



INSIGHTSIAS

SIMPLIFYING IAS EXAM PREPARATION



***INSIGHTS
DAILY
CURRENT
AFFAIRS + PIB
SUMMARY***

1 JUNE 2023

TABLE OF CONTENTS

GS Paper 2

- Is India a parliamentary democracy? 2
- ADB: Country Partnership Strategy for India (CSP): 2023-2027 3
- 75 years of UN Peacekeeping Forces 5

GS Paper 3

- Key takeaways from the RBI Annual Report for 2022-23 6
- Indian toy industry 7

Content for Mains Enrichment (CME)

- France: Ban on domestic short-haul flights 9

Facts for Prelims (FFP)

- Delhi's Purana Qila (Old Fort) 9
- World Energy Investment Report 2023 10
- Abaucin 10
- Graphene 11
- India's first rare earth permanent magnets plant 12
- Flavanols 12
- Chytridiomycosis 13
- New exoplanet with a mass 13 times that of Jupiter discovered 14

GS Paper 2

IS INDIA A PARLIAMENTARY DEMOCRACY?

Syllabus: Parliament - Structure, Functioning, Conduct of Business, Powers & Privileges and Issues Arising out of these

Context: A new Parliament building was inaugurated with both celebration and controversy.

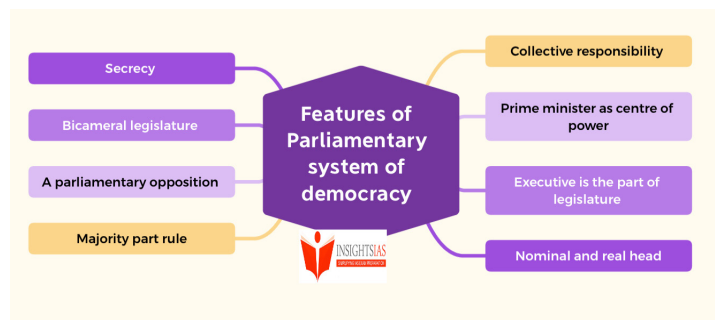
Controversy:

- **The exclusion of the President of India** - the formal head of the executive - from the inauguration.
- **The symbolism around the Sengol** - was originally used to signify the transfer of power between Chola rulers.

An overlooked fact: The increasing subordination of the Parliament in India's parliamentary democracy.

Parliamentary democracy:

- It is a system of government in which citizens elect representatives to a legislative parliament **to make the necessary laws and decisions** for the country.
- This parliament directly represents the people.



Issues faced by the Indian Parliament:

- **Frequent adjournments:** Parliament sits for fewer and fewer days in a year and Bills are passed with minimal or no deliberation.
- **Frequent use of ordinance route:** The presidential ordinances have become a parallel if not dominant form of law-making.
- **The concentration of power:** Within a dominant executive.

Safeguards against executive dominance or abuse:

- **The executive must command a majority** in Parliament. This opens up the space for **intra-party dissent**.
- **The Opposition** is granted certain rights in Parliament to hold the executive accountable.
- **The Speaker** - a neutral and independent authority, represents the interests of Parliament against the

executive.

- **Bicameralism** i.e., a second “Upper House” that acts as a revising chamber, where interests other than those of the brute majority are represented.

Problems with the above safeguards:

- **The Tenth Schedule to the Constitution:** The possibility of intra-party dissent within Parliament has been eliminated by virtue of **anti-defection law**.
 - **Enacted to curb horse trading, it penalises disobedience of the party whip** with disqualification from the House.
 - **It has strengthened the hand of the party leadership** - cabinet/executive (in the case of the ruling party), against its own parliamentarians.
- **The Opposition enjoys no specific Constitutional powers:** The manner of proceedings in Parliament is under the complete control of the executive, with no real constitutional checks.
- **The Speaker is not independent:** S/he is not required to give up membership of their political party, and is not constitutionally obligated to act impartially.
 - This has led to an increasing trend of Speakers acting in a **partisan manner** to advance the interests of the executive over the interests of the House.
 - **This affects the quality of the deliberations** in the lower house.
- **The role of the Upper House is undercut:** Not only by the Speaker’s misclassification of Bills (as a “money bill”) but also by the constitutionally-sanctioned ordinance making power.

