

DAILY CURRENT AFFAIRS (DCA)

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NEET PAPER LEAK CONTROVERSY

Context

- The **National Testing Agency (NTA)** stated that the 2026 NEET examination had been “compromised” and announced that a **re-test would be conducted for the National Eligibility cum Entrance Test (NEET)**.

About

- NEET **paves the way for admission to medical colleges.**
- The **Federation of All India Medical Association (FAIMA)** moved the Supreme Court with a plea to **either replace NTA or conduct major restructuring reforms.**

Previous Case:

- **In 2024**, for the first time, 67 out of the top 100 scorers received full marks. In comparison, only two students achieved full marks in 2023, while none did so in 2022.
 - ♦ Allegations of a paper leak later surfaced, with investigations revealing that 155 students had allegedly benefited from leaked question papers.
- This year, the former IndiaAI Mission took charge of NTA and declared that there would be a **‘Zero Error, Zero Tolerance’ policy.**

Impact of Examination Malpractices:

- **Undermines Educational Integrity:** When cheating and malpractices become widespread, it erodes the credibility of the examination system.
- **Devaluation of Qualifications:** When malpractices affect the credibility of exams, the value of the qualifications awarded by educational institutions diminishes, affecting the employability and future prospects of all students.
- **Loss of Trust in the System:** Parents and the public lose trust in the education system.
- **Psychological Impact on Students:** Students feel demotivated and discouraged by the prevalence of malpractices.
- **Delay in Exams:** Malpractices in public examinations lead to delays and cancellation of examinations, adversely impacting the prospects of millions of youth.
- **Additional Cost:** The government has to bear additional financial burden to reconduct the examination.

Radhakrishnan Panel

- Following the NEET-UG 2024 controversy, the Ministry of Education formed a high-level committee headed by **former ISRO chairman K. Radhakrishnan.**

Key Recommendations of Panel for Exam Reforms

- **Examinations Conducted:** NTA from **2025** should conduct only entrance exams for higher education institutions and **not recruitment exams.**
- **Restructuring of NTA:** 10 new posts covering administration, digital infrastructure, IT security being created in an effort aimed at an **error-free examination process for students.**
- **Digi- Exam:** On the lines of Digi-Yatra, to make the examination process foolproof, authentication at the stages of application, test, admission.
- **Governing Body:** It recommended to set up an empowered and accountable governing body with three designated sub-committees to oversee test audit, ethics and transparency, nomination and staff conditions.
- **Coordination Committee:** It recommends that Coordination Committees at State and District levels may be set up with specified roles and responsibilities.
- **Test Centres:** The panel also recommended usage of **Kendriya Vidyalayas (KVs) and Jawahar Navodaya Vidyalayas (JNVs) across the country as test centres.**
- **Secure Question Paper Transportation:** This includes the use of secure courier services, sealed by authorized officials and validated by the NTA before dispatch.
 - ♦ Containers must be locked, monitored during transit, and handed over at test centers under CCTV surveillance and NTA supervision.
- **Online Examinations:** On the recommendations of the Panel, the government plans to introduce computer adaptive testing for future entrance exams.

About NTA

- **Established:** In 2017.
- It is an **autonomous body of the Department of Higher Education** of the Ministry of Education of India.
- **NTA conducts major entrance examinations** such as the
 - ♦ Joint Entrance Examination (JEE) Main for engineering;

- ◆ the National Eligibility Cum Entrance Test-Undergraduate (NEET-UG) for medicine;
- ◆ and the Common University Entrance Test (CUET) for general Undergraduate and Postgraduate programmes in central universities.
- ◆ It also conducts **recruitment exams** for several government agencies including National Highway Authority of India (NHAI), Delhi High Court, Employment Provident Fund Organisation (EPFO) and for several posts in central government universities.

Public Examination (Prevention of Unfair Means) Act, 2024

- It was passed in 2024 and is aimed at **curbing leaks, malpractices in recruitment examinations** like UPSC, SSC etc and entrance tests such as NEET, JEE, and CUET.
- The Act broadly defines “**unfair means**” to include various malpractices, such as:
 - ◆ Leaking question papers or answer keys,
 - ◆ Assisting candidates during exams (unauthorized communication, providing solutions),
 - ◆ Tampering with computer networks or resources,
 - ◆ Impersonating candidates,
 - ◆ Conducting fake examinations or issuing fake documents,
 - ◆ Tampering with documents for merit lists or ranks.
- **Penalties and Punishments:**
 - ◆ Individuals:
 - Imprisonment ranges from 3 to 10 years depending on the offense’s severity.
 - Fines up to Rs. 1 crore for organized crimes.
 - ◆ Service providers:
 - Fines up to Rs. 1 crore for involvement in malpractices.
 - Barring from conducting public examinations for 4 years.
 - Personal liability for directors/management involved.
 - ◆ Organized crimes:
 - Harsher penalties, with imprisonment between 5 and 10 years and a minimum fine of Rs. 1 crore
 - The institution involved can face property attachment and forfeiture

Investigation:

- ◆ All offences under the Act are cognisable, non-bailable, and non-compoundable.
- ◆ An officer not below the rank Deputy Superintendent or Assistant Commissioner of Police will investigate the offences under the Act.
- ◆ The Central Government may transfer the investigation to any Central Investigating Agency.

