

Today's Prelims Topics

Silica Mining

Context

National Green Tribunal (NGT) has directed the Central Pollution Control Board (CPCB) to prepare detailed pan-India guidelines for silica sand mining and silica washing plants.

About Silica

- Silica or silicon dioxide (SiO_2), is a naturally occurring mineral found in quartz, sand, and other rocks.
- **Silicon (27.7%) and Oxygen(46.6%)** are the earth's two most abundant elements of earth's crust and together they make **silica**.
- **Types:**
 - **Crystalline Silica:** Found in quartz; most commonly used in industries.
 - **Amorphous Silica:** Found in volcanic rocks and some synthetic forms.
- **Applications:**
 - Construction (cement, glass, ceramics).
 - Electronics (semiconductors, optical fibers).
 - Renewable energy (solar panels).
 - Chemicals (silicones, silica gels).

Facts

- **Highest Reserves in India:** (1) Haryana (2) Rajasthan (3) Tamil Nadu
- **Major Producers Worldwide:** (1) China (2) Russia (3) Brazil

About Silicosis

- It is a **lung disease** caused by inhalation of fine crystalline silica dust.
- Silicosis is a progressive disease **with no cure**, but there are treatments and strategies to manage it.
- People working in industries like construction, mining, oil and gas extraction, kitchen engineering, dentistry, pottery etc. are exposed to silica everyday.
- **Major Symptoms:** Persistent cough, regular shortness of breath weakness and tiredness.

UPSC PYQ

Q. With reference to solar power production in India, consider the following statements: **(2018)**

1. India is the third largest in the world in the manufacture of silicon wafers used in photovoltaic units.
2. The solar power tariffs are determined by the Solar Energy Corporation of India.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Answer: D

Source:

- [The Hindu - Silica mining: NGT asks CPCB to prepare pan-India guidelines](#)

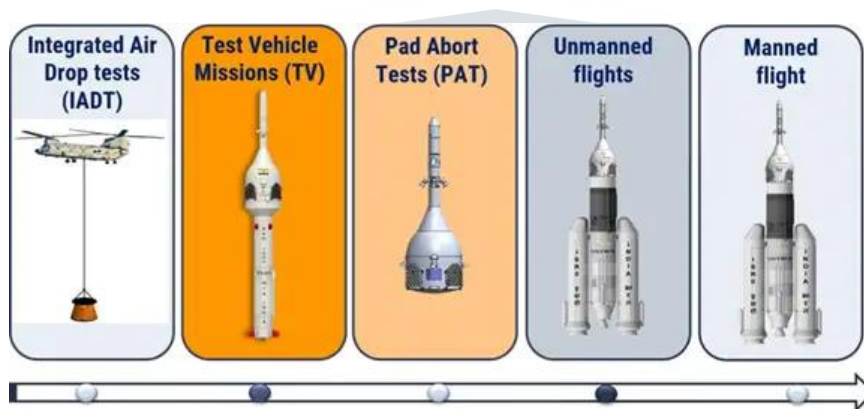
Gaganyaan Mission

Context

2 Gaganyatris who are part of Axiom-4 Mission have completed their initial phase of training.

About Gaganyaan Mission

- It is India's first human spaceflight program.
- **Objectives of the Mission:**
 - To send a crew of **3 astronauts** into orbit around Earth for **3 days** and then safely return them to Earth.
 - To demonstrate India's ability to conduct human spaceflight missions to Low Earth Orbit (LEO).
- The program involves **3 Flights:**
 - **First uncrewed flight:** It will test the safety mechanisms and demonstrate the performance of the Crew Escape System of the Gaganyaan Mission.
 - **Second uncrewed flight:** This flight will carry **Vyom Mitra**, a humanoid robot that can speak with ground controllers and read instrument panels.
 - **First crewed flight:** It will carry a crew of three astronauts who will spend 3 days in LEO. Mission will conclude with a controlled landing in the Indian Ocean



- **Launch Vehicle: LVM 3**
 - It is a three-stage rocket with a solid stage, liquid stage, and cryogenic stage.
 - It also includes a Crew Escape System (CES) and an Orbital Module.

