
Prelims Exam Topics

THIKSEY MONASTERY

Context

The US Ambassador to India, Sergio Gor, recently visited the historic **Thiksey Monastery** in Ladakh.

About Thiksey Monastery

- **Location:** Buddhist monastery located on a hill in **Thiksey**, about **19 km from Leh**, overlooking the **Indus River Valley** and the **Stok mountain range**.
- **Historical Origin:** Established in **1433** by **Spon Palden Sherab** under the guidance of **Jangsem Sherab Zangpo**, a prominent disciple of **Je Tsongkhapa**, founder of the **Gelug school of Tibetan Buddhism**.
- **Architecture:** One of the largest monastic complexes in central Ladakh, known for its resemblance to **Tibet's Potala Palace**.
- **Maitreya Buddha:** Houses a **15-metre-high statue of Maitreya Buddha**, consecrated by the **14th Dalai Lama** in **1980**, featuring gold plating and lotus motifs.
- **Sacred Art & Manuscripts:** Contains the **Tara Temple**, statues of the **21 manifestations of Tara**, ancient stupas, **Kangyur and Tengyur woodblock scriptures**, and restored murals of Buddhist deities.
- **Religious Importance:** Known for **daily morning prayers** and serves as an important centre of Tibetan Buddhist traditions.
- **Thiksey Gustor Festival:** Annual **Gustor festival** features **Cham masked dances** depicting the victory of good over evil, ending with the symbolic destruction of **Torma effigies**.
- **Landscape:** Provides panoramic views of the **Himalayan terrain**, surrounding villages, **Indus River Valley** and **Stok Range**.

POLITICAL CLEARANCE FOR FOREIGN VISITS

Context

The **Ministry of External Affairs (MEA)** denied political clearance for Telangana Chief Minister **A. Revanth Reddy's proposed US visit**, leading to cancellation of that part of his foreign tour.

About Political Clearance

- **Meaning:** Political clearance is the **MEA's approval for foreign visits by public functionaries**, particularly where the visit may have diplomatic or foreign-policy implications.
- **Purpose:** Ensures that official foreign engagements are assessed in light of **India's foreign policy, bilateral relations and diplomatic sensitivities**.
- **Assessment Factors:** MEA considers the **nature of the event, level of foreign participation, invitation, proposed engagements and India's relations with the host country**.
- **Application:** Political-clearance requests are processed through the MEA's designated system and coordinated among relevant divisions.

Foreign Travel Rules for CMs & Ministers

- **Prior Clearance:** Chief Ministers and State Ministers must keep the **Cabinet Secretariat and MEA informed** of official as well as private foreign visits; **prior political and FCRA clearances are mandatory**.
- **Economic Clearance:** State-level officials may also require clearance from the **Department of Economic Affairs**, depending on the nature of the visit.
- **FCRA Clearance:** Required where the foreign visit involves **hospitality or financial support from organisations other than specified international organisations**, subject to applicable rules.
- **Union Ministers:** Require **political clearance from MEA** and additional approval of the **Prime Minister** for foreign visits.
- **MPs:** Lok Sabha MPs require clearance from the Speaker for official foreign travel, while **Rajya Sabha members require clearance from the Chairman**.
- **Government Officials:** Approval requirements vary according to **rank, purpose, duration, destination and delegation size**.

Why Political Clearance Matters?

- **Diplomatic Coordination:** Prevents foreign engagements by public officials from creating **uncoordinated diplomatic commitments**.
- **Foreign Policy Consistency:** Ensures that official visits remain consistent with **India's external-policy priorities**.
- **Protocol Management:** Helps assess the appropriate **level of Indian participation and diplomatic representation**.

- **National Interest:** Allows the government to consider **security, strategic and bilateral sensitivities** before approving a visit.

ASIAN DEVELOPMENT BANK (ADB)

Context

The **Government of India and the Asian Development Bank (ADB)** signed a **\$230 million loan agreement** for the **Chennai Climate-Resilient Water Security and Sewerage Project**.

