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Practice Questions



Polity & Governance

Selection process of next Chief Election Commissioner

GS Paper II-Indian Polity Prelims

Youtube: DNA 11.01.2025

Selection process of next Chief Election Commissioner

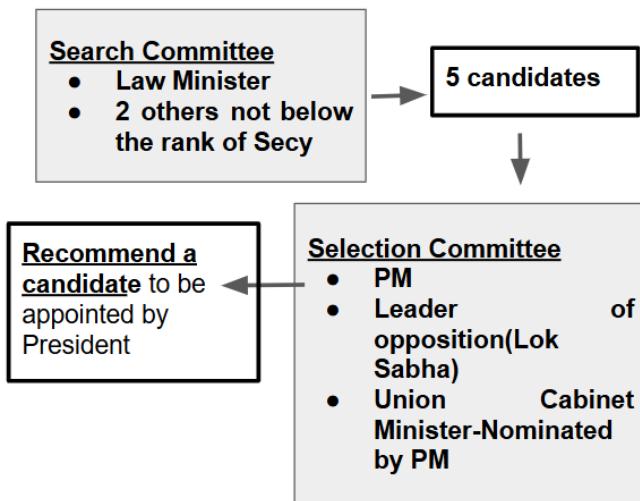
Traditional Process

- Traditionally, the most senior Election Commissioner succeeded the Chief Election Commissioner (CEC).
- This practice has been altered under a new law.

New Law

- As per the Chief Election Commissioner And Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act, 2023, a broader selection process is introduced.
- A Search Committee, chaired by the Law Minister, will prepare a panel of five names for consideration.

Process for Chief Election Commissioner and Election Commissioner



Current context

- Current CEC Rajiv Kumar will retire on February 18.
- This is the first instance of the new selection process being implemented as per new law.

- The Act provides flexibility to break from the tradition of automatic succession by seniority.
- It opens the possibility for external candidates to be considered for the role.

Additional information

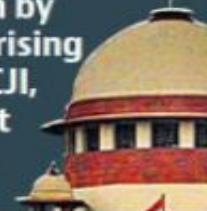
- Chief Election Commissioner And Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act, 2023 has been brought by Parliament on instructions by Supreme Court in Anoop Baranwal v. Union of India Case.
- But the provisions of the act are slightly different from Anoop Baranwal v. Union of India Case.

Anoop Baranwal v. Union of India Case

- The Supreme Court laid down that the CEC and ECs shall be appointed by a committee consisting of the Prime Minister, the CJI and the Leader of the Opposition or the largest opposition party in the Lok Sabha.

WHAT DID SC SAY ON MARCH 2?

A bench headed by Justice KM Joseph said ECs and CECs will be chosen by a panel comprising PM, LoP and CJI, till Parliament passes a law.



Prelims Practice Question

Q. Consider the following statements regarding the selection process of the Chief Election Commissioner (CEC) of India:

- The Chief Election Commissioner is appointed by the President of India.
- The Chief Election Commissioner serves a fixed tenure of six years or up to the age of 65 years, whichever is earlier.
- The Constitution explicitly provides the procedure for the removal of the Chief Election Commissioner.



4. The Chief Election Commissioner can only be removed from office through a process similar to the removal of a Supreme Court judge.

Which of the above statements is/are correct?

- 1 and 2 only
- 1, 2, and 4 only
- 3 and 4 only
- All of the above

Q. The recent judgement of the Supreme Court related to the appointment of Chief Election Commissioner and other election commissioners is a welcome step, but several other issues still affecting the functioning of the institution. Discuss.10 marks/150 words

Hints

- Supreme Court (in Anoop Baranwal Case 2023) has introduced a collegium system for the appointment for the appointment of Election Commissioners. The collegium includes the Prime Minister, the Leader of the Opposition in Lok Sabha and the Chief Justice of India.
- But the Parliament passed Chief Election Commissioner And Other Election Commissioners (Appointment, Conditions of Service, and Term of Office) Act. 2023, a broader selection process. There is slight difference from the Supreme Court's directive. However there are still many issues that limits functioning of the Election Commission of India-
Issues with Election Commission
 - No prescribed qualifications for members of the Election Commission of India in the Constitution.
 - No specified term of members of the Election Commission of India in the Constitution.
 - Absence of safety provisions for Election Commissioners in terms of removal and service condition
 - No provision of cooling off period or debarment of Election Commissioners from further appointment under the Government.
 - Limited powers for Election Commission to enforce punishments and ensure fair play in elections.
 - Technological changes such as social media and deepfakes are used for spreading fake news and hate speeches and have opened a new pandora box of challenges for Election Commission of India.
 - Bringing electoral reforms, especially those related to electoral funding and criminalization of politics are still challenges for the Election

Commission because of dependence on the government for the same.

Way Forward

- Need to reform the new law regarding the appointment of Chief Election Commissioner and other Election Commissioners.
- Grounds of removal of Election Commissioners should be same as Chief Election Commissioner.
- Need to give more teeth to Election Commission to strictly enforce Model Code of Conduct.
- The Election Commission should proactively engage in knowledge sharing and learn best practices from other countries.
- The Election Commission should be involved in bringing electoral reforms and financing of elections.

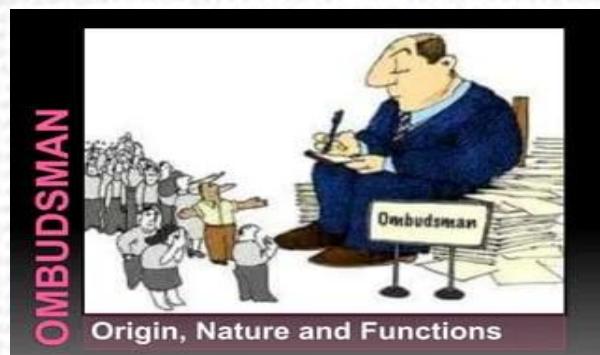
Lokpal

GS Paper II-Indian Polity Prelims

Youtube: DNA 18.01.2025

Ombudsman System

- Ombudsman system is a mechanism established to address public grievances and investigate complaints against maladministration and corruption.
- An Ombudsman is independent from the executive and judiciary, ensuring impartiality.
- Scandinavian countries like Sweden(first in 1809), Finland, and Denmark were earliest to introduce the concept of Ombudsman.
- The Ombudsman acted as a protector of citizens' rights and ensured transparency in governance.
- Over time, variations of the Ombudsman system were implemented in countries across the world.
- Ombudsman in India to deal with corruption has been named Lokpal.



Ombudsman System in India

- Between 1968 and 2011, the Lokpal Bill was introduced eight times in Parliament.
- It failed to become law due to various political and procedural challenges.
- Key issues during this time included the scope of the Lokpal's jurisdiction, the inclusion of the Prime Minister within its ambit, and differences over the structure and powers of the institution.

2011 - Public Demand for Lokpal

- The demand for a strong and independent Lokpal gained momentum during the anti-corruption movement led by Anna Hazare.
- After intense public pressure and parliamentary debates, the Lokpal and Lokayuktas Act, 2013, was passed by Parliament in December 2013.

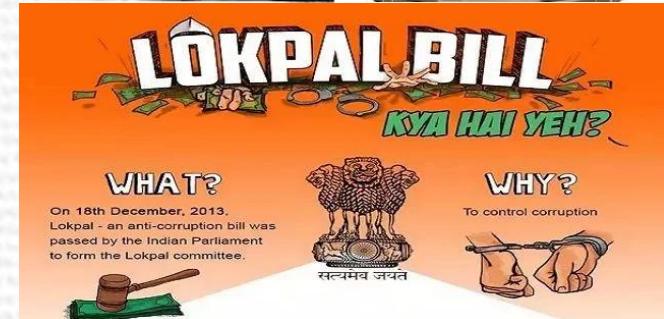


Lokpal and Lokayukta Act 2013

- The Lokpal and Lokayukta Act, 2013 provided for the establishment of Lokpal for the Union and Lokayukta for States.
- These institutions are statutory bodies without any constitutional status.

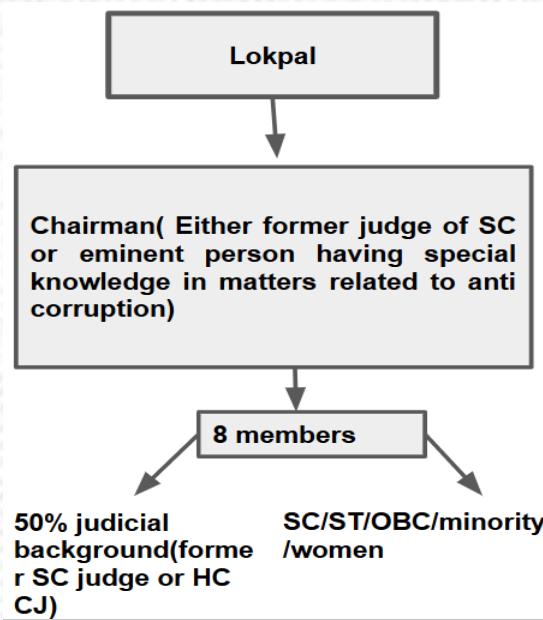
Need of Lokpal and Lokayuktas

- The Lokpal at Union level and the Lokayuktas at the state level are empowered to investigate against even PM (by Lokpal, CM by Lokayukta) and other cabinet ministers.
- It is important because other investigative agencies like CBI and CVC have become caged parrot according to the Supreme Court.
- CBI needs permission from government before investigating any case.
- Thus India needed a separate agency to curb corruption at top level.



Structure of Lokpal

- Lokpal consists of one chairperson and a maximum of 8 members.
- Chairperson of the Lokpal should be either the former Chief Justice of India or the former Judge of Supreme Court or an eminent person with special knowledge and expertise of minimum 25 years to anti-corruption policy.
- Out of the maximum eight members, half will be judicial members and remaining of the Members will be from SC/ ST/ OBC/ Minorities and women.
- The judicial member of the Lokpal either a former Judge of the Supreme Court or a former Chief Justice of a High Court.



Lokpal and Lokayukta Act 2013

- The term of office for Lokpal Chairman and Members is 5 years or till the age of 70 years.
- The members are appointed by the President on the recommendation of a Selection Committee.

The selection committee is composed of the

- Prime Minister who is the Chairperson;
- Speaker of Lok Sabha,
- Leader of Opposition in Lok Sabha,
- Chief Justice of India or a Judge nominated by him/her and
- One eminent jurist-nominated by President on basis of consensus of first 4 members.

Amendment in 2017

- The term Leader of Opposition was changed with Leader of single largest party in opposition (because technically there was no opposition in Lok Sabha).
- After that the first Lokpal Chairman PC Ghosh was appointed in 2019.



**JUSTICE
AM KHANWILKAR**

Current Lokpal Chairman

- The President of India has appointed former Supreme Court Justice A.M. Khanwilkar as second chairperson of the Lokpal.

Current context

- The article talks about poor functioning of the Lokpal since its inception.
- The Lokpal has ordered investigations in only 24 cases over the last five years since it started functioning.
- Prosecution sanction was granted in six cases during this period.
- Nearly 90% of complaints were rejected due to being submitted in the incorrect format.
- Preliminary inquiries are currently conducted by the Central Vigilance Commission (CVC) and CBI, as Lokpal lacks its own Director of Inquiry and Director of Prosecution.

Prelims Practice Question

Q. Consider the following Statement about the Lokpal;

- Lokpal is headed by the Chief Justice of the High Court.
- The Lokpal consists of a Chairperson with a maximum of 10 members of which 50% shall be judicial members.
- The Lokpal Jurisdictions cover the Prime Minister of India.

Which of the following Statement is/are incorrect?

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

Q. Discuss the significance of the Lokpal institution in ensuring transparency and accountability in governance in India. Critically analyze the challenges faced by the Lokpal in its effective functioning. 15 marks/250 words

Hints

The Lokpal, established under the Lokpal and Lokayuktas Act, 2013, is a statutory body tasked with investigating allegations of corruption against public officials and institutions.

Significance of the Lokpal

1. Ensures Accountability

- The Lokpal holds public officials accountable for corruption, ensuring that governance adheres to ethical standards.

2. Deterrent Against Corruption

- The prospect of investigation and penalties deters corruption, fostering a culture of honesty in public administration.

3. Independent Authority

- As an autonomous body, the Lokpal operates without interference, strengthening its credibility and ensuring impartial investigations.

4. Transparency in Governance

- By bringing malpractices to light, the Lokpal enhances transparency in government operations, aligning with global standards of good governance.

5. Addresses High-Level Corruption

- The Lokpal's jurisdiction includes the Prime Minister (with caveats), Ministers, and senior bureaucrats, ensuring that even the highest offices are not immune to scrutiny.

6. Empowers Whistleblowers

- Provisions for whistleblower protection encourage the reporting of corruption,



addressing a key gap in the anti-corruption ecosystem.

Challenges in the Effective Functioning of Lokpal

1. Delayed Appointments

- The Lokpal took over five years to become operational after the Act was passed, reflecting delays in institutionalizing it.

2. Jurisdictional Overlaps

- Overlaps with agencies like the CBI and state Lokayuktas create confusion and inefficiencies.

3. Limited Investigative Powers

- The Lokpal relies on the CBI for investigations, raising concerns about delays and lack of autonomy.

4. Inadequate Infrastructure and Resources

- The Lokpal lacks sufficient manpower, funding, and infrastructure to carry out its functions effectively.
- Preliminary inquiries are currently conducted by the Central Vigilance Commission (CVC) and CBI, as Lokpal lacks its own Director of Inquiry and Director of Prosecution.

5. Lack of awareness and prosecution

- The Lokpal has ordered investigations in only 24 cases over the last five years since it started functioning.
- Prosecution sanction was granted in six cases during this period.

Way Forward

1. Enhancing Operational Autonomy

- Providing the Lokpal with adequate financial and human resources to function independently without dependence on other agencies.

2. Strengthening Whistleblower Protection

- Implementing robust safeguards for whistleblowers under the Whistleblowers Protection Act, 2014, to encourage reporting of corruption.

3. Streamlining Coordination with Agencies

- Clearly delineating the jurisdiction of the Lokpal vis-à-vis other anti-corruption bodies to prevent overlaps and delays.

The Lokpal has the potential to serve as a cornerstone of India's anti-corruption framework, ensuring greater transparency and accountability in governance. However, its efficacy is constrained by various operational, procedural, and structural challenges. Addressing these issues through systemic reforms and capacity building can help the Lokpal fulfill its mandate effectively, reinforcing

public trust in democratic institutions and governance.

UGC regulations or State university laws: Federal issue

GS Paper II-Indian Polity Prelims

Youtube: DNA 21.01.2025

UGC (University Grants Commission)

- A statutory body set up under UGC Act, 1956.
- Operates under the Ministry of Education, Government of India.

Types of Institutions under ambit of UGC-

- Central Universities
- State Universities
- Private Universities
- Deemed-to-be Universities eg NCERT

Responsibilities

1. Funding

- Provides financial assistance to universities and colleges for development, infrastructure, and research.

2. Regulation

- Formulates regulations to maintain academic standards and accreditation. Works with bodies like NAAC (National Assessment and Accreditation Council) to ensure quality benchmarks.

3. Recognise courses

- Recognizes universities and their courses to ensure legitimacy and standardization.



ज्ञान-विज्ञान विमुक्तये

University Grants Commission



Administration of Universities in India

1. Central Universities

- Established by an Act of Parliament ie Central Universities Act, 2009(some have been created with separate law).
- Funded by the Ministry of Education (MoE), Government of India.
- Examples: Jawaharlal Nehru University, Delhi University etc

Administrative Structure

- President of India: Visitor of all central universities.
- Chancellor: A ceremonial head, usually appointed by the Visitor.
- Vice-Chancellor: Chief executive and academic officer, appointed by the President on the recommendation of a search committee.

2. State Universities

- Established by an Act of the respective State Legislature.
- Funded and regulated primarily by the State Government.
- Examples: University of Mumbai, Gauhati University etc

Administrative Structure

- Governor: Acts as the Chancellor (in most states).
- Vice-Chancellor: Chief executive and academic officer, typically appointed by the Governor based on the recommendations of a search committee.

How Private Universities are established?

- Each private university shall be established by a separate State Act.
- It shall conform to the relevant provisions of the UGC Act, 1956

Current context

- Current issue is wrt appointment of Vice-Chancellors in State universities.
- They are to be recommendations of a search committee.
- Ongoing dispute is between State governments and Governors of some states like TN, Kerala, Punjab regarding constituent of the search committee.

Governor's view on search committee

- The search committee should have a member from UGC as per UGC Regulations, 2018.

State government's view on search committee

- State government insists on adhering to the respective State University Acts.

- The State University Acts does not include a member from UGC to address concerns over erosion of State autonomy in university governance.



Constitutional debate

- UGC regulations are a subordinate legislation framed under UGC Act, 1956.

The crux of the dispute is?

- Whether UGC regulations framed by the UGC supersede provisions of State University Acts?

Constitutional question-

- "Can delegated legislation (rules, regulations, notifications, etc.) framed by the Union Government and its agencies under a Central law override the provisions of State law?"

Article 254(1)

- If a State law is repugnant to a central law on matters in the Concurrent List, the central law will prevail.

Note: Education is on the Concurrent List

Primary Legislations(Law)

- Created by legislative bodies like Parliament or State Legislative Assemblies

Subordinate legislation/Delegated legislation

- Process by which the executive is given powers under primary legislation to frame order, rule, regulation, notification.
- This is to give implementation to the law.

