Today's Prelims Topics

RTE Exemptions To Minority Institutions

Context

The Supreme Court (SC) has raised doubts about its 2014 judgment in Pramati Educational and Cultural Trust v. Union of India.

RTE Exemption to Minority Institutions

- The Right to Education (RTE) Act, enacted in 2010, has a provision to mandate private unaided schools to reserve 25% of their seats for children from disadvantaged groups and weaker sections. – Section 12(1)(c).

Constitutional Provisions Regarding Minority Educational Institutions

- **Article 30(1)**: "All minorities, whether based on religion or language, have the right to establish and administer educational institutions of their choice."
- **Pramati Educational & Cultural Trust v. Union of India (2014):** Held that minority institutions (aided or unaided) are not bound by the RTE Act's 25% reservation mandate.
    - Also section 23 **did not apply** to minority institutions—i.e., no requirement to meet teacher qualification norms (including Teacher Eligibility Test (TET)).
- **Article 15(5)**: This provision grants the State the authority to enact laws for making special arrangements to promote the educational advancement of socially and educationally backward classes (SEBCs), Scheduled Castes (SCs), and Scheduled Tribes (STs) in matters related to admission, covering all educational institutions, including private ones, whether they receive State aid or not.
    - **But excluding minority educational institutions** covered under Article 30(1).

Source: Indian Express

India's Bond Yield Rising Despite RBI's Rate Cut

Context

- India's **10-year benchmark government bond yield** has **risen by about 26 basis points** in the past month.
    - This happened **despite RBI cutting the repo rate by 100 basis points** (1%) over the past seven months.

What is Bond Yield?

- A **bond yield** is the return an investor gets on a government or corporate bond.
- **Formula:**
    - **Bond Yield = (Coupon Payment / Current Price of Bond) ×100**
- When **bond prices ↑, yields ↓** (since the denominator increases).
- When **bond prices ↓, yields ↑** (since investors demand higher return for perceived risks).

Relation between Bond Yield and Rate Cuts

- Normally, when the **RBI cuts repo rate**:
    - Borrowing becomes cheaper.
    - Demand for bonds rises (since they give relatively higher fixed returns).
    - This pushes **bond prices up and yields down**.
- So, rate cuts usually lead to **falling bond yields**.

Why Increased Bond Yield Despite Rate Cuts?

- **RBI's Hawkish Stance:** "Hawkish" means RBI is more concerned about **controlling inflation** than supporting growth.
    - RBI has signalled that it may **not cut rates further** because risks like global trade tensions, oil price shocks, and domestic fiscal issues remain.
    - This made investors worried that **liquidity support will be limited in the future**, so they started selling bonds.
    - Selling bonds lowers bond prices → yields rise
- **Higher Government Borrowing Concerns:** Government plans to reform GST and spend more.
    - This raises the fear of **fiscal deficit slipping** (i.e., government spending more than its income).
    - To cover this, the government will need to **borrow more by issuing bonds**.
    - More supply of bonds in the market = lower bond prices.
    - Lower bond prices → higher yields.

Source: Indian Express

Pradhan Mantri Viksit Bharat Rozgar Yojana

Context

Pradhan Mantri Viksit Bharat Rozgar Yojana was launched on the 79th Independence Day.

About The Scheme

- **Target:** Creation of **3.5 crore jobs by 2027**.
  - Incentives offered under two parts – **Part A (First-time employees)** and **Part B (Employers)**.
- **Part A – First-Time Employees**
  - **Coverage**: Employees registered with **EPFO**.
  - **Incentive**: **EPF wage support up to ₹15,000**, released in **two instalments**:
    - 1st instalment after completing **6 months of service**.
    - 2nd instalment after **12 months**, subject to **financial literacy programme completion**.
  - **Eligibility**: Salaried employees earning up to **₹1 lakh/month**.
  - **Savings Component**: A part of the incentive will be deposited in a **savings/fixed account**, withdrawable after a specified period to promote **saving habits**.
- **Part B – Employers**
  - **Coverage**: Employers creating **new jobs (salary up to ₹1 lakh)**.
  - **Incentive**: Up to **₹3,000 per employee per month**, available for **2 years**.
  - **Condition**: New jobs must be sustained for at least **6 months**.
  - **Special Provision for Manufacturing**: Incentives extend to the **3rd and 4th years**.
  - **Job Creation Target**: Expected to generate around **2.6 crore new jobs** under Part B.
- **Incentive Payment Mechanism:**
  - **Employees**: Paid through **Direct Benefit Transfer (DBT)** using **Aadhaar-based Payment System (ABPS)**.
  - **Employers**: Payments made into **PAN-linked bank accounts**.