About ADB

- **Nature:** Regional **multilateral development bank** promoting sustainable and inclusive economic growth in **Asia and the Pacific**.
- **Established:** **1966**; headquartered in **Mandaluyong, Metro Manila, Philippines**.
- **Membership:** **69 members**, including 49 regional and 20 non-regional members.

Key Features

- **Financing:** Provides **loans, equity and guarantees** for infrastructure and development sectors such as transport, energy, water and sanitation.
- **Concessional Finance:** The **Asian Development Fund (ADF)** provides concessional assistance and grants to the region's poorest and most vulnerable developing members.
- **Technical Assistance:** Supports **project preparation, policy design, institutional capacity building and feasibility studies**.
- **Private Capital:** Mobilises private investment through **co-financing, syndicated loans and public-private partnerships**.
- **Voting System:** ADB follows a **weighted voting system**, with voting power linked largely to members' capital subscriptions.

ERVEBO VACCINE

Context

The **WHO and its partners** have announced that **Democratic Republic of the Congo (DRC)** will receive **70,000 doses of the Ervebo vaccine**.

About Ervebo Vaccine

- **Purpose:** Licensed for protection against **Ebola Virus Disease (EVD)** caused by **Zaire ebolavirus**.

- **Type:** Live, attenuated, replication-competent recombinant vesicular stomatitis virus (VSV) vaccine.
- **Manufacturer:** Merck.
- **Eligibility:** Indicated for active immunisation of individuals **1 year and above**.

Working Mechanism

- **Viral Vector:** Uses a modified **vesicular stomatitis virus** as a carrier.
- **Antigen:** Contains a protein from **Zaire Ebola virus**, which stimulates the immune system without causing Ebola disease.
- **Immune Response:** Vaccination induces an immune response against the Ebola viral protein, helping protect against infection.

Limitations

Specific Protection: Ervebo protects against **Zaire ebolavirus** but does not protect against other orthoebolavirus species or orthomarburgaviruses.

About Ebola Virus Disease

- **Nature:** Severe and potentially fatal viral disease caused by **orthoebolaviruses**.
- **Transmission:** Initially transmitted from infected animals such as **fruit bats, porcupines and non-human primates**; subsequently spreads through direct contact with infected **blood or other body fluids**.
- **Airborne Spread:** Not transmitted through air.
- **Symptoms:** Typically include **fever, diarrhoea, vomiting and bleeding**; incubation period is generally **2–21 days**.

INS MANGROL

Context

INS Mangrol, the third of **eight Anti-Submarine Warfare Shallow Water Craft (ASW SWC)**, has been delivered to the Indian Navy by **Cochin Shipyard Limited (CSL)**.

About INS Mangrol

- **Type:** Indigenous **Anti-Submarine Warfare Shallow Water Craft (ASW SWC)** designed for detecting and tracking submarines in shallow coastal waters.
- **Builder:** Designed and constructed by **Cochin Shipyard Limited (CSL)**.

- **Name:** Named after **Mangrol**, a historic coastal town in Gujarat.

Key Features

- **Dimensions:** About **78 m long**, with a displacement of nearly **900 tonnes** and a maximum speed of **25 knots**.
- **Propulsion:** Uses a **diesel engine-waterjet propulsion system**, suitable for operations in shallow waters.
- **Armament & Sensors:** Equipped with **lightweight torpedoes, indigenous anti-submarine rockets and shallow-water sonars**.
- **Mission Capabilities:** Besides anti-submarine warfare, it can conduct **underwater surveillance, search and rescue, low-intensity maritime operations and mine laying**.
- **Indigenisation:** Has **over 80% indigenous content** and is built according to **Det Norske Veritas (DNV)** classification standards.

POLYSILICON

Context

The government is working to add **30 GW of polysilicon manufacturing capacity by 2030**.

About Polysilicon

- **Nature:** Polysilicon, or **polycrystalline silicon**, is made of multiple small silicon crystals and is a highly purified form of silicon.
- **Production:** Produced by further purifying **metallurgical-grade silicon** using processes such as the **Siemens process** and **Fluidized Bed Reactor (FBR) technology**.
- **Importance:** A key raw material for both the **solar photovoltaic and semiconductor industries**.