The only effective check upon the executive: When the electorate has thrown up a **fractured** mandate and the ruling party is forced to govern in a **coalition**.

The urgent question that needs to be asked: Whether India remains a parliamentary democracy, or has gradually morphed into an executive democracy?

Conclusion:

- The quality of parliamentary deliberations has declined because of **Parliament’s own structural marginalisation** under the Constitution.
- Therefore, if India wants to return to parliamentarianism, necessary constitutional changes and reforms should form the ethos of the new Parliament.

Insta Links: [India’s New Parliament: Need and Significance](#)

Mains Links:

Q. The role of individual MPs (Members of Parliament) has diminished over the years and as a result healthy constructive debates on policy issues are not usually witnessed. How far can this be attributed to the anti-defection law, which was legislated but with a different intention? (UPSC 2013)

GS2

ADB: COUNTRY PARTNERSHIP STRATEGY FOR INDIA (CSP): 2023-2027


Syllabus: Important International institutions, agencies and fora, their structure, and mandate.

Context: The Asian Development Bank (ADB) has announced its India strategy for the period 2023-2027, with a key focus on **employment creation and promoting green growth**

What is Country Partnership Strategy for India (CPS): 2023-2027

The **Country Partnership Strategy (CPS) for India (2023-2027)** is a plan by the Asian Development Bank (ADB) to deepen its engagement with India and support its drive for robust, climate-resilient, and inclusive growth.

About CSP 2023-2027:

Aspect	Details
	The CPS supports India's national development priorities to be achieved by 2047, aligning with the country's 100 years of independence .
Aim	The aim of the CPS is to accelerate structural transformation and job creation, promote climate-resilient growth, regional cooperation , and integration in South Asia, and deepen social and economic inclusiveness.
Three Pillars	<ol style="list-style-type: none"> 1. Accelerate the structural transformation and job creation through the convergence of logistics-industry-urban-skilling programs, along with support for MSMEs. 2. Promote climate-resilient growth. <div style="text-align: center;">  <p>PILLARS</p> <p>1. Accelerate Structural Transformation and Job Creation</p> <p>2. Promote Climate-Resilient Green Growth</p> <p>3. Deepen Social and Economic Inclusiveness</p> </div> <ol style="list-style-type: none"> 3. Deepen social and economic inclusiveness.
Cross-Cutting Themes	<p>The CPS focuses on four cross-cutting themes:</p> <ol style="list-style-type: none"> 1. Domestic resource mobilization. 2. Gender equality and social inclusion. 3. Digitalization and innovation ecosystem support. 4. Regional cooperation and integration through South Asia Subregional Economic Cooperation (SASEC).

India's engagement with ADB:

Dimension	Details
Financial Support	ADB has committed \$52.6 billion in 605 public sector loans , grants, and technical assistance to India as of December 2022. This financial support is aimed at promoting inclusive and sustainable development in various sectors of the Indian economy.
Private Sector Investments	ADB has made private sector investments totalling \$8 billion in India. These investments are targeted at fostering private sector growth, supporting entrepreneurship, and facilitating economic development in India.
Infrastructure Development	ADB has contributed to improving connectivity by investing in the Chennai metro network . Additionally, ADB has supported the development of road networks, such as Maharashtra's road network, and the upgrading of state highways in Assam and Rajasthan.
Reforms and Capacity Building	ADB has assisted in the reform of the logistics sector in India . Through technical assistance and knowledge sharing, ADB helps strengthen institutions and improve governance to enhance the efficiency and effectiveness of the sector .
Inclusive Development	It supports projects and programs that aim to address social and economic disparities, improve access to basic services , and enhance opportunities for marginalized communities.
Climate Change Mitigation	It supports initiatives for climate adaptation and mitigation, energy transition, transport decarbonization, and disaster risk management. ADB's interventions in India's energy sector aim to facilitate the transition to cleaner and more sustainable sources of energy , contributing to India's climate agenda and its commitment to reducing carbon emissions.
Regional Cooperation	ADB supports regional initiatives such as the South Asia Subregional Economic Cooperation (SASEC) , which brings together countries including Bangladesh, Bhutan, Maldives, Myanmar, Nepal, and Sri Lanka.

