



## Repo Rate Cut and its Implications

**For Prelims:** [Monetary Policy Committee \(MPC\)](#), [Inflation](#), [Personal Income Tax](#), [Repo Rate](#), [Interest Rate](#), [Wholesale Price Index \(WPI\)](#), [M3 Money Supply](#).

**For Mains:** Repo rate and its impact on the economy.

**Source:** [IE](#)

### Why in News?

The [Monetary Policy Committee \(MPC\)](#) of [Reserve Bank of India](#) cut the **repo rate to 6.25% from 6.5%** (25 basis points (bps)) for the **first time in 5 years** (since 2020).

- After the **Union Budget 2025-26** reduced **personal income tax** to spur consumption, this step aims to **revive economic growth** amid a slowdown.

### What Factors Led to RBI's Decision to Cut the Repo Rate?

- **Growth-Stimulating Budget:** The [Union Budget 2025-26](#) introduced a [personal income tax cut](#) and revised [TDS limits](#), increasing disposable income.
  - The RBI's repo rate cut **supports the government's tax reductions** by lowering borrowing costs and **sustaining demand**.
- **Declining Inflation:** [Consumer Price Index \(CPI\)](#) eased to **5.22% in December 2024**, a **four-month low**, down from **5.48% in November** that provides room for **monetary easing**.
- **Market Liquidity Enhancement:** The **RBI recently introduced measures** to improve [liquidity](#) in the banking system by injecting **Rs 1.5 trillion**.
  - Liquidity injection **eased tight credit markets**, while the repo rate cut ensured **liquidity and lower rates** to boost growth.
- **Global Economic Uncertainty:** The recent **US tariffs on Canada, Mexico, and China** sparked trade war fears, **weakening the rupee to 87.29 per dollar** and raising inflation risks.
  - A **repo rate cut** could help **cushion the impact of external shocks** and support domestic growth.

### What is Repo Rate?

- **About:** [Repo rate](#) (**Repurchase Agreement Rate**) is the [interest rate](#) at which commercial banks **borrow money** from the central bank.
- **Purpose & Functioning:** It helps banks **meet short-term liquidity needs** by borrowing funds.
  - Banks provide **securities as collateral** and agree to repurchase them later at a higher price (including interest).
- **Impact on Borrowing Costs:**
  - **Higher repo rate** → Costlier loans for banks → **Higher interest rates for consumers & businesses** → Slower borrowing & spending.
  - **Lower repo rate** → Cheaper loans for banks → **Lower interest rates for borrowers** → Increased borrowing & spending.

- **Role in Monetary Policy:** It is used by the central bank to **control money supply, inflation, and economic growth.**

## What are the Implications of the Repo Rate Cut?

- **Economic Growth:** Lower borrowing costs make it easier for **businesses to expand and invest**, leading to **higher production and job creation.**
  - A repo rate cut reduces interest rates, making **loans cheaper, lowering EMIs**, and boosting borrowing and spending.
- **Strengthening Financial Markets:** Banks may **reduce interest rates on savings accounts and fixed deposits**, making savings **less attractive** that may drive consumers toward **stocks, mutual funds, or real estate.**
- **Export Competitiveness:** A lower repo rate may cut investment returns, leading to **capital outflows.** This may **weaken the currency**, raising import costs but enhancing export competitiveness.
- **Inflation: Increased spending** due to rate cuts may push up prices and inflation over time, breaching the **RBI inflation target (4% within a band of +/- 2%)**

## Background of the 4% Inflation Target

- **Chakravarty Committee (1982-85):** It was set up by the then **RBI Governor Manmohan Singh** under **Sukhamoy Chakravarty** to review monetary policy. Its recommendations included:
  - Emphasized **price stability** as a core objective of monetary policy.
  - Proposed **4% average annual inflation in the Wholesale Price Index (WPI)** to balance economic priorities.
  - Recommended **market-driven government borrowing** and an **active government securities market** to reduce reliance on RBI funding.
  - Advocated **monetary targeting (M3 money supply control)** to manage inflation.
    - $M3 = M1$  (Currency held by the public + Demand Deposits held by commercial banks) + Net time deposits of commercial banks
- **Urjit Patel Committee (2014):** It **formalized** inflation targeting, setting the **4% target ( $\pm 2\%$  band)**, a target first proposed by the **Chakravarty Committee 40 years ago.**
  - India's inflation targeting framework, **adopted in 2016**, aligns India's monetary policy with global best practices.