Article 13(3) of the Indian Constitution

- Includes within the definition of law forms of subordinate legislation

Prelims Practice Question

Q. Consider the following statements regarding the University Grants Commission (UGC):

- The UGC is a statutory body set up by the Government of India under the University Grants Commission Act, 1956.



2. The UGC is responsible for coordinating, determining, and maintaining the standards of higher education in India.
3. The UGC has the power to recognize universities and confer the status of "deemed to be university."
4. The UGC directly funds all primary and secondary educational institutions in India.

Which of the statements given above is/are correct?

- a. 1 and 2 only
- b. 1, 2, and 3 only
- c. 2, 3, and 4 only
- d. All of the above

Q. Explain the concept of subordinate legislation in India. Also discuss the mechanisms for their scrutiny and control. 10 marks/150 words

Hints

- Subordinate legislation, also known as delegated legislation, refers to laws, rules, regulations, by-laws, or orders made by an authority subordinate to the legislature under powers conferred by an enabling statute. The need for subordinate legislation arises due to:

 1. limited time available for legislation in Parliament due to overburdening,
 2. increasing complexity requiring knowledge and experience of experts.
 3. covering those situations which have not been anticipated by the Parliament.
 4. flexibility in meeting emergency situations.

- However, the concept of subordinate legislation faces criticisms on many grounds including undermining separation of power, legislation by unelected people, lack of publicity, etc.

Thus, there are various mechanism for scrutiny and control of delegated legislation. For example:

1. Question Hour
2. Committee on Subordinate Legislation: Both the houses have a Standing Committee on Subordinate Legislation to oversee whether the power delegated by Parliament to the government is being properly exercised.
3. Judicial scrutiny and control: Delegated Legislation may be declared invalid on the grounds of violation of the Constitution of India or the violation of the enabling Act.
4. Public consultation: Some Acts mandatorily require prior publication and consultation on draft rules while in others the government may

exercise its discretion and invite comments on the draft rule.

Subordinate legislation is indispensable for efficient governance, enabling detailed and flexible regulation within legislative frameworks. However, its effectiveness hinges on robust scrutiny mechanisms to prevent misuse and uphold democratic accountability.

Supreme Court on death penalty

GS Paper II-Indian Polity Prelims

Youtube: DNA 21.01.2025

Current context

- A SESSIONS court in Kolkata sentenced Sanjoy Roy, convicted of the rape and murder of a doctor at RG Kar Medical College of Kolkatta, to life imprisonment.
- The court deciding not to impose the death penalty despite public outcry and political demands.
- The CBI had argued strongly for the death penalty.
- The judgement has been pronounced by the court in line with Supreme court's directive in Bachchan Singh case for awarding death penalty.



Bachan Singh case, 1980

- In this case the Supreme Court of India that established the "rarest of rare" doctrine for awarding the death penalty.

Which case can be considered as "rarest of rare"?

1. Government must prove there is 'no possibility of reform of the convict'.
2. The 5 judges bench also laid down non-exhaustive lists of "aggravating" and "mitigating" circumstances for awarding death penalty.

Aggravating Circumstances

(which could tilt a case in favor of the death penalty)



1. If the murder is pre-planned
2. If the murder involves "exceptional depravity(brutal)"
3. If the accused has been found guilty of murdering a public figure or a member of the armed forces while on duty

Mitigating Circumstances

(which could tilt a case away from the death penalty)

1. Whether the accused was under the influence of extreme mental or emotional disturbance
2. Age of the accused, very young.
3. Probability of reforming the accused.
4. If the accused was acting on the directions of another person.

Other judgements post Bachan Singh case,1980

Machhi Singh v. State of Punjab (1983)

- The SC held that death could be given in cases where the "collective conscience" of society is so shocked that the judiciary is expected to impose the death penalty.

Manohar v. State of Rajasthan (2011)

- The Supreme Court considered the young age of the accused persons (below 30 in these cases) as an indication that they could be reformed.
- However, in the RG Kar Medical case, Sanjoy Roy is 35 years old.

Prelims Practice Question

Q. Which of the following statements about the Bachan Singh v. State of Punjab (1980) case is/are incorrect?

1. The Supreme Court declared the death penalty unconstitutional under Article 21 of the Indian Constitution.
 2. The Court introduced the "rarest of rare" doctrine, limiting the imposition of the death penalty to exceptional cases.
 3. Decision led to the abolition of capital punishment in India.
- a. 1,2 only
 - b. 1,3 only
 - c. 2,3 only
 - d. 1,2,3 all

Article 25 and limitations

GS Paper II-Indian Polity Prelims

Youtube: DNA 24.01.2025

Key Provisions of Article 25 of the Indian Constitution

1. Freedom of Conscience

- Every individual has the freedom to hold their own religious beliefs.

2. Right to Profess Religion

- Individuals can express their faith through words, or symbols.

3. Right to Practice Religion

- The right to conduct religious worship, rituals, ceremonies, and customs.

4. Right to Propagate Religion

- Individuals can spread and promote their religious beliefs to others.
- This does not include the right to force conversions.

Limitations Under Article 25

- The right under Article 25 is not absolute and is subject to reasonable restrictions.
- These limitations include: Public Order, Morality, Health, Other Fundamental Rights like Article 14,15,17,21 etc



Sabarimala Temple Case,2018:

- Supreme Court's decision on Women's Entry Into The Sanctum Sanctorum gave primacy to Article 14,15 and 17 over Article 25.
- Entry denial to women was considered as a form of untouchability by the Supreme Court.

Current case

- A case was taken up in Bombay High Court for use of loudspeaker for Azaan or other religious purposes.
- The pertinent question was whether use of loudspeaker for religious purpose can be protected under Article 25 of the Constitution.

Observation of Bombay High Court

- Noise is considered a major health hazard.



- The right under Article 25 is not absolute and are subjected to many limitations including public health.
- Thus the court directed the Law enforcement agencies must take prompt action against violations of noise pollution norms caused by loudspeakers.
- Use of loudspeakers is not an essential part of any religion.

Doctrine of essentiality laid down by Supreme Court

- In Shri Shirur Mutt case, 1954 the Supreme Court laid down the doctrine of essentiality.
- This doctrine states that only essential religious practices are protected under Article 25 of the Constitution.



Right to Freedom of Religion

Prelims Practice Question

Q. The doctrine of essentiality, as laid down by the Supreme Court of India, deals with the identification of practices essential to a religion. Evaluate the following statements about the doctrine of essentiality:

- The doctrine of essentiality allows the courts to decide which religious practices are fundamental to a particular religion.
 - According to the doctrine, all practices followed by a religion must be protected under Article 25 of the Indian Constitution.
 - The doctrine was established by the Supreme Court in the case of Commissioner of Hindu Religious Endowments, Madras v. Sri Lakshmindra Thirtha Swamiar of Shirur Mutt (1954).
 - The doctrine distinguishes between essential and non-essential religious practices to balance religious freedom and constitutional mandates.
- a. Only statements 1 and 4 are correct

- Only statements 2 and 3 are correct
- Only statements 1, 3, and 4 are correct
- All statements are correct

National Voters Day

GS Paper II-Indian Polity Prelims

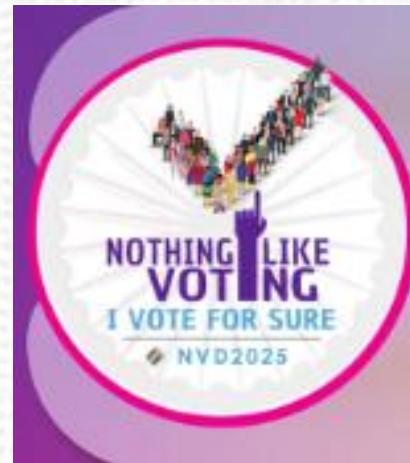
Youtube: DNA 25.01.2025

What is the news?

- The Election Commission of India is celebrating the 15th National Voters' Day on 25th January 2025.

National Voters Day

- National Voters' Day has been celebrated on January 25 every year since 2011.
- Objective-to mark the foundation day of the Election Commission of India, i.e. 25th January 1950.
- The main purpose of the celebration is to create electoral awareness amongst citizens and encourage them to participate in the electoral process.
 - The theme for 2025: 'Nothing Like Voting, I Vote For sure'



UPSC Prelims 2017

- Q. Right to vote and to be elected in India is a
- Fundamental Right
 - Natural Right
 - Constitutional Right
 - Legal Right

Hints

Article 326

- The elections to the House of the People and to the Legislative Assembly of every State shall be on the basis of adult suffrage; that is to say,



every person who is a citizen of India and who is not less than eighteen years of age on such date as may be fixed in that behalf by or under any law made by the appropriate Legislature and is not otherwise disqualified under this Constitution or any law made by the appropriate Legislature on the ground of non-residence, unsoundness of mind, crime or corrupt or illegal practice, shall be entitled to be registered as a voter at any such election.

Uttarakhand adopts Uniform Civil Code

GS Paper II-Indian Polity Prelims

Youtube: DNA 28.01.2025

What is Uniform Civil Code?

- It is the proposal of displacement of personal laws based on scriptures and custom of each of the major religions with the common set of laws governing every citizens.

Article 44 of DPSPs

- The constitution under Article 44 declares that state shall endeavour to secure the citizens a Uniform Civil Code.

What are personal laws?

- A set of legal provisions that govern individuals based on their religion, culture, or community.
- These laws primarily address matters of-
 - Marriage
 - Divorce
 - Inheritance
 - Adoption
 - Succession



Personal laws

Codified

- Some personal laws are codified ie formalized into statutory law.
- Eg Hindu personal laws.

Hindu code bills

- Series of laws passed in the 1950s for codification of Hindu Personal laws.
- Eg Hindu Marriage Act, 1955/Hindu Succession Act, 1956 etc

Uncodified

- Based on religious texts and different interpretations by religious leaders.
- Eg Muslim personal laws(largely uncodified)

Some aspects have been codified in Muslim personal laws like Triple Talaq Act(The Muslim Women (Protection of Rights on Marriage) Act, 2019) that declares practice of Triple Talaq illegal.

Development of UCC post independence

- The communal disharmony after independence highlighted the importance of UCC for our constitution makers.
- But resistance to removal of personal laws resulted in accommodation of UCC as a directive principle under Part IV Article 44 of the constitution.

Merits of Uniform Civil Code

1. National unity

- Citizens belonging to different religious and denominations follow different property and matrimonial laws which is a hindrance to the nation's unity.

2. Promotion of fraternity

- Diversity in personal matters along with religious differentiation leads to sentimental tension between different communities.

3. Need of modern time

- In sync with modern progressive society where cross faith marriages are becoming common.

4. Simplification of the laws

- The code would help in simplification of the complex laws around marriage ceremonies, inheritance, succession.

5. Achieving gender justice and addressing the social evils

- Many personal laws arising from regressive religious interpretations have led to denial of gender justice for example act of polygamy, denial of maintenance rights etc



UNIFORM CIVIL CODE

All sections of the society irrespective of their religion shall be treated equally according to a National Civil Code - the Uniform Civil Code.

THEY COVER AREAS LIKE

-  Marriage
-  Divorce
-  Maintenance
-  Inheritance
-  Adoption
-  Succession of Property

It is based on the premise that there is necessarily no connection between religion and personal law in a civilized society.

"UCC refers to a common set of laws governing civil rights of every citizen." Article 44 of Directive Principles sets duty of state for implementing UCC.

TIMELINE

1954	1956	1986	2003	2015
Hindu code bill passed dividing personal laws in: - Common Indian Citizen. - Muslim Community.	Passage of Special Marriage Act provides permission of civil marriage above any religious personal law.	Rajiv Gandhi government's law in Shah Bano case widens the difference in civil rights.	Then President Dr. Abdul Kalam supported UCC.	Supreme court asserted the need of UCC.

The dialogue for UCC was started by the Law Commission in the year 2016

Shah Bano case (1985)

- Shah Bano, a 62-year-old Muslim woman, was divorced by her husband and denied adequate maintenance under Muslim personal law.
- She approached the Supreme court under Section 125 of the Code of Criminal Procedure (CrPC), which provides for maintenance to wives, children, and parents irrespective of religion.

Supreme Court Judgment

- The Court upheld Shah Bano's right to maintenance under Section 125 CrPC.
- The Supreme Court of India also expressed strong support for the implementation of a Uniform Civil Code (UCC).

Aftermath of the judgement

- Sections of the Muslim community opposed the ruling, viewing it as interference in their religious practices.
- In response to the backlash, the Muslim Women (Protection of Rights on Divorce) Act, 1986 was enacted, effectively diluting the judgment by limiting the maintenance obligations of Muslim men post-divorce.

Note-

- According to the Indian Constitution, most of the matters of personal laws like "marriage and divorce" fall under the Concurrent List.



Shah Bano

Current case

- Uttarakhand rolled out the Uniform Civil Code (UCC), making Uttarakhand the first state in India to implement UCC post-independence.
- UCC applies to all residents of the State, except Scheduled Tribes and natives who have migrated out of the state.

Mandates of the law

- Prohibits practices like halala, iddat, and talaq in matters of marriage and divorce under Muslim personal law.
- Ensures equal property and inheritance rights for women.
- Online registration of marriages, divorces, and live-in relationships.

Note-

- Goa is the only state in India where a form of common civil code is in practice even before independence.
- The personal matters in Goa is regulated as per the Portuguese Civil Code of 1867.

Prelims Practice Question

Q. Consider the following statements regarding the Uniform Civil Code (UCC) in India:

- The UCC aims to replace personal laws of different religious communities with a common set of laws governing marriage, divorce, inheritance, and adoption.
- The implementation of the UCC is mandatory for all states in India under the Directive Principles of State Policy.
 - 1 only
 - 2 only



- c. Both
- d. None

Q. Critically examine the need for a UCC in a diverse country like India, while addressing the challenges associated with its formulation and implementation. 10 marks/150 words

Hints

- The Uniform Civil Code (UCC), envisaged under Article 44 of the Directive Principles of State Policy in the Indian Constitution, seeks to provide a common set of laws governing personal matters like marriage, divorce, inheritance, and adoption. While aimed at promoting national integration and gender justice, its implementation in a culturally diverse country like India remains contentious.

Need of UCC

1. Provide equal status to all citizens.
2. Promote gender parity.
3. Accommodate the aspirations of the young population.
4. To support the national integration.
5. Bypass the issue of reform of existing personal laws.

The challenges of UCC

1. Practical difficulties due to diversity in India.
2. Perception of UCC as encroachment on religious freedom.
3. Interference of state in personal matters.
4. It is a sensitive and tough task to implement.
5. Given intolerance in society the time is not yet suitable for this reform.

The UCC represents an ideal of justice and uniformity, but its implementation in India requires a sensitive and inclusive approach.

Digital Personal Data Protection Rules

GS Paper II-Governance Prelims

Youtube: DNA 06.01.2025

Digital Personal Data Protection Act, 2023

- It is a comprehensive privacy and data protection law that provides guidelines on processing, storing and securing personal data.
- It recognises the rights and duties of 'data principal' 'data fiduciary' and 'data processor'.

Rights of data principal-

- Data principal is an individual whose data is being processed

He/She will have the right-

- To obtain information about processing
- To seek correction and erasure of personal data

Duties of Data Principals

- Data Principals must not register a false or frivolous complaint
- Not furnish any false particulars or impersonate another person in specified cases.

Obligations of data fiduciaries and data processors

- Data fiduciary must build reasonable security safeguards to prevent a data breach.
- Erase personal data as soon as the purpose has been met.



Who is 'data principal' 'data fiduciary' and 'data processor'?

- For instance, Google collects information from its users and then sends it to a third party to process the same.
- Google will be the data fiduciary while the third party will be the data processor.

Current news?

- The Union government released the draft Digital Personal Data Protection (DPDP) Rules, 2025, which will enforce provisions of the Digital Personal Data Protection Act, 2023.
- Government has sought feedback by February 18.
- Citizens can share their feedback through the MyGov portal until February 18, 2025.

Prelims Practice Question

Q. Which of the following statements is/are true about the Data Protection Act, 2021 (India)?

1. The Act mandates businesses to obtain explicit consent before collecting personal data from individuals.
2. Sensitive personal data under the Act includes health information, financial data, and biometrics.



3. The Act provides provisions for the establishment of a Data Protection Authority (DPA) to ensure compliance and redress grievances.
 4. The Act allows personal data to be processed without consent for purposes such as national security or public health emergencies.
- a. 1 and 2 only
 - b. 1, 2, and 3 only
 - c. 2, 3, and 4 only
 - d. All of the above

Bharatpol Portal

GS Paper II-Governance Prelims

Youtube: DNA 08.01.2025

Interpol

- The International Criminal Police Organisation, or Interpol, is a 195-member intergovernmental organisation headquartered in Lyon, France.
- It was formed in 1923.
- India joined the organisation in 1949, and is one of its oldest members.

What does Interpol do?

- The Interpol basically connects police across the world.
- The agency is focused on several key areas of crime – Terrorism Sexual abuse of children and child pornography Organized crime International fugitives.

Funding –

- Most of Interpol's funding comes from the member countries themselves.



- The President of Interpol is elected by the General Assembly of Interpol and holds office for four years.

- CBI assumes this role of liaisoning with Interpol in India.