Gaganyaan Mission



About Axiom 4 Mission

- It is the fourth private astronaut mission to the **International Space Station**.
- **Duration** of the mission: **14 days**.
- **Launch Site**: Kennedy Space Center in Florida
- **Launch Vehicle**: **SpaceX's Falcon 9 rocket**.
- This mission is organised in collaboration with **NASA**.

Fact

- After successful launch **India will become the 4th nation** in the world to launch a Human Spaceflight Mission after **USA, Russia, and China**.

Source:

- [The Hindu - Gaganyatris have finished initial training, says ISRO](#)
- For More Information Watch: [Study IQ](#)



Scientists, industry demand passage of new Seeds Bill

Context

On the 2nd day of the National Seed Congress (NSC), experts, scientists and industry representatives urged the government to modernize the Seeds Bill of 2004 and the Seeds Policy of 2002.

About 13th National Seed Congress

- It is a 3 day conclave of policymakers, scientists, and farmers seeking transformative solutions, in the wake of climate change and increasing diseases in various crops.
- **Organisers of the conclave:** Union Agriculture Ministry, UP Agriculture Ministry, International Rice Research Institute, National Seed Research and Training Centre and Federation of Seed Industries of India.
- **International Rice Research Institute (IRRI):** It is a non-profit organization that conducts research and training on rice to improve the quality of life for communities that rely on rice as a subsistence food. **(Established in 1960, HQ-Manila, Philippines)**
- The seed industry has demanded “**one nation, one licence**” to promote research and development and use of hybrid seeds introduced by the private sector.

Challenges in Seed Sector

- **Outdated Legislation & Policies:**
 - Existing legislation like the Seeds Act (1966) lacks relevance to modern agricultural needs.
 - A new bill was introduced in **Parliament in 2004** but has not been passed due to **opposition from farmers**.
 - Currently, we are following **the National Seeds Policy of 2002**, which needs to be updated to meet the evolving requirements of the seed industry.
- **Low Quality Assurance:**
 - India's seed standards lag behind international levels, affecting competitiveness in global markets.
- **High Costs:**
 - For many **small and marginal farmers**, high-quality seeds are financially out of reach.
 - This limits their access to improved crop varieties and technologies.
- **Lack of Awareness:**
 - Many farmers are **unaware of the benefits** of using certified seeds or improved varieties. It results in continued reliance on traditional or low-quality seeds.

Way Forward

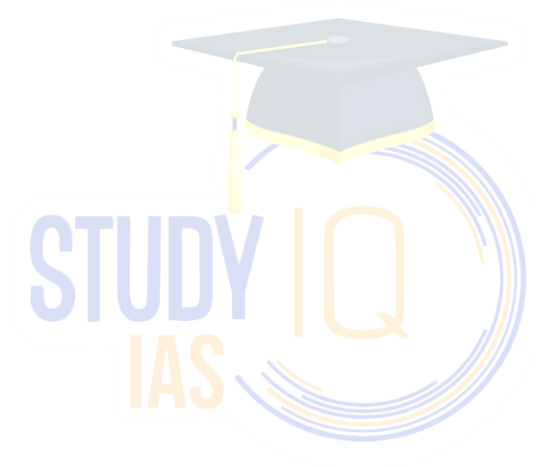
- **Policy Reforms:**
 - Modernize seed laws to reflect technological advancements and address farmer concerns.
 - Define **clear distinctions between farmer-saved seeds and commercial seeds** to ensure clarity and compliance.
- **Strengthening Quality Assurance Systems:**
 - Enhance seed testing and certification infrastructure to meet international standards.
- **Investment in Research and Development:**
 - Increase funding for R&D to develop climate-resilient and high-yielding seed varieties.
 - Encourage the use of biotechnological advancements to address pest resistance and nutritional challenges.
- **Promoting Public-Private Collaboration:**
 - Encourage partnerships between public research institutions and private companies to leverage their respective strengths in innovation and market access.