# Monetary Policy Committee



## Monetary Policy

- It is formed and managed by **Reserve Bank of India** to control a nation's overall money supply and achieve economic growth
- It is **different from Fiscal Policy** which is managed by the **Ministry of Finance** that measures the spending and taxation in Indian Economy

## Monetary Policy Committee (MPC):

- **Ex-officio Chairperson:** RBI Governor
- **Objective:** To determine the policy rate required to achieve the inflation target ( 4+/- 2%, Urjit Patel Committee)

- **Legal Framework:** Under Section 45ZB of the amended RBI Act, 1934, the Central Government is empowered to constitute a six-member Monetary Policy Committee (MPC)
  - The MPC is required to meet at least four times in a year. Each member of the MPC has one vote, and in the event of an equality of votes, the Governor has a second or casting vote.
- **Monetary Policy Report:** RBI once in every six months, releases Monetary Policy Report to explain the sources of inflation and the forecast of inflation for 6-18 months ahead



Click Here to Read: [What is the Consumer Price Index?](#)

## Conclusion

The RBI's repo rate cut aims to **boost economic growth** by lowering borrowing costs. However, it may lead to **inflationary pressures**, challenging the 4% target set by RBI MPC. Balancing **growth and price stability** remains crucial, especially amid **global uncertainties**.

### **Drishti Mains Question:**

Discuss the impact of repo rate cuts on economic growth and inflation.

## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### **Prelims**

#### **Q. Consider the following statements: (2020)**

1. The weightage of food in Consumer Price Index (CPI) is higher than that in Wholesale Price Index (WPI).
2. The WPI does not capture changes in the prices of services, which CPI does.
3. The Reserve Bank of India has now adopted WPI as its key measure of inflation and to decide on changing the key policy rates.

#### **Which of the statements given above is/are correct?**

- (a) 1 and 2 only  
(b) 2 only  
(c) 3 only  
(d) 1, 2 and 3

**Ans: (a)**

#### **Q. If the RBI decides to adopt an expansionist monetary policy, which of the following would it not do?(2020)**

1. Cut and optimize the Statutory Liquidity Ratio
2. Increase the Marginal Standing Facility Rate
3. Cut the Bank Rate and Repo Rate

#### **Select the correct answer using the code given below:**

- (a) 1 and 2 only

- (b) 2 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

**Ans: (b)**

### **Mains**

**Q.** Define potential GDP and explain its determinants. What are the factors that have been inhibiting India from realizing its potential GDP? (2020)

**Q.** Do you agree with the view that steady GDP growth and low inflation have left the Indian economy in good shape? Give reasons in support of your arguments (2019)

## **India's Shift from Mitigation to Adaptation in Climate Action**

**For Prelims:** [Adaptation](#), [Mitigation](#), [Conference of the Parties 29](#), [Nationally Determined Contributions](#), [Paris Agreement](#), [Small Modular Nuclear Reactors](#)

**For Mains:** India's Climate Strategy and NDC Commitments, Adaptation vs. Mitigation, Energy Transition

**Source:** [IE](#)

### **Why in News?**

India has signaled a shift in its climate stance by prioritizing [adaptation](#) over **emission cuts** ([Mitigation](#)).

- This reflects concerns over global inaction and weak financial commitments at [United Nations Framework Convention on Climate Change \(UNFCCC\) Conference of the Parties 29 \(COP29\)](#), further underscored by its **likely delay in submitting the 2035 [Nationally Determined Contributions \(NDCs\)](#)**.

### **Why is India Prioritizing Adaptation Over Mitigation?**

- **Reevaluation of Global Climate Commitments:** The world is not on track to meet its emissions reduction targets for 2030 or 2035 (nations must cut [greenhouse gas emissions](#) by 42% by 2030 and 57% by 2035).
  - **Developed nations** have failed to meet their climate finance obligations, with COP29 securing only **USD 300 billion per year (starting 2035)** instead of the **USD 1 trillion** demanded by developing nations.
  - The withdrawal of the [US from the Paris Agreement](#) in 2025 has further weakened global climate action momentum.
  - India aims for **low-carbon growth at its own pace**, with energy transition driven by domestic priorities.
- **Immediate and Local Benefits:** India argues that global climate targets overlook **developing nations' immediate needs**.