Current news?

- Union Home Minister Amit Shah on inaugurated the Bharatpol portal, which aims to provide police and security agencies in India with a seamless connect to Interpol.
- It will streamline the processing of all requests for international assistance through INTERPOL, including the issuance of Red Notices and other colour-coded INTERPOL notices.

How exactly it will work?

- Earlier only CBI could connect to Interpol from India but now, even State police can connect to Interpol via Bharatpol Portal.
- It will strengthen India's efforts in combating transnational crimes.
- It has been developed by Central Bureau of Investigation (CBI).

Prelims Practice Question

Q. Consider the following statements regarding the Bharatpol platform:

1. Bharatpol is an online platform developed by the Central Bureau of Investigation (CBI).
2. It aims to facilitate seamless coordination between state, Union Territory police forces, and central agencies for Interpol-related requests.

Which of the above statement is true?

- a. 1 only
- b. 2 only
- c. Both
- d. None

Denotified Tribes

GS Paper II-Governance Prelims

Youtube: DNA 13.01.2025

Background

- Britishers acquired forest areas forcefully for extraction of natural resources like timber.
- The tribal communities who mainly live in and around the forests were forced to evacuate their place and move to the urban areas.
- Some tribal communities resisted against the Britishers.
- In order to counter them the Britishers passed Criminal Tribes Act, 1871.



- According to Criminal Tribes Act, 1871 more than 200 tribes were notified as 'born criminal'



History of Denotified Tribes

- Since then they were known as Notified criminals.
- There names were not included in the depressed classes list prepared by the Britishers in 1935 for giving separate electorate.
- India after independence prepared list of Schedule Tribes under Article 366(25) for the welfare of tribals.
- But this list was mainly prepared on the basis the list prepared by the Britishers of Scheduled Tribes under Government of India Act, 1935.



Issues of Denotified Tribes

- Thus names of many communities who were denotified by the Britishers under Criminal Tribes Act of 1871 were missing in ST list prepared by the government of India.
- Thus these tribes could not benefit from the welfare programmes run by the government of India for tribal welfare.
- They are still facing extreme poverty and forced to beg.
- Denotified Tribes are not having any proof of residencehip or citizenship in India.

- Thus they are not covered any welfare scheme of the government.
- They are forced to beg, sell balloons, toys etc on roads.
- The National Commission for Denotified, Nomadic, and Semi-Nomadic Tribes (NCDNSNT) was established to recommend welfare measures for these communities.



Scheme for Economic Empowerment of DNTs (SEED)

- In 2022 the Minister of Social Justice and Empowerment, launched the Scheme for Economic Empowerment of DNTs (SEED).
- The Scheme will have four components with an approximate cost of Rs 200 crore to be spent over a period of 5 years starting Financial Year 2021-22 to 2025-26.

4 components

- To provide coaching of good quality for competitive examinations.
- To provide health insurance
- To facilitate livelihoods initiative.
- To provide financial assistance for construction of houses.

Current challenges

- States are slow in issuing DNT certificates.
- Thus the scheme is not able to take off.

Prelims Practice Question

Q. Consider the following statements about Denotified Tribes (DNTs) in India:

- The National Commission for Denotified, Nomadic, and Semi-Nomadic Tribes (NCDNSNT) was established to recommend welfare measures for these communities.
- All Denotified Tribes are classified under the Scheduled Tribes (ST) category in India.
- The Renke Commission was set up in 2005 to study the issues faced by Denotified and Nomadic Tribes.

How many of the above statements are correct?

- Only one



- b. Only two
- c. Only three
- d. None

Forest Rights Act

GS Paper II-Governance Prelims

Youtube: DNA 14.01.2025

Forest Rights Act, 2006

- Also known as the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act.
- It recognizes the rights of forest-dwelling communities over the land and resources they have traditionally used.

Objective of the act

1. To correct the historical injustice meted out to forest-dwelling communities and tribes.
2. To ensure the livelihood and ecological security of these communities while maintaining forest conservation.



Rights recognised under FRA

1. Individual Rights

- Ownership rights over land cultivated for livelihood (up to a maximum of 4 hectares).

2. Community Rights

- Use and access to forest resources like minor forest produce, water bodies, grazing areas, and fish.

Eligibility Criteria

- Scheduled Tribes (STs) residing in the forests before 13 December 2005.
- Other traditional forest dwellers who have lived in and depended on the forest for at least three generations (75 years).

Process of Recognition

- Gram Sabha (village assembly) plays a central role in identifying beneficiaries.
- Claims are verified and approved by a committee at the district level.

Rights for the dwellers

What the Forest Rights Act, 2006, entails

- Tenurial security over the forestland under occupation prior to December 13, 2005
- Recognition of community right over forest and forest products
- Protection and conservation of community forest resources
- Conversion of all forest villages and habitation located inside the forestland into revenue villages
- In situ rehabilitation of displaced persons evicted without compensation prior to December 13, 2005
- Recognition of ancestral domain (habitat) right to



Residents of Gundurabadi village in Odisha's Nayagarh district get ready for mapping their land boundaries for the Forest Rights Act implementation. ■ SPECIAL ARRANGEMENT

Particularly Vulnerable Tribal Groups

- Seasonal access to nomadic, pastoral and semi-nomadic communities over forestland
- Conversion of all leases granted by erstwhile governments, zamindars and king into permanent land records



Minor Forest Produce (MFP) is a term for non-timber forest products that come from plants.

Current issue

- The current issue is arising out of conservation of forest areas against tribal rights under Forest Rights Act.
- In June 2024, the National Tiger Conservation Authority (NTCA) sought a timeline for relocating 591 villages situated inside tiger reserves.
- State governments like MP, Maharashtra and West Bengal are forcing forest dwellers to evict without compensating adequately.
- It is violation of Forest Rights Act.
- The Ministry of Tribal Affairs has asked states to create an institutional mechanism to ensure compliance with the Forest Rights Act (FRA) and address grievances related to unlawful evictions.

Prelims Practice Question

Q. Consider the following statements regarding the Forest Rights Act, 2006:

1. The Act recognizes the rights of forest-dwelling Scheduled Tribes and other traditional forest dwellers over forest land and resources.
2. The maximum area of forest land that can be claimed under the Act is limited to 10 hectares per individual or community.



Which of the above statements is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q. Discuss the significance of the Forest Rights Act, 2006, in addressing the historical injustices faced by forest-dwelling communities in India. What are the challenges in its implementation? Suggest measures to overcome these challenges. 15 marks/250 words

Hints

- Forest Rights Act (FRA), 2006, as a landmark legislation for forest-dwelling communities.
- Mention how Britishers evicted tribals and forest dwellers.
- Highlight its role in addressing historical injustices faced by tribal and other traditional forest dwellers.

Significance of the FRA, 2006

- Recognition of Rights(individual and community forest rights)
- Empowerment of Marginalized Communities
- Decentralized Governance(Gram Sabha-higher role)
- Ecological Benefits

Challenges in Implementation

- Resistance from forest departments and conservationists(mention current example)
- High rate of claim rejection due to procedural issues or insufficient documentation.
- Complexities in claim verification and lack of adequate resources for authorities.
- Forest-dwelling communities often remain unaware of their rights under FRA.

Measures to Overcome Challenges

- Awareness and Capacity Building
- Streamlining Procedures
- Balance conservation efforts with the rights of forest-dwelling communities

In conclusion highlight the need of a balanced approach

SVAMITVA programme

GS Paper II-Governance Prelims

Youtube: DNA 18.01.2025

What is SVAMITVA programme?

- The SVAMITVA (Survey of Villages and Mapping with Improvised Technology in Village

Areas) programme is an initiative launched by the Government of India in 2020.

- It aims to provide an property validation solution for rural India.
- It works by mapping land parcels using drone technology and issuing property cards to village household owners.

Implementation

- The Ministry of Panchayati Raj is the nodal ministry.
- Collaboration with State Revenue Departments.



Technology Used

- High-resolution drones for mapping.
- GIS (Geographic Information System) technology for creating digital maps.

Benefits

- Property Ownership
 - Villagers receive a "Property Card" that serves as proof of ownership, enabling them to use it as a financial asset for loans and other benefits.
- Dispute Reduction
 - Accurate mapping minimizes boundary disputes and legal conflicts.
- Economic Empowerment
 - Facilitates the economic development of rural areas by enabling asset monetization.
- Better Governance
 - Digital records help in better planning and execution of development schemes.

Progress so far

- 92% of drone mapping has been completed, covering around 3.17 lakh villages.
- The target is to cover more than 3.44 lakh villages by 2026.

Prelims Practice Question

Q. Which of the following statements about the SVAMITVA programme is incorrect?



- SVAMITVA is a scheme launched by the Government of India to provide property cards to rural households.
- The scheme uses drone technology to map land parcels in rural areas.
- It is implemented by the Ministry of Rural Development in collaboration with state governments.
- The primary objective of the scheme is to facilitate bank loans using property cards as collateral.

National Health Mission

GS Paper II-Governance Prelims

Youtube: DNA 23.01.2025

National Health Mission (NHM)

- National Health Mission (NHM) was launched by the government of India in 2013.
- It was launched subsuming National Rural Health Mission and National Urban Health Mission.

Objective of National Health Mission

- Universal access to equitable, affordable & quality healthcare services.

Funding:

- Centrally sponsored scheme with contributions from both the Central and State governments.
- 60:40 between Central Government and States (90:10 for Northeastern states, including Sikkim).



National Health Mission

In 2005, NRHM was launched to provide accessible, affordable, accountable, effective and reliable primary health care facilities to the rural population, especially vulnerable groups.

NUHM was also launched to strengthen urban health status, particularly the urban poor/vulnerable sections by facilitating their access to quality primary healthcare.

Key initiatives

- Janani Suraksha Yojana (JSY)
 - Incentives for institutional deliveries.
- Janani Shishu Suraksha Karyakram (JSSK)
 - Free services for pregnant women and infants.
- Rashtriya Bal Swasthya Karyakram (RBSK)
 - Screening and early intervention for children.
- ASHA Workers
 - Accredited Social Health Activists serving as the link between the community and healthcare services.
- Mission Indradhanush
 - Immunization of children against preventable diseases.

GOALS

- Reduce MMR to 1/1000 live births
- Reduce IMR to 25/1000 live births
- Reduce TFR to 2.1
- Prevention and reduction of anemia in women aged 15-49 years
- Prevent and reduce mortality and morbidity from communicable, non-communicable, injuries and emergency diseases
- Reduce household out-of-pocket expenditure on total health care expenditure
- Reduce annual incidence and mortality from Tuberculosis by half
- Reduce prevalence of Leprosy to <1/10000 population and incidence to zero in all districts
- Annual Malaria incidence to be <1/1000
- Less than 1percent microfilaria prevalence in all districts
- Kala-Azar Elimination by 2015, <1case per 10000 population in all blocks

Current context

- Central Government highlighted achievements of National Health Mission in 2021-24.

Important achievements-

- Maternal Mortality Ratio (MMR)
 - Declined by 83% since 1990 (higher than the global decline of 45%).
- Under-5 Mortality Rate (U5MR)
 - Reduced from 45 (2014) to 32 (2020).
- Infant Mortality Rate (IMR)
 - Decreased from 39 (2014) to 28 (2020).
- Total Fertility Rate (TFR)
 - Dropped from 2.3 (2015) to 2.0 (2020).
- Control of diseases
 - The NHM has also been instrumental in the elimination and control of various diseases, including the incidence of TB and sickle cell.

Prelims Practice Question

Q. Which of the following statement is/are true about National Health Mission?

- The mission aims at universal access to equitable, affordable & quality healthcare services.



2. It is a Central Sector Scheme.
- 1 only
 - 2 only
 - Both
 - None

Crosspathy in India

GS Paper II-Governance-Health Prelims

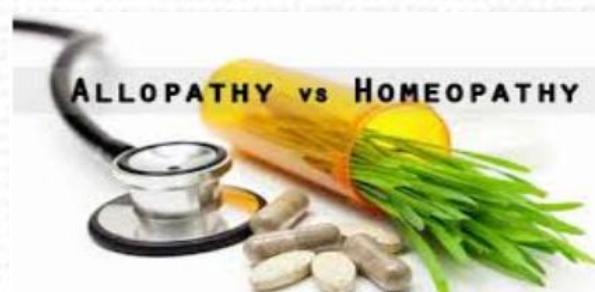
Youtube: DNA 23.01.2025

What is crosspathy?

- Crosspathy refers to the practice where medical practitioners trained in one system of medicine (e.g., Ayurveda, Homeopathy, or Unani) prescribe medicines or perform treatments from another system (primarily Allopathy, or modern medicine).

Why crosspathy practised in India?

- Lack of awareness
 - Shortage of trained health personnels
 - Concerns
 - Implications for patient safety
 - Legal frameworks violation
- Poonam Verma versus Ashwin Patel Case, 1996
- Involved a homeopath treating a patient with allopathic medications and the patient subsequently dying.
 - The Supreme Court held crosspathy will be considered medical negligence.



Crosspathy permitted in many states

- The Central government has been promoting AYUSH medicine for some years now, with a push being given to integrative/integrated medicine.
- The rationale, in general, has been that India has a shortage of doctors, particularly in rural areas, and that the AYUSH cadre of practitioners can help fill in these gaps.
- Some states have permitted homeopathic practitioners to practise modern medicine
- For example the in 2017 Maharashtra Medical Education and Drug Department had issued a

notification allowing homeopathic practitioners to practise modern medicine.

UPSC 2015

Q. Public health system has limitation in providing universal health coverage. Do you think that private sector can help in bridging the gap? What other viable alternatives do you suggest?

76th Republic Day celebrations

GS Paper II-Governance Prelims

Youtube: DNA 27.01.2025

Current context

- India celebrated 75 years of the enactment of the constitution with the theme "Swarnim Bharat: Virasat aur Vikas" (Golden India: heritage and development).
- The celebration included the traditional Republic Day parade on Kartavya Path (Rashtrapati Bhavan to India Gate) till Red Fort.
- President Droupadi Murmu led the celebrations, with Indonesian President Prabowo Subianto as the special guest.
- For first time an Indonesian contingent participated in the parade, with a 352-member marching and band contingent.



Republic Day Tableaux

- Every year, a few states (as well as government departments and ministries) are selected to display their cultural heritage and landscape through tableaux.
- Though almost every state submit the applications, the Ministry of Defence is tasked with giving the final approval to a select few.
- Total 31 (16 States/UTs & 10 Ministries/Departments) tableau presented.

Highlights of Tableaux

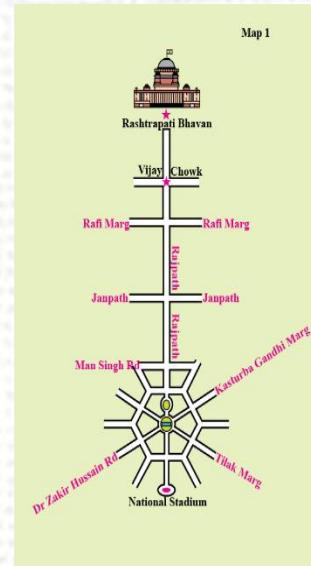
- Uttar Pradesh- represented Kumbh Mela
- Madhya Pradesh-represented Cheetahs.
- Andhra Pradesh- 'Etikoppaka Bommalu,' featuring eco-friendly wooden toys used in puppetry.
- Tripura (only state from NE)- representing Kharchi Puja
- First Tri-services tableau
- For the first time, a Tri-services tableau was displayed with the theme 'Sashakt aur Surakshit Bharat'
- It showed a Joint Operations Room facilitating networking and communication among the Army, the Navy and the Air Force.



Kartavya Path

- A three-km ceremonial boulevard.

- Developed by Edwin Lutyens and Herbert Baker.
- Called Kingsway during British rule.
- Following Independence, the road was given its Hindi name, Rajpath.
- Still the name reflected colonial legacy, thus in 2022 renamed as Kartavya Path.



National War Memorial

- One of the first ceremony of Republic Day celebration is laying wreath and paying homage to the fallen heroes at the National War Memorial by the PM of India.

National War Memorial

- Developed in 2019
- 400 metres away from India GATE
- Names of about 26,000 Indian soldiers who died in the wars and conflicts of independent India.
- The memorial stands as a tribute to those who lost their lives in significant conflicts, including the India-China War in 1962, India-Pak Wars in 1947, 1965, and 1971, Kargil Conflict in 1999, and UN peacekeeping missions.

National War Memorial boasts four concentric circles -

1. Raksha Chakra
2. Tyag Chakra,
3. Veerta Chakra,
4. Amar Chakra-the Circle of Immortality, which has an obelisk, and an Eternal Flame. The flame from the Amar Jawan Jyoti at the India Gate was merged with this flame.