About ADB:

The Asian Development Bank (Est. 1966; HQ: Manila, Philippines) is a regional development bank to **promote social and economic development** in Asia and the Pacific. ADB is an official **United Nations Observer**. The Asian Development Bank has **68 member countries, with 49** from the Asia-Pacific region and 19 from outside the region. The Asian Development Bank is **owned by its member countries**, with **Japan** and the United States being the **largest shareholders**. India is one of **ADB's founding members**. The bank operates with a **weighted voting system**, similar to the World Bank, where votes are distributed based on **members' capital subscriptions**.

Insta Links:

- [ADB's IF-CAP](#)

Mains Links:

Q. Analyse the engagement of the Asian Development Bank in India's development project. (15M)

GS2

75 YEARS OF UN PEACEKEEPING FORCES

Syllabus: International Relations - Organisations

Context: India has played a significant role in the United Nations peacekeeping missions over the past 75 years. This is in continuation of the [FFP article published two days ago](#).

The **UN Peacekeeping**, guided by the **Department of Peace Operations**, aims to assist **conflict-torn countries** in their journey towards sustained peace. Indian personnel have made substantial contributions to these missions, **currently ranking third in terms** of the number of peacekeepers deployed.

Indian peacekeepers have served in **various UN missions worldwide**, with a current deployment of **6,097 personnel**. However, India has also **experienced the highest number of fatalities** due to malicious acts during these missions. Out of the **71 peacekeeping operations conducted so far, three missions stand out** with significant Indian troop casualties.

Mission	Years	Example of India's Contribution
United Nations Emergency Force (UNEF)	1956-1967	Indian peacekeepers were deployed to supervise the ceasefire between Egypt and Israel. Indian troops suffered casualties, with 13 fatalities due to malicious acts.
United Nations Operation in the Congo (ONUC)	1960-1964	India provided peacekeeping troops to restore and maintain political independence, territorial integrity, and law and order in the Congo. Indian peacekeepers faced casualties, with 24 fatalities, including malicious acts.
United Nations Operation in Somalia (UNOSOM)	1992-1995	Indian peacekeepers were part of the mission to secure a stable environment for aid delivery and assist in reconstruction. India lost 15 soldiers, including 12 due to malicious acts.
Other Missions	Various years	India has contributed personnel to numerous other UN peacekeeping missions worldwide, including those in Cyprus, Lebanon, South Sudan, and Haiti, among others. Indian peacekeepers have played critical roles in maintaining peace and stability in these regions.

About UN Peacekeeping Forces: [Click Here](#)

Is UN Peacekeeping losing its appeal?

UN Peacekeeping is **losing its appeal** due to several factors. The collapse of the Soviet Union **ended the need for an impartial army to mediate between** the United States and the Soviet Union. Modern conflicts are too messy and chaotic for traditional peacekeeping methods to be effective. The factions that once allowed for easy ceasefires no longer exist. There

is also a **lack of public support in Western nations** for costly and risky peacekeeping missions. This lack of support is leading to reduced **involvement and mission endings**, as seen in France's counterterrorism mission in Mali.

Way forward and Conclusion:

Proposed reforms for the future of UN peacekeeping include implementing the **recommendations from the Brahimi Report**, which aim to address flaws and improve the efficiency of peacekeeping missions. These reforms involve **harmonizing the conditions of service for field and headquarters staff and developing guidelines** and standard operating procedures. Additionally, there is a need for a **rapid reaction force administered by the UN and deployed by the Security Council** to ensure quick deployment in the event of genocide. India has been advocating for **more administrative control of UN forces** for the countries contributing most to it.

Insta links:

[UN Peacekeeping forces](#)

Mains Links:

Q. Write a note on UN Peacekeeping and its significance. (10M)

GS Paper 3

KEY TAKEAWAYS FROM THE RBI ANNUAL REPORT FOR 2022-23

Syllabus: Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment

Context: The Reserve Bank of India (RBI) released its annual report for the year 2022-23, providing information on the RBI's functioning through the fiscal year as well as the state of the economy