- **Capacity Building for Farmers:**

- Educate farmers about modern seed technologies, quality standards, and efficient utilization practices through comprehensive extension services.
- Promoting awareness campaigns to inform farmers about government policies, schemes, and subsidies in the seed sector.

Source:

- [The Hindu - Scientists, industry demand passage of new Seeds Bill](#)



Clean Plant Programme

Context

The Government of India and the Asian Development Bank (ADB) signed a \$98 million loan to improve horticulture crop farmers' access to certified disease-free planting materials under Clean Plant Programme.

About Clean Plant Programme (CPP)

- CPP will have 3 components: **Clean Plant Centres, certification and legal framework and enhanced Infrastructure.**
- **Implementing Agency:** National Horticulture Board
- **Features:**
 - CPP will provide **access to virus-free, high-quality planting material**, leading to increased crop yields and improved income opportunities.
 - **Streamlined certification processes** and infrastructure support to nurseries.
 - Active engagement of women farmers in planning and implementation, ensuring their access to resources, training and decision-making opportunities.

Mission for Integrated Development of Horticulture (MIDH)

- It is a Centrally Sponsored Scheme for the holistic growth of the horticulture sector covering fruits, vegetables, root & tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew, cocoa and bamboo.
- The Ministry of Agriculture and Farmers Welfare is implementing MIDH with effect from 2014-15.
- MIDH is implemented under **Green Revolution - Krishonnati Yojana.**

Source:

- [The Hindu - Government of India and ADB sign \\$98 million loan to promote plant health management in India's horticulture](#)

News in Shorts

Historical Background of Sambhal Mosque

- Constructed during Mughal Emperor **Babur's reign (1526–1530)** by his general, **Mir Hindu Beg**.
- It is one of the 3 mosques built during the reign of Babur: **Other 2 (Panipat & Babri Masjid)**.
- **Hindu beliefs:** According to local tradition the mosque incorporates remnants of a Vishnu temple, believed to be the site of the arrival of **Kalki, the tenth avatar of Vishnu**.

Source:

- [Indian Express -Sambhal's Jama Masjid](#)

Historical Background of Ajmer Sharif Dargah

- It is the final resting place of the Sufi saint, **Moinuddin Chishti** located at Ajmer, Rajasthan.
- **About Moinuddin Chishti:**
 - Moinuddin Chishti was a 13th-century **Sufi saint** and philosopher.
 - He was born in 1141 CE in Sistan (modern-day Iran/Afghanistan region).
 - He arrived in Delhi during the reign of **Sultan Iltutmish (1236)**.
- **Construction of the Dargah:**
 - **Original Shrine:** Constructed by **Sultan Ghiyasuddin Khilji** of the Malwa Sultanate in the early 15th century.
 - **Mughal Patronage:**
 - **Akbar:** Made annual pilgrimages to the dargah.
 - **Shah Jahan:** Added the white marble mosque (Shah Jahan's Mosque) in 1637.

Source:

- [The Hindu - Ajmer shrine survey](#)

Rule 267 of Rajya Sabha

- It allows a member to request the suspension of the day's listed business to discuss a matter of **urgent public importance**.
- A member submits a notice under Rule 267 to the Chairman of the Rajya Sabha. If the Chairman approves (**discretion**), the normal business is suspended, and the urgent matter is taken up for discussion.
- The last time it was accepted was in November **2016**, when the Upper House invoked Rule 267 to discuss **demonetisation**.
- **Similar Rule in the Lok Sabha**
 - **Rule 184:** Allows for a debate on a matter of urgent public importance, with the provision for voting at the end.
 - **Rule 193:** Also permits discussion on urgent matters, but without a vote.

Source:

- [PIB - Rule 267 is being weaponised as a mechanism of disruption,says Chairman RS](#)

Editorial Summary

India Needs to Share Contraceptive Responsibility

Context

In 1952, India initiated the world's first national family planning program, which has undergone significant transformations over the decades. Initially aimed at improving maternal and child health, the focus has shifted towards stabilizing the population.

