
Prelims Exam Topics

TOTAL SOLAR ECLIPSE

Context

A **total solar eclipse in August 2026** is visible across parts of **Europe**, marking the continent's first total solar eclipse in **27 years**.

About Total Solar Eclipse

- **Definition:** A **solar eclipse** occurs when the **Moon passes between the Sun and Earth** and blocks some or all of the Sun's light; a **total solar eclipse** occurs when the Moon completely covers the Sun's visible disc.
- **Corona Observation:** During totality, the Moon blocks the bright solar disc, making the otherwise faint **solar corona** visible from the ground.
- **Space Weather:** Studying the corona and its magnetic structure helps scientists understand **solar storms, solar flares and coronal mass ejections (CMEs)**, which can affect **satellites, communication and GPS networks, power systems and astronauts**.
- **RRI Prediction:** Scientists led by **Dibyendu Nandi of the Raman Research Institute (RRI)** have predicted **multiple large-scale and smaller elongated 'petal-like' structures** in the solar corona during the eclipse.
- **Modelling Approach:** The team used **two computational models**, including a **data-driven model with multi-year memory**, incorporating solar surface observations available to predict the Sun's magnetic field distribution.
- **Model Validation:** Eclipse observations provide a rare opportunity to **compare computational predictions with actual coronal structures**, helping improve models of **solar magnetism and space-weather forecasting**.

SHOMPEN TRIBE

Context

Tribal leaders have raised concerns that the **Great Nicobar Island (GNI) development project** could affect the **Shompen**, an isolated indigenous community living near the proposed **Galathea power plant**.

About Shompen Tribe

- **Community:** The Shompen are among the **most secluded and least-studied tribal communities** in the world and are recognised as a **Particularly Vulnerable Tribal Group (PVTG)** in India.
- **Habitat:** They inhabit the **dense tropical rainforests of Great Nicobar Island** in the Andaman and Nicobar Islands, where around **95% of the land is covered by rainforest**.
- **Ecological Territory:** Their traditional territory includes **Campbell Bay National Park, Galathea National Park and the Great Nicobar Biosphere Reserve**.
- **Population:** The **2011 Census** recorded the Shompen population at **229**, although their present population remains uncertain.
- **Lifestyle:** They maintain **minimal contact with outsiders** and follow a **semi-nomadic lifestyle** based on **hunting, gathering, fishing and basic horticulture**.

Culture and Social Life

- **Diet:** Their diet includes a variety of **forest plants**, with **pandanus fruit, locally known as 'larop'**, serving as an important staple.
- **Language:** The **Shompen language** has several dialects, with considerable linguistic variation even among closely located groups.
- **Family Structure:** Families are generally **nuclear**, with the **eldest male** typically overseeing day-to-day activities; **monogamy is common**, though **polygamy is also practised**.

Current Issues

- **GNI Project:** Shompen settlements are located near **Galathea**, where a power plant is proposed as part of the **₹91,000-crore Great Nicobar Island development project**.
- **Lifestyle Concerns:** The **Tribal Council of Great and Little Nicobar** has alleged that the project could pressure the Shompen towards adopting a **modern lifestyle** and disturb their traditional way of living.
- **Government Position:** The Environment Minister had earlier stated that the GNI infrastructure project **would not disturb or displace the Shompen**.
- **Nicobarese Concerns:** The **Nicobarese**, another indigenous community, have raised concerns regarding the project, including demands to return to **ancestral villages on the western coast of Greater Nicobar** and objections to wildlife reserves being notified without their consent.

- **Wildlife Reserves:** The Tribal Council stated that assurances regarding the continuation of **hunting rights** did not resolve concerns over the notification of new wildlife sanctuaries without tribal consent.

CESS

Context

The **Himachal Pradesh Government** recently imposed a **widow and orphan cess of 60 paise per litre on petrol and high-speed diesel**.

About Cess

- **Nature:** A **cess** is a targeted tax levied by the government **over and above existing taxes** to raise revenue for a specified purpose such as **education, roads or social welfare**.
- **Constitutional Basis:** Cesses are governed under **Article 270 of the Constitution**, and **Union cesses and surcharges are excluded from the divisible pool of taxes** shared between the Centre and States.
- **Levying Authority:** The **Central Government** can impose cesses through **Parliamentary legislation**, while **State Governments** can levy specific cesses within their constitutional legislative powers under the **State and Concurrent Lists**.
- **Calculation:** A cess may be imposed either as a **tax on an existing tax** or as a **fixed amount per unit**, such as a charge per litre of fuel.

KERALA (ALTERATION OF NAME) BILL, 2026

Context

Parliament has passed the **Kerala (Alteration of Name) Bill, 2026**, providing for the official renaming of the State from **Kerala to Keralam** following a unanimous resolution of the Kerala Legislative Assembly.