Data point	Description	Significance/Key takeaway
2022-23 saw a 47% increase in RBI's total income	<p>RBI's total income in 2022-23 was ₹2.35 lakh crore, which is 47% more than the ₹1.6 lakh crore number for 2021-22.</p> <p>This sharp increase comes from profits from its foreign exchange (FX) sales (₹1 lakh crore), reflecting its active Forex intervention.</p> <p>In addition, higher interest income (₹1.3 lakh crore) on its holdings of domestic and foreign securities has more than offset losses on its liquidity operations.</p>	<p>Higher dividend payment (₹87,416.2) to the central government will neutralise an equal amount of slippage on the fertiliser subsidy.</p> <p>An increase in the amount it keeps to meet contingency requirements.</p>
Lending rates are back to pre-covid levels in most sectors	Between May 2022 and February 2023, RBI's Monetary Policy Committee (MPC) has administered a cumulative rake hike of 2.5 percentage points in the policy rate.	This has led to a significant increase in retail lending rates and barring education loans, almost all of them are now above pre-Covid levels.
Share of bad loans in total lending continues to fall:	<p>The ratio of non profitable assets (NPAs) to total loans continues to fall.</p> <p>Gross NPA as share of total advances has fallen from 15.5% in 2018-19 to 5.8% in 2022-23. While public sector banks (PSBs) continue to have higher NPA ratios, they have seen a large reduction in their NPA ratio.</p>	The loan moratorium programmes such as the Emergency Credit Line Guarantee Scheme (ECLGS) played an important role in preventing a proliferation of stress in the banking system during the pandemic.

<p>Number of bank frauds has increased but the amount involved has come down</p>	<p>2022-23 saw 13,530 cases of bank frauds involving an amount of ₹30,252 crore. These numbers were 9,097 and ₹59,819 crore in 2021-22.</p> <p>Close to 70% of the amount involved in total bank frauds were in PSBs. The private sector had a two-thirds share in the number of banking fraud cases.</p>	<p>Frauds on advances, which includes wilful loan defaults have fallen sharply in the last two years from ₹1.3 lakh crore to ₹28,792 crore in 2022-23.</p>
<p>FDIs are at their lowest since 2019-20</p>	<p>Total Foreign Direct Investment (FDI) fell to a three-year low of \$46 billion in 2022-23 - 26% lower than the previous fiscal year.</p> <p>FDI in the manufacturing sector fell 30% to \$11.3 billion in 2022-23 on an annual basis.</p>	<p>In aggregate, FDI inflows into PLI-linked sectors has now moderated to USD 4-5 bn. PLI/production-linked incentives have been announced in several sectors to encourage local manufacturing.</p>

Sector-wise FDI inflows in 2022-23

Amounts are expressed in \$ billions



Insta Links: [RBIs report on currency and finance](#)

[GS Paper 3](#)

INDIAN TOY INDUSTRY

Syllabus: Effects of Liberalisation on the Economy, Changes in Industrial Policy and Their Effects on Industrial Growth

Context: India has recently turned a net exporter of toys (in 2020-21 and 2021-22), ending decades of import dominance.

An overview of the Indian toy industry:

- In 2015-16, the industry had about **15,000 enterprises** (in both organised and unorganised sectors), producing toys worth ₹1,688 crores and employing 35,000 workers.
 - **Registered factories** (employing 10 or more workers) **accounted for 1% of the number of factories and enterprises**, employed 20% of workers, and produced 77% of the value of output.
- **Between 2000 and 2016**, industry output was halved in real terms (net of inflation) with job losses.
 - **Imports** rose by nearly three times as much as exports and accounted for up to 80% of domestic sales.
 - **India hardly figures in the global toy trade**, with its exports at a mere half a percentage point.
- **Between 2014-19**, the Indian toy industry witnessed **negative** productivity growth.

Evolution of the Indian toy industry:

- Asia's successful industrialising nations **promoted toy exports for job creation**, starting with Japan (a century ago), China (since the 1980s) and currently Vietnam.
- However, **India followed an inward-oriented industrial policy** in the Planning era. This sheltered domestic production through **import tariffs and reservation policy**.
 - Thus, toy manufacturing remained stagnant, archaic and fragmented in India.
- **With the LPG reforms in India in the 1990s**, new firms entered the organised toy manufacturing sector and productivity growth improved.
 - Despite early positive trends, industry de-reservation **failed to sustain output, investment, and productivity growth after 2007-08**.