Prelims Practice Question

Q. Which of the following is true about Etikoppaka Bommalu?

1. Etikoppaka Bommalu are traditional wooden toys made in Andhra Pradesh, India.
 2. These toys are made using chemical paints for vibrant colors.
 3. The craft uses lacquer obtained from natural sources.
 4. Etikoppaka Bommalu is a UNESCO-recognized intangible cultural heritage.
- a. Only 1 and 2 are correct
 - b. Only 1 and 3 are correct
 - c. Only 2 and 4 are correct
 - d. Only 3 and 4 are correct

Padma Awards

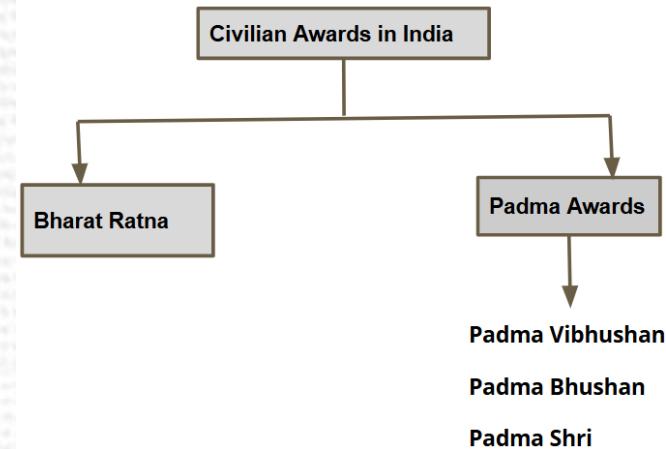
GS Paper II-Governance Prelims

Youtube: DNA 27.01.2025

Civilian Awards in India

- Civilian awards in India are of two types-
- a. Bharat Ratna

- b. Padma Awards
- Padma Awards are of three types- Padma Shri, Padma Bhushan, Padma Vibhushan
 - In India, highest civilian awards are Bharat Ratna which is followed by Padma Vibhushan, Padma bhushan and Padma Shri in the last.
 - The Padma awards are announced every year on the eve of Republic Day.



Bharat Ratna

- Bharat Ratna is the highest civilian award of the Republic of India.
- Instituted in January 1954, the award is conferred "in recognition of exceptional service/performance of the highest order".
- The award was originally limited to achievements in the arts, literature, science and public services but the government expanded the criteria to include "any field of human endeavour" in December 2011.
- Recommendations for the Bharat Ratna are made by the Prime Minister to the President, with a maximum of three nominees being awarded per year.
- But in 2024, five personalities received it, and in 2019, four people received it.
- These can be considered as exception year.
- Recipients receive a Sanad (certificate) signed by the President and a peepal-leaf-shaped medallion; there is no monetary grant associated with the award.
- Bharat Ratna recipients rank seventh in the Indian order of precedence, but are constitutionally prohibited from using the award name as a title.

Note-The order of precedence in India is not mentioned in the Constitution.





Padma Awards

- Padma Awards were instituted in the year 1954.
- The Awards are given in various disciplines/ fields of activities, viz. - art, social work, public affairs, science and, literature and education, sports, civil service, etc.
- Padma Shri is awarded for 'distinguished service'.
- Padma Bhushan for 'distinguished service of a high order'.
- Padma Vibhushan for 'exceptional and distinguished service'.



Padma Vibhushan



Padma Bhushan



Padma Shri

Padma Awards 2025

- The list comprises 7 Padma Vibhushan, 19 Padma Bhushan and 113 Padma Shri Awards.

Padma Awards for Assam

1. Padma Bhushan

- Shri Jatin Goswami-Art

2. Padma Shri

- Shri Anil Kumar Boro-Literature and Education
- Smt. Gita Upadhyay-Literature and Education
- Shri Joynacharan Bathari-Art
- Shri Reba Kanta Mahanta-Art

Q. The Bharat Ratna and Padma Awards represent India's highest civilian honors, celebrating exceptional contributions in diverse fields. Discuss the challenges associated with their selection process and suggest measures to enhance their transparency and credibility. 15 marks/250 words

Hints

- The Bharat Ratna and Padma Awards are India's highest civilian honors, recognizing individuals for exceptional achievements in fields such as arts, literature, science, public service, and sports. While these awards symbolize national pride and foster excellence, challenges in their selection process have raised questions about transparency and credibility.



Challenges Associated with the Selection Process

1. Perceived Political Influence

- Selection has occasionally been criticized for favoring individuals with political connections or affiliations, overshadowing merit.
- Allegations of bias towards ruling governments have sometimes undermined public trust.

2. Subjective Criteria

- While the awards aim to celebrate "exceptional contributions," the absence of clearly defined benchmarks makes the process subjective.

3. Lack of Transparency

- The nomination and screening processes are opaque, leading to skepticism about fairness and impartiality.

4. Neglect of Unsung Heroes

- The awards often fail to recognize grassroots contributors who have made significant but less publicized contributions to society.

5. Regional Imbalance

- Certain regions and communities appear underrepresented, raising concerns about inclusivity.

6. Public Controversies

- Posthumous awards and debates over the exclusion of notable figures have fueled controversies.

Measures to Enhance Transparency and Credibility

1. Clear and Objective Criteria

- Establish well-defined and measurable criteria for assessing contributions in each category.

2. Independent Oversight Committees

- Constitute apolitical, expert panels to review nominations, ensuring impartiality and merit-based selection.

3. Digital Nomination Platforms

- Enhance public participation by inviting nominations through transparent online portals, subject to rigorous verification.

4. Regular Audits and Disclosures

- Publish detailed reports on the selection process, including the rationale for each awardee's selection.

5. Public Consultation Mechanism

- Introduce a mechanism for feedback and suggestions from the public to enhance trust in the process.

Conclusion

- Reforming the selection process for the Bharat Ratna and Padma Awards is essential to uphold their integrity and ensure they remain symbols of national pride. A transparent, merit-driven, and inclusive approach will strengthen their credibility and inspire greater public confidence.

Gallantry Awards

GS Paper II-Governance Prelims

Youtube: DNA 27.01.2025

Main awards given out on Republic Day

1. Civilian Service Awards

- Includes Bharat Ratna and the Padma Awards – the Padma Vibhushan, the Padma Bhushan and the Padma Shri.

2. Service Medals

- These awards recognise distinguished service, dedication, and exceptional contributions by personnel in the Armed Forces, Paramilitary Forces, and Police.
- They are announced on Republic Day and Independence Day.

3. Gallantry Awards

- Medals for gallantry are awarded to members of the armed forces, paramilitary forces, and civilians for bravery and heroic action.
- Grouped in 2 categories-
 - a. Gallantry in the Face of Enemy
 - b. Gallantry Other than in the Face of Enemy

Gallantry Awards are classified into two Categories

1. Gallantry in the Face of Enemy

- Param Vir Chakra (PVC)(Highest)
- Mahavir Chakra (MVC)
- Vir Chakra

2. Gallantry Other than in the Face of Enemy

- Ashok Chakra
- Kirti Chakra
- Shaurya Chakra





Prelims Practice Question

Q. Evaluate the following statements about Gallantry Awards in India:

1. The Param Vir Chakra is the highest military decoration awarded for acts of bravery during wartime.
 2. The Ashoka Chakra is awarded exclusively for acts of valor during peacetime operations.
- a. Only 1 is correct
 - b. Only 2 is correct
 - c. Both 1 and 2 are correct
 - d. Neither 1 nor 2 is correct

Annual Status of Education Report (Rural) 2024

GS Paper II-Governance Prelims

Youtube: DNA 29.01.2025

What is ASER?

- ASER stands for Annual Status of Education Report.
- This is an annual citizen-led survey that provides reliable estimates of children's schooling and learning levels in rural India.
- The survey report is published by NGO Pratham.

What are the focus areas of the survey?

- The 'basic' ASER survey tracks-
- a. Enrollment for children aged 3-16
- b. Basic reading and arithmetic of children aged 5-16.

Frequency of the survey

- It was conducted every year from 2005 to 2014 in almost all rural districts of India.
- Beginning in 2016, an alternate-year model was introduced, where the 'basic' ASER survey is conducted in alternate years
- In the gap years, a different lens is employed to examine different age groups and/or new aspects of children's learning.

Current news?

- ASER (Rural) 2024 has been released by Pratham NGO.



Annual Status of Education Report (Rural) 2024

Provisional

January 28, 2025



ASER(Rural) 2024: Key findings

- The findings highlight a strong recovery from pandemic-induced learning losses.
- The survey presented outcomes separately for three groups of children:
 - a. Pre-primary (age group 3-5)
 - b. Elementary (age group 6-14)
 - c. Older children (age group 15-16)

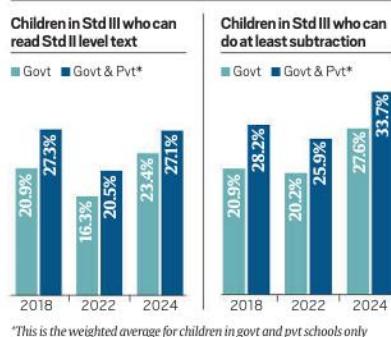
Enrollment trends

- 6-14-year-olds -98.1% in 2024
- Pre-school enrollment among 3-5-year-olds increased, with a sharp rise among 5-year-olds from 58.5% in 2018 to 71.4% in 2024.

Reading and arithmetic skills

- There has been recovery in reading and arithmetic skills as shown in the illustration.



LEARNING CURVE: STEADY IMPROVEMENT


1. Sarva Shiksha Abhiyan (SSA)
2. Rashtriya Madhyamik Shiksha Abhiyan (RMSA)
3. Teacher Education (TE) to treat School education holistically.

**National Initiative for Proficiency in Reading with Understanding and Numeracy
NIPUN BHARAT**

(A National Mission on Foundational Literacy and Numeracy)


Digital literacy

- ASER 2024 included a section on digital literacy for the first time, focusing on smartphone access and basic digital skills among 14-16-year-olds.
- 85.5% boys and 79.4% girls reported knowing how to use a smartphone.

Factors behind the improvement

1. National Education Policy (NEP) 2020
 - Focus on foundational literacy and numeracy (FLN) appears to have played a crucial role.
2. Nipun Bharat Mission
 - A National Mission on Foundational Literacy and Numeracy.
 - The Union Education Ministry's initiatives.

Goal

- Every child achieves the desired learning competencies in reading, writing and numeracy at the end of grade III and not later than grade V
- Launched under Samagra Shiksha Scheme.

Samagra Shiksha Abhiyan

- Samagra Shiksha Scheme aims at unifying learning from pre-school to class 12 levels by treating education holistically as continuum from pre-school to class 12.
- The scheme subsumes three existing schemes:

Prelims Practice Question

Q. The Annual Status of Education Report (ASER) 2024 provides insights into the current state of education in rural India. Consider the following statements:

1. In 2024, the percentage of Class 3 children in rural India who could perform basic subtraction increased compared to 2022.
 2. The ASER 2024 survey included a section on digital literacy targeting children aged 14 to 16.
- Which of the above statements is/are correct?
- a. 1 only
 - b. 2 only
 - c. Both
 - d. None



International Relations

Pakistan obtains membership of UNSC

GS Paper II-International Relations Prelims

Youtube: DNA 01.01.2025

United Nations

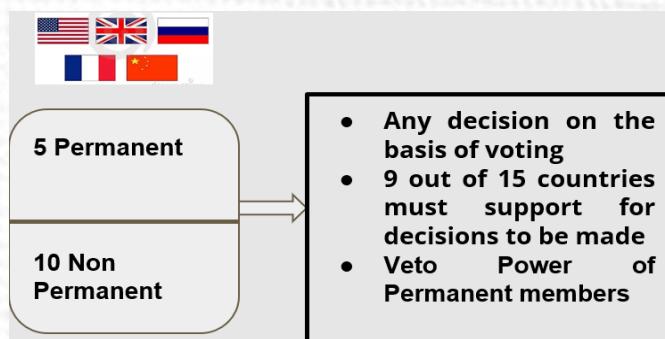
- The United Nations (UN) is an international organization founded in 1945.
- It is currently made up of 193 Member States.
- Palestine and Vatican City have joined United Nations has an observer state.

Objectives of UN

- To maintain international peace and security
- To develop friendly relations among nations
- To achieve international co-operation in solving international problem of an economic, social, cultural or humanitarian character.



Structure of UNSC

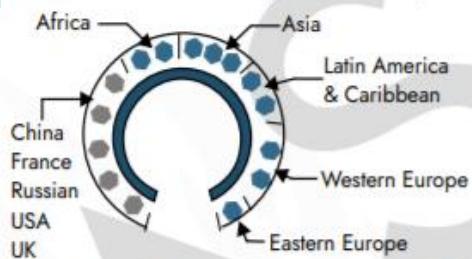


UN Security Council members

5 Permanent Members (having Veto Powers)



10 Non-Permanent Members (no Veto Powers)



Each year, the General Assembly elects five non-permanent members for a two year term by a two-thirds majority.

► 5 from African and Asian States ► 2 from Latin America States
 ► 1 from Eastern Europe States ► 2 from Western Europe and other States

Current news?

- As of January 1, 2025, the United Nations Security Council (UNSC) includes five new non-permanent members elected for two-year terms:

 - Denmark
 - Greece
 - Pakistan
 - Panama
 - Somalia

They join the five permanent members and following non-permanent members whose terms continue in 2025:

- Algeria
- Guyana
- Republic of Korea
- Sierra Leone
- Slovenia

Prelims Practice Question

- Q. Which of the following statement is incorrect?
- The UNSC has five permanent members with veto power.
 - The UNSC's primary responsibility is to maintain international peace and security.
 - Non-permanent members of the UNSC serve for a term of five years.
 - The presidency of the UNSC rotates monthly among its members.



India's Neighbourhood first policy

GS Paper II-International Relations Prelims

Youtube: DNA 04.01.2025

Current context

- Maldives Foreign Minister Abdullah Khaleel recently visited India.

Key Agreements Signed

- A framework promoting the use of local currencies for cross-border trade.
- MoU for high-impact community development projects (HICDP).
- Agreement to begin negotiations for a Free Trade Agreement (FTA).

Focus Areas:

1. Maritime security.
 2. Trade and investment.
 3. Mutual trust and respect between the nations.
- The visit highlights a stronger partnership under India's "Neighbourhood First" policy.



S Jaishankar with Maldives counterpart Abdulla Khaleel. PTI

Neighbourhood First Policy

- Aims at management of India's relations with countries in its immediate neighbourhood, that is, Afghanistan, Bangladesh, Bhutan, Maldives, Myanmar, Nepal and Sri Lanka.

Objective-

- To enhance physical, digital and people to people connectivity across the region, as well as augmenting trade and commerce.
- The policy officially came to being in 2008.
- Strongly implemented during PM Modi regime.
- Neighbourhood First Policy is important part of "Modi doctrine".

Note-

- Currently India is following the approach of Neighbourhood First Policy with all countries of South Asia except Pakistan.
- Regarding Pakistan, India has adopted the policy of isolation of Pakistan after Uri terror attack in 2016.



Prelims Practice Question

Q. Consider the following statements about India's "Neighbourhood First" policy:

1. The policy prioritizes economic and security cooperation with immediate neighbouring countries.
2. SAARC is the primary regional organization through which India implements this policy.
3. The policy emphasizes the principle of non-interference in the internal affairs of neighbouring countries.
4. Strengthening maritime connectivity in the Indian Ocean region is not part of this policy.

Which of the above statements are correct?

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

Q. What is India's Neighbourhood first policy? Identify its significance and challenges associated for India. 15 marks/250 words

Hints

- Neighbourhood First Policy of India immediate neighbourhood, that is, Afghanistan, Bangladesh, Bhutan, Maldives, Myanmar, Nepal and Sri Lanka. The policy officially came to being in 2008.



- It aims to enhance physical, digital and people to people connectivity across the region, as well as augmenting trade and commerce.

Significance of the Policy

1. Ensuring territorial integrity

- Collaboration with neighbouring countries is essential for India to protect its territorial integrity and resolve territorial dispute amicably.

2. Isolate Pakistan

- After Uri attack in 2016 and Pulwama attack in 2019, one of the important foreign policy goal for India is to isolate Pakistan in the South Asia.
- Neighbourhood first policy indirectly helps in attaining this goal through forums like BIMSTEC.

3. Improve connectivity

- through projects like-BBIN Initiative (Bangladesh, Bhutan, India, Nepal), Kaladan Multi-Modal Transit Transport Project, Chabahar Port etc

4. Countering Chinese influence

- By collaborating closely with neighbouring countries, India can counterbalance Chinese influence in the Indian Ocean region

5. Economic Cooperation

- Eg Bangladesh emerged India's biggest trade partner in South Asia due to cooperation under 'Neighbourhood First' policy.

6. Energy security

- Eg Shwe oil & gas project implemented by ONGC Videsh limited in Myanmar.

7. Leveraging soft power diplomacy

- India's deep cultural and historical connections with its neighbours strengthen people-to-people ties, solidifying India's influence in the region through soft power diplomacy.

Challenges associated with the Policy

1. Geopolitical tensions

- Issues like border disputes and political disagreements can complicate relationships.

- Eg Kalapani border dispute with Nepal

2. Implementation issues

- Difficulties in executing cross-border projects due to logistical and bureaucratic challenges.

- Eg Eg Shwe oil & gas project started in 2002, not completed yet.

3. Economic differences

- Different levels of economic development among neighbouring countries can affect the balance and effectiveness of cooperation.

- Eg Huge Trade deficit of Nepal and Bangladesh with India resulting into frequent protests in these countries against India.

4. China factor

- Neighbour countries like Nepal, Myanmar and Maldives have shown China tilt.

5. Pakistan factor

- Due to terrorism promoted by Pakistan, important regional forum SAARC remains suspended.

Trudeau quits

GS Paper II-International Relations Prelims

Youtube: DNA 08.01.2025

Current news?