About Kerala (Alteration of Name) Bill, 2026

- **Nature:** The Bill changes the official name of the State from **Kerala to Keralam** and amends the **First Schedule of the Constitution** to reflect the change.
- **Constitutional Basis:** **Article 3** empowers Parliament to alter the **name, boundaries or area of existing States** by law.

Procedure for Changing the Name of a State

- **State Resolution:** The process may begin with a **resolution of the State Legislative Assembly** requesting alteration of the State's name.
- **Presidential Recommendation:** A Bill for changing a State's name can be introduced in either House of Parliament only on the **prior recommendation of the President**.
- **Reference to State Legislature:** The President refers the proposal to the concerned **State Legislature for its views within a specified period**; these views are **not binding** on Parliament.
- **Parliamentary Passage:** The Bill is treated as an **ordinary Bill** and is passed by **simple majority** in both Houses.
- **Assent & Notification:** After receiving the **President's assent**, the law comes into force and the **First Schedule is correspondingly amended**.

ONE HERB, ONE STANDARD (OHOS) INITIATIVE

Context

The **Ministry of Ayush** and the **Ministry of Health and Family Welfare (MoHFW)** have extended their collaboration under the **One Herb, One Standard (OHOS)** initiative for another **three years**.

About One Herb, One Standard (OHOS) Initiative

- **Nature:** OHOS is an **inter-ministerial initiative** to establish **uniform, scientifically harmonised quality and testing standards (monographs)** for medicinal plants used across India's traditional and modern systems of medicine.
- **Implementing Organisations:** The initiative is jointly implemented by the **Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H)** under the **Ministry of Ayush** and the **Indian Pharmacopoeia Commission (IPC)** under the **Ministry of Health & Family Welfare**.
- **Harmonised Standards:** Aligns testing methods and quality parameters for identical medicinal plants across the **Indian Pharmacopoeia and Ayurvedic, Siddha, Unani and Homoeopathic (ASU&H) Pharmacopoeias**.
- **Cross-System Coverage:** Applies to plant-based single drugs used across **Ayurveda, Siddha, Sowa-Rigpa, Unani and Homoeopathy**.

KOLLIDAM RIVER

Context

ASI archaeologists recently discovered remains of a **possible Sangam-era irrigation structure** in the **Kollidam River near Lalgudi, Tiruchirappalli**.

About Kollidam River

- **Nature:** The **Kollidam River**, also known as **Kolidam** or **Coleroon**, is the **northern distributary of the Kaveri River** flowing through **Tamil Nadu**.
- **Origin & Course:** It is formed by the **northern bifurcation of the Kaveri River near Srirangam** and flows generally **eastward and then northeastward**.
- **Mouth:** The river ultimately drains into the **Bay of Bengal through several mouths**, roughly between the **Puducherry and Karaikal** sectors of the Puducherry Union Territory.
- **Important Settlement:** The town of **Chidambaram** is situated on the banks of the Kollidam.

BLACK-NECKED CRANE

Context

The **Bombay Natural History Society (BNHS)** has sterilised over **2,950 free-ranging dogs** in Ladakh to protect **Black-necked Cranes**, whose chicks and nests were reportedly being attacked in alpine wetlands.

About Black-Necked Crane

- **Nature:** The **Black-necked Crane** is a **medium-sized crane** with a predominantly whitish-grey body, **black head and upper neck**, red markings around the eyes and long legs adapted for wading.
- **Local Names:** It is known as “**Cha Thung-thung**” in Ladakh and “**Thungdung Karma**” in Arunachal Pradesh.
- **Distribution:** It inhabits **high-altitude marshes and lakes** of the **Tibetan Plateau**, including Tibet, Qinghai, Xinjiang and Gansu, as well as Sichuan in China and **eastern Ladakh** in India; a small wintering population occurs in **Sangti and Zimithang valleys of Arunachal Pradesh**.
- **Diet:** It has an **omnivorous diet**, feeding on **sedges and plant roots, tubers, earthworms, insects, other invertebrates and frogs**.

- **Cultural Significance:** The species holds a revered position in **Ladakh's Buddhist culture** and is regarded as a **sacred bird and symbol of peace, purity and good fortune**.
- **Major Threats:** Key threats include **human use around wetlands, linear infrastructure, tourism, habitat degradation and climate change**, along with attacks on nests and chicks by free-ranging dogs.