Evolution of Family Planning in India

- The program was launched to reduce birth rates and stabilize population growth, aligning with national economic needs.
 - Over time, it expanded to include reproductive health and reduce maternal and child mortality rates.
- In 1966, a separate Department of Family Planning was established.
- In 1977, India's Family Planning Department was renamed the Family Welfare Department after the government adopted a new population policy that emphasized voluntary participation in family planning.
- The National Population Policy (NPP) 2000 was established by the Government of India on February 15, 2000, as a comprehensive framework to address the challenges posed by rapid population growth. This policy aims to ensure sustainable development through responsible family planning and reproductive health services.

Facts

- Between 1966 and 1970, vasectomies accounted for approximately 80.5% of sterilization procedures.
- The **National Family Health Surveys (NFHS)** document a **decrease in male sterilisation usage**, with rates stagnating at around **0.3%** in NFHS-4 (2015-16) and NFHS-5.

Awareness Initiatives

- **World Vasectomy Day** is observed annually on the third Friday of November (November 15 in 2024).
- In 2017, India observed a 'vasectomy fortnight' to raise awareness, debunk misconceptions, and encourage uptake.
- **Mission Parivar Vikas**: Launched in 2016, **Mission Parivar Vikas (MPV)** aims to improve access to contraceptives and family planning services in 146 high-fertility districts across **7 states** (Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh, Chhattisgarh, Jharkhand, and Assam).
 - **Key initiatives include:**
 - **Saarthi Vaahans**: Mobile awareness campaigns.
 - **Saas Bahu Sammelens**: Addressing social barriers for young women.
 - **Nayi Pahel Kits**: Sensitizing newlyweds on family planning and responsible parenthood.
 - A robust logistics system ensured uninterrupted contraceptive supplies, leading to a significant uptake of modern contraceptives.
 - The success prompted the government to scale up MPV to all districts in these states and six North-Eastern states in 2021.

Ground Realities and Challenges

- **Survey findings (Chhatrapati Sambhaji Nagar, Maharashtra, March 2024):**
 - Women perceive **sterilisation as their responsibility** and a belief that **men should not be “burdened”** by it as men’s work burden and financial loss due to a day’s wages forfeited for the procedure.
 - Awareness of government-provided cash incentives for vasectomies is low.
- **Barriers to vasectomy adoption:**
 - Illiteracy, male ego, misconceptions (e.g., its effect on libido), and family opposition.
 - Lack of trained providers and limited knowledge among community health workers about no-scalpel vasectomies.

Recommendations and Solutions

- **Early Sensitisation and Awareness Building:** Introduce awareness programmes and peer discussions during adolescence in schools.
 - Conduct **social and behaviour change communication (SBCC)** campaigns to dispel myths and destigmatise vasectomies.
- **Enhanced Incentives:** Increase conditional cash incentives for vasectomies to boost male participation.
 - **Examples:**
 - **Maharashtra (2019):** Men in rural tribal areas responded positively to incentives.
 - **Madhya Pradesh (2022):** Increased vasectomy incentives by **50%**.
- **Lessons from International Success:**
 - **South Korea:** High vasectomy prevalence due to progressive norms and gender equality.
 - **Bhutan:** Popularised vasectomies through social acceptance, government-run camps, and quality services.
 - **Brazil:** Mass media awareness campaigns increased uptake from **0.8% in the 1980s to 5% in the last decade.**
- **Strengthening Health Systems:** Train more health professionals to perform vasectomies.
 - Invest in technical advancements like **no-scalpel vasectomies.**
 - Align the national health system with policy objectives.
- **Public Awareness Campaigns:** Promote vasectomy as a **safe and simple alternative** to tubectomy.
 - Ensure both partners make informed family planning decisions.

Source: [The Hindu: Indians need to share contraceptive responsibility](#)

CWC Resolution on Entire Poll Process

Context

The Congress Working Committee (CWC) said the integrity of the entire electoral process was “being severely compromised.”

What are the Arguments?

