discuss the challenges they face in a developing economy.

Source : [The Hindu](#)



Environment

Teams rushed in after 4 elephants are found dead in Bandhavgarh Tiger Reserve, 5 critically ill

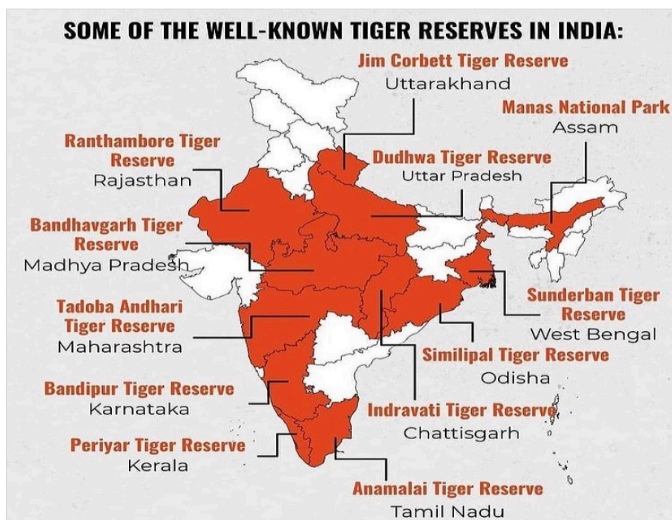
Why in News?

Sources in Umariya say they are investigating what the elephants ingested prior to the death, speculating that the herd ate crops which may have played a role

Incident Summary

A distressing incident unfolded in the **Bandhavgarh Tiger Reserve** where four elephants were found dead, and five others were critically ill.

The affected herd, which initially consisted of 13 elephants, saw a drastic decline in health, raising concerns about wildlife management and ecosystem health.



Speculated Causes

Local sources suggest that the elephants may have ingested contaminated crops, which could have contributed to their deteriorating health.

Background

- The Bandhavgarh Tiger Reserve has recently seen a migration of elephants from Chhattisgarh, with the first sightings of a herd in 2018.
- The elephants are now part of the reserve's ecosystem, playing a crucial role in its biodiversity.

Bandhavgarh Tiger Reserve

1. **Location:** Situated between the Vindhyan and Satpura ranges in Umariya district, Madhya Pradesh.
2. **Status**
 - Declared a national park in 1968.
 - Became a Tiger Reserve in 1993.

3. Landscape

- Features valleys, hills, and plains. Bandhavgarh Fort serves as a prominent landmark.
- The fort, according to legend, was given by Lord Rama to his brother Lakshmana to watch over Lanka, hence the name Bandhavgarh (meaning 'Brother's Fort' in Sanskrit).

4. Vegetation

- Composed of tropical moist deciduous forests.
- Includes sal forests, mixed forests, and grasslands.
- Bamboo grows along the lower slopes.

5. Flora: Major species include:

- Saj (*Terminalia tomentosa*)
- Dhaora (*Anogeissus latifolia*)
- Tendu
- Arjun (*Terminalia arjuna*)
- Amla (*Emblica officinalis*)
- Palas (*Butea monosperma*)

6. Fauna

- Known for the high density of Royal Bengal Tigers, one of the densest in India and the world.
- Other key species include:
 - Leopard
 - Wild dog
 - Wolf
 - Chital
 - Sambhar
 - Barking deer
 - Chinkara
 - Wild pig
 - Chowsingha

Conclusion

- Bandhavgarh Tiger Reserve highlights India's wildlife conservation efforts, balancing biodiversity preservation with human interests, reflecting broader environmental challenges common to reserves nationwide.

Question : Discuss the significance of Bandhavgarh Tiger Reserve in the context of India's conservation efforts. What measures could be taken to enhance its sustainability?

Source : [The Indian Express](#)



Daily Quiz

Q1. Which of the following traditional herbs were mentioned in Ayurveda growth for scientific validation to enhance their market potential?

- A. Amla, Tulsi, Neem
- B. Shatavari, Moringa, Giloy
- C. Fenugreek, Ajwain, Saffron
- D. Ashwagandha, Turmeric, Black Pepper

Q2. The "twin conditions" under Section 45 of the PMLA relate to:

- A. Conditions for convicting an accused in money laundering cases
- B. Conditions required to prove innocence at trial
- C. Bail conditions specific to accused in money laundering cases
- D. None of the above

Q3. Consider the following statements regarding governance and the economic divide in India:

- 1. Poor governance in certain states has led to a prevalence of the black economy, negatively impacting investment.
- 2. The credit-deposit ratio is higher in poorer states compared to wealthier states due to higher savings rates.