Source: PIB

National Quantum Mission (NQM)

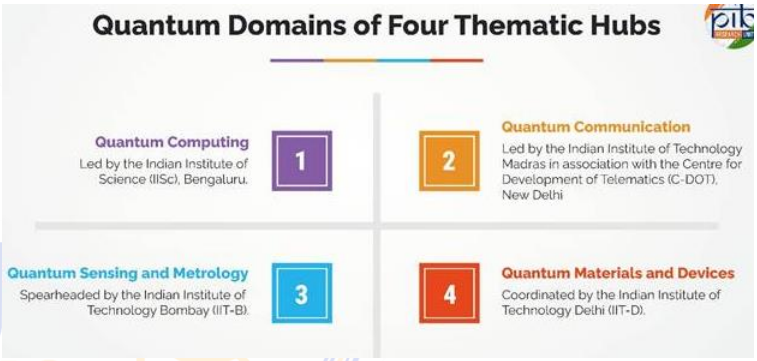
Context

Karnataka secured representation in the Hub Governing Board (HGB) of the National Quantum Mission (NQM).

What is National Quantum Mission?

- Approved by the **Union Cabinet in April 2023**.
- Duration: **8 years (2023–2031)**.
- Outlay: **₹6,003 crore**.
- **Objectives: Develop Quantum Technologies** in:
  - Quantum Computing
  - Quantum Communication
  - Quantum Sensing & Metrology
  - Quantum Materials & Devices
- Establish India as a **global leader in quantum technology**.
- Build **indigenous infrastructure** for advanced research and innovation.

Key Features



- **Hub-and-Spoke Model:** Four **thematic hubs** to be set up in top academic/research institutes.
  - Each hub will focus on a specific vertical of quantum technology.
- **Quantum Computing:** Develop **intermediate-scale quantum computers (50–1000 qubits)** over 8 years.
- **Quantum Communication:** Secure quantum communication across **2,000 km of long-distance fibre**.
  - Develop **satellite-based quantum communication** within India and with global partners.
- **Quantum Materials and Devices:** Develop sensors for **precision timing, navigation, and imaging**.
  - Applications in defence, healthcare, agriculture, and security.
- **Capacity Building:** Create a skilled workforce in quantum science & technology.
  - Promote **startups and industry collaboration**.

Initiatives

- **Quantum-Safe Ecosystem Framework:** Strategic roadmap to protect India's digital infrastructure from quantum-era threats.
- **DRDO Projects:** Designing and testing **quantum-resilient security schemes**.
  - Developing **quantum-safe symmetric and asymmetric key algorithms**.
- **SETS (Society for Electronic Transactions and Security):** Driving **Post-Quantum Cryptography (PQC)** research.
  - Implemented PQC algorithms in **FIDO authentication tokens** and **IoT security**.
- **C-DoT (Centre for Development of Telematics):** Developed **Quantum Key Distribution (QKD)**.
  - Advanced work on **PQC** and **Quantum-Secure Video IP Phones**.

Hub Governing Board (HGB)

- It is the **highest decision-making body** within the National Quantum Mission.
- It functions under the **hub-and-spoke model**.

Source: The Hindu

Elevation From High Court to Supreme Court Judge

Context

Despite Justice B.V. Nagarathna's dissent, Justice Pancholi was sworn in as a Supreme Court judge on **29 August 2025**.

Process of Elevation of a Judge in India

- **High Court to Supreme Court Elevation:** Governed by **Article 124(2) of the Constitution**.
  - The **Supreme Court Collegium**, headed by the Chief Justice of India (CJI) and four senior-most judges, recommends names for appointment.
- **Collegium Process:**
  - The Collegium considers:
    - **Merit and judicial performance** (quality of judgments, integrity).
    - **Seniority of judges** across High Courts.
    - **Regional representation** (ensuring all states/HCs get fair share).
    - **Diversity factors** – gender, caste, community, marginalised groups.
  - The Collegium consults senior SC judges familiar with the functioning of the concerned High Court.
- **Executive Role:** The **Central Government (Law Ministry)** receives Collegium recommendations and may:
  - Accept them, or Return them once for reconsideration.
  - If the Collegium **reiterates the recommendation**, the government is bound to appoint.
- **Formal Appointment:** The President of India, under Article 124, makes the final appointment based on Collegium recommendations.

Source: The Hindu

How rivers change their course

Context

A University of California Santa Barbara (UCSB) study of 84 rivers worldwide (1985–2021) found that single-thread rivers stay stable while multi-thread rivers split.

Findings

- **Single-thread rivers** → stable width due to **equilibrium between erosion and deposition**.
- **Multi-thread rivers (braided)** → unstable; **erosion dominates deposition**, leading to widening and splitting of channels.