- Unlike **mitigation**, which requires global cooperation, adaptation like building climate-resilient infrastructure offers **direct, immediate benefits**, and local benefits.
- **Economic development** enhances resilience, making prosperity a key factor in tackling climate change.
- **Economic Growth:** The [Economic Survey 2024-25](#) suggests that achieving **“developed country” status by 2047** should take precedence, allowing for a more robust and **sustainable transition to clean energy thereafter**.
  - India argues that **rapid industrialization and economic growth**, as seen in China, provide the resources necessary for **future decarbonization**.
- **Flexibility:** India is seeking greater autonomy in determining its energy transition pace, rather than adhering to externally imposed targets.
  - While **decarbonization remains a long-term goal**, India is unwilling to compromise economic growth through immediate restrictions on fossil fuel use.
  - A **bottom-up approach through ground-level initiatives** is seen as more effective than top-down mandates.

## Adaptation, Mitigation and Resilience

Term	Definition	Examples of Actions
<b>Mitigation</b>	Reducing <b>greenhouse gas emissions</b> and limiting climate change impacts.	<ul style="list-style-type: none"> <li>▪ Transitioning to low-carbon energy sources</li> <li>▪ Using carbon capture technologies</li> <li>▪ Protecting forests and oceans as carbon sinks</li> <li>▪ Promoting sustainable behavior (e.g., reducing travel emissions)</li> </ul>
<b>Adaptation</b>	Adjusting to climate change effects to <b>minimize harm or take advantage of benefits</b> .	<ul style="list-style-type: none"> <li>▪ Building <b>sea-level rise defenses</b></li> <li>▪ Protecting infrastructure from extreme weather</li> <li>▪ Diversifying crops for <b>changing climates</b></li> <li>▪ Reducing food waste</li> </ul>
<b>Resilience</b>	Enhancing the <b>ability to anticipate, prepare for, and respond</b> to climate-related impacts.	<ul style="list-style-type: none"> <li>▪ Developing early warning systems</li> <li>▪ Increasing urban green spaces for flood absorption</li> <li>▪ Planting trees to mitigate urban heat effects</li> </ul>



## How is India Balancing Growth and Clean Energy Transition?

- **Low-Carbon Development:** Despite resisting strict [coal phase-down](#) commitments, India is expanding its [renewable energy sector](#).
  - India is on track to meet its **2030 NDC targets**: India targets **50% installed electricity capacity** from [non-fossil sources](#) by 2030, reaching **46.8%** as of November 2024.
  - India aims to create an additional **2.5-3 billion tonnes of [carbon dioxide \(CO<sub>2</sub>\) sink](#)** through forest expansion by 2030, based on 2005 levels.
    - The [Forest Survey of India \(2024\)](#) estimates a carbon sink of 30.43 billion tonnes in 2023, up from 28.14 billion tonnes in 2005, an addition of **2.29 billion tonnes**.
    - Projections indicate 31.71 billion tonnes by 2030, surpassing the NDC target.
  - **India targets a 45% reduction in [GDP emissions intensity](#) by 2030**. As of 2019, it has already achieved a 33% reduction from 2005 levels.
  - [Solar and wind energy](#) investments remain a priority, with ambitious targets for hydrogen energy development.
    - The installed renewable electricity generation capacity is as follows: Solar (20.6%), Wind (10.5%), Hydro (10.3%), and Nuclear (1.8%).
- **Domestic Clean Energy:** India aims to reduce its dependence on **foreign supply chains for clean energy** technologies like [solar panels, electric batteries](#), through a new [National Manufacturing Mission](#) (announced in **Union Budget 2025-26**).
  - Policies are being designed to support indigenous production of solar cells, wind turbines, and battery storage solutions.
- **Developing SMRs:** Recognizing its slow progress in nuclear energy, India is now pushing for indigenous [Small Modular Nuclear Reactors \(SMRs\)](#) to enhance energy security.
- **Delay in Submitting 2035 NDCs:** India has postponed its 2035 climate commitments to later in 2025, likely to negotiate better financial terms at COP30 in Brazil.
  - Holding back allows India to adjust its targets based on domestic priorities and global climate finance developments.

**Note:** NDCs are country-specific climate action plans to cut emissions and adapt to climate change under the [Paris Agreement](#), updated **every five years**.

- The existing NDCs, submitted in 2020, pertain to the 2030 period, with 2035 submissions by 10th February 2025. The **2035 NDC must build on the 2030 targets**, but countries set their own progression based on resources.