Role in Solar Industry

- **Wafer Production:** Polysilicon is melted to form **silicon ingots**, which are sliced into wafers and processed into solar cells and modules.
- **Solar Grade:** Its high purity enables efficient conversion of **sunlight into electricity** in photovoltaic cells.

Other Uses

Semiconductors: High-purity polysilicon is also used in manufacturing **integrated circuits and other electronic components**.

GOLCONDA FORT

Context

The Archaeological Survey of India (ASI) clarified that a structure recently found near **Golconda Fort** is a **small rectangular granite chamber**, not a tunnel.

About Golconda Fort

- **Location:** Historic fort on the **outskirts of Hyderabad, Telangana**.
- **Origin:** Initially erected in **1143 under the Kakatiya dynasty** and later expanded extensively under the **Qutb Shahi dynasty**.
- **Capital:** Served as the **capital of the Qutb Shahi rulers from 1518 to 1591**, after which the capital shifted to Hyderabad.

Historical Importance

- **Qutb Shahi Rule:** **Quli Qutb Shah** declared independence from the Bahmani Sultanate in **1518**, after which Golconda became the centre of the Qutb Shahi kingdom.
- **Mughal Conquest:** **Aurangzeb captured the fort in 1687** after a prolonged siege, bringing Golconda under Mughal rule.
- **Diamond Trade:** The wider Golconda region was historically famous for **diamond mines**, associated with diamonds such as the **Koh-i-Noor, Hope Diamond and Nassak Diamond**.

Architectural Features

- **Structure:** Built on a **granite hill about 400 ft high**, with an outer circumference of around **7 km**.
- **Fateh Darwaza:** Main gateway, famous for its **acoustic system** in which sounds can be heard over long distances.
- **Architecture:** Reflects a blend of **Hindu and Islamic architectural traditions**, with palaces, mosques, halls and royal residences.

Mains Exam Topics

NOISE POLLUTION

Context

Noise pollution, long treated as a neglected environmental and public-health concern, has gained renewed attention following the **Patna High Court's directive for strict regulation of DJs, loudspeakers and pressure horns**. The ruling underscores the need to balance **social celebrations and individual freedoms with citizens' right to a peaceful and healthy environment**.

How does unplanned urbanisation intensify noise pollution in Indian cities?

- **Spatial Mismatch:** Weak land-use planning places noise-generating activities alongside residential settlements, converting zoning failure into chronic community exposure.
 - e.g., Non-conforming mixed land use can place **fabrication units, auto-repair shops, banquet halls and commercial markets** directly beside residential areas.
- **Mobility Amplification:** Once incompatible activities and large populations are concentrated within the same urban space, traffic becomes a major multiplier of ambient noise.
 - e.g., **Dense arterial roads running within metres of high-rise residential complexes**, combined with stop-and-go traffic, intensify engine, tyre and honking noise.
- **Infrastructure Intensification:** Congested and expanding cities require continuous construction, adding temporary but prolonged high-decibel exposure to already noisy environments.
 - e.g., Metro, flyover and road projects use **pile drivers, pneumatic drills, heavy earthmovers and concrete mixers** close to residential zones.
- **Source Multiplication:** Urbanisation does not create a single dominant source; it adds numerous distributed sources that collectively raise ambient noise.
 - e.g., **Uncanopied or poorly maintained DG sets** operate across markets, housing societies and small businesses.
- **Behavioural Amplification:** High traffic density and weak compliance then amplify the noise generated by the urban system itself.
 - e.g., **Habitual honking and illegal pressure horns** intensify noise at bottlenecks and congested intersections.

How does noise pollution create an environmental-justice problem in Indian cities?