Which of the statements given above is/are correct?

- A. Only 1
- B. Only 2
- C. Both 1 and 2
- D. Neither 1 nor 2

Q4. Which of the following cells are primarily responsible for the production of antibodies in response to vaccination?

- A. T-cells
- B. Memory B-cells
- C. Plasma cells
- D. Natural killer cells

Q5. Consider the following statements about the Light Combat Aircraft (LCA) Mk1A:

- 1. It is an indigenous fighter aircraft developed under India's 'Make in India' initiative.

- 2. The LCA Mk1A is powered by the F-404 engines manufactured by General Electric.
- 3. The LCA Mk1A project is managed solely by the Indian Air Force.

Which of the statements given above are correct?

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

Q6. Which of the following is NOT a feature of the newly launched Civil Registration System (CRS) mobile application?

- A. Real-time registration of births and deaths
- B. Access to digital certificates only at designated government centres
- C. Availability of services in the official language of each state
- D. Centralised data update for NPR and electoral rolls

Q7. Consider the following statements:

- 1. The Standard Veterinary Treatment Guidelines (SVTG) aim to reduce antimicrobial resistance (AMR) by regulating antibiotic use in veterinary care.
- 2. SVTG promotes the use of Ayurvedic and herbal alternatives to reduce the cost of treatment for farmers.

Which of the statements given above is/are correct?

- A. Only 1
- B. Only 2
- C. Both 1 and 2
- D. Neither 1 nor 2

Q8. With reference to ICRA Limited, consider the following statements:

- 1. ICRA provides credit ratings, risk assessment, and advisory services to a wide range of sectors.
- 2. Moody's Corporation, a global credit rating agency, holds a significant share in ICRA.



3. ICRA operates under the regulatory framework of the Reserve Bank of India (RBI).

Which of the statements given above 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 pairs:

Tiger Reserve	Located in
1. Jim Corbett	Uttarakhand
2. Bandipur	Tamil Nadu
3. Manas	Assam
4. Similipal	Odisha

How many of the above pairs are correct?

- A. Only one
- B. Only two
- C. Only three
- D. All are correct

Q10. Consider the following statements regarding the significance of the Census for future governance in India:

1. The Census provides critical data that informs policy-making and resource allocation across various sectors.
2. The lack of a timely Census can disrupt electoral processes and hinder effective governance.
3. Census data is irrelevant for regional planning and development initiatives.

Which of the statements given above are correct?

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



Solutions

1. Option D is Correct

Explanation

Ashwagandha

- **Scientific Validation:** Known for its adaptogenic properties, Ashwagandha is being studied for its potential to reduce stress and anxiety, enhance stamina, and improve overall health.
- **Market Potential:** Its use in supplements and wellness products is on the rise, making it a lucrative herb in health markets.

Turmeric

- **Scientific Validation:** Contains curcumin, which has anti-inflammatory and antioxidant properties. Research is being conducted on its efficacy in treating various conditions, including arthritis and heart disease.
- **Market Potential:** Widely used in culinary applications and health supplements, turmeric's popularity continues to grow, especially with rising interest in natural remedies.

Black Pepper

- **Scientific Validation:** Known for its bioactive compound piperine, black pepper has been studied for its potential benefits in enhancing nutrient absorption and providing anti-inflammatory effects.
- **Market Potential:** As a common spice with various health benefits, black pepper has significant demand in both culinary and medicinal markets.

2. Option C is Correct

Explanation

Section 45 of the PMLA imposes two specific conditions for granting bail:

The accused must demonstrate **prima facie innocence** and assure the **court of non-reoffense** during bail.

3. Option A is Correct

Explanation

Statement 1 is correct : Poor governance, characterised by corruption, lack of transparency, and ineffective law enforcement, can create an environment conducive to the

black economy (informal or unregulated economic activities). This prevalence of the black economy discourages legitimate investment as businesses prefer to operate in a stable and regulated environment.

Statement 2 is Incorrect : The credit-deposit ratio typically reflects the level of borrowing in relation to deposits. Poorer states generally have lower savings rates and a lower credit-deposit ratio because of limited economic activities and financial inclusion. Wealthier states usually have better access to banking services and higher savings, leading to a more balanced credit-deposit ratio.