Conservation Status

1. **IUCN Red List: Near Threatened**
2. **CITES: Appendix I**
3. **Wildlife (Protection) Act, 1972: Schedule I**

SANCHAR MITRA SCHEME

Context

Three **Sanchar Mitras from India** have been selected as **International Telecommunication Union (ITU) Generation Connect Youth Envoys for 2026–2030**, recognising their contribution to youth-led digital and telecom initiatives.

About Sanchar Mitra Scheme

- **Nature:** The **Sanchar Mitra Scheme** is an initiative of the **Department of Telecommunications (DoT), Ministry of Communications** that seeks to engage **Indian youth as catalysts for digital empowerment and societal outreach**.
- **Objective:** It aims to use the potential of young students to spread awareness about **safe digital behaviour, responsible telecom usage and digital initiatives**.
- **Eligibility:** The scheme is open to students from **technical institutes** offering programmes in **telecom, electronics, computers, cybersecurity or similar fields**, provided their institutions participate in the scheme.
- **Implementation:** The scheme is implemented across **all States and Union Territories** through the **Licensed Service Area (LSA) field offices of DoT**.

SAMRIDH PROGRAMME

Context

The **Union Minister of State for Electronics and Information Technology** recently informed the **Rajya Sabha** about the implementation of the **SAMRIDH Programme**, under which **5 startups in Andhra Pradesh** were supported.

About SAMRIDH (Startup Accelerator of MeitY for Product Innovation, Development and Growth (SAMRIDH) Programme

- **Nature:** SAMRIDH is a **flagship programme of the Ministry of Electronics & Information Technology (MeitY)** designed to support accelerators in selecting and scaling **potential IT-based startups**.
- **Objective:** It aims to accelerate startups by facilitating **customer connect, investor connect and access to international markets**, along with support for product innovation and growth.
- **Target:** The programme was designed to support **300 technology startups over three years**, with each cohort comprising **5–10 startups**.
- **Implementation:** It is implemented by the **MeitY Start-up Hub (MSH)** under the **Digital India Corporation (DIC)**.
- **Financial Assistance:** Selected accelerators receive **₹2 lakh per startup**, while startups can receive **matching funding of up to ₹40 lakh**, subject to programme guidelines.

Places in news

KURIL ISLANDS

Context

Russian President **Vladimir Putin** recently visited **Iturup**, marking his first visit to the disputed **Kuril Islands** amid strained **Russia–Japan relations**.

About Kuril Islands

- **Location:** The **Kuril Islands** are an island chain in Russia's **Far East**, forming a natural boundary between the **Pacific Ocean** and the **Sea of Okhotsk**.
- **Extent:** The archipelago stretches from the southern tip of Russia's **Kamchatka Peninsula** to northeastern **Hokkaido, Japan**, and is administered by Russia as part of **Sakhalin Oblast**.
- **Population:** The islands have a population of **over 20,000**, with major settlements including **Kurilsk on Iturup**, **Severo-Kurilsk on Paramushir** and **Yuzhno-Kurilsk on Kunashir**.
- **Volcanic Geography:** The Kurils lie within the **Pacific Ring of Fire** and contain over **100 volcanoes**, including about **35 active volcanoes**, along with numerous **hot springs**.
- **Territorial Dispute:** While **Russia administers the entire archipelago**, Japan claims the **four southernmost islands**—**Iturup, Kunashir, Shikotan and the Habomai Islands**—as its **Northern Territories**.



Mains Exam Topics

HIGHER EDUCATION IN INDIA

Context

Indian universities lag behind global leaders despite India's strong talent base in science, technology, medicine, entrepreneurship and research. While inadequate funding, regulation, infrastructure and policy are often cited, deeper weaknesses in **intention, conceptual clarity and execution** limit higher education outcomes.

Why have universities in China, Singapore and Hong Kong climbed to the top of global rankings even though only a few decades ago the gap with India was much smaller?

- **Strategic resource concentration: China, Singapore and Hong Kong** concentrated public funding and institutional autonomy in a small number of universities to create **globally competitive flagship institutions**, rather than distributing resources uniformly.
 - **Example:** China's sustained support for **Peking University** created institutions with much greater research scale than most Indian universities.
- **Integration of teaching, research and doctoral training:** Leading universities combined **mass education with advanced research and PhD ecosystems**, whereas India historically separated much of elite research from universities through institutions such as CSIR laboratories, TIFR and other standalone centres.
- **Alignment with industrial and technological strategy:** Universities were embedded in **state-led industrial policy**, directing research capacity towards strategic sectors such as AI, semiconductors and advanced manufacturing.
 - **Example:** **Tsinghua University's** engineering ecosystem contributes to China's broader push for strategic self-reliance.
- **Governance agility and global talent competition:** Flagship institutions developed stronger capacity to **recruit international faculty, reward research performance and build globally competitive teams**, while many Indian public universities remained constrained by bureaucratic hiring and administrative structures.
- **Deliberate strengthening of ranking metrics:** These universities became highly effective at improving the indicators used by global rankings, including **research volume, citations, international faculty, international collaboration and academic reputation**.