Source: TH

AI-POWERED FINANCIAL INCLUSION IN INDIA

Syllabus: GS3/ Economy

Context

- India’s financial inclusion journey is undergoing a paradigm shift, driven by the convergence of a strong **Digital Public Infrastructure (DPI)** and **Artificial Intelligence (AI)**.

What is financial inclusion?

- As per the **World Bank**, **financial inclusion means** that individuals and businesses have access to useful and affordable financial products and services that meet their needs — **transactions, payments, savings, credit and insurance** — delivered in a responsible and sustainable way.

India’s Digital Foundation for Financial Inclusion

- In 2021, the **Reserve Bank of India (RBI)** launched a **Financial Inclusion Index (FI-Index)** to track the process of ensuring access to financial services, timely and adequate credit for vulnerable groups such as weaker sections and low-income groups at an affordable cost.
- **JAM Trinity (Jan Dhan-Aadhaar-Mobile):** JAM is a foundational convergence of universal bank accounts, biometric identity, and mobile connectivity.



- **Direct Benefit Transfer (DBT):** Under the DBT system, government **subsidies and welfare benefits** are directly transferred into the bank accounts of beneficiaries, to enhance transparency by removing intermediaries.
- **Unified Payments Interface (UPI):** UPI is a **real-time payment system** that allows for instant money transfers between any two bank accounts via a mobile platform.
- **Atal Pension Yojana (APY):** It was launched in **2015** and provides social security to unorganised sector workers.
 - ♦ APY is regulated by the **Pension Fund Regulatory and Development Authority (PFRDA)**. It functions under the National Pension System (NPS) framework.

Integration of AI in financial services

- **MuleHunter.AI:** Launched in **2024** by the **Reserve Bank Innovation Hub (RBIH)**, MuleHunter.AI is an advanced AI-powered tool designed to identify and mitigate “mule” bank accounts used in cybercrimes.
- **Digital India BHASHINI Division and Reserve Bank** of India signed a Memorandum of Understanding in **2026** to integrate AI-based language technologies into banking and financial services.
- **Digital ShramSetu:** It is a proposed initiative designed to empower India's **490 million** informal workers by leveraging **Artificial Intelligence (AI), blockchain, and immersive learning**.
 - ♦ It aims to bridge digital divides, enhance productivity, and provide social protection to workers in the informal economy through a dedicated national ecosystem.
- **AI-Based Credit Scoring:** For individuals without a **CIBIL score**, AI-based lending systems use digital transaction patterns and behavioural data to evaluate financial reliability.
 - ♦ **Unified Lending Interface (ULI):** Reserve Bank of India developed the ULI as a **Digital Public Infrastructure (DPI)** for frictionless and inclusive credit delivery.

Key Terms

- **Digital Public Infrastructure (DPI)** refers to interoperable digital systems- such as digital identity, payment platforms, and data exchange frameworks that enable secure and efficient service delivery.

- **Application Programming Interface (API)** is a set of rules and protocols that allows different software applications to communicate and exchange data with each other.
- **CIBIL Score**, issued by Credit Information Bureau (India) Limited (CIBIL), is a three-digit numeric summary of a user's credit profile and loan-worthiness, based on past repayment behaviour and credit records.

Challenges to Financial Inclusion

- **Digital Divide:** Many rural populations lack access to smartphones or the internet, restricting access to digital financial services.
- **Low Financial Literacy:** Lack of awareness about formal financial products and schemes hampers their adoption.
 - ♦ Overall national financial literacy stands at only **62.6%**. (According to 2023 data).
- **Trust Deficit:** Fear of fraud, complex procedures, and prior bad experiences discourage first-time users from participating in formal finance.
 - ♦ **Cybercrime reports increased 24.4%** between 2021–22 (NCRB data), indicating rising digital fraud.
- **Infrastructure Deficit:** Inadequate banking infrastructure (ATMs, branches) in remote areas reduces outreach.
- **Gender Disparity:** Although bank account ownership among women has improved, actual usage remains low due to social and cultural constraints.

Way Ahead

- **Strengthening Digital Literacy:** Expand awareness and digital training programmes for rural and vulnerable populations.
- **Ensuring Data Protection:** Implement robust safeguards for consent-based and secure data sharing.
- **Inclusive AI Models:** Develop transparent and unbiased AI algorithms for equitable financial access.
- **Expanding DPI Infrastructure:** Improve digital connectivity and last-mile financial infrastructure.
- **Strengthening Regulatory Oversight:** Enhance cybersecurity frameworks and AI governance standards.