- **Partisan Functioning of the Election Commission:** The CWC accused the Election Commission (EC) of exhibiting biased behavior, which they believe undermines the integrity of elections.
 - This **partisanship** is viewed as a significant factor contributing to public disillusionment with the electoral process.
- **Electoral Malpractices:** The resolution highlighted concerns over various electoral malpractices that allegedly influenced election outcomes, particularly in Haryana and Maharashtra.
 - The party contended that these **malpractices included manipulation and irregularities** that were overlooked, leading to unexpected results.
- **Lack of Focus on EVMs:** Some advocated for a return to **ballot papers** to ensure free and fair elections.
 - Others argued for a **broader focus** on the entire electoral process, emphasizing the need for 100% verification of **Voter Verifiable Paper Audit Trail (VVPAT)** slips as a practical solution.

Arguments for a National Movement

- **Call for Free and Fair Elections:** The CWC resolved to launch a national movement aimed at ensuring free and fair elections, framing this as a constitutional mandate that is currently under threat.
 - The party expressed its commitment to addressing public concerns surrounding electoral integrity.
- **Need for Comprehensive Reforms:** This includes addressing issues such as voter suppression, tampering with electoral rolls, and ensuring transparency in voter verification.
- **Internal Accountability:** The meeting acknowledged the need for introspection regarding the party's performance in recent elections.
 - It was suggested that internal committees be formed to analyze electoral strategies and outcomes more critically.

Broader Context

- **Public Frustration:** The CWC noted an increasing sense of frustration among voters regarding the electoral process, which they believe is being compromised by various factors, including alleged government interference and lack of responsiveness from the EC.
- **Unified Party Strategy:** There was a call for a unified approach within the party to address these challenges effectively.
 - Leaders emphasized that internal disputes and factionalism have weakened their position and hindered effective campaigning.

Source: [The Hindu: Integrity of electoral process severely compromised: Cong.](#)