- Canadian Prime Minister Justin Trudeau has resigned.
- It may lead to reset in India-Canada relations that had strained during Trudeau regime.

Issues that cropped up during Trudeau regime?

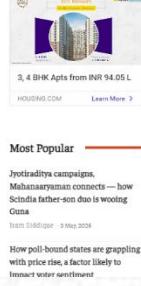
- About 2.1% of the Canadian population belongs to Sikhs community who migrated from India.
- Trudeau has been often found promoting Khalistani sentiments amongst Sikh in Canada for vote bank politics.
- In June 2023 Trudeau made an allegation of a potential link between agents of the Government of India and the killing of a pro-Khalistan leader and Canadian citizen, Hardeep Singh Nijjar (Chief of Khalistan Tiger Force).
- It projected India in poor light amongst world community as a country that violates territorial sovereignty of others.



India can't wait for Canadians to vote out Justin Trudeau next year. Act now

No other top executive of a Canadian government would have extended support to anti-India elements as much as PM Justin Trudeau has done so far.

SESHADRI CHARI 03 May 2024 11:57 am IST



Why Trudeau resigned?

- Trudeau administration faced many challenges.

1. Economic mismanagement

- Failed to tame inflation and rising unemployment.

2. Immigration issues

- Trudeau's approach to border openness and allowing immigrants in liberals manner has been criticised by other parties.

Future of India-Canada relations

- Trudeau's departure presents an opportunity to reset bilateral ties, with Delhi potentially engaging constructively once the political climate stabilizes.

Prelims Practice Question

Q. Consider the following statements regarding India-Canada relations:

- India and Canada are members of the G20 group of countries.
- Canada is India's largest trading partner in North America.

Which of the above statement is true?

- 1 only
- 2 only
- Both
- None

India - Afghanistan Taliban meet

GS Paper II-International Relations Prelims

Youtube: DNA 09.01.2025

India's approach towards Taliban 2.0

- India, like other major powers, does not officially recognize the Taliban regime due to its

lack of inclusivity and treatment of women and girls.

- However gradually India is looking forward to engage with Taliban for following reasons.
- Pakistan-Taliban Strains
 - Once allies, Pakistan and the Taliban are now adversaries, with tensions escalating over border issues.
 - Russia's Reorientation
 - Russia is caught in its war with Ukraine and shifting towards cooperation with the Taliban as a counter-terrorism ally.
 - China's Growing Influence
 - China has established diplomatic ties with the Taliban and is pursuing development projects
 - Return of Donald Trump
 - With Donald Trump's return, potential re-engagement by the US with the Taliban is anticipated, prompting India to act swiftly.



WHY INDIA DECIDED TO ENGAGE WITH TALIBAN

Current news?

- A high-level meeting between Afghan Taliban leadership and senior Indian officials was held in Dubai.
- Indian Foreign Secretary Vikram Misri met Taliban Acting Foreign Minister Amir Khan Muttaqi.
- This is India's first top-level diplomatic meet with Taliban.
- The meeting aimed to strengthen cooperation between India and Afghanistan, as bilateral ties have largely remained dormant since the Taliban's 2021 takeover.

Ready to respond to urgent developmental needs of Afghan people: MEA



Foreign Secretary Vikram Misri, Afghan acting Foreign Minister Amir Khan Muttaqi with their teams in Dubai. X@MEAIndia



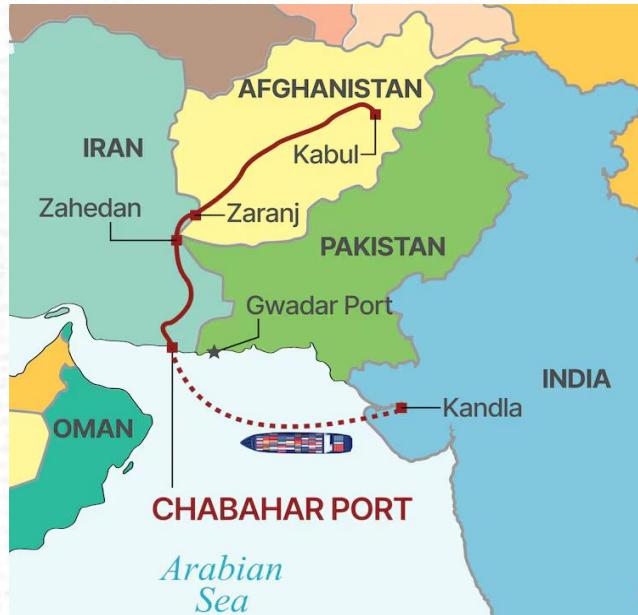
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Key discussion areas

1. Security Concerns
 - India emphasized the importance of preventing anti-India terror groups from operating on Afghan soil.
 - India raised concerns about Pakistan-based terror groups like Lashkar-e-Taiba (LeT) and Jaish-e-Mohammed (JeM).
2. Chabahar Port for Trade and Aid
 - Both sides agreed to promote the use of Iran's Chabahar port to facilitate trade and humanitarian aid to Afghanistan.
3. Strengthening Sports Ties
 - Enhanced cooperation in cricket was discussed, with India supporting Afghan players in training and providing facilities in Noida.
4. Development and Humanitarian Aid
 - India pledged to evaluate development projects in Afghanistan alongside ongoing humanitarian assistance.



Prelims Practice Question

Q. Consider the following statements about the Chabahar Port:

1. Chabahar Port is strategically located in Iran and provides India direct access to Afghanistan, bypassing Pakistan.
2. The port is being developed by a trilateral agreement between India, Iran, and Russia.

Which of the above statements is/are correct?

- a. Only 1
- b. Only 2
- c. Both 1 and 2
- d. Neither 1 nor 2

Like Minded Nations

GS Paper II-International Relations Prelims

Youtube: DNA 11.01.2025

Like Minded Nations

- It is a group of developing countries who organise themselves as a block to negotiate at United Nations and WTO.
- The nations collaborate on issues of climate change and world trade.
- It represents more than 50 percent of the world's population.

Focus areas of Like Minded Nations-

1. Climate change, trade, and sustainable development.
2. Advocating for the interests of developing nations in the WTO.
3. Advocating for specific reforms in the UN system.
4. Conservation of biodiversity and sustainable use of natural resources.



Like Minded Nations is not a rigid group as far as membership or areas of cooperation are concerned.

Current news?

- The Defence Ministers Conclave has been called in New Delhi.
- It will focus on the theme "BRIDGE – Building Resilience through International Defence and Global Engagement."
- It aims to explore partnerships for sustainable and inclusive growth.
- Defence Minister Rajnath Singh highlighted the need for like-minded nations to work together for peace and prosperity.
- He said unity among like-minded nations is vital to ensure mutual prosperity and peace.

Prelims Practice Question

Q. Consider the following statements about the Like-Minded Developing Countries (LMDCs) group:



1. The LMDCs are a coalition of developing nations that negotiate collectively at the United Nations and the World Trade Organization (WTO).
2. The LMDCs primarily focus on climate change, world trade, sustainable development, and advocating for reforms in the United Nations system.
3. The LMDCs exclusively focus on issues of biodiversity conservation and natural resource use.

Which of the above statements are correct?

- a. 1,2 only
- b. 2,3 only
- c. 1,3 only
- d. 1,2,3 all

India-U.S. Joint Sonobuoy production

GS Paper II-International Relations Prelims

Youtube: DNA 13.01.2025

What is a Sonobuoy?

- A Sonobuoy is a small, expendable, and lightweight device.

It is used for-

- a. Detects submarines by analyzing underwater acoustics.
- b. Gathers data on underwater environmental conditions, such as temperature, salinity, and depth.

Current news?

- India-U.S. have agreed for Joint Production of Sonobuoy.
- The Sonobuoy production line, used for detecting submarines underwater, will be co-produced by Bharat Dynamics Ltd. (BDL) and U.S.-based Ultra Maritime.
- The production line is expected to be operational by 2027.



iCET framework

- Agreed in 2022 between India and the US.
- Under it India and the US to enhance cooperation in various areas of advanced technology, including defense, artificial intelligence, quantum computing, and space.
- India-U.S. Joint Sonobuoy production agreement aligns with iCET framework.

Prelims Practice Question

Q. What is the primary purpose of a sonobuoy in naval operations?

- a. To measure ocean temperature and salinity
- b. To detect and track underwater objects like submarines
- c. To transmit signals between naval vessels
- d. To survey marine biodiversity

Donald Trump on Greenland

GS Paper II-International Relations Prelims

Youtube: DNA 14.01.2025

Greenland Overview

- Greenland is the world's largest island with a population of 57,000.
- It is an autonomous territory controlled by Denmark with its own Parliament managing domestic affairs.
- While foreign, monetary, and military policies are directed by Denmark.
- Greenland has been part of the Danish realm since 1721, with home rule granted in 1979.
- There has been recent calls for independence from Denmark are linked to removing the "shackles of colonialism."



Current context

- During first stint, President Donald Trump expressed interest in purchasing Greenland, which Denmark rejected.
- Recently U.S. President-elect Donald Trump says he won't rule out use of military force or coercion to annex or buy the world's largest island, Greenland.



The U.S. Interests in Greenland

1. Strategic location

- The U.S. views Greenland as strategically critical due to its geographic location between the Arctic and the Atlantic.
- The U.S. operates a military base in Greenland, Thule Force Base.

2. Global politics

- The Arctic region is a point of contention between global powers like Russia, China, and the U.S.
- Greenland plays a critical role in US Arctic strategy and U.S. efforts to counter Russian and Chinese influence.

3. Natural resources

- The island's vast natural resources, including oil, gas, and minerals, have increased its geopolitical significance.
- 25 of 34 critical raw materials, which are used in EVs and batteries, were found in Greenland

4. New shipping routes

- Melting ice in the Arctic is creating new shipping routes and increasing access to natural resources.



Prelims Practice Question

Q. Consider the following statements regarding Greenland:

- Greenland is the world's largest island and functions as an autonomous territory under the control of Denmark.
- The United States operates a strategic airbase in Greenland and has shown interest in purchasing the island for its natural resources and geopolitical importance.

Which of the above statements is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

India-US Civil Nuclear Deal

GS Paper II-International Relations Prelims

Youtube: DNA 16.01.2025

Background

- India conducted nuclear explosion for civilian purpose in 1974 under code name operation 'Smiling Buddha'.
- The US responded by creation of Nuclear Supplier Group (covered in the NPA of 20th Dec 2024) in order to prohibit India from accessibility to nuclear technology and materials.
- 2001 onwards, the US changed its approach towards India specially due to rise of China.
- In 2008, India-US Civil Nuclear Deal, formally known as the 123 Agreement, was a landmark agreement between India and the United States, signed.





Why India-US Civil Nuclear Deal is called 123 Agreement?

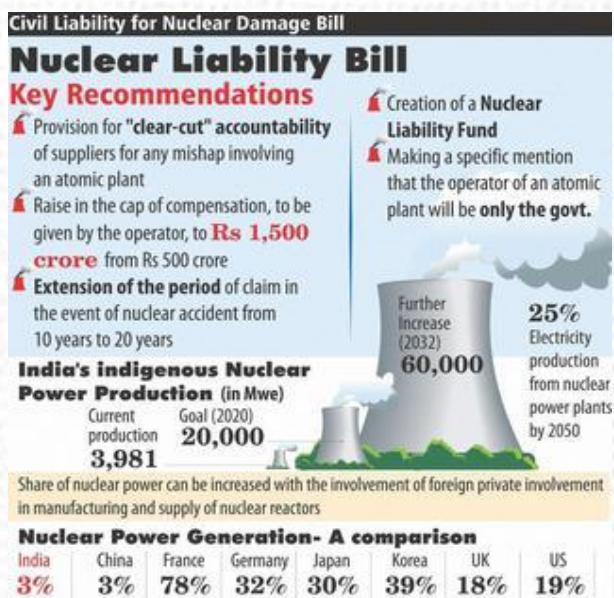
- Because the agreement is based on Section 123 of the United States Atomic Energy Act of 1954.
- This section governs nuclear cooperation between the United States and other countries.

123 Agreement

- The deal was pivotal in India obtaining a waiver from the Nuclear Suppliers Group (NSG), enabling it to engage in global nuclear trade despite not being a signatory to the NPT (Non-Proliferation Treaty).
- India agreed to separate its civil and military nuclear facilities and place its civil nuclear facilities under the safeguards of the International Atomic Energy Agency (IAEA).

Why the India-US Civil Nuclear Deal has not been fruitful?

- India's Civil Liability for Nuclear Damage Act (2010) provided a framework for liability in case of nuclear accidents.
- The act deterred many foreign companies due to stringent liability clauses.



Positive outcomes of 123 agreement for India

1. NSG Waiver

- India obtained a waiver from the Nuclear Suppliers Group (NSG) in 2008, enabling it to participate in global nuclear trade.

2. Strengthened India-US Strategic Partnership

- The deal marked a paradigm shift in India-US relations, elevating their partnership to a strategic level.

3. Civil Nuclear agreements with other countries

- After the US agreement, India signed similar civil nuclear cooperation agreements with countries like Russia, France, Japan, and Australia.
- Collaboration with France's EDF in Jaitapur, Maharashtra and Russia's Rosatom in Kudankulam, TN on new nuclear power plants.

4. Clean Energy Transition

- Helpful in fulfilling India's commitment under Paris climate deal.

5. Boost to Energy Security and Economic growth



Recent development

- U.S. National Security Advisor Jake Sullivan visited India on January 5-6, 2025, marking his final overseas trip before concluding his tenure.
- In order to make civil nuclear deal functional between India and the US he suggested



mechanisms to address liability issues in case of Nuclear accident.

Mechanisms suggested-

1. Establishing insurance pools to address liability risks for suppliers.
2. Negotiating clearer contractual terms to limit supplier liability.
3. Exploring legal interpretations that align with international practices.



NSA Sullivan to visit India to finalise important ongoing initiatives

Current news?

- The United States has removed restrictions on three Indian nuclear entities:

 1. Bhabha Atomic Research Centre (BARC)
 2. Indira Gandhi Atomic Research Centre (IGCAR)
 3. Indian Rare Earths (IRE)

- These entities were earlier placed on the US Entity List, which restricts their access to certain US-origin technologies, goods, and services.
- The removal of these entities from the US Bureau of Industry and Security (BIS) "Entity List" reduces barriers to advanced cooperation.
- The removal of restriction is seen as step by the US to enhance Indo-US civil nuclear cooperation.

Prelims Practice Question

Q. Evaluate the following statements related to the India-US Civil Nuclear Deal:

1. The India-US Civil Nuclear Deal was signed in 2008, allowing India access to civilian nuclear

technology despite after being signatory to the Nuclear Non-Proliferation Treaty (NPT).

2. Under the deal, India agreed to separate its civilian and military nuclear facilities and place civilian facilities under International Atomic Energy Agency (IAEA) safeguards.

Which of the above statements are correct?

- a. Only 1
- b. Only 2
- c. Both 1 and 2
- d. Neither 1 nor 2

Q. Discuss the significance of the India-US Civil Nuclear Deal in enhancing India's energy security and strategic autonomy. 10 marks/ 150 words

Hints

- Briefly introduce the India-US Civil Nuclear Deal (2008), its history-1974 Pokhran tests, its objective

Enhancing India's Energy Security:

- Access to Global Nuclear Technology and Fuel: India gained access to advanced nuclear technology and fuel from the Nuclear Suppliers Group (NSG) member states.
- Diversification of Energy Mix: Helped reduce dependence on fossil fuels, aligning with India's commitments under global climate agreements.
- Capacity for Civil Nuclear Power Expansion: Enabled setting up new reactors, which contributes to India's target of achieving 63 GW of nuclear power by 2032.

Strengthening Strategic Autonomy:

- Recognition of India as a Responsible Nuclear State: Despite not being a signatory to the NPT, the deal granted India special recognition.
- Independence in Dual-Use Technology: Access to advanced technologies without undermining India's indigenous nuclear weapons program.
- Boost to India's Global Standing: Strengthened India's position in global governance institutions like NSG, G20, and the Indo-Pacific strategy.

Challenges in Implementation

- Liability Concerns
- Slow Progress in Reactor Installation

Nuclear energy could be a middle ground between rising energy demands and pressing issues of climate change a balanced solution needs to be found in order to have fruitful outcome of India US Civil Nuclear deal.



Trump 2.0 and orders on day 1

GS Paper II-International Relations Prelims

Youtube: DNA 21.01.2025

Current context

- Donald Trump has been inaugurated as the 47th President of the United States.

Key Decisions on Day 1

1. Gender

- Recognises only biological sex in federal policy, ending gender identity ideology.

2. Social

- Ends “diversity, equity, and inclusion” and related programmes in the federal government

3. Foreign policy

- Prioritises US interests in all foreign policy decisions

4. Energy

- Encourages development of Alaska’s resources like oil, gas, and minerals
- Declares a national energy emergency to improve US energy supply

5. Immigration

- National emergency at US-Mexico border.

6. Environment

- The US withdrawal from Paris agreement.