Source: PIB

THE TOLL OF STRUCTURAL ADJUSTMENTS ON THE GLOBAL SOUTH AND A CASE FOR ACCOUNTABILITY

Context

- In the 1980s, the IMF and World Bank put **conditions on financing the global South**.
 - ♦ Decades later, many countries in the region struggle with **weak public health systems and high levels of poverty**.

About

- In a recent paper published in BMJ Global Health argued that the institutions that implemented these programmes now **owe reparations**.
- **Global South in 1970s:** Between 1960 and 1980, **real per capita income grew** across **Asia, Africa, and Latin America**.
 - ♦ Countries that had recently thrown off colonial rule were investing in public healthcare and education.
- **1980s:** In the 1980s, the International Monetary Fund (IMF) and the World Bank began **structural adjustment programmes across Asia, Africa and Latin America**.
 - ♦ Decades later, many countries continue to struggle with **weak public health systems, stagnant incomes and high levels of poverty**.

Global South

- The term “**Global South**” was coined by **Carl Oglesby**, an American political activist, in **1969**.
 - ♦ He used the term to describe **countries suffering from political and economic exploitation** by developed nations of the Global North.
- In the simplest sense, Global South refers to the countries of **Asia, Africa, Latin America, and Oceania**.
 - ♦ Most of these countries, where **about 85% of the world population lives**, **experienced colonial rule** and historically lagged in achieving substantial levels of industrialisation.
- According to the **United Nations Conference on Trade and Development**, Global South countries typically exhibit lower levels of development, higher income inequality, rapid population growth, agrarian-dominant economies, lower quality of life, shorter life expectancy, and significant external dependence.

Structural Adjustment Programmes (SAPs)

- **SAPs** were **economic reform measures** imposed mainly by the International Monetary Fund and the World Bank **on developing countries** facing debt crises during the 1980s and 1990s.
- **SAPs generally demanded three major reforms:**
 - ♦ **Austerity Measures:** Reduction in public expenditure on healthcare, education, food subsidies, and social welfare. Aim was to divert savings towards repayment of external debt and creditors.
 - ♦ **Privatisation:** Transfer of public sector enterprises and services into private hands. Included privatisation of utilities, transport, banking, and other state-owned industries.
 - ♦ **Economic Liberalisation and Deregulation:** Removal of industrial regulations, tariffs, labour protections, and capital controls. Opening domestic markets to foreign trade and investment.
- Countries had **very limited bargaining power** because defaulting on international loans could isolate them from global financial markets.

Social and Economic Impact of SAPs

- **Slowdown in Economic Growth:** Before SAPs, the global South recorded average annual growth of around 3.2%.
 - ♦ During the structural adjustment era of the 1980s–1990s, growth declined sharply to nearly 0.7% annually.
 - ♦ The South collectively lost an average of \$480 billion per year in potential national income during this period.
- **Decline in Incomes:** In Latin America, real income per adult declined significantly after 1980 and recovered only decades later.
 - ♦ Sub-Saharan Africa experienced prolonged income decline and stagnation.
- **Rise in Poverty and Food Insecurity:** Trade liberalisation and currency devaluation increased prices of essential commodities.
- **Adverse Health Outcomes:** SAPs severely affected public health systems because:
 - ♦ Government spending on healthcare was reduced,
 - ♦ Hospitals and clinics were closed,
 - ♦ Recruitment of doctors and nurses declined,
 - ♦ Imported medicines became expensive due to currency devaluation,

- ◆ Studies linked SAPs to higher child mortality, increased maternal deaths, deterioration in nutrition and disease control.
- **Capital Flight and Financial Outflows:** Removal of capital controls enabled multinational corporations to repatriate profits abroad.
 - ◆ Trade deregulation and weak financial controls facilitated tax evasion and illicit outflows.
 - ◆ This reduced funds available for domestic development and welfare.

Criticism of SAPs

- It prioritised debt repayment over human development.
- Increased inequality and poverty.
- Weakened state capacity.
- Reduced policy sovereignty of developing countries.
- Favoured interests of developed countries and multinational corporations.
- The governance structure of the IMF and World Bank is also criticised because:
 - ◆ Developed countries hold disproportionate voting power.
 - ◆ The Global North dominates decision-making.
 - ◆ The United States has veto influence in the IMF.

Debate on Accountability

- **Recent debates argue that the IMF and World Bank should acknowledge responsibility** for the economic and social damage caused by SAPs.
- **Suggested measures include:**
 - ◆ Compensation for lost income and welfare,
 - ◆ Restoring investments in healthcare and education,
 - ◆ Estimating losses caused by austerity and capital outflows,
 - ◆ Democratising global financial institutions.
- However, legal accountability remains difficult because these institutions enjoy sovereign immunity protections.

Conclusion

- Structural Adjustment Programmes marked a major shift in the development trajectory of many countries in the Global South.