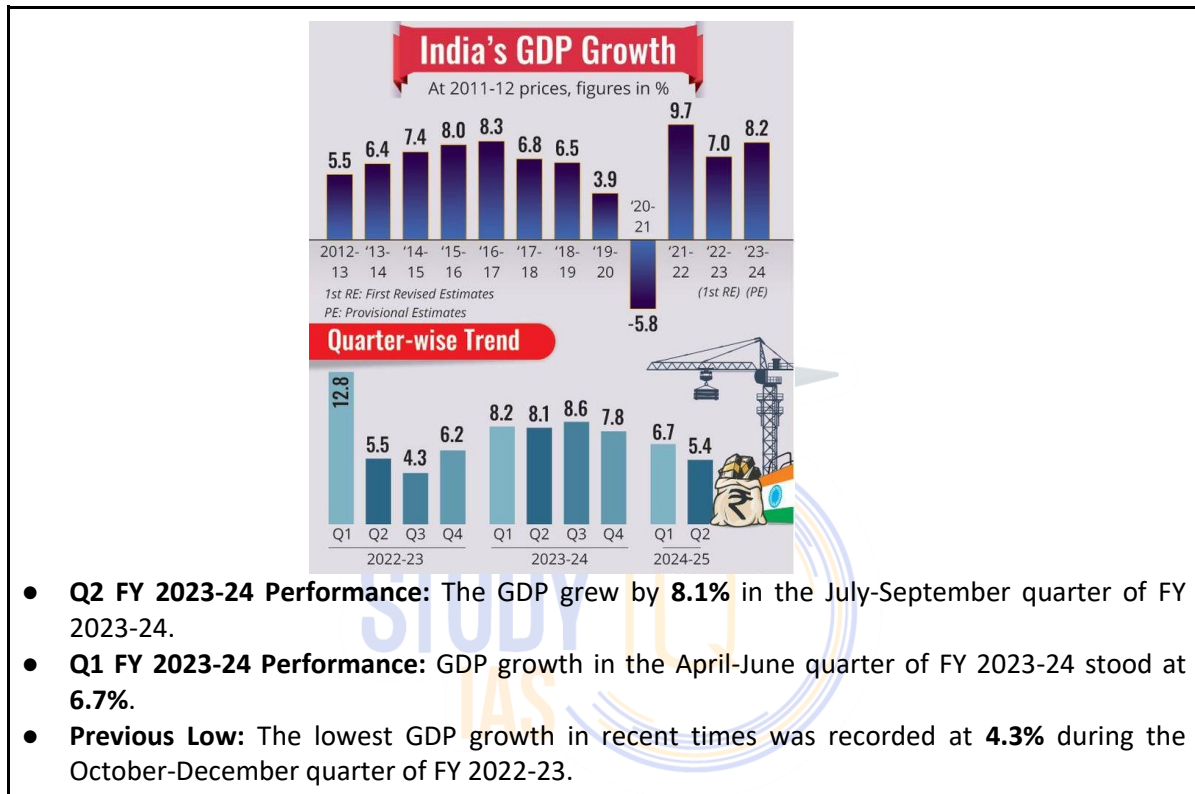
GDP Growth Slums to 2-Year Low

Context

India's economic growth slowed to near 2-year low of 5.4 per cent in the July-September (Q2) in 2024-25.

What were the Reasons?

- Due to poor performance of manufacturing and mining sectors as well as weak consumption.
- But the country continued to remain the fastest-growing large economy.



- **Q2 FY 2023-24 Performance:** The GDP grew by **8.1%** in the July-September quarter of FY 2023-24.
- **Q1 FY 2023-24 Performance:** GDP growth in the April-June quarter of FY 2023-24 stood at **6.7%**.
- **Previous Low:** The lowest GDP growth in recent times was recorded at **4.3%** during the October-December quarter of FY 2022-23.

Sector-Wise Performance

- **Agriculture and Allied Sectors:** Growth accelerated to **3.5%** in Q2 FY 2024-25, compared to **1.7%** in the year-ago period.
- **Manufacturing Sector:** Gross Value Added (GVA) growth **slowed to 2.2%** in Q2, a steep decline from **14.3%** in the same quarter last year.
- **Mining and Quarrying:** GVA contracted marginally at **-0.01%**, compared to a robust growth of **11.1%** a year ago.
- **Construction Sector:** Growth moderated to **7.7%** in Q2, down from **13.6%** year-on-year.
- **Financial, Real Estate, and Professional Services:** GVA growth improved slightly to **6.7%**, up from **6.2%** in the year-ago quarter.
- **Electricity, Gas, Water Supply, and Other Utilities:** GVA growth slowed to **3.3%**, compared to **10.5%** in Q2 FY 2023-24.
- **Eight Key Infrastructure Sectors**
 - **October 2024:** Growth slowed to **3.1%**, a sharp decline from **12.7%** in October 2023.
 - **September 2024:** Monthly growth stood at **2.4%**.

Other Data

- **Private Final Consumption Expenditure (PFCE):** Growth decelerated to **6%** in Q2 FY 2024-25, down from **7.4%** in Q1 FY 2024-25.
- **Fiscal Deficit:**
 - **April-October 2024:** Fiscal deficit reached **₹7,50,824 crore**, **46.5%** of the full-year target.
 - **Comparison:** Fiscal deficit stood at **45%** of Budget Estimates during the same period in FY 2023-24.

GDP Estimates (NSO Data)

- **Quarterly Data (Q2 FY 2024-25)**
 - **Real GDP (constant prices):** Estimated at **₹44.10 lakh crore**, up from **₹41.86 lakh crore** in Q2 FY 2023-24, reflecting a **5.4% growth rate**.
 - **Nominal GDP (current prices):** Estimated at **₹76.60 lakh crore**, up from **₹70.90 lakh crore**, showing an **8% growth rate**.
- **Half-Yearly Data (H1 FY 2024-25)**
 - **Real GDP:** Estimated at **₹87.74 lakh crore**, compared to **₹82.77 lakh crore** in H1 FY 2023-24, reflecting **6% growth**.
 - **Nominal GDP:** Estimated at **₹153.91 lakh crore**, up from **₹141.40 lakh crore**, indicating an **8.9% growth rate**.