Donald J. Trump speaks after being sworn in as the 47th US President in the US Capitol Rotunda in Washington, DC, Monday. *Reuters*

TRUMP'S ORDERS ON DAY 1

IMMIGRATION: National emergency at the US-Mexico border, sending troops to the southern border

ENERGY: National energy emergency, focus on development in Alaska; revoke federal mandates on EVs

GENDER: Recognise only two genders – male and female

DIVERSITY: End ‘radical and wasteful’ diversity, equity and inclusion programmes inside

the federal government

PARDONS: Issue pardons for some of those convicted/charged in connection with the 2021 Capitol riots

TARIFFS: Establish External Revenue Service to collect all tariffs, duties and revenue

CLIMATE: Withdraw from the Paris Agreement

FULL COVERAGE
PAGE 14

The US pullout of WHO

GS Paper II-International Institutions Prelims

Youtube: DNA 22.01.2025

World Health Organization

- The World Health Organization (WHO) is a specialized agency of the United Nations.
- Founded in 1948.
- Headquarters: Geneva, Switzerland
- Goal is to achieving the highest possible level of health for all people.

Key Functions

- Collects and analyzes global health data.
- Tracks the spread of diseases, including pandemics (e.g., COVID-19).
- Coordinates international responses to health emergencies.
- Promotes health-related research and development.

Membership & Governance

- 194 countries
- Governed by World Health Assembly, which is composed of representatives from all member states.



Director-General of WHO

- Dr. Tedros Adhanom Ghebreyesus (as of 2025), serving since 2017.

Important reports by WHO

- World Health Report
- International Classification of Diseases

Important initiatives of WHO

- Global Polio Eradication Initiative
- Framework Convention on Tobacco Control

Current news?

- The US President Donald Trump signed an executive order to withdraw from the World Health Organisation (WHO) on his very first day in office.

Reason for withdrawal

- Mishandling of the COVID-19 pandemic
- Failure to adopt urgently needed reforms

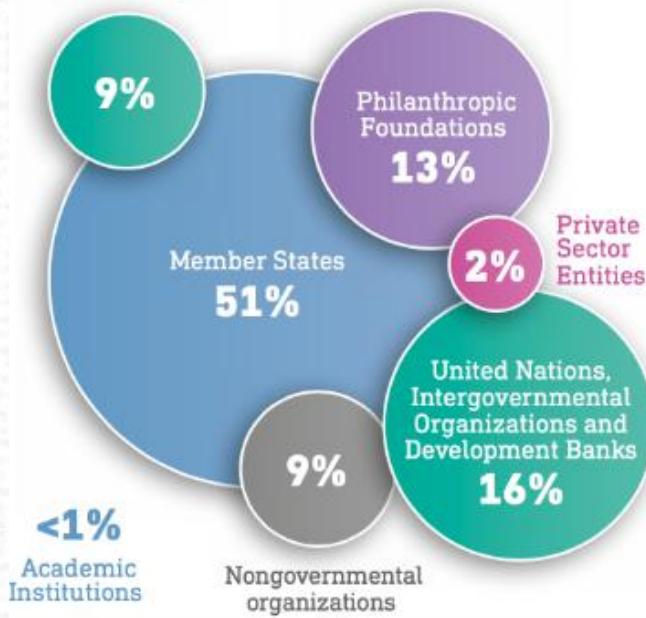


3. Inappropriate political influence of WHO member states like China
4. Unfairly higher payments from the United States.

How the US pullout will impact WHO?

1. Transfer of US funds and resources to the WHO will be paused.
2. All US government personnel or contractors with the WHO will be recalled.
3. The US will cease negotiations for the pandemic treaty the WHO is working on.

Partnerships



WHO funding

- WHO's funding comes from several sources as indicated above.
- Major source of funding are the member states.
- Member state contributions are partly mandatory, partly voluntary.
- The US is the biggest payer, accounting for 22.5% of the contributions, followed by China at 15%.

Provisions for withdrawal from WHO

- There is no provision for withdrawal by a country in the WHO's constitution.
- But at the time the US joined the organisation in 1948, Congress had put a condition saying the country could withdraw after giving a one-year notice and meeting its financial obligations for the current year.

Possible impact on India

- The WHO participates in and supports several health programs of the Indian government, such as its work on neglected tropical diseases, HIV, malaria, and tuberculosis, antimicrobial resistance, etc.
- It plays a significant role in India's immunisation program, with WHO teams monitoring vaccine coverage.
- Funding cut after the US withdrawal may hamper on going health related programs in India managed by WHO.

Prelims Practice Question

Q. Consider the following statements regarding the World Health Organization (WHO):

1. The WHO is a specialized agency of the United Nations responsible for international public health.
2. The WHO's headquarters is located in Geneva, Switzerland.
3. The WHO issues the annual Global Competitiveness Report.
4. The WHO coordinates efforts to combat global health emergencies like pandemics.

Which of the statements given above is/are correct?

- 1 and 2 only
- 1, 2, and 4 only
- 1, 3, and 4 only
- All of the above

Global Minimum Corporate Tax

GS Paper II-International Forums Prelims

Youtube: DNA 22.01.2025

Tax havens

- A tax haven is generally an offshore country that offers foreign individuals and businesses little or no tax liability with politically and economically stable environment.
- Tax havens also share limited or no financial information with foreign tax authorities.
- Top companies of the world prefer such locations to register in order to minimise their tax liability.

Negative impact of such tax havens-

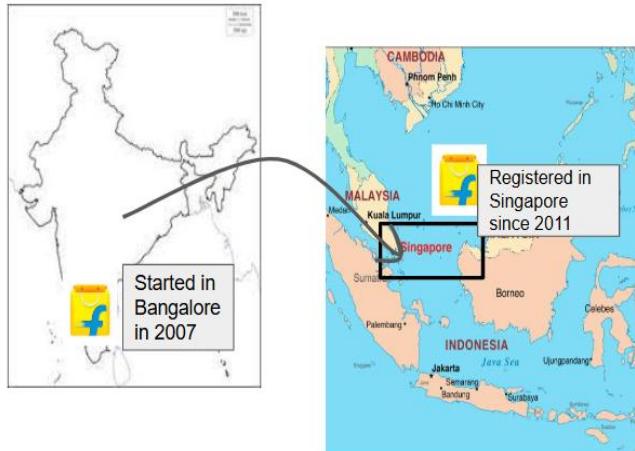
- Countries where majority of the business is conducted lose their tax share.
- Eg Flipkart migration to Singapore from India.





Why Flipkart shifted to Singapore?

1. Taxation (main reason)
- India has a corporate tax rate of 34% whereas Singapore has a corporate tax rate of only 17%.
- Singapore is a politically and economically stable country.
1. Ease of doing business
- Taxation is primarily the driving factor behind deciding on the location for registering a company.
- Loss of tax revenue to major economies led to proposal of Global minimum corporate tax.



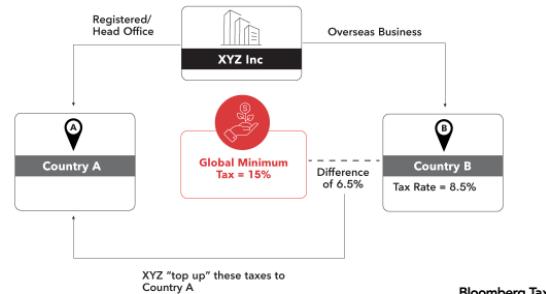
Global Minimum Corporate Tax

- The Global Minimum Corporate Tax (GMCT) is an initiative spearheaded by the Organisation for Economic Co-operation and Development (OECD).
- Later on G20 also supported it.
- The initiative was proposed under the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS).

Implementation

- GMCT is gradually becoming applicable in phased manner.

- Over 130 countries have agreed to the framework.
- Key economies, including the European Union nations, India, China.
- The EU and Britain has adopted legislation to implement the 15% minimum tax.



Global minimum corporate tax- how it works?

- Measures to make companies pay part of tax in the countries where they do business.
- Global minimum corporate tax rate of 15%.

Current news?

- U.S. President Donald Trump declared that the Global Corporate Minimum Tax Deal has "no force or effect" in the U.S., effectively pulling the country out of the agreement negotiated under the Biden administration.

Why the US pulled out?

- The US has tax rate of 10.5% for certain foreign profits earned by U.S. MNCs, introduced under the Tax Cuts and Jobs Act (TCJA) of 2017 during the Trump administration.



First cut: The U.S. has a roughly 10% global minimum tax, part of Mr. Trump's landmark 2017 tax cut package. REUTERS

Concerns for the US post pullout of GMCT

- The collapse of the Global Minimum Corporate Tax Deal might lead to the revival of Digital Taxes in several countries, targeting U.S. tech firms like Google, Meta (Facebook).



What is digital tax?

- Traditional tax systems are based on physical presence, which makes it difficult to tax digital companies operating across borders without a physical footprint.
- Digital companies like Google, Amazon, Facebook, and Apple (collectively known as GAFA) have been accused of profit-shifting to low-tax jurisdictions.
- To deal with such situation many countries like France, India etc brought the concept of digital tax'.

Digital Tax in India

- Known as 'equalisation levy' introduced by the Finance Act 2016.



Parle G has advertised on Google to expand its business. It has to pay Rs. 1,00,000 in FY 2017-18 to Google for the advertising services availed.

- It will have to pay 6% tax to the government.

GMCT and digital tax

- GMCT deal requires countries to remove all digital services tax and other similar unilateral measures.
- The Indian government has decided to discontinue the Equalisation Levy.
- This was decided in line with GMCT.
- The US pull out of GMCT and subsequent failure of GMCT may lead to revival of digital tax.

Prelims Practice Question

- Q. Which of the following statement is incorrect about Base Erosion and Profit Shifting (BEPS)?
- BEPS refers to tax planning strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax jurisdictions.

- The OECD/G20 Inclusive Framework on BEPS consists of over 150 countries and jurisdictions collaborating to tackle BEPS issues.
- BEPS action plans include measures to ensure that profits are taxed where economic activities generating the profits are performed and where value is created.
- BEPS primarily focuses on imposing a flat global corporate tax rate to eliminate tax competition among countries.

UPSC 2018

Q3. With reference to India's decision to levy an equalization tax of 6% on online advertisement services offered by non-resident entities, which of the following statements is/are correct?

- It is introduced as a part of the Income Tax Act.
- Non-resident entities that offer advertisement services in India can claim a tax credit in their home country under the "Double Taxation Avoidance Agreements".

Select the correct answer using the code given below:

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

India-Indonesia relations

GS Paper II-International Relations Prelims

Youtube: DNA 25.01.2025

Current news?

- Indonesian President Prabowo Subianto arrived in India.
- He will be the chief guest for 76th Republic Day celebrations in India.

India – Indonesia Bilateral Relationship: Historical ties

- India and Indonesia share a deep cultural and historical ties.
- The epics Ramayana and Mahabharata are prominently found in Indonesian art and folklore.
- Post-independence, both nations shared aspirations for political sovereignty and thus were key proponent behind Non-Aligned Movement.



India, Indonesia set to discuss Myanmar conflict during talks



Union External Affairs Minister S. Jaishankar with Indonesian President Prabowo Subianto in New Delhi. PTI

India-Indonesia relations: Current times

1. Defense and Security Cooperation

- Joint Military Exercises: Exercises like Garuda Shakti (Army), Samudra Shakti (Navy), and coordinated patrols (IND-INDO CORPAT).

2. Economic and Trade Relations

- Indonesia is India's second-largest trading partner in ASEAN (largest being Singapore).

3. Strategic cooperation

- India is developing Sabang port of Indonesia.
- The port has strategic location and will allow India to have easier access to Malacca strait.

4. Multilateral Cooperation:

- India and Indonesia are active participants in multilateral forums like the G20, ASEAN, and IORA.

5. Cultural Engagement

- India operates two cultural centres in Jakarta and Bali, promoting yoga, classical dance, and music.

India and Indonesia



Sabang Port

- Situated in the Aceh province of Indonesia, this port holds the potential to provide India with easier access to the Malacca Straits.

Prelims Practice Question

Q. Evaluate the following statements about the Malacca Strait:

- The Strait of Malacca connects the Andaman Sea and the South China Sea.
- It is the narrowest point between Malaysia and Indonesia, making it a vital chokepoint for international shipping.
- The strait is one of the safest shipping lanes due to its wide breadth and absence of piracy.
- It serves as a critical route for transporting oil and goods between the Middle East and East Asia.

Which of the above statements is/are correct?

- 1,2,4 only
- 1,3,4 only
- 2,3,4 only
- 1,2,3,4 all

Q. India and Indonesia, as two maritime neighbors and strategic partners, share a long history of cultural and economic ties. Examine the current status of India-Indonesia relations in the context of emerging regional and global challenges. 15 marks/250 words

Hints

- Start with cultural and historical ties of India and Indonesia ie Hindu-Buddhist traditions, Mahabharata, Ramayana, NAM etc
- In recent decades, their relationship has evolved into a comprehensive strategic partnership, with both nations cooperating on a range of bilateral, regional, and global issues.

Current Status of India-Indonesia Relations

1. Political and Strategic Cooperation

- The Comprehensive Strategic Partnership established in 2018 has strengthened diplomatic ties, focusing on defense, security, and regional stability.
- Both countries share common concerns over regional security, particularly in the Indo-Pacific, and support a rules-based order under frameworks like ASEAN and the Indo-Pacific Oceans Initiative (IPOI).

2. Economic and Trade Relations

- Bilateral trade reached \$38 billion in 2022, with Indonesia being a key supplier of palm oil, coal, and rubber to India.
- Indonesia is second largest trading partner of India amongst ASEAN countries.

3. Maritime Security

- Joint development of Sabang port to ensure freedom of navigation and counter piracy in the Strait of Malacca, a vital trade route.



- Both nations are active participants in Indian Ocean Rim Association (IORA), aiming to enhance regional cooperation.
- 4. Cultural and People-to-People Ties**
- Cultural ties are rooted in shared heritage, with Hindu-Buddhist influences evident in Indonesia's art, architecture, and traditions.

Emerging Regional and Global Challenges

- Geopolitical Shifts:** Balancing relations with major powers such as the US and China amid increasing competition in the Indo-Pacific.
- Supply Chain Resilience:** Strengthening regional supply chains to reduce dependence on specific nations especially China.
- Climate Action:** Collaborating on renewable energy projects and sustainable development in line with global climate commitments.

Conclusion

- India and Indonesia, with their shared values and strategic interests, are well-positioned to enhance their partnership in addressing regional and global challenges. By focusing on areas like trade, maritime security, and cultural diplomacy, they can contribute significantly to the stability and prosperity of the Indo-Pacific region.

World Economic Forum

GS Paper II-International Forums Prelims

Youtube: DNA 27.01.2025

World Economic Forum

- The World Economic Forum (WEF) is a Swiss nonprofit foundation, based in Cologny, Geneva, Switzerland.
- It organizes an annual meeting in Davos, Switzerland.

Objective

- The meeting brings together top leaders of different field business leaders, international political leaders, selected intellectuals, and journalists for up to five days (winter) to discuss the most pressing issues facing the world.
- It was founded in 1971 by Swiss-German economist and Professor Klaus Schwab.

Recent

- 2025 summit Theme: "Collaboration for the Intelligent Age,"
- Conducted from 20th to 24th, January 2025.



Some major reports published by WEF are:

- Energy Transition Index.
- Global Competitiveness Report.
- Global IT Report
- Global Gender Gap Report.
- Global Travel and Tourism Report.

Funding of WEF

- The WEF is largely funded by its partnering corporations.
- These are generally global enterprises with annual turnover greater than \$5 billion.

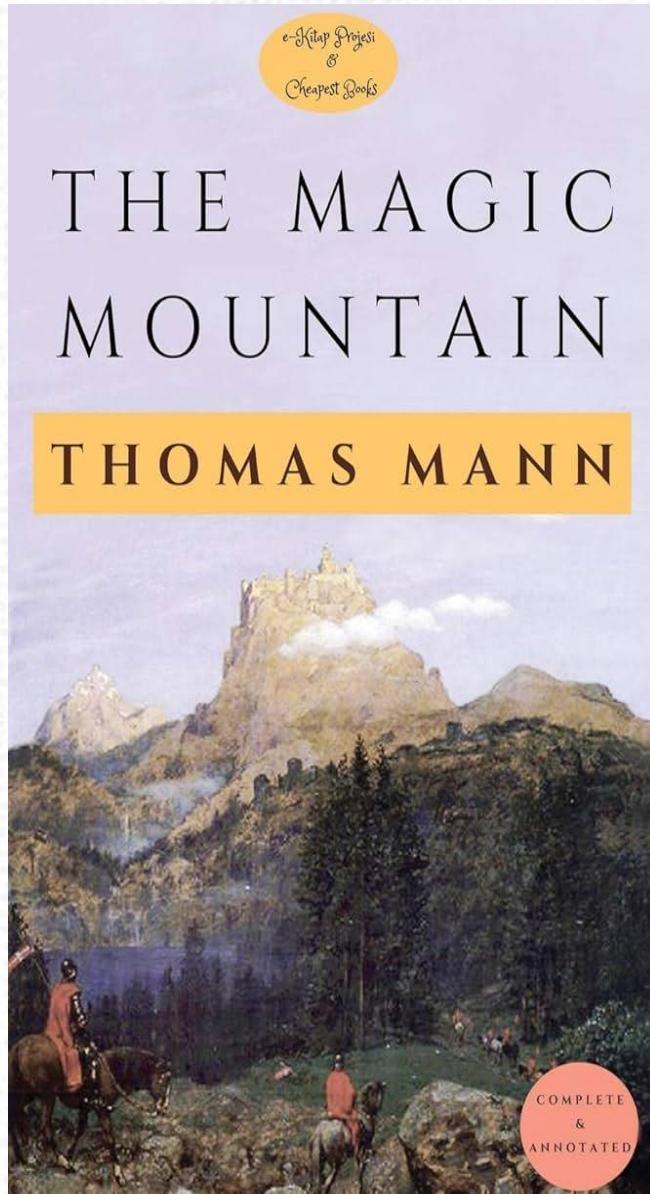


Why is the WEF Meeting held at Davos?