Recent data related to toy trade in India:

- **Toy exports increased** from \$109 million (₹812 crore) to \$177 million (₹1,237 crore) between 2018-19 and 2021-22.
- **Imports declined** from \$371 million (₹2,593 crore) to \$110 million (₹819 crore).

The achievement is widely credited to:

- **The 'Make in India' initiative** launched in 2014.
- **Basic custom duty** on toys tripled from 20% to 60% in 2020.
- **Numerous non-tariff barriers** (such as production registration orders and safety regulation codes) were imposed as well.

Challenges:

- The potential for **sustaining net exports appears slim** as the industry has hardly made sustained investments to boost output and exports.
- **Rise in protectionism**, COVID-19 pandemic.

Way ahead: Examine the ground reality of industrial locations and clusters to tailor policies and institutions to nurture the labour-intensive toy industry in India.



Insta Links: [India's Toy Story](#)

FRANCE: BAN ON DOMESTIC SHORT-HAUL FLIGHTS

France has implemented a **ban on domestic short-haul flights** that can be replaced by train journeys of up to two-and-a-half hours, in an effort to reduce carbon emissions. However, critics argue that the **ban may lead to an increase in car usage**, negating the environmental benefits.

While air transport contributes **only about 2% of global CO2 emissions**, it is a concern due to its rapid growth and the fact that emissions from international flights are not attributed to any specific country.

In 2016, the **International Civil Aviation Organisation (ICAO)** established the **CORSIA offset mechanism** to compensate for any emission increases beyond 2020 levels by **investing in carbon-saving projects**.

Usage: The example can be used in Environment/ Essay paper to argue carbon emission mitigation strategies.

Facts for Prelims (FFP)

DELHI'S PURANA QILA (OLD FORT)

Context: New excavations at Delhi's Purana Qila (Old Fort) have uncovered evidence of a pre-Mauryan era settlement.

Aim of the excavation: The ongoing excavation aims to establish a complete chronology of the site and provide further insights into the ancient city of Indraprastha. The site is considered significant as it may have been the **location of Indraprastha mentioned in the Mahabharat**.

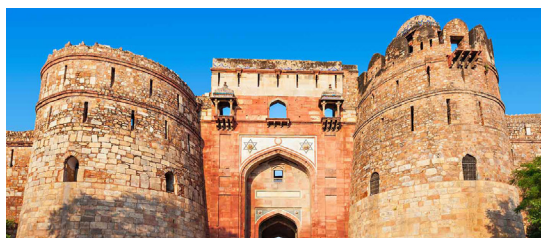
The findings:

- The findings include **pottery shards dating back to around 1200 BC to 600 BC**, a 2,500-year-old ring well from the Mauryan era, and a **four-room complex** believed to be 2,300 years old.
- Nine cultural levels, representing different historical periods **including the pre-Mauryan period**
- The excavations have also revealed **coins, seals, and other artefacts, indicating the site's role as a trade centre**.
- **The stone image of Vaikuntha Vishnu**, a terracotta plaque of Gaja Laxmi, a stone image of Ganesha, terracotta figurines of humans and animals, beads of various stones, a bone needle etc.

Previous excavation:

Earlier excavations have revealed a **continuous existence of human habitation** and activities spanning 2500 years. Excavation so far has revealed nine cultural levels, representing different historical periods, including Pre-Mauryan, Mauryan, Sunga, Kushana, Gupta,

About Purana Qila

Overview	Description	
	Purana Qila is the oldest fort in Delhi , located on the banks of the Yamuna River. It is believed to have been built by the Pandavas for their kingdom Indraprastha.	
Mughal Influence	Renovated by Emperor Humayun in 1533 , it took five years to complete.	
Dinpanah	The fort was constructed within Dinpanah, a small city in Delhi .	
Sher Shah Suri's Reign	Sher Shah Suri captured the fort in 1540 and made several additions, naming it Shergarh .	