## How has India's Role in Global Climate Governance Evolved?

Click Here to Read: [India's Role in Global Climate Governance](#)

## What are India's Key Climate Adaptation Initiatives?

- **National Adaptation Plan (NAP):** Developed by the **Ministry of Environment, Forest and Climate Change (MoEFCC)** to align with [Sustainable Development Goals \(SDGs\)](#)
  - Focuses on **climate resilience across sectors**, including agriculture, water management, and urban planning.
- **Adaptation in Agriculture:** [Heat](#) and [water stress](#) threaten food security, adaptation measures include:
  - [Climate-resilient seeds](#) and improved [soil health practices](#).
  - [Groundwater conservation](#) and **modified cropping techniques**.
- **Urban Climate Resilience:** The [National Mission on Sustainable Habitat \(NMSH\)](#) promotes

waste and water management and green buildings.

- **AMRUT 2.0 (Atal Mission for Rejuvenation and Urban Transformation)** aims to tackle **urban flooding**.
- **Coastal Adaptation Measures: Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI)** aims to **restore 540 sq. km of mangroves** across nine coastal states.
  - Expected to **sequester 4.5 million tons of carbon** and create **22.8 million jobs**.
  - **Seawalls, artificial reefs, and dune planting** to combat coastal erosion and rising sea levels.
- **Water Resource Management: Jal Shakti Abhiyan** focuses on rainwater harvesting, groundwater recharge, and afforestation.
- **Mission LiFE: Mission LiFE (Lifestyle for Environment)** is an India-led global initiative, it promotes sustainable living and individual responsibility in climate action, shifting from a "use-and-dispose" mindset to a **circular economy**.

## Way Forward

- **Economic Growth with Sustainability:** Prioritize industrial growth and job creation while ensuring low-carbon development. Implement sectoral decarbonization plans in steel, cement, and heavy industries.
  - Encourage **green urban planning for sustainable cities** through **Smart Cities Mission** and smart mobility solutions.
  - Develop **climate-resilient infrastructure**, strengthen **disaster preparedness**, and expand **afforestation** for natural carbon sinks.
- **Clean Energy Expansion:** Expand **solar, wind, and green hydrogen** investments, enhance battery storage and **grid infrastructure**, and promote waste-to-energy and **biofuels for a diversified clean energy mix**.
- **Just and Inclusive Transition:** Support **Micro, Small and Medium Enterprises (MSME)** and fossil fuel workers in transitioning to **green jobs** while ensuring affordable clean energy access for rural and underprivileged communities.

### Drishhti Mains Question:

Critically examine the impact of India's shift towards adaptation and economic growth on its development and global climate commitments.

## UPSC Civil Services Examination, Previous Year Question (PYQ)

### Prelims

**Q.1 In the context of India's preparation for Climate-Smart Agriculture, consider the following statements: (2021)**

1. The 'Climate-Smart Village' approach in India is a part of a project led by the Climate Change, Agriculture and Food Security (CCAFS), an international research programme.
2. The project of CCAFS is carried out under Consultative Group on International Agricultural Research (CGIAR) headquartered in France.
3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR's research centres.

**Which of the statements given above are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Ans: (d)**



**Q.2 Which of the following best describes/describe the aim of 'Green India Mission' of the Government of India? (2016)**

1. Incorporating environmental benefits and costs into the Union and State Budgets thereby implementing the 'green accounting'.
2. Launching the second green revolution to enhance agricultural output so as to ensure food security to one and all in the future.
3. Restoring and enhancing forest cover and responding to climate change by a combination of adaptation and mitigation measures.

**Select the correct answer using the code given below.**

- (a) 1 only  
(b) 2 and 3 only  
(c) 3 only  
(d) 1, 2 and 3

**Ans: (c)**

**Q.3 With reference to 'Global Climate Change Alliance', which of the following statements is/are correct? (2017)**

1. It is an initiative of the European Union.
2. It provides technical and financial support to targeted developing countries to integrate climate change into their development policies and budgets.
3. It is coordinated by World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD).