- Davos was the setting for Thomas Mann's novel, The Magic Mountain.



- The book is the story of a young man who goes to Davos to stay at a sanatorium for three weeks and ends up spending seven years.
- Relaxed in its serene environs, it seeks to cut through the many distractions of global politics to succeed in its mission to create a more prosperous global economy.



UPSC Prelims 2019

- Q3. The Global Competitiveness Report is published by the-
- International Monetary Fund
 - United Nations Conference on Trade and Development
 - World Economic Forum
 - World Bank

Brahmos deal with Indonesia

GS Paper II-International Relations Prelims

Youtube: DNA 28.01.2025

Brahmos Missile

Manufactured by-

- joint venture between the Defence Research and Development Organisation of India (DRDO) and the NPOM of Russia(Brahmos is named on the rivers Brahmaputra and Moskva).

Speed

- BrahMos missile flies at a speed of 2.8 Mach (Supersonic) -almost three times the speed of sound.

Range

- Current range-290 Km
- Work in progress to increase range to 500 km from land and 400 km from ship.

Attack Mode

- can be launched from submarines, ships, aircraft, or land platforms.
- Can carry Conventional and nuclear payloads.

Engine

- It is a two-stage (solid propellant engine in the first stage and liquid ramjet in second).
- It is the fastest supersonic cruise missile in the world.

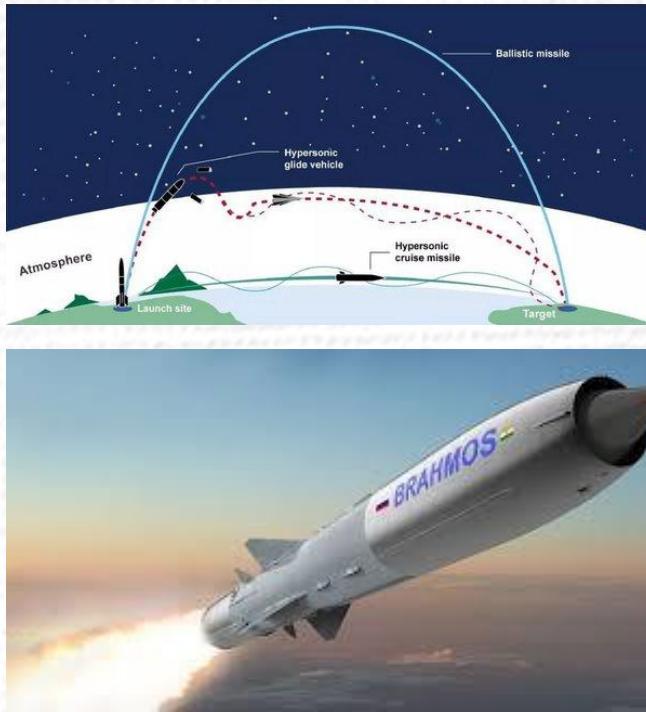
MISSILE COMPARISON THE NEED FOR SPEED



Note-Difference in Jet engine/Ramjet engine/Scramjet engine can be asked in GS III(S&T)



Cruise vs Ballistic missiles



BrahMos

- two-stage missile

First stage

- Solid propellant booster engine
- brings the missile to supersonic speed (faster than sound), then separates

Second stage

- liquid ramjet or the second stage then takes the missile closer to three times
- Can manage even at the altitude of 15 km.

Fire and Forget missile (the target need not to be in line of sight)

Current news?

- Indonesia is in negotiation with India for procurement of Brahmos Missile system.
- The deal is expected to be of \$450 million.
- Indonesia will become the second export market of the missile system after the Philippines, which has signed a \$375 million deal in 2022 for three regiments of the antiship variant of the missile.

Significance of the deal

- The deal will help India to balance China in South China Sea and Indian Ocean region.
- Philippines has territorial disputes with China in the South China Sea region.
- While proximity with Indonesia is important to limit China's influence in the buffer zone of South China sea and Andaman sea.



Prelims Practice Question

Q. Consider the following statements about the BrahMos missile system:

1. BrahMos is a supersonic cruise missile jointly developed by India and Russia.
2. The missile can be launched from land, sea, air, and underwater platforms.
3. The name "BrahMos" is derived from the names of the rivers Brahmaputra in India and Moskva in Russia.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both
- d. None

DeepSeek and Sputnik moment

GS Paper II-International Relations GS Paper III-S&T Prelims

Youtube: DNA 29.01.2025

What is DeepSeek?

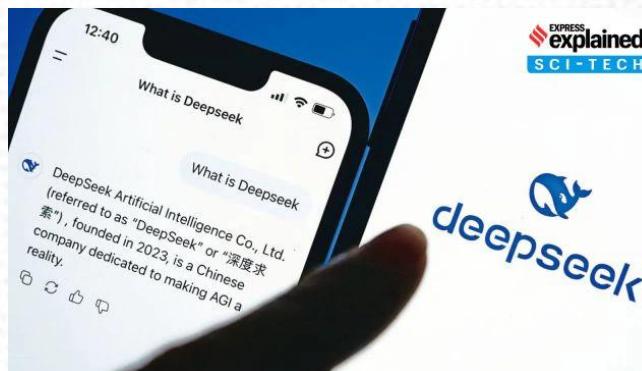
- DeepSeek is a Chinese artificial intelligence (AI) company founded in 2023 by Liang Wenfeng a hedge fund manager.



- In January 2025, DeepSeek released its AI assistant, DeepSeek-R1, as a free chatbot app.
- The app quickly surpassed Chat GPT to become the most-downloaded free application on the Apple's U.S. App Store, beating ChatGPT.

DeepSeek-R1 vs ChatGPT

- DeepSeek-R1 delivers performance comparable to ChatGPT in processing.
- But DeepSeek-R1 excels in tasks such as mathematics, coding, and natural language reasoning.
- DeepSeek-R1 developed at a fraction of the cost—approximately \$6 million compared to over \$100 million for GPT-4—and required significantly less computing power.



Strategic significance DeepSeek

- The rise of DeepSeek and intense challenge posed by it to the US based leading AI companies like open AI and its tools Chat GPT will have strategic repercussions as well.

1. The Sputnik moment

- DeepSeek R1's release is being compared to the Soviet Union's launch of Sputnik (first artificial Earth satellite) in 1957.
- It shocked the US and led to space race during Cold war.

- Similarly, DeepSeek has intensified the technological rivalry between the US and China.
- 2. A bipolar global technological order
- The global technological competition is expected to remain bipolar mainly between the US and China.



3. Doing More with Less:

- DeepSeek has demonstrated the potential to achieve high innovation with limited resources.
- This provides hope for middle powers like India and European countries like France, the UK to catch up and match China and the US.

4. Rise of demand for Sovereign AI

- India and France advocate for "Sovereign AI" amid global race.

5. Bloc politics regarding technology

- The US and China may start making allies for technical cooperation, akin to bloc politics during Cold war between Soviet and the US.

6. Possibility of the US and China collaboration

- After early competition the US and Soviet Union cooperated also in space exploration during 1970's (detente phase).
- Similar cooperation maybe seen between the US and China in coming years regarding AI tools.





Sovereign AI

- It means the ability of a government to produce artificial intelligence tools using its own infrastructure, data, workforce and business networks, while maintaining data security.

Q. The rise of DeepSeek and the intensifying AI competition between the US and China have been compared to the Cold War-era space race, leading to a potential bipolar global technological order. Discuss. 10 marks/ 150 words

Hints

- The emergence of DeepSeek, a Chinese AI model, and its challenge to US-based AI giants like OpenAI has intensified the technological competition between China and the United States. This rivalry is reminiscent of the Cold War-era space race, where technological

advancements were driven by strategic and geopolitical considerations. The growing bipolarity in AI innovation has significant implications for global power dynamics, economic security, and technological sovereignty.

The AI Competition: A Modern-Day Cold War Rivalry

- Try making at least 5 points from the discussion.

India's Role in the Evolving AI Order

1. Strategic Balancing

- India can leverage its ties with both the US and China to position itself as a key player in AI governance.

2. Key role in development of Sovereign AI

3. Global AI Leadership

- Can influence global AI regulations and ethical AI frameworks. Eg PM Modi to chair Paris AI summit 2025.

Conclusion

- The rise of DeepSeek and the intensifying US-China AI rivalry signal a shift toward a bipolar technological world order. While this competition could spur innovation, it also raises concerns about digital sovereignty, global AI governance, and geopolitical tensions.



Economy

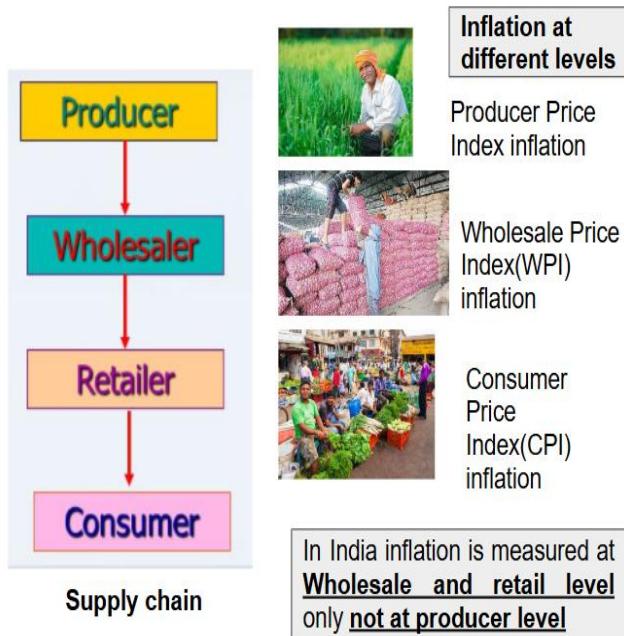
Ramesh Chand Panel

GS Paper III-Indian Economy Prelims

Youtube: DNA 03.01.2025

Inflation

- It is increase in the general price level and a fall in the purchasing power of money.



Current news?

- The government recently announced the formation of an 18-member panel headed by NITI Aayog member Ramesh Chand with 2 mandates-
 - To revise the base year of the Wholesale Price Index (WPI) from from 2011-12 to 2022-23.
 - Suggest a road map for switching over to the Producer Price Index (PPI).
- It has been asked to submit its final report to the Office of the Economic Adviser within 18 months.

PPI vs WPI

- PPI measures the average change in prices received by producers and excludes indirect taxes.
- PPI also includes services, while WPI only has goods.

The Review

Govt sets up 18-member working group to review WPI, devise PPI



- Niti Aayog member Ramesh Chand to chair panel
- Committee to draft roadmap for switch over from WPI to PPI
- Panel to revise WPI base, basket of goods, price collection method
- Structural changes call for re-examination of WPI's coverage of commodities, weighting diagram

THE MEMBERS

- 4 officials from National Statistics Office
- 2 from finance ministry
- One each from agriculture dept, consumer affairs dept, petroleum & natural gas ministry and RBI



Why switch to PPI?

- PPI has replaced WPI in most countries as it is conceptually in line with the internationally agreed System of National Accounts (SNA) to compile measures of economic activity.

System of National Accounts (SNA)

- The System of National Accounts (SNA) is an internationally agreed-upon framework for compiling economic activity measurements.
- The SNA is developed by the Inter-Secretariat Working Group on National Accounts (ISWGNA), which is made up of the International Monetary Fund, the European Union, the Organization for Economic Co-operation and Development, the United Nations, and the World Bank.

Prelims Practice Question

Q. The monetary policy of Reserve Bank of India targets which of the following Inflation Index?

- Consumer Price Index (CPI) Rural
- Consumer Price Index (CPI) Combined
- Wholesale Price Index (WPI)
- Consumer Food Price Index (CFPI)



Logistics Ease Across Different States (LEADS) 2024

GS Paper III-Indian Economy Prelims

Youtube: DNA 04.01.2025

What is Logistics Ease Across Different States (LEADS)?

- LEADS Index is an annual report released by the Ministry of Commerce and Industry, Government of India.
- It ranks Indian states and union territories based on their logistics ecosystem performance.
- The index assesses the effectiveness of logistics services and infrastructure in facilitating trade and commerce.
- It was conceived on the lines of the Logistics Performance Index of World Bank in 2018 which gives ranking to world countries on the basis of their logistics ecosystem.

Logistics Ease Across Different States (LEADS) 2024?

- It is the 6th edition of the LEADS report.



What is logistics?

- Logistics is a process in which goods, services or information are sent in a planned manner from the place of origin to the place of use.

Current news?

- Recently, the Union Minister of Commerce & Industry released the "Logistics Ease Across Different States (LEADS) 2024" report in New Delhi.

LEADS 2024 has three performance categories

1. Achievers (states and UTs achieving 90 per cent or more)
2. Fast Movers (states and UTs scoring between 80 and 90 per cent)
3. Aspirers (states and UTs with percentage scoring below 80 per cent).



Key highlights of LEADS 2024

1. Coastal Group

- Achievers: Gujarat, Karnataka, Maharashtra, Odisha, Tamil Nadu
- Fast Movers: Andhra Pradesh, Goa
- Aspirers: Kerala, West Bengal

2. Landlocked Group

- Achievers: Haryana, Telangana, Uttar Pradesh, Uttarakhand
- Fast Movers: Bihar, Himachal Pradesh, Madhya Pradesh, Punjab, Rajasthan
- Aspirers: Chhattisgarh, Jharkhand

3. North-Eastern Group

- Achievers: Assam, Arunachal Pradesh
- Fast Movers: Meghalaya, Mizoram, Nagaland, Sikkim, Tripura
- Aspirers: Manipur

4. Union Territories

- Achievers: Chandigarh, Delhi
- Fast Movers: Dadra and Nagar Haveli and Daman and Diu, Jammu and Kashmir, Lakshadweep, Puducherry
- Aspirers: Andaman and Nicobar Islands, Ladakh

Prelims Practice Questions

Q. Which of the following statements are true about LEADS (Logistics Ease Across Different States) 2024?

1. It has been released by Ministry of Road Transport and Highway
2. Assam has been categorised as achiever state.



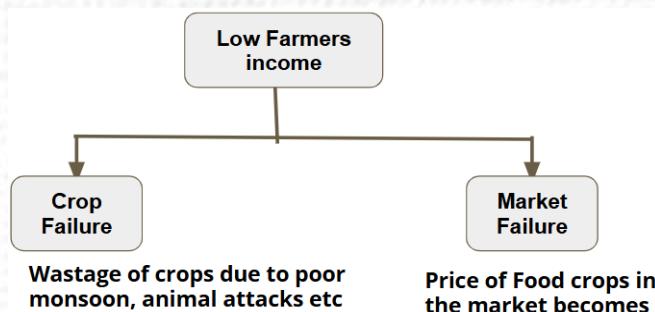
- 1 only
- 2 only
- Both
- None

Issue of statutory status to MSP

GS Paper III-Indian Economy Prelims

Youtube: DNA 07.01.2025

NITI Aayog analysed that the main reasons behind low income of farmer are two-



- To protect farmers against crop failure the Government of India runs Crop Insurance Scheme- Pradhan Mantri Fasal Bima Yojana, irrigation schemes like-Pradhan Mantri Krishi Sinchai Yojana
- To protect farmers against market failure the Government of India runs Minimum Support Price (MSP) scheme.

Minimum Support Price Scheme

- The MSP is the rate at which the government buys grains from farmers.
- The government announces MSP before the sowing season for a particular crop.
- This protects the farmer from market failure in case of bumper production.
- Note- CCEA (Cabinet Committee of Economic Affairs) announces MSP.



Sowing by Farmers of Crop-A



Government of India

Government of India announces in advance MSP for crop A- say Rs 50/kg

- Rs 50 MSP for Crop A will now guarantee the farmers that they will get a certain minimum earning for their product.
- Absence of MSP made them vulnerable in case of Bumper production.

EXPRESS explained.



WHAT'S MSP

It is a "minimum price" for any crop that the government considers as remunerative for farmers and hence deserving of "support". It's also the price that government agencies pay whenever they procure the particular crop. The government now fixes MSPs for 23 crops, but is NOT legally bound to pay these even if open market rates for the said produce are ruling below their announced floor prices

#QUIXPLAINED

1

EXPRESS explained.

A BIT OF THE PAST

MSP was introduced in the mid-sixties when India was food-deficit. The government was keen to boost domestic production through Green Revolution technologies, but realised farmers wouldn't plant input-intensive high-yielding wheat or paddy varieties unless guaranteed a minimum price

(MSP WAS FIRST FIXED FOR WHEAT IN 1966-67 AT ₹54/quintal)

WHEAT	COMMON PADDY
₹76* 1970-71	₹51 1970-71
₹1,975 2020-21	₹1,868 2020-21

*per quintal

#QUIXPLAINED

4



How is MSP fixed?