- While intended to stabilize economies and ensure debt repayment, SAPs often produced long-term social and economic hardships through austerity, privatisation, and deregulation.
- The debate today increasingly focuses on reforming global financial governance, ensuring policy autonomy for developing countries, and creating a more equitable international economic order.

Source: TH

INDIA'S NUCLEAR ENERGY PUSH: ROADMAP TO 100 GW CAPACITY BY 2047

Context

- According to the TERI report 'India's Nuclear Energy Vision: Strategic Pathways for SMR Deployment', achieving **100 GW by 2047** will require investments of nearly **₹23–25 lakh crore**, major regulatory reforms, rapid project execution, and deployment of **Small Modular Reactors (SMRs)**.

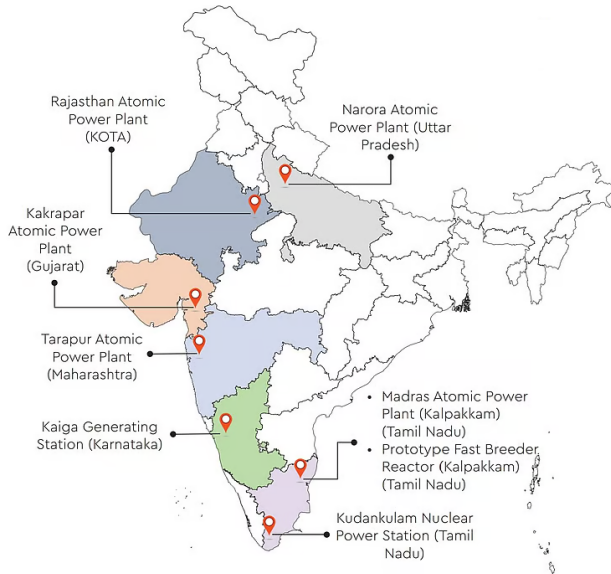
Why Nuclear Energy Matters for India?

- **Growing Energy Demand:** India's economy and population are expanding rapidly, increasing the demand for clean energy, reliable baseload electricity, industrial power supply, and energy security.
 - ◆ While renewable energy capacity is growing, solar and wind remain intermittent.
- **Role of Nuclear Power:** Nuclear energy provides continuous baseload power, low-carbon electricity, grid stability during non-solar hours, and support for green hydrogen and green ammonia production.
 - ◆ According to the Central Electricity Authority (CEA), nuclear energy will become increasingly important as renewable penetration rises.

Current Status of Nuclear Energy in India

- **Existing Capacity:** India currently operates **25 nuclear reactors**, installed capacity of around **8.8 GW** across **7 nuclear power sites**.
- **Future Pipeline:** Ongoing and planned projects may increase capacity to nearly **22 GW by 2032**.
 - ◆ However, reaching **100 GW by 2047** requires a much faster expansion strategy.

Nuclear power plants in India



Small Modular Reactors (SMRs)

- SMRs are compact nuclear reactors with smaller generation capacity, factory-based manufacturing, modular construction, and faster deployment timelines.
 - ♦ They are considered more flexible and cost-effective than conventional large reactors.

Advantages of SMRs

- **Faster Construction:** Factory manufacturing reduces delays and cost overruns.
- **Lower Initial Investment:** Phased investments reduce financial risk.
- **Flexible Deployment:** SMRs can be installed in industrial hubs, remote regions, smaller grids, and data centres.
- **Multi-purpose Applications:** Apart from electricity generation, SMRs can support hydrogen production, desalination, industrial process heat, and district heating.

India's Indigenous SMR Programme

- India is currently developing a **200 MWe Bharat Small Modular Reactor, 55 MWe reactor, and 5 MWth High Temperature Gas-Cooled Reactor.**
- **Budgetary Support:** The Union Budget 2025–26 allocated **₹20,000 crore** for SMR research and deployment.
- **Target:** Operationalise **5 indigenous SMRs by 2033.**
 - ♦ It reflects the government's push toward indigenous nuclear technology development under the **Atmanirbhar Bharat** framework.

India's Three-Stage Nuclear Programme

- India's long-term nuclear vision follows the strategy proposed by **Dr. Homi J. Bhabha**. India possesses one of the world's largest thorium reserves, making this stage strategically important.
- **Stage 1:** Pressurised Heavy Water Reactors (PHWRs) using natural uranium.
- **Stage 2:** Fast Breeder Reactors using plutonium.
 - ♦ The **Prototype Fast Breeder Reactor (PFBR)** at Kalpakkam achieved criticality in April 2026.
- **Stage 3:** Thorium-based reactors for long-term fuel sustainability.

Global Developments in SMRs

- More than **120 SMR designs** are under development globally.
- Countries leading SMR development include the United States, Canada, China, Russia, France, and the United Kingdom.
 - ♦ Only a few SMRs are currently operational, but global investment is increasing rapidly.