Why Do Rivers Change Their Course?

- **Erosion and Deposition Imbalance:** Excessive bank erosion (vs deposition) causes widening and shifting.
    - This is the main driver of braided/multi-thread rivers.
- **Sediment Load:** High sediment rivers (like Ganga, Brahmaputra) deposit unevenly, forcing channels to split or shift.
- **Hydrology & Slope:** Steeper slopes and stronger discharge encourage instability and course migration.
- **Vegetation:** Vegetated banks strengthen stability (meandering rivers).
    - Unvegetated banks erode more easily, causing shifts.
- **Floods & Extreme Events:** Sudden heavy floods breach banks, diverting flow to new channels.
- **Tectonic Activity:** Earthquakes or land uplift/subsidence can tilt valleys, changing river direction.
- **Human Interference:** Dams, embankments, dredging, and mining restrict natural flow, sometimes forcing abrupt course changes.

Source: The Hindu

News In Short

Yudh Abhyaas - 2025	**News?** 21st edition of the Yudh Abhyas 2025 will be conducted in Alaska, USA. **About Yudh Abhyaas** ● A bilateral joint military exercise between India and USA. ● The Indian contingent includes personnel from a Madras Regiment battalion. **Other India–USA Bilateral Exercises** ● **Army:** Vajra Prahar ● **Navy:** MALABAR (multilateral) ● **Air Force:** Cope India, Red Flag (multilateral) **Source:** PIB
 **Jarosite**	**News?** In 2016, scientists found **jarosite** in Kutch's Matanomadh village, showing that Earth and Mars had similar geology millions of years ago. **About Jarosite** ● **Appearance:** Yellow-brown mineral ● Commonly Occur in **acidic, sulfate-rich environments.** ● Contains **potassium, iron, and sulphate** **Why are Jarosite Samples Used to Observe Martian Timeline?** ● **Proof of Water:** Jarosite needs water and acidic conditions to form, so finding it on Mars is strong evidence that water was present there in the past. ● **Search For Past Life**: It can also trap organic molecules like glycine within its structure, making it interesting for the search for past life on Mars. **Source:** Indian Express
CEREBO 	**News?** Indian Council of Medical Research (ICMR) collaborated with the Medical Device & Diagnostics Mission Secretariat (MDMS), AIIMS Bhopal, NIMHANS Bengaluru, and Bioscan Research to develop CEREBO **About CEREBO** ● It is a hand-held, portable non-invasive brain injury diagnostic tool. ● It is to be **used for Traumatic Brain Injuries (TBIs)** and can **detect intracranial bleeding and edema** within a minute. ● **Key Features:** ○ **Radiation-free**, safe for infants and pregnant women. ○ Can be used by **paramedics or unskilled personnel**. ○ Provides **colour-coded, cost-effective results**. ○ Deployable in **ambulances, trauma centres, rural clinics, and disaster zones**. **What is TBI (Traumatic Brain Injury)?** ● It is a condition caused by **sudden trauma or injury to the head**, disrupting normal brain function. ● In India, **1.5–2 million people are injured** and nearly **1 million die annually** due to TBI. ● **Causes in India:** ○ Road traffic accidents (≈60%) ○ Falls (20–25%)

	○ Violence (≈10%) **Source:** The Hindu

Mains Topics

Rising Threat of Noise Pollution in Urban India

Context

Noise pollution has quietly emerged as one of the most neglected public health crises. Unlike smog or waste, it leaves no visible trace but causes serious harm to human health, well-being, and wildlife. An **Earth5R survey (Jan 2023)** across 15 Indian cities found noise levels in silent and residential areas nearly **50% higher than the permissible 50 dB limit**.

Noise Pollution

- Noise pollution refers to **unwanted or harmful sounds** that disturb human and animal life.
- **WHO Safe Noise Limits**:
  - Daytime: <65 dB
  - Night-time: <30 dB (for restful sleep)
  - Traffic exposure: ≤53 dB
- Exposure above **75 dB** is harmful, while **120 dB** is painful.
- In India's urban centres, **traffic, construction, and entertainment hotspots often exceed 90–110 dB**, well beyond safe levels.

Sources of Noise Pollution in Urban India

- **Traffic & Transportation:** Vehicle honking: **90–100 dB**, bus horns: **100 dB**, aircraft take-off: **130 dB**.
- **Construction Activities:** Urban growth has led to 24/7 construction of metros, flyovers, housing projects. Equipment like drilling machines, pile drivers, concrete mixers produce 90–110 dB.
- **Residential & Domestic Sources:** Loudspeakers, generators, poorly insulated buildings amplify everyday noise.
- **Industrial and Commercial Sources:** Factories located near residential areas. Small-scale units (generators, mills) often run without acoustic controls.
- **Entertainment & Nightlife:** Bars, pubs, concerts, DJ nights: often exceed 100 dB, impacting nearby residents.
- **Animals:** Stray dogs barking (60–80 dB), especially in crowded colonies, amplify disturbance.