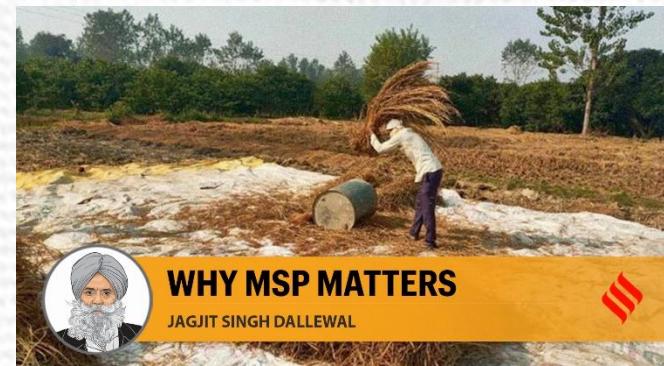
- The Centre announces the MSP (which is not legally guaranteed) for 23 mandated crops (and Fair & Remunerative Price, or FRP, for sugarcane) on the basis of the recommendations of the CACP (Commission for Agricultural Costs & Prices).
- These include 14 kharif crops (paddy, jowar, bajra, maize, ragi, tur/arhar, moong, urad, groundnut, soyabean, sunflower, sesamum, nigerseed, cotton), six are rabi crops (wheat, barley, gram, masur/lentil, rapeseed and mustard, and safflower) and two are commercial crops (jute and copra).
- MSP= 1.5 times the cost of production of farmer (on recommendation of MS Swaminathan Committees).



Current development

- The uploaded article discusses the ongoing debate and developments around the Minimum Support Price (MSP) in India, particularly the demand for a legally guaranteed MSP.
- The Samyukt Kisan Morcha (SKM), a prominent farmers' organization, continues to push for this legal guarantee.
- Farmer leader Jagjit Singh Dallewal is on hunger strike for 43 days.
- The Parliamentary Standing Committee on Agriculture, Animal Husbandry, and Food

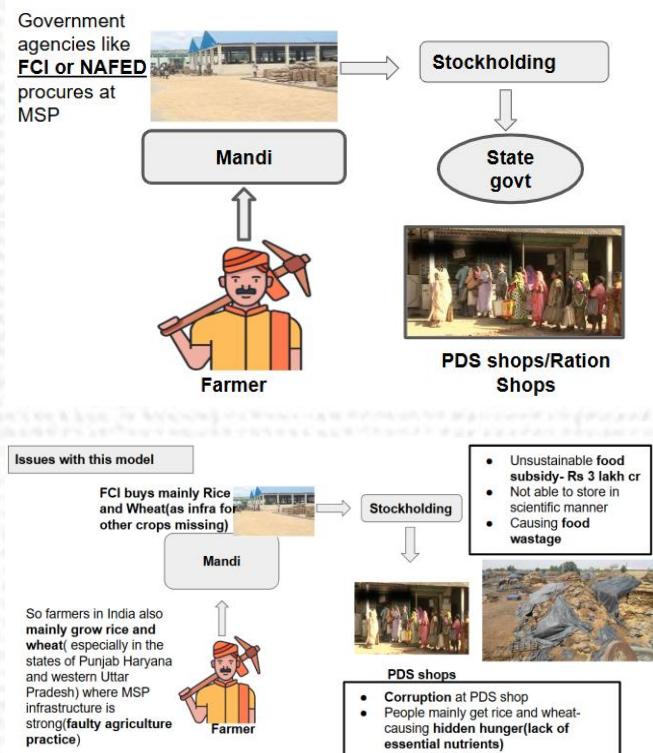
Processing (with a majority of MPs from the ruling NDA) has made an unprecedented recommendation of "legally binding" MSP.



Why legal status to MSP could be a fiscal disaster?

- To understand this lets see how PDS and MSP system works in our country.

Let's see how PDS and MSP system works in our country



UPSC -2020

Q. Consider the following statements:

- In the case of all cereals, pulses and oilseeds, the procurement at Minimum Support Price (MSP) is unlimited in any State/UT of India.
- In the case of cereals and pulses, the MSP is fixed in any State/UT at a level to which the



- market price will never rise. Which of the statements given above is/are correct?
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2

UPSC 2018

Q. What do you mean by Minimum Support Price (MSP)? How will MSP rescue the farmers from the low-income trap? 10 marks/150 words

- MSP is a price insurance scheme for farmers to protect them against market failure. It is the rate at which the government buys grains from farmers.
- The government announces MSP before the sowing season for a particular crop. It supports the food security program through PDS and also gives sufficient remuneration to the farmers.

MSP help in rescuing farmers from low income trap in the following ways:

1. Prevents Distress-Sale

- Farmer rarely has surplus savings for buying inputs for the next cropping season. Access to credit (loans) is also difficult for small and marginal farmers. So, they are forced into distress-sale of produce at throw-away prices, and are not able to buy high quality seeds, fertilisers, pesticides & tractor-rent for next cropping season, which will further decrease their income from the next cycle. MSP prevents this phenomenon.

2. Provides base price to the farmers and hence give them a bargaining power against buyers.

3. Helps them in right price discovery of the crops for the farmers.

4. Helps informed decision making

- Government announces MSP before the sowing season for 23 crops including cereals, pulses, oilseeds & certain cash crops. This advance information helps the farmer to make an informed decision about which crop to sow.

5. Diversification of crops

Challenges with MSP:

- Politicisation of MSP, causing disruption of agri market
- Farmers across the country have been facing problems selling their produce at the Minimum Support Price.
- Only 6 percent of farmers in India succeed in selling their crops at MSP (as per Shantakumar Committee)

- Open ended procurement of Rice and wheat only leading to faulty agricultural practice and hidden hunger.
- Dispute at WTO wrt Amber box subsidy in Agreement on agriculture.

However, despite these issues, MSP helps farmers to avoid income-trap in three ways such as preventing distress sale, helping farmers to make informed decisions about sowing and assuring farming as a profitable business activity. The need is expansion of MSP in terms of farmers covered and number of crops balancing the dominance of wheat and rice.

Badge engineering

GS Paper III-Economics Prelims

Youtube: DNA 07.01.2025

What is Badge engineering?

- Refers to using the same platform (chassis, parts, etc.) for different car models under varied branding.
- Leads to cost and time savings without compromising individuality by tweaking features and design elements.

Example of Badge engineering in India?

- Toyota Glanza (Maruti Suzuki Baleno equivalent).
- Grand Vitara/Urban Cruiser Hyryder (both developed jointly).
- Hycross-Invicto (essentially the same vehicle with brand-specific tweaks).



The Maruti Suzuki Grand Vitara (right) and Toyota Urban Cruiser Hyryder are siblings that were developed on the same platform, look alike, and share most of their features.

THE TOYOTA-MARUTI SUZUKI TWINS

TOYOTA GLANZA is essentially a rebadged Maruti Suzuki Baleno, Toyota Taisor is the Suzuki Fronx, and the Toyota Rumion is the Suzuki Ertiga's twin.

strengths in the two powertrains – mild hybrid tech (Maruti Suzuki) and strong hybrid (Toyota). Both models are manufactured at Toyota's plant in Bidadi, Karnataka.

GRAND VITARA and Hyryder were developed jointly; Maruti Suzuki did most of the design work, and the companies leveraged their respective

strengths in the two powertrains – mild hybrid tech (Maruti Suzuki) and strong hybrid (Toyota). Both models are manufactured at Toyota's plant in Bidadi, Karnataka.

HYCROSS-INVICTO and Hyryder-Grand Vitara are almost exactly the same car, unmistakably twins in appearance.



Badge engineering

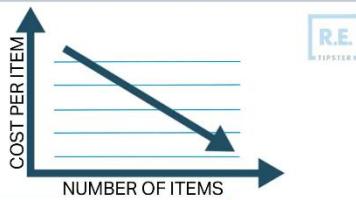
Benefits of Platform Sharing:

- Reduces production and development costs significantly.
- Offers quicker launches with lower investment while maintaining brand differentiation.
- Economies of scale benefit manufacturers by sharing parts across multiple models.

ECONOMIES OF SCALE

WHAT

a proportionate savings in costs gained by an increased level of production.



WHY IT HAPPENS



Prelims Practice Question

Q. Which of the following best describes the concept of economies of scale?

Options:

- The decrease in total costs as the scale of production increases.
- The decrease in average costs as the scale of production increases.
- The increase in total costs as the scale of production increases.
- The increase in average costs as the scale of production increases.

GDP growth rate-lowest in 4 years

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Youtube: DNA 08.01.2025

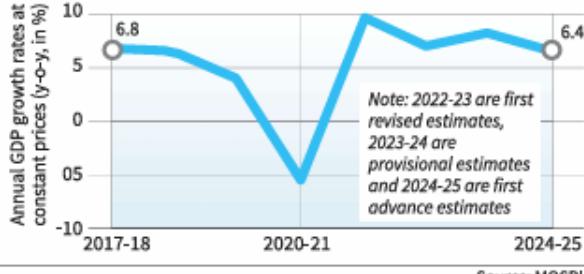
Current news?

- As per NSO India's GDP is projected to grow at 6.4% for 2024–25, the lowest in four years.
- This is a decline from 8.2% growth in 2023–24.

- The Reserve Bank of India (RBI) and Finance Ministry have revised their GDP growth forecasts for 2024–25 to a range of 6.5–7%.

Moving to the slow lane

Growth seen skidding to a 4-year low in FY 25; next Union Budget has its task clearly cut out



Source: MOSPI

Tax terrorism

GS Paper III-Indian Economy Prelims

Youtube: DNA 10.01.2025

Tax terrorism

- Tax Terrorism essentially means the undue exercise of power by tax authorities to levy taxes using legal or extralegal means.

Some events considered as examples of Tax Terrorism-

- Vodafone case
- Despite the Supreme Court order ruling in favour of the company, tax laws were amended retrospectively.
- Harassment of businessmen
- CCD owner Vijay Siddhartha committed suicide because of alleged harassment by tax authorities
- Unreasonable Angel tax
- Start up allege that tax authorities make unreasonable assessment to claim angel tax from them.



CCD owner Vijay Siddhartha committed suicide because of alleged harassment by tax authorities

Initiatives taken by the government to address Tax terrorism

- Honouring The Honest Platform
- Objective of the platform-bringing transparency in income tax systems and empowering taxpayers.



Important provisions-

- Faceless assessment
- Faceless appeal
- 2. **Taxpayer charter**
- This outlines the rights and responsibilities of both tax officers and taxpayers.
- 3. Angel tax for start ups abolished in Union Budget 2024-25.



Earlier many corrupt person and companies did not pay taxes. Later on they would bribe to the the officer deciding the appeal

Taxpayer Charter

WHAT THE CHARTER SAYS

- I-T dept will treat every taxpayer as honest unless there is a reason to believe otherwise
- Will provide fair and impartial appeal and review mechanism
- Will collect only the amount due in accordance with the law
- Will provide a mechanism for lodging a complaint and prompt disposal thereof

EXPECTATIONS FROM TAXPAYERS

- They will be honest and compliant
- Will respond in time, pay in time
- Can approach the Taxpayers' Charter Cell in their zone for compliance to this charter

Q. What do you understand by 'tax terrorism'?

How does it affect the economy? 10 marks (150 words)

Hints

- Start with defining the word 'tax terrorism'.
- Give some examples of tax terrorism.

Impact on economy-

1. Deter foreign investors
2. Pullout of companies from India
- Example Flipkart shifted its headquarter to Singapore.
3. Problem of tax evasion
- Tax payers collude with tax officers and pay bribe rather than paying tax
4. Tax is treated as tribute (as per Economic Survey 2018).

5. Hamper ease of doing business ranking released by World Bank.

6. Jeopardise govt mission of Make In India: Adverse and ambiguous tax laws would go against India's ambition of projecting itself as manufacturing hub

In conclusion mention initiatives like-

1. Honour the honest portal by government for faceless assessment
2. Taxpayer charter etc

Direct Tax code (GST like reform in direct taxes) can be a positive step.

NBFC upper layer list

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Non-Banking Financial Company (NBFC)

- A Non-Banking Financial Company (NBFC) is a company registered under the Companies Act, 1956 engaged in the business of loans and advances etc.

Some examples of NBFCs-

- Bajaj Finance Limited, Muthoot Finance, Tata Capital Financial Services Limited etc

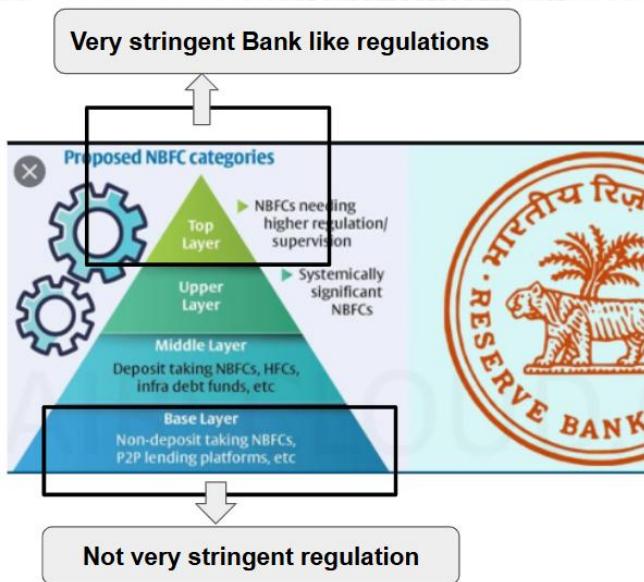
Aspect	Banks	NBFCs
Regulation	Regulated under the Banking Regulation Act, 1949	Regulated under the Companies Act and RBI
Acceptance of Deposits	Can accept demand deposits (savings, current accounts)	Cannot accept demand deposits
Payment & Settlement	Part of the payment system (issue cheques, cards)	Not part of the payment system
Deposit Insurance	Deposits insured by DICGC	Deposits are not insured by DICGC
Monetary Control	Subject to CRR and SLR requirements	Not subject to CRR and SLR
Credit Creation	Can create credit through deposits	Cannot create credit
Interest Rates	Relatively lower due to public deposits	Generally higher interest rates
Priority Sector Lending	Mandatory priority sector lending	No priority sector lending norms
Foreign Exchange Services	Can provide forex services	Cannot provide forex services
Cheques and Drafts	Can issue cheques and drafts	Cannot issue cheques or drafts
Capital Adequacy Requirements	More stringent under Basel III guidelines	Less stringent than banks

Categorization of NBFCs

- As part of the 2021 NBFC reforms, the RBI classifying NBFCs (based on Scale of Operation):
 1. **Base Layer:** Non-systemically important NBFCs (NBFC-ND) with smaller asset sizes.
 2. **Middle Layer:** Systemically important non-deposit-taking NBFCs (NBFC-ND-SI), deposit-taking NBFCs (NBFC-D), and others.



3. **Upper Layer:** Large NBFCs identified as posing significant systemic risks, based on size and interconnectivity.
4. **Top Layer:** This layer is currently empty.
- This has been reserved for NBFCs that pose extreme systemic risks and may be subjected to enhanced regulation.



Current development

- The Reserve Bank of India (RBI) released the list of non-banking finance companies (NBFCs) in the upper layer (UL) for the financial year 2024-25.
- This list includes Tata Sons Private Ltd, Bajaj Finance Ltd, LIC Housing Finance Ltd, and Aditya Birla Finance Ltd.

Prelims Practice Question

Q. Which of the following statements about Non-Banking Financial Companies (NBFCs) in India is/are correct?

1. NBFCs are allowed to accept demand deposits from the public.
 2. NBFCs are regulated by the Reserve Bank of India (RBI).
 3. NBFCs can provide loans and credit facilities similar to banks.
 4. NBFCs are required to maintain a minimum capital adequacy ratio as prescribed by the RBI.
- a. Only 2 and 3 are correct
 - b. Only 2, 3, and 4 are correct
 - c. Only 1, 2, and 3 are correct
 - d. All four statements are correct

National Broadband Mission (NBM) 2.0

GS Paper III-Indian Economy-Infrastructure Prelims

Youtube: DNA 18.01.2025

National Broadband Mission

- The National Broadband Mission (NBM) is an initiative launched by the Ministry of Communications, Government of India in December 2019.
- The mission aims to address 'digital divide' across the country.

Objective

1. To ensure broadband access to all villages in India by 2022 and create a digital infrastructure for the country.
2. To enable faster internet speeds and improve the quality of internet services.

Goals

1. Increase broadband penetration across the country.
2. Achieve internet speeds of 50 Mbps for all citizens.
3. Facilitate the tower density of one tower per 1,000 population by 2024.

Digital Divide refers to inequalities in societies arising due to difference in-

- a. Accessibility
- b. Skill set to use Information and Communication Technologies (ICT).



Current news?

- The Department of Telecommunications launched the vision document for NBM 2.0 as



a follow-up to the original National Broadband Mission initiated in December 2019.

Goals

- Expand fiber connectivity to 2.7 lakh villages by 2030, up from 50,000 villages currently.

Focus Areas

- Ensure 90% of anchor institutions such as schools, anganwadi centers, public health centers, and panchayat offices are connected via fiber.

Prelims Practice Question

Q. Evaluate the following statements about the National Broadband Mission (NBM) and determine which statement is incorrect:

- The National Broadband Mission was launched in 2019 to provide broadband access to all villages in India by 2022.
- It aims to deploy an additional 30 lakh kilometers of optical fiber cable across the country.
- The mission focuses on enabling fixed-line broadband access to at least 50% of households by 2024.
- Under the mission, the government provides 100% funding for broadband infrastructure development in remote areas.