Gateways	Bara Darwaza (The only gate still in use, facing west); Humayun Darwaza ; Talaqi Darwaza (also known as the Forbidden Gate, it is the third gate of the fort.)
Structures	Qila-i-Kuhna Mosque (Built by Sher Shah Suri in 1541, featuring five doorways with pointed arches); Sher Mandal (An octagonal building made of red sandstone, initiated by Babur and completed by Humayun. Used as an observatory and library)

WORLD ENERGY INVESTMENT REPORT 2023

Context: The International Energy Agency has released the World Energy Investment Report 2023

Key findings of the Report:

Key Findings	Summary
Investment in clean energy has increased in recent years	Investments in clean energy have surpassed investments in fossil fuels by 70%; Transition driven by Electric Vehicles (EVs) and renewable power; \$1.7 allocated to clean energy for every \$1 spent on fossil fuels.
Clean energy investments concentrated in advanced economies	Over 90% of the surge in clean energy investment since 2021 is in advanced economies and China; India shows strong investment in solar energy.
Challenges in transitioning towards clean energy	Hurdles include higher interest rates , ambiguous policy frameworks, market designs, financially constrained utilities, and high cost of capital.

About International Energy Agency

International Energy Agency (IEA)	
The IEA is an inter-governmental organization (HQ: Paris) that ensures the security of oil supplies and promotes energy cooperation among member countries	
Background	Established in 1974 to ensure the security of oil supplies (in the wake of the oil crisis of 1973-1974); It is within the OECD framework
Focus	It mainly focuses on its energy policies which include economic development, energy security and environmental protection . These policies are also known as the 3 E's of IEA .
Mission	Ensure reliable, affordable and clean energy for its member countries and beyond.
Membership	30 member countries; 8 association countries (including India); 3 accession countries.
Eligibility criteria for membership	A candidate country must be a member of the OECD; have 90 days of strategic oil reserves, have a demand restraint program to reduce oil consumption by up to 10%, have legislation for emergency response measures, have reporting obligations for oil companies, etc.
India's association with IEA	Became an Associate Member in 2017; It inked a Strategic Partnership Agreement with IEA in 2021; It was invited to become a full-time member.
Major Reports	World Energy Outlook Report; World Energy Investment Report; World Energy Statistics; World Energy Balances; Energy Technology Perspectives; India Energy Outlook Report

ABAUCIN

Context: Scientists have used machine learning to discover a potential new antibiotic called abaucin, which targets the highly resistant *Acinetobacter baumannii* bacteria.

What is *Acinetobacter baumannii* bacteria?

Acinetobacter baumannii is a **Gram-negative bacteria** known for its ability to develop resistance to many antibiotics. It is a **major cause of hospital-acquired infections** and is considered a **“red alert” pathogen**. *A. baumannii* has a **protective outer membrane** that allows it to **resist antibiotics**, making it challenging to treat.

What is the threat?

It is commonly found in the environment, like in soil and water. It can cause infections in blood, urinary tract, and lungs, or in wounds. WHO has classified it as a critical threat among its “**priority pathogens**” – a group of bacteria families that pose the **greatest threat to human health**.

Working of abaucin:

Abaucin works by **disrupting the normal function of a protein called CCR2** in bacteria. This disruption affects the **movement of certain molecules** inside the bacteria, preventing them from **reaching the outer membrane**. As a result, the growth of *Acinetobacter baumannii* is inhibited, making it less able to cause infections. Abaucin is selective in its action and **mainly targets *Acinetobacter baumannii***, leaving other bacteria unharmed.

About Gram-negative bacteria:

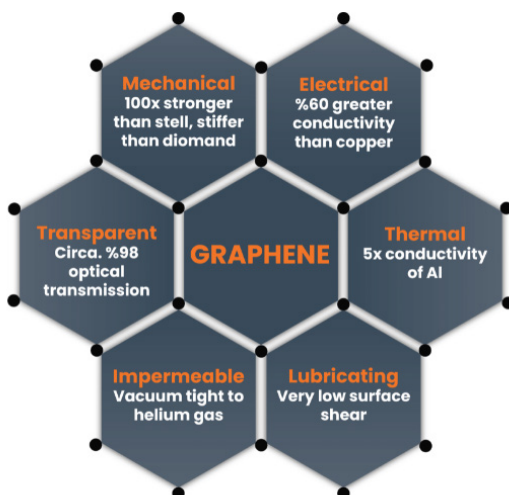
It is a type of bacteria characterized by its **cell structure and response** to a staining method called the Gram stain. E.g., *Escherichia coli* (E. coli), *Salmonella*

GRAPHENE

Context: India needs to catch up in the research and production of graphene, a revolutionary material with numerous applications.