4. Option C is Correct

Explanation

Plasma cells: These cells are derived from B-cells and are the primary producers of antibodies in response to vaccination. When the immune system encounters an antigen (such as one presented by a vaccine), B-cells are activated and differentiate into plasma cells. Plasma cells then produce and release antibodies specific to the antigen, which help neutralise or eliminate the pathogen.

Memory B-cells: While memory B-cells do not produce antibodies directly, they play a crucial role in long-term immunity. They "remember" the specific antigen from the vaccine, so if the body encounters the same pathogen again, they quickly differentiate into plasma cells to produce antibodies, providing a faster and more effective immune response.

T-cells: T-cells are essential for immune responses but do not produce antibodies. Instead, they help coordinate the immune response and can directly kill infected cells (cytotoxic T-cells) or support B-cell activation (helper T-cells).

Natural killer cells: These cells are part of the innate immune system and respond to infected or abnormal cells by directly killing them. They do not produce antibodies.

5. Option A is Correct

Explanation

Statement 1 is Correct : The LCA Mk1A is an indigenously developed fighter aircraft, designed and manufactured in India by



Hindustan Aeronautics Limited (HAL) as part of India's efforts to reduce dependency on foreign defence imports, aligning with the 'Make in India' initiative.

Statement 2 is Correct : The LCA Mk1A is indeed powered by the F404 engines, which are manufactured by General Electric, a U.S.-based company.

Statement 3 is Incorrect : While the Indian Air Force (IAF) is the primary user, the project is managed by Hindustan Aeronautics Limited (HAL) with collaboration from the Defence Research and Development Organisation (DRDO) and other Indian defence agencies. The IAF is involved as the end-user but does not solely manage the project.

**6. Option B is Correct
Explanation**

- A. Real-time registration of births and deaths :** This is a feature of the CRS mobile application. The app is designed to facilitate real-time registration of births and deaths, making the process more efficient and accessible for users.
- B. Access to digital certificates only at designated government centres :** This statement is likely **NOT a feature of the CRS mobile application**. The CRS aims to make the registration process more accessible by allowing users to access digital certificates online, rather than limiting access to designated government centres.
- C. Availability of services in the official language of each state :** This is a feature of the CRS mobile application. The application is intended to provide services in various official languages to cater to the linguistic diversity of India, making it user-friendly for residents in different states.
- D. Centralised data update for NPR and electoral rolls :** This is also a feature of the CRS mobile application. The system aims to ensure that the data collected through the CRS is integrated with the National Population Register (NPR) and electoral rolls, providing centralized updates.

**7. Option C is Correct
Explanation**

Statement 1 is correct because SVTG was introduced with the goal of reducing antimicrobial resistance (AMR). It emphasises the regulation of antibiotic use to minimise AMR risks and irrational antibiotic usage in veterinary care.

Statement 2 is also correct as SVTG encourages Ayurvedic and ethnoveterinary practices to provide cost-effective treatments for farmers, alongside addressing AMR.

This promotes Ayurvedic and herbal methods, offering a cheaper alternative to conventional antibiotics for specific livestock treatments.

**8. Option A is Correct
Explanation**

Statement 1 is correct : ICRA Limited is a well-known credit rating agency in India that offers a variety of services, including credit ratings, risk assessment, and advisory services across multiple sectors.

Statement 2 is also correct : Moody's Corporation, an international credit rating agency, holds a substantial share in ICRA. Moody's acquired a significant stake in ICRA and remains one of its major shareholders, influencing its operations and expertise in global credit assessment.

Statement 3 is incorrect : While the Reserve Bank of India (RBI) does regulate financial institutions, credit rating agencies like ICRA are primarily regulated by the Securities and Exchange Board of India (SEBI) under the SEBI (Credit Rating Agencies) Regulations, 1999. SEBI oversees their activities to ensure transparency and accountability in the ratings they provide.

**9. Option C is Correct
Explanation**

- Jim Corbett is in Uttarakhand.
- Bandipur is in Karnataka, not Tamil Nadu.
- Manas is in Assam.
- Similipal is in Odisha.



10. Option D is Correct

Explanation

Statement 1 is correct: The Census provides vital demographic data that informs policy-making, resource allocation, and social services across various sectors, including education, health, and infrastructure.

Statement 2 is Correct: A delayed Census can disrupt electoral processes by affecting

delimitation and representation, ultimately hindering effective governance.

Statement 3 is Incorrect: Census data is essential for regional planning and development initiatives, as it helps identify population needs, resources, and socio-economic factors crucial for effective planning.





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