**Select the correct answer using the code given below:**

- (a) 1 and 2 only  
(b) 3 only  
(c) 2 and 3 only  
(d) 1, 2 and 3

**Ans: (a)**

**Mains**

**Q.1** Describe the major outcomes of the 26th session of the Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). What are the commitments made by India in this conference? **(2021)**

**Q.2** 'Climate Change' is a global problem. How will India be affected by climate change? How Himalayan and coastal states of India will be affected by climate change? **(2017)**

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## **PM-JAY's Impact on Cancer Treatment**

**[Source: IE](#)**

**Why in News?**

A study published in *The Lancet* highlights a substantial **decrease in delays for initiating cancer treatment across India**, with a notable **90% improvement among beneficiaries** of the [Pradhan Mantri Jan Arogya Yojana \(AB PM-JAY\)](#).


## What are the Key Findings of the Study on Cancer?

- **Improved Timely Initiation of Treatment:** **36%** overall improvement in timely cancer treatment, with a **90% rise among AB PM-JAY beneficiaries post-2018**.
  - Treatment delays reduced significantly, especially for **reproductive, genitourinary, breast, and blood cancers**.
- **Demographic Insights: Younger patients (<30 years: 77%)** and those with **higher education (70.2%)** had better access to timely treatment.
  - **Insurance coverage (69%)** improved accessibility, while higher-income groups faced fewer delays.
- **Challenges:**
  - **Delayed Diagnosis and Treatment:** Study revealed that **treatment delays**, especially in **radiotherapy, chemotherapy, and surgery**, reduce survival rates.
  - **Limited Healthcare Infrastructure:** India has only **779 radiotherapy machines**, far below the **WHO-recommended 1,350-5,000**. **Shortage of oncologists and diagnostic centers**.
  - **High Financial Burden:** **High out-of-pocket (OOP) expenses** persist as **AB-PMJAY excludes diagnostics and follow-ups**. **Public health spending below 2% of GDP** worsens affordability.

## Cancer

- **About: Cancer** refers to a group of diseases characterised by the **uncontrolled proliferation and spread of abnormal cells** in the body, which can infiltrate and harm healthy tissues and organs.
- **State of Cancer Burden in India:** The cancer cases in the country are projected to increase from **14.6 lakh in 2022** to **15.7 lakh in 2025**, as per the [Indian Council of Medical Research](#).
  - **Breast cancer** was the most prevalent, representing **13.6%** of all cases and over **26%** among women.
  - Globally, in 2022, there were an estimated 20 million new cancer cases and 9.7 million deaths.

### RISING BURDEN OF CANCER IN INDIA

	Incidence	Mortality
2020	13.92 lakh 	7,70,230
2021	14.26 lakh 	7,89,202
2022	14.61 lakh 	8,08,558
2025*	15.69 lakh 	

### ESTIMATED INCIDENCE

IN 2020 (PER 100,000)

94.1

103.6

Male

Female

### COMMON SITES



● Lung, mouth, prostate, tongue, and stomach (36% of all cancers)



● Breast, cervix, ovary, uterus, lung (53% of all cancers)

Click Here to Read: [Pradhan Mantri Jan Arogya Yojana \(AB PM-JAY\)](#)

## UPSC Civil Services Examination, Previous Year Question (PYQ)

**Q1. 'Mission Indradhanush' launched by the Government of India pertains to (2016)**

- (a) Immunization of children and pregnant women
- (b) Construction of smart cities across the country
- (c) India's own search for the Earth-like planets in outer space
- (d) New Educational Policy

**Ans: (a)**

**Q. With reference to the treatment of cancerous tumours, a tool called cyberknife has been making the news. In this context, which one of the following statements is not correct? (2010)**

- (a) It is a robotic image guided system
- (b) It delivers an extremely precise dose of radiation
- (c) It has the capability of achieving sub-millimetre accuracy
- (d) It can map the spread of tumour in the body

**Ans: (d)**

**Q. 'RNA interference (RNAi)' technology has gained popularity in the last few years. Why? (2019)**

1. It is used in developing gene-silencing therapies.
2. It can be used in developing therapies for the treatment of cancer.
3. It can be used to develop hormone replacement therapies.
4. It can be used to produce crop plants that are resistant to viral pathogens.

**Select the correct answer using the code given below.**

- (a) 1, 2 and 4
- (b) 2 and 3
- (c) 1 and 3
- (d) 1 and 4 only

**Ans: (a)**

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**Asteroid 2024 YR4**

[Source: IE](#)

## Why in News?

[National Aeronautics and Space Administration \(NASA\)](#) has identified a near-Earth **Asteroid 2024 YR4**, which has a slightly over 1% chance of impacting Earth in 2032.