About Graphene:

Aspect	Description
	Graphene is a one-atom-thick layer of carbon atoms arranged in a hexagonal lattice . It is the thinnest, strongest, and most conductive material in the world, while also being flexible, transparent, and impermeable to gases. It was discovered in 2004 , but it has been difficult to produce high-grade large-scale graphene .
Applications	Electronics, sensors, displays, solar panels, batteries, supercapacitors, composites, aerospace, etc.
Market Size	The global graphene market was valued at over \$175 million in 2022 and is expected to grow at a CAGR of over 46% between 2023 and 2030
Research and Production	Leading countries in graphene research and production include China, the US, Brazil, the UK, Japan, South Korea, Russia, and Singapore
India’s Progress	India’s progress in graphene has been slower compared to leading countries like China and Brazil. India opened its first Graphene Innovation Centre in Thrissur, Kerala last year (2022) ; Tata Steel has succeeded in growing graphene (about 50 micrometres large domains) using annealing and extracting atomic carbon from steel surface; IIT Roorkee-incubated Log 9 has patented a technology for graphene-based ultracapacitors
Reforms needed	While India has made some advancements and established innovation centres, there is a need for a national graphene mission and government support to ensure India’s competitiveness in this emerging field.



INDIA'S FIRST RARE EARTH PERMANENT MAGNETS PLANT

Context: Recently, the PM has inaugurated India's first facility to produce rare earth permanent magnets in **Visakhapatnam**.

What are Permanent Magnets?

A permanent magnet is a type of magnet that can **create a magnetic field without needing any external power source**. It is called "permanent" because once it is magnetized, it can maintain its magnetism for a long time.

Permanent magnets are usually made from certain types of metals or alloys, such as iron, nickel, and cobalt, or rare earth elements like neodymium and samarium.

What are Rare earth permanent magnets?

Rare earth permanent magnets are a type of permanent magnet that is made **from rare earth elements**. Rare earth elements are a group of **seventeen chemical elements** in the periodic table, including elements such as **neodymium, samarium, and dysprosium**.

More about the Permanent Magnet:

	Information
Advantages over ordinary Magnet	Compared to ordinary ferrous magnets , rare earth permanent magnets have much stronger magnetic fields and are capable of producing higher-performance, compact, and lightweight motors. These magnets are known for their exceptional magnetic properties , including high magnetic field strength and large torque generation.
The technology used in the Plant	The plant is based on indigenous reduction-diffusion technology and produces samarium-cobalt (SaCo) rare earth permanent magnets and neodymium-iron-boron (NdFeB) permanent magnets.
Significance for India	Safeguards India from supply chain disruptions in rare earth metals ; Supports the Make in India initiative and boosts demand in electronics, defence, and aerospace sectors
Importance	Rare Earth Permanent Magnets find a wide range of applications in electronics, automobiles, military, etc.; Used in new technologies like hypersonic weapons and directed energy systems
Benefits of Recycling Rare Earth Permanent Magnets	Addresses the growing e-waste generation in India; Caters to domestic rare earth metal demand; Provides more rare earth metals than current imports
Concerns with E-waste Collection and Recycling	Institutional and management weaknesses; Only about 22% of e-waste was collected; Primitive recycling technology focused on recovering precious metals like gold and silver