Impacts of Noise Pollution

Human Health Impacts

- **Physical Health:**
  - Prolonged exposure leads to **hearing loss**, tinnitus (ringing in ears).
  - **Cardiovascular issues**: WHO studies show noise increases hypertension, heart attack risk.
  - **Sleep disruption**: Noise above 45 dB affects REM cycles → fatigue and reduced immunity.
- **Mental Health:** Noise triggers **stress, anxiety, aggression, and depression**. Long-term exposure is linked to cognitive decline.
- **Children and Elderly**
  - **Children:** Impaired learning, memory, and reduced concentration.
  - **Elderly:** Worsens dementia, anxiety, and blood pressure.

Ecological Impacts

- **Birds**: Mynas, sparrows, and pigeons alter song patterns; some avoid nesting in noisy areas.
- **Wildlife**: Bluebirds have fewer chicks in noisy habitats; caterpillars' heart rate spikes with loud sounds.

- **Marine life**: Though less urban, ports and ship noise affect dolphins/whales in coastal India.
- **Broader risk:** Noise disrupts ecological communication → affecting biodiversity survival.

Social Impacts

- Noise reduces **quality of life in cities**, especially for vulnerable groups (patients, students, night-shift workers).
- Creates **social conflicts** (neighbours, religious groups, nightlife vs residents).

Government Measures to tackle Noise Pollution

- **Noise Pollution (Regulation and Control) Rules, 2000:** Laid down **permissible ambient noise standards** for industrial, commercial, residential, and silence zones.
- **Environment Protection Act, 1986:** Provides the overarching legal framework under which noise is treated as an **environmental pollutant**.

Monitoring Mechanisms

- **National Ambient Noise Monitoring Network (NANMN), 201:** Set up by the Central Pollution Control Board (CPCB) across 7 major cities to track real-time noise levels.
- **State Pollution Control Boards (SPCBs)**: Empowered to conduct local monitoring, issue notices, and enforce decibel limits.

Challenges in Tackling Noise Pollution

- **Weak Enforcement:** Though India has **Noise Pollution (Regulation & Control) Rules, 2000**, enforcement is patchy. CPCB's monitoring network largely **collects data without proactive enforcement**.
- **Flawed sensor placement:** Many noise monitors are mounted 25–30 feet high, violating CPCB's 2015 guidelines and recording misleading data.
- **Fragmented Institutional Responsibility:** Pollution control boards, police, municipal bodies share responsibility → coordination failures.
- **Urbanisation Pressure:** Constant infrastructure growth (metros, highways) makes compliance difficult. Cities like Delhi and Mumbai rarely have quiet zones left.
- **Public Attitudes: Honking as a habit**: India is one of the world's highest honking countries. Loud celebrations equated with festivity; silence seen as dullness.
- **Technological Gaps:** Limited use of real-time monitoring and AI-based enforcement. Lack of urban design measures like sound barriers, quiet asphalt.

Increasing Noise Pollution → Violation of Constitutional Rights ?

- **Right to life with dignity (Article 21):** Supreme Court reaffirmed in 2024 that unchecked urban noise directly undermines mental well-being.
- **Directive Principle (Article 48A):** The State has a duty to protect and improve the environment, but silence on noise policy reflects neglect.

Way Forward

- **Strengthen Monitoring & Enforcement**
  - Decentralise monitoring to **wards and municipalities**.
  - Real-time noise meters with citizen reporting apps.
  - Update Noise Rules (2000) to reflect current realities.
- **Urban Design Solutions:**
  - Noise barriers, soundproof asphalt, and acoustic-friendly city planning.
  - Roadside **green belts** as natural sound buffers.
- **Behavioural & Cultural Change:**
  - Campaigns on **"sonic etiquette"** and **noise empathy**.
  - Widespread adoption of initiatives like **No Honking Day - Mumbai.**
- **Technological Alternatives:**

    - Promote **electric vehicles (EVs)** and cycling to reduce traffic noise.
    - Encourage quieter construction technologies.
- **Integration with Health Systems**
    - Regular **noise screening in schools and workplaces**.
    - Provide counselling and medical support for noise-stress disorders.

Tackling noise pollution requires a combination of **legal enforcement, urban design, and behavioural change** is essential. In a society striving for **"smart cities"**, reducing noise pollution is essential for making cities **not only economically vibrant but also socially liveable and ecologically sustainable**.
Source: **The Hindu**