- **Unequal Exposure:** Spatial planning and land-use patterns place vulnerable communities closer to persistent noise sources, creating geographically unequal exposure.
 - e.g., Residents in mixed-use neighbourhoods may face simultaneous exposure from **workshops, commercial establishments, traffic corridors and construction activity.**
- **Unequal Escape:** Dependence on affordable housing and location-specific livelihoods limits the ability of poorer households to relocate, soundproof homes or otherwise avoid exposure, making the risk largely involuntary.
 - e.g., Low-income households living near noisy mixed-use areas may lack the financial capacity to **shift residence or install effective noise insulation.**
- **Unequal Voice:** Fragmented enforcement across multiple authorities increases the institutional barriers to grievance redressal, weakening the ability of vulnerable communities to secure timely protection.
 - e.g., Noise control involves **local police, municipal corporations, transport authorities and SPCBs**, creating coordination gaps that can dilute accountability.
- **Unequal Burden:** Limited coping capacity combined with prolonged exposure converts the same environmental hazard into disproportionately higher health and economic costs for vulnerable groups.
 - e.g., **Sleep disturbance, reduced productivity and chronic health risks** can impose greater cumulative burdens on households with fewer resources to mitigate or escape noise exposure.

Why are vulnerable groups disproportionately affected by chronic noise exposure in India?

- **Developmental Sensitivity:** Children experience greater consequences when chronic noise interferes with attention, learning and sleep during critical developmental stages.
 - e.g., The protection of **educational institutions** through silence-zone provisions reflects the need to shield noise-sensitive environments.
- **Health Sensitivity:** Patients and medically vulnerable populations have greater need for quiet environments because environmental disturbance can interfere with rest and recovery.
 - e.g., Areas around **hospitals** can be declared silence zones under the Noise Pollution Rules.
- **Temporal Exposure:** Shift workers face a distinct disadvantage when their sleep period overlaps with normal daytime urban activity.

- e.g., Traffic and construction noise can disrupt **daytime recovery sleep** even when night-time restrictions are formally observed.
- **Cumulative Exposure:** Workers in noisy occupations can accumulate a much higher dose of sound than residents exposed intermittently.
 - e.g., Prolonged exposure above **85 dB** can damage the cochlea and cause noise-induced hearing loss.
- **Limited Protection:** Those dependent on noisy workplaces or roadside livelihoods have fewer practical opportunities to withdraw from exposure.
 - e.g., Construction and traffic-related workers remain physically present near the source for prolonged periods while working.

Way Forward

- **Plan for Quietness:** Integrate acoustic zoning, noise maps, land-use compatibility and buffer requirements into urban master plans and development approvals.
- **Correct Spatial Mismatch:** Regulate or relocate noise-intensive workshops, fabrication units, commercial venues and similar activities located directly beside residential areas.
 - e.g., This directly addresses the **non-conforming mixed-land-use** problem identified in Indian cities.
- **Reduce at Source:** Prioritise pressure-horn control, vehicle maintenance, quieter construction practices and acoustic enclosures for DG sets and machinery.
 - e.g., **Acoustic enclosures/canopies** are identified as source-level controls for DG sets and industrial machinery.
- **Measure Continuously:** Expand the **National Ambient Noise Monitoring Network (NANMN)** and establish micro-monitoring stations at urban acoustic hotspots.
 - e.g., Extending real-time monitoring to **Tier-2 and Tier-3 cities** can improve spatial coverage.
- **Unify Enforcement:** Create dedicated municipal environmental-enforcement cells to coordinate police, SPCBs, transport authorities and local bodies.
 - e.g., A single-window mechanism can address the existing **jurisdictional fragmentation and weak ownership**.
- **Protect Sensitive Receptors:** Give priority to hospitals, schools, courts and dense residential areas through stricter monitoring and compliance.

- e.g., A zone of **at least 100 metres** around hospitals, educational institutions and courts may be declared a silence zone.
- **Create Better Soundscapes:** Move beyond merely suppressing harmful sound towards designing urban spaces with quieter environments and desirable natural sounds.
 - e.g., The **soundscape approach** adopts a listener-centred view of the urban acoustic environment.
- **Break the Pathway:** Use green belts, vegetation and physical acoustic barriers between major noise sources and populated areas.
 - e.g., Dense multi-tier vegetation or “**green mufflers**” can be used along roads, railways and industrial perimeters.