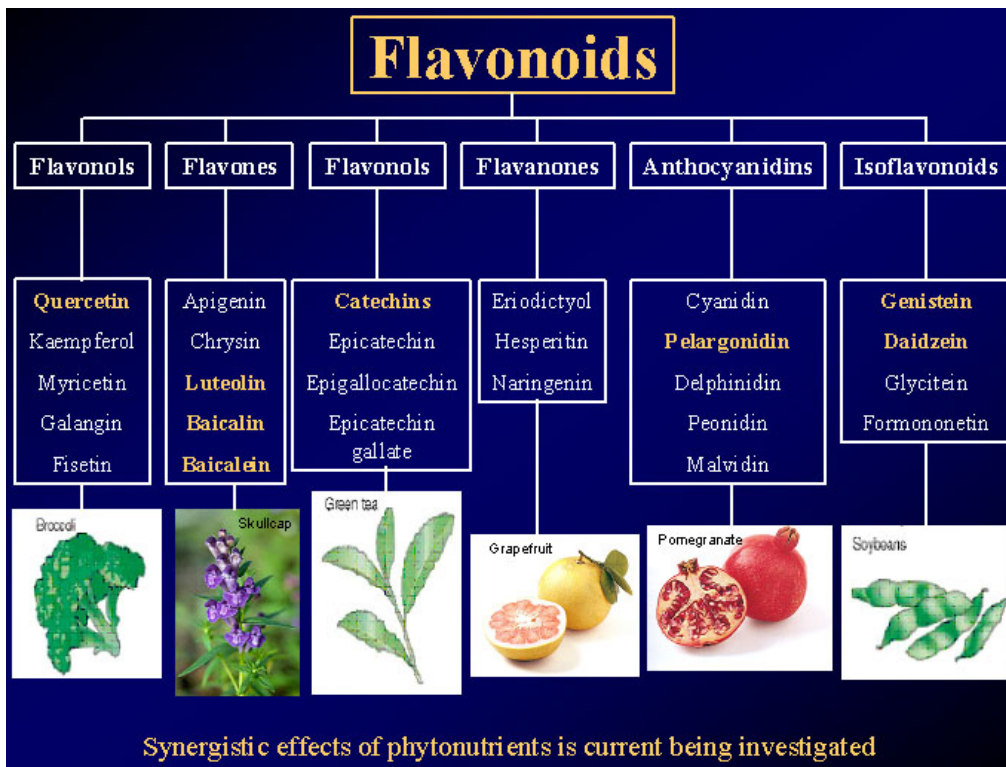
FLAVANOLS

Context: A team of researchers recently discovered that a **diet low in flavanols** – a type of nutrient found in a variety of fruits, vegetables, and beverages such as tea, cocoa, or wine – **plays a fundamental role in driving age-related memory loss**.

- These findings suggest that the ageing **brain requires specific nutrients for optimal health** in a similar way that the **developing brain needs specific nutrients for proper development**.

About Flavanols:

Flavanols are a **type of flavonoid, a class of compounds with antioxidant effects**. Flavonoids are a **diverse group of phyto-nutrients (plant chemicals) found in almost all fruits and vegetables**. They are known for their health benefits, **which are often attributed to their antioxidant, anti-inflammatory, and immune-boosting properties**.



CHYTRIDIOMYCOSIS

Context: A new study has now developed a method to detect all known strains of a disease-killing frog's world over, caused by the amphibian chytrid fungus.

- **Chytridiomycosis, or "chytrid" for short, has driven severe declines in over 500 frog species and caused 90 extinctions, including seven in Australia.**
- **The extreme rate of mortality, and the high number of species affected, make chytrid unequivocally the deadliest animal disease known to date.**

How it infects:

- Chytrid infects **frogs by reproducing in their skin**. The single-celled fungus **enters a skin cell, multiplies, and then breaks back out onto the surface of the animal**.
- This damage to the skin **affects the frog's ability to balance water and salt levels** and eventually leads to death if infection levels are high enough.



NEW EXOPLANET WITH A MASS 13 TIMES THAT OF JUPITER DISCOVERED

Context: A new **Jupiter-size exoplanet with the highest density known to this date** and mass 13 times that of Jupiter, has been discovered by ISRO.

- The discovery of this **massive exoplanet was made using the indigenously made PRL Advanced Radial-velocity Abu-sky Search spectrograph (PARAS)**.
- The newly discovered exoplanet is found **around the star called TOI4603 or HD 245134**.
- NASA's Transiting Exoplanet Survey Satellite (TESS) initially declared TOI4603 as a **possible candidate to host a secondary body of unknown nature**.
- It is **located 731 light years away**. It orbits a **sub-giant F-type star TOI4603 every 7.24 days**.

What sets this discovery apart is that the planet **falls into the transition mass range of massive giant planets and low-mass brown dwarfs with masses ranging from 11 to 16 times the mass of Jupiter**. Only fewer than five exoplanets are currently known in this mass range so far.

About PARAS:

The **PRL optical fibre-fed high-resolution cross-dispersed echelle spectrograph** (Prl Advanced Radial-velocity Abu-sky Search), was commissioned at the Mount Abu 1.2 m telescope in India in 2012.