## What are the Key Facts About Asteroid 2024 YR4?

- **About:** The asteroid, detected in **December 2024**, passed **800,000 km from Earth** (twice the Moon's distance) and remained observable until **April 2025**, set to reappear in **2028**.
- **Potential Risk:** NASA has classified it as **Level 3 on the Torino Scale**, indicating a potential for **localized destruction** if it impacts Earth.
  - The **Torino Scale**, adopted by the [IAU \(International Astronomical Union\)](#) in **1999**, categorizes asteroid impact risks on a **0 to 10** scale based on likelihood and severity.
  - It can release **8-10 megatons in case of impact**, higher than the **2013 Chelyabinsk, Russia meteor (released 500 kilotons of energy)**— about 30 times more than the Hiroshima atomic bomb).

## What are Asteroids?

- **About:** Asteroids are **rocky, airless remnants** from the **solar system's formation (4.6 billion years ago)**.
  - They primarily orbit the Sun in the **Asteroid Belt**, though some follow **Earth-crossing paths**.
  - Their sizes vary from **a few meters to hundreds of kilometers**.
- **Categorisation:**
  - **Main Asteroid Belt:** Located **between Mars and Jupiter**, this region contains the **majority of known asteroids**.
  - **Trojans:** These asteroids **share an orbit with a larger planet** and remain near [Lagrangian points \(L4 and L5\)](#), where gravitational forces of the Sun and the planet balance, preventing collisions.
  - **Near-Earth Asteroids (NEAs):** These asteroids have **orbits that bring them close to Earth**. Those that **intersect Earth's orbit** are specifically termed **Earth-crossers**.
- **Asteroid Collision Frequency:** Small asteroids **frequently burn up in the atmosphere**.
  - Larger asteroids occasionally reach the surface but **rarely cause significant damage**. Global-scale impacts, like the [Chicxulub event in Mexico](#) that led to the **extinction of dinosaurs and 75% of Earth's species**, occur approximately **once every 260 million years**.
- **Planetary Defense Against Asteroids:** **NASA** and other space agencies are developing **planetary defense mechanisms to prevent asteroid collisions**.
  - NASA's [DART mission \(2022\)](#) successfully altered the trajectory of asteroid Dimorphous, showcasing the potential for **deflection strategies** to mitigate future threats.

## Initiatives Related to Monitoring of Near-Earth Objects:

- [Double Asteroid Redirection Test \(DART\) Mission](#)
- [ESA's Hera Mission](#)
- [NETRA Project & Space Junk](#)



# What is a....?

## Comet

A comet is a mass of ice, rock, and dust, and often has a tail that is made up of dust and other materials.



## Asteroid

An asteroid is made up of metallic or non-metallic rocks, and orbits the sun. They can range in size from a few centimeters wide to almost a thousand kilometers across!



## Meteoroid

Meteoroids are usually fragments of asteroids or comets, often smaller than 1 meter wide, that fly through space.



## Meteor

A meteor is a meteoroid that enters Earth's atmosphere. It burns up as it travels through the atmosphere, producing a streak of light behind it.



## Meteorite

If a meteor doesn't completely burn up in the Earth's atmosphere, the fragment found on Earth is called a meteorite.



## UPSC Civil Services Examination, Previous Year Questions (PYQs)

### ***Prelims***

#### **Q. What is the difference between asteroids and comets? (2011)**

1. Asteroids are small rocky planetoids, while comets are formed of frozen gases held together by rocky and metallic material.
2. Asteroids are found mostly between the orbits of Jupiter and Mars, while comets are found mostly between Venus and Mercury.
3. Comets show a perceptible glowing tail, while asteroids do not.



Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

Ans: (b)

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## Sahitya Akademi Award 2024

Source: [PIB](#)

The [Sahitya Akademi Awards 2024](#) have announced **22 winners**, with **Bengali and Urdu awards pending**, bringing the total to **24**.