Key Challenges in Achieving 100 GW Target

- **Regulatory Bottlenecks:** India's nuclear regulatory system was designed mainly for large reactors.
- **Required reforms** are streamlined licensing procedures, SMR-specific regulations, faster environmental clearances, and public-private partnership (PPP) frameworks.
 - ♦ The **Atomic Energy Act** and related frameworks may require modernization to accommodate private participation.
- **Financing Constraints:** Nuclear projects involve high upfront capital costs, long gestation periods, and financial risks due to delays.
 - ♦ TERI estimates investments of **₹23–25 lakh crore** by 2047.
 - ♦ It requires sovereign support, international partnerships, and private investment participation.
- **Fuel Security Concerns:** India produces only around **600 tonnes of uranium annually**, despite having substantial reserves around **425,000–433,800 tonnes of U₃O₈**.

- **Import Dependence:** Between 2008–09 and 2024–25, India imported **18,842.60 tonnes** of uranium products. Thus, long-term fuel security remains a major concern.
- **Workforce and Technological Gaps:** Rapid expansion requires skilled nuclear engineers, safety experts, and advanced manufacturing ecosystems.
 - ♦ India needs institutional coordination, training programmes, and research collaboration.
- **Public Acceptance and Safety Concerns:** Public concerns after incidents like Fukushima (Japan), and Chernobyl (Ukraine) continue to affect nuclear expansion globally.
 - ♦ There is a need for public outreach programmes, transparency in safety mechanisms, and community participation.

Way Forward: TERI's Recommended Roadmap

- **Phase 1:** Regulatory reforms, pilot SMR projects, and institutional strengthening
- **Phase 2:** Large-scale deployment, industrial ecosystem development, and public-private collaboration.
- **Phase 3:** Integration of advanced reactors, Thorium-based systems, and deep decarbonisation of industry.

Conclusion

- Nuclear energy is emerging as a crucial pillar of India's long-term energy transition strategy.
- Achieving the ambitious target of **100 GW nuclear capacity by 2047** will require coordinated action across regulation, financing, fuel security, technology, and public engagement.
- Small Modular Reactors can play a transformative role by enabling cleaner, flexible, and scalable nuclear deployment. If implemented effectively, nuclear energy can significantly contribute to Net Zero 2070 target, energy security, industrial decarbonisation, and Viksit Bharat 2047 vision.

Source: DTE

INDIA–SRI LANKA ECONOMIC COOPERATION

Context

- The India–Sri Lanka Business Forum, organised by **Confederation of Indian Industry** in partnership with The Ceylon Chamber of Commerce in Mumbai, identified **six priority sectors**.

Key Areas of Cooperation

- **Ports:** India and Sri Lanka are exploring cooperation in port infrastructure and maritime connectivity to strengthen trade and regional supply chains.
- **Transport and logistics:** Improving shipping routes, rail connectivity, warehousing, and cold storage facilities to enhance logistics efficiency.
- **Pharmaceuticals:** Sri Lanka has shown interest in importing affordable generic medicines from India under the existing FTA framework.
- **Digital payments:** Sri Lanka is exploring UPI-like cross-border digital payment systems with India.
- **Travel and tourism:** Expanding tourism and travel connectivity through improved visa facilities and travel circuits.
- **Review of the India–Sri Lanka Free Trade Agreement (FTA):** The two countries are considering updating the FTA to include pharmaceutical raw materials, logistics equipment, and trade facilitation measures.

Challenges in Bilateral Economic Cooperation

- **Trade Imbalance:** Sri Lanka has concerns regarding trade deficits with India.
- **Regulatory Barriers:** Delays in customs clearances and regulatory approvals affect trade efficiency.
- **Infrastructure Constraints:** Limited logistics and transport infrastructure can increase trade costs.
- **Economic Instability:** Sri Lanka's recent economic crisis has affected investor confidence.
- **Geopolitical Competition:** External powers are increasingly competing for influence in strategic sectors such as ports and infrastructure.

Significance of Sri Lanka to India

- **Strategic Location:** Sri Lanka lies near the vital sea lanes of communication (SLOCs) in the Indian Ocean through which over 60% of India's energy supplies and significant trade pass.
- **Maritime Security:** Vital under India's SAGAR initiative for ensuring regional stability and countering China's naval presence.

India and Sri Lanka Relations

- **Trade Relations: India-Sri Lanka Free Trade Agreement (ISFTA)** in **2000** contributed significantly towards the expansion of trade between the two countries.