- **Weak institutional capacity:** India possessed strong students, researchers and premier institutions, but **fragmented research, rigid governance, limited academic careers and weak university–industry linkages** limited the conversion of talent into globally competitive universities.
 - **Example: IISc and the IITs** show India's talent base, but few Indian universities combine similar research intensity, funding, global faculty and institutional capacity.

What explains the persistence of favouritism in recruitment despite formal rules in higher education in India?

- **Subjective Selection:** Formal rules define who is eligible, but **interviews and comparative ranking leave room for personal preference**.
 - **Example:** Under the UGC 2018 framework for Assistant Professors, academic scores were used for shortlisting, while **interview performance influenced final selection**.
- **Insider Networks: Academic inbreeding and personal networks** allow known candidates to gain an advantage even when formal eligibility is equal.
 - **Example:** Repeated recruitment of a university's own graduates can strengthen **closed departmental networks**.
- **Discretion in Rule Application:** Favouritism can operate through **how rules are interpreted and applied**, without formally breaking them.
 - **Example:** Decisions on **vacancy classification, roster application or eligibility interpretation** can affect which candidates compete for particular posts.
- **Weak Implementation:** Rules have little effect when institutions **delay recruitment or leave sanctioned posts vacant**, limiting actual access to positions.
- **Low Transparency:** Favouritism survives when candidates cannot **verify how marks were awarded or why one candidate was ranked above another**.
- **Weak Accountability:** Even when favouritism is suspected, **complaints, reviews and appeals may not effectively overturn questionable decisions**, reducing the deterrent effect of formal rules.

Why do higher education reforms often fail at the stage of implementation in India?

- **Institutional Transition Gap:** Replacing an old regulatory structure requires more than announcing a new one; legislation, rules, personnel, databases and institutional practices must all migrate.

- **Example:** The **Viksit Bharat Shiksha Adhishthan Bill, 2025** proposes replacing the **UGC, AICTE and NCTE** with a new regulatory framework and has raised concerns over **institutional autonomy and federalism**.
- **Regulation–Funding Coordination Gap:** Separating regulation from grant-making can improve institutional independence, but it also creates a problem if standards and funding operate without a mechanism linking them.
- **Federal Implementation Fragmentation:** Higher education reforms face uneven implementation because **Central, State and private universities operate under different laws, funding arrangements and administrative systems**, limiting uniform adoption.
- **Scale and Affiliation Problem:** Reform designed at the national level must eventually pass through a highly fragmented institutional base, making uniform implementation difficult.
 - **Example:** AISHE 2023-24 recorded **1,289 universities, 48,246 colleges and 15,221 standalone institutions**, making implementation of reforms such as **flexible curricula, credit mobility and the Academic Bank of Credits difficult** across institutions with different capacities.
- **Faculty Capacity Deficit:** Reform fails when institutions **lack enough faculty to redesign courses, teach across disciplines and supervise research**, making implementation superficial or incomplete.
 - **Example:** A parliamentary committee found **28.56% of sanctioned teaching posts** vacant across major centrally funded institutions and **56.18% of professor-level posts** vacant as of January 2025.
- **Delayed Feedback:** Reform fails when implementation data arrive too late to **identify problems, correct course and hold institutions accountable**.
 - **Example:** AISHE 2023-24 collected institution-level data online, but the report was released about two years after the academic year, limiting timely corrective action.

Way Forward

- **Multi-Year Performance Funding:** Provide **predictable multi-year funding** to leading institutions, with later tranches linked to measurable research, faculty and innovation outcomes.
- **Autonomy with Recruitment Safeguards:** Give universities greater **freedom to recruit and remunerate faculty**, alongside transparent selection criteria, external members and auditable recruitment records.

- **Merit-Based Final Selection:** Make **academic record and research potential** significant in final selection instead of using them only for interview shortlisting.
- **Separate Regulation from Funding:** Keep **regulatory oversight and funding decisions institutionally separate**, but align them through common performance standards and outcome-based funding.
- **Phased Federal Implementation:** Sequence reforms according to **institutional capacity and state readiness**, with Centre–State coordination instead of uniform compliance deadlines.
- **Global Talent and Research Networks:** Build **international faculty recruitment, doctoral training and cross-border research partnerships** into core university strategy.
- **Real-Time Implementation Monitoring:** Convert AISHE into a **granular, institution-level management system** that tracks reform adoption, vacancies and outcomes and enables timely corrective action.