- **About:** The Sahitya Akademi Awards honor exceptional **literary contributions** in categories like **novels, poetry, essays, and plays**.
  - It is the **2<sup>nd</sup>-highest literary honor** in India, after the [Jnanpith Award](#).
  - It was established in **1954** as an autonomous body under the **Ministry of Culture**.
- **Eligibility: Award categories** include works in **22 languages** of the [Eighth Schedule](#), along with **English and Rajasthani (total: 24 languages)**, and **translations** of Indian literary works.
  - The author must be an **Indian citizen**.
- **Other Sahitya Akademi Awards:** [Bal Sahitya Puraskar](#) for children's literature and [Yuva Puraskar](#) for works by authors under the age of **35**.
- **Other Initiatives:** The Akademi also runs programs like **Gramalok** (for remote writers) and **Dalit Chetna** (for Dalit writers).

Read More: [Sahitya Akademi Awards 2023](#)

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## Beggar-thy-Neighbour Policy

Source: [TH](#)

The **US** imposed **tariffs** on imports from **China, Canada and Mexico** as part of **Beggar-thy-neighbour policy**.

- **About Beggar-thy-Neighbour Policy:** It is a [protectionist strategy](#) that involves measures like **trade barriers, currency devaluation, and subsidies**, to **improve its own economic situation** at the **expense of other nations**.
- **Origins:** **Adam Smith** coined the term in **The Wealth of Nations (1776)**, criticizing **mercantilism** that **impoverishes others** and advocating **free trade** for all nations' benefit.
- **Supporters' Arguments:** Help **boost the domestic economy** by protecting **important industries and jobs**.
  - Currency devaluation can **reduce export costs and increase import prices**, possibly resulting in a **trade surplus**.
- **Critics' Arguments:** Countries imposing such policies often face **retaliatory tariffs**, leading to

a **decline in global trade and investment**. E.g., the **Great Depression (1929-39)**.

- Benefit domestic producers but **harm consumers** due to higher prices from **reduced foreign competition**.
- **Alternative View**: Countries should **refrain from retaliating** and instead adopt **unilateral free trade**.

Read More: [Trade War](#)

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## SARAT Version 2

Source: [PIB](#)

The **Ministry of Earth Sciences** launched **SARAT (Search and Rescue Aid Tool) Version 2** to enhance **search-and-rescue efficiency** in the Indian Ocean.

- **Key Enhancements**: More accurate search areas, **enhanced data visualization**, and **future upgrades** (e.g., **surface current** and **wind prediction** accuracy).
- **About SARAT**: It is a **satellite-based distress alert system** aiding **vessels, aircraft, and individuals** in remote or high-risk areas at **sea**.
  - **Developed by**: **ESSO-INCOIS** under the **Ministry of Earth Sciences (MoES)** as part of the **Make in India** initiative.
  - **Key Features**:
    - **Customizable Tracking**: Tracks **60 object types**, including people, rafts, boats, and aircraft.
    - **Accurate Predictions**: Forecasts search areas **up to 10 days** using wind, currents, and drifting buoys.
    - **User-Friendly Interface**: Interactive **maps, SMS/email alerts**, and local language support for fishermen.
- **INCOIS**, a **top tsunami service provider** recognized by **UNESCO**, specializes in **ocean disaster management and early warnings**.
  - **INCOIS** won the **Subhash Chandra Bose Aapda Prabandhan Puraskar 2025** (Institutional Category) for excellence in **disaster management**.

Read More: [SC Bose Aapda Prabandhan Puraskar 2025 to INCOIS](#)

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## Polar Bear Sebum Sustainable Alternative to Forever Chemicals

Source: [IE](#)

A study published in **Science Advances**, reveals that **polar bear fur** contains an oily substance called **sebum** with **anti-icing properties**, which could provide a natural alternative to harmful 'forever chemicals' like **Per- and polyfluoroalkyl substances (PFAS)**.

- **Study Focus**: Researchers tested the resistance of polar bear fur and **human hair** to ice, finding that sebum in the fur has **unique properties**, lacking **squalene (organic compound)** found in human sebum.
- **Sebum Properties**: Polar bear fur **sebum** helps keep them dry and enables them to **slide on ice and dive into water**, which is similar to **fluorinated ski skins** used for **ice resistance**, but

without the **harmful PFAs**.

- **PFAS:** Group of forever chemicals that are resistant to water, oil, grease, and heat.
- **Health Concerns:** PFAS, widely used in cookware, food packaging, and food processing, do not degrade in the environment and pose serious health risks.
- **Potential Applications:** The study suggests that the **properties of sebum** could be used to create **naturally sourced coatings**, reducing reliance on PFAs and offering a more **environmentally friendly solution**.

Read more: [Forever Chemicals](#)

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