- ◆ India has traditionally been among **Sri Lanka's largest trade partners** and Sri Lanka remains among the largest trade partners of India in the SAARC.
- ◆ India is also one of the largest contributors to **Foreign Direct Investment** in Sri Lanka.
- **Cultural relations:** The Cultural Cooperation Agreement signed in **1977** forms the basis for periodic Cultural Exchange Programmes between the two countries.
 - ◆ The Buddhist and Tamil links enhance people-to-people connect and soft power.
- **Tourism:** India has traditionally been Sri Lanka's top inbound tourism market, followed by China.
 - ◆ As per latest data from the Sri Lanka Tourism Development Authority, India is the largest source for tourists in **2023**.
- **Maritime Security and Defence Cooperation:** In 2011, a decision was taken to establish the **Colombo Security Conclave** which aims to further promote maritime security in the Indian Ocean Region.
 - ◆ India and Sri Lanka conduct a joint Military exercise named '**Mitra Shakti**', Trilateral Maritime Exercise "**Dosti**", and a Naval exercise named **SLINEX**.
- **Multilateral Forum Collaboration:** India and Sri Lanka are member nations of the **South Asian Association for Regional Cooperation (SAARC)**, South Asia Co-operative Environment Programme, South Asian Economic Union and **BIMSTEC**, working to enhance cultural and commercial ties.

Source: TH

NEWS IN SHORT

CENTRAL BUREAU OF INVESTIGATION (CBI)

Context

- The Appointments Committee of the Cabinet (ACC) has approved a **one-year extension** in the tenure of **Praveen Sood** as Director of the Central Bureau of Investigation.

Central Bureau of Investigation (CBI)

- CBI, functioning under the **Ministry of Personnel, Pension & Public Grievances**, Government of India, is the premier investigating police agency in India.
- **History:** The CBI came into being during World War II, when the colonial government felt the need to probe cases of corruption in the War and Supply Department. A law came in 1941. It became the DSPE Act in 1946.
 - ◆ It was established by a resolution of the **Ministry of Home Affairs**, Government of India, in **1963**.
 - ◆ **The Santhanam Committee** on Prevention of Corruption recommended the establishment of the CBI.
- **Functions:** CBI was established with a view to investigate serious crimes related to the defense of India, corruption in high places, serious fraud, cheating, and embezzlement and social crime, particularly hoarding, black marketing, and profiteering in essential commodities, having all-India and inter-state ramifications.
 - ◆ It is also the nodal police agency in India that coordinates investigations on behalf of Interpol member countries.
- **Jurisdiction:** CBI derives power to investigate from the **Delhi Special Police Establishment Act, 1946**.
 - ◆ **Section 2** of the Act vests DSPE with jurisdiction to investigate offenses in the Union Territories only.
 - ◆ The jurisdiction can be extended by the Central Government to other areas including Railway areas and States under **Section 5(1)** of the Act, provided the State Government accords consent under Section 6 of the Act.

Source: TH

TRACING THE EVOLUTIONARY ORIGINS OF SNAKES

Context

- Recent fossil discoveries and advances in genetic analysis, 3D imaging, and evolutionary biology are helping scientists better understand the origins and evolution of snakes.

Evolutionary Origin of Snakes

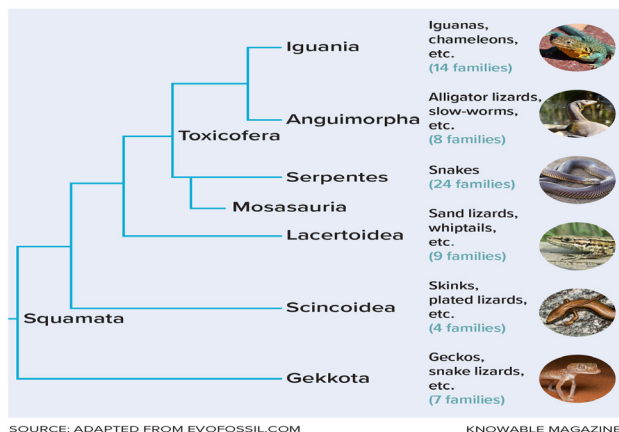
- Snakes are legless reptiles belonging to the suborder Serpentes under the larger reptile group of lizards.

- Scientists estimate that snakes evolved around **160 million years ago**.
 - ♦ However, the earliest ancestral snake fossils are still missing, making the evolutionary history incomplete.
- **India hosts** several important **snake species**, including **King Cobra, Indian Cobra, Russell's Viper and Common Krait**.
- Fossils discovered in **Patagonia**, such as **Najash rionegrina** and **Dinilysia patagonica**, indicate that early snakes likely evolved in terrestrial and semi-burrowing environments rather than marine habitats.

Key Evolutionary Adaptations

- **Snakes gradually lost their limbs**, an adaptation useful for burrowing and moving through dense vegetation.
- Their highly **flexible skull structure** evolved to allow swallowing of large prey whole.
- **Snakes developed elongated bodies** with hundreds of vertebrae, improving locomotion on land, underground, and in water.
- These adaptations enabled snakes to **diversify into different ecological niches** across continents and oceans.

Evolutionary tree of lizards and snakes



Source: TH

REVVING UP IMMUNE CELLS MIGHT HELP FIGHT HIV: STUDY

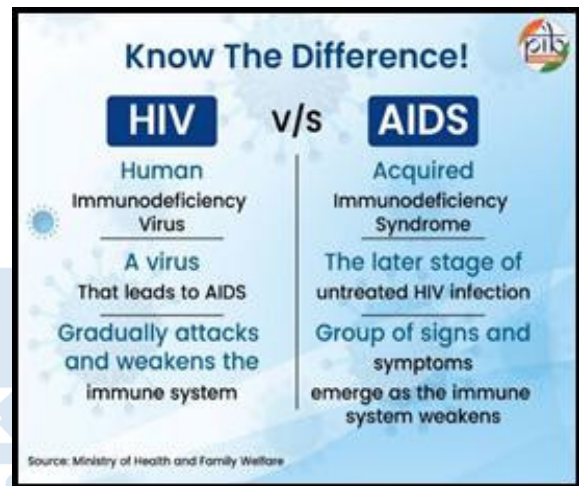
Context

- Scientists are **tweaking a powerful cancer therapy** in hopes it **could fight HIV** instead, by supercharging patients' own immune cells.

HIV AIDS

- **Human immunodeficiency virus (HIV)** is a virus that attacks the body's immune system.

- ♦ **HIV targets** the body's white blood cells, weakening the immune system. This makes it **easier to get sick** with diseases like tuberculosis, infections and some cancers.
- ♦ **Acquired immunodeficiency syndrome (AIDS)** occurs at the most advanced stage of infection.
- **Spread:** HIV is spread from the body fluids of an infected person, including blood, breast milk, semen and vaginal fluids. It can also spread from a mother to her baby.
- **Treatment:** There is no cure for HIV infection. It is treated with antiretroviral drugs, which stop the virus from replicating in the body. Untreated HIV can progress to AIDS, often after many years.



Source: TH

CABINET APPROVES ₹37,500 CR. PACKAGE TO BOOST COAL GASIFICATION

Context

- The Union Cabinet approved a Rs 37,500 crore scheme to **promote surface coal and lignite gasification projects**.

About

- **Aim:** To accelerate India's coal gasification programme and strengthen the country's energy security.
- The scheme is expected to support the **national target of gasifying 100 million tonnes of coal by 2030** while reducing dependence on imports of key products such as liquefied natural gas (LNG), urea, ammonia and methanol.
- **India currently holds around 401 billion tonnes** of coal reserves and nearly 47 billion tonnes of lignite reserves.

- ♦ **Coal contributes** more than **55% to the country's energy mix**.
- ♦ India has the **fourth-largest coal reserves globally**.
- Coal gasification would **help convert domestic coal and lignite into synthesis gas, or syngas**, which can be used for producing fuels and chemicals domestically, thereby reducing exposure to global supply disruptions and price volatility.

What is Coal Gasification?

- **Coal gasification** is a **thermochemical process** of **converting coal into synthesis gas (syngas)**, which is a mixture of fuel-rich gases like carbon monoxide (CO), carbon dioxide (CO₂), hydrogen (H₂), and methane (CH₄).
- **The syngas can be used for** producing Synthetic Natural Gas (SNG), electricity generation, energy fuel (methanol and ethanol), ammonia for fertilisers, and chemicals.
- **The coal gasification process involves oxidation of coal at higher temperatures** and pressures to produce syngas.
- **There are two main types of gasification:** Surface gasification and Underground coal gasification (UCG).
 - ♦ **In surface coal gasification**, coal is first mined and then converted into gas in above-ground industrial reactors using oxygen, steam and high temperatures.
 - ♦ **Underground coal gasification** converts coal into gas while it is still buried deep underground by injecting air or oxygen into coal seams through wells and extracting the resulting gas to the surface.

Source: TH

ALZHEIMER'S DISEASE

In News

- Eli Lilly and Company has launched a new **Alzheimer's treatment in India called Lormalzi**, marking one of the first disease-modifying therapies for the condition in the country.

Alzheimer's Disease

- It is the most common form of dementia, a brain disorder that slowly destroys a person's memory and thinking skills.
- It is characterized by a **loss of cognitive functioning** — thinking, remembering, and

reasoning — and behavioral abilities to such an extent that it interferes with a person's daily life and activities. Eventually, people with Alzheimer's lose the ability to perform simple daily tasks, such as eating or walking.

- ♦ Drugs like **lecanemab and aducanumab exist globally**, benefits are modest and come with complexity, high cost, and safety concerns.
- It affects about 8.8 million people in India and is expected to nearly double by 2036, making new treatments significant despite their limitations.

Lormalzi Drug

- It is a monoclonal antibody, is given as a once-a-month infusion and works by removing **amyloid-beta plaques in the brain**, which are linked to Alzheimer's progression.
- Clinical trials suggest it can slow cognitive decline in early-stage patients by around 30–35% over about 18 months, but it does not reverse existing damage and carries risks such as brain swelling or bleeding (ARIA), which can be serious in some cases.

Source:IE

INDIA'S GOLD AND SILVER IMPORT DUTY HIKE

In News

- The Indian government increased the effective import tax on gold and silver from 9.2% to 18.4%.
 - ♦ Customs duty was raised from 5% to 10%, while the Agriculture Infrastructure and Development Cess (AIDC) increased from 1% to 5%.

Key Terms

- **Current Account Deficit (CAD):** The CAD is the margin by which a country's total imports of goods, services, and transfers exceeds its exports.
- The **Agriculture Infrastructure and Development Cess (AIDC)** was introduced in the Union Budget 2021–22 as a tax levied on certain goods, including agricultural produce and related items, at specified rates.
 - ♦ Its main purpose is to generate funds for the development and improvement of agricultural infrastructure in India.

- ◆ The cess applies to products such as gold, silver, alcoholic beverages, crude edible oils, apples, coal, fertilizers, pulses, and cotton
- **Import duty:** It is a tax collected on imports and some exports by a country's customs authorities

Reason behind the latest decision

- The decision came soon after the Prime Minister urged citizens to reduce gold purchases temporarily to help protect the rupee and forex reserves.
- The government linked the move to concerns over
 - ◆ Rising current account deficit (CAD),
 - ◆ Pressure on foreign exchange reserves
 - ◆ Global uncertainty due to the West Asia crisis
 - ◆ Volatility in crude oil prices and shipping routes.
- Foreign exchange should be prioritised for essential imports like crude oil, fertilisers, defence equipment, and industrial goods.

Impacts

- Industry bodies and economists criticised the government's sharp increase in gold and silver import duties, calling it a "retrograde" and "blunt" measure that is unlikely to reduce India's demand for gold, which is deeply rooted in savings habits, cultural traditions, festivals, and weddings.
- Experts warned that higher duties could instead encourage gold smuggling, grey-market trade, and illegal supply chains.
- Concerns were also raised about the impact on the jewellery industry, especially MSMEs, which account for nearly 80% of the council's membership and may face higher costs, liquidity pressures, reduced competitiveness, and lower employment and exports.
- Global Trade Research Initiative criticised the government's customs notifications as overly complex and difficult to interpret, arguing that they reduce transparency and make compliance harder for importers and businesses.

Source: TH

MULE ACCOUNTS

In News

- The Indian Cyber Crime Coordination Centre (I4C) signed an MoU with Reserve Bank Innovation Hub to strengthen collaboration in combating

cyber-enabled financial frauds and **curtailing mule accounts** across the banking and digital payments ecosystem.

What is Money Mule Fraud?

- Money mule fraud is a type of financial crime in which **cybercriminals use another person's bank account** to transfer or launder illegally obtained money.
- **Fraudsters often target students, unemployed individuals**, gig workers, or digitally unaware people by offering easy money or commissions in exchange for allowing transactions through their bank accounts.
- In many cases, victims unknowingly become "money mules" by receiving stolen money and forwarding it to other accounts while keeping a **small percentage as payment**.
 - ◆ This helps criminals move money quickly across **banking channels and makes it harder** for authorities to trace the original source of the fraud.

Source: Air

NATIONAL SOCIAL ASSISTANCE PROGRAMME (NSAP)

In News

- A recent evaluation of the National Social Assistance Programme (NSAP), commissioned by the Union Ministry of Rural Development, has found that the centre's contribution to social pensions has lost much of its value due to inflation.

National Social Assistance Programme (NSAP)

- It was launched in 1995 and is a key social welfare scheme.
- It provides pensions to vulnerable groups, including the elderly, widows, and persons with disabilities.
- It is a 100% Centrally Sponsored Scheme.
 - ◆ Funds under NSAP are released to States/UTs based on the number of beneficiaries digitized or State/UT-wise cap, whichever is lower.
 - ◆ Thereafter, pensions are disbursed to beneficiaries at district/panchayat level by the State/UT.

Coverage

- Currently, NSAP covers five schemes, including:
 - ◆ **Indira Gandhi National Old Age Pension Scheme (IGNOAPS)** : Under IGNOAPS, the

Centre provides financial assistance of Rs 200 per month to individuals aged 60–79 years and Rs 500 per month to those aged 80 and above.

- ♦ **Indira Gandhi National Widow Pension Scheme (IGNWPS):** Under IGNWPS, the Centre provides Rs 300 per month to widows aged 40–79 years and Rs 500 to those 80 and above.
- ♦ **Indira Gandhi National Disability Pension Scheme (IGNDPS) :** Financial assistance of Rs 300 per month is provided to individuals with severe or multiple disabilities aged 18–79, and Rs 500 to those aged 80 years and above.

- ♦ **National Family Benefit Scheme (NFBS):** The amount of one-time financial assistance under NFBS is fixed at Rs 20,000.
 - This is provided to families after the death of a primary breadwinner aged 18 to 59.
- ♦ **Annapurna Scheme:** Under the Annapurna Scheme, 10 kg of food grains per month, free of cost, are provided to those senior citizens who, though eligible, were not receiving old-age pension.

Source: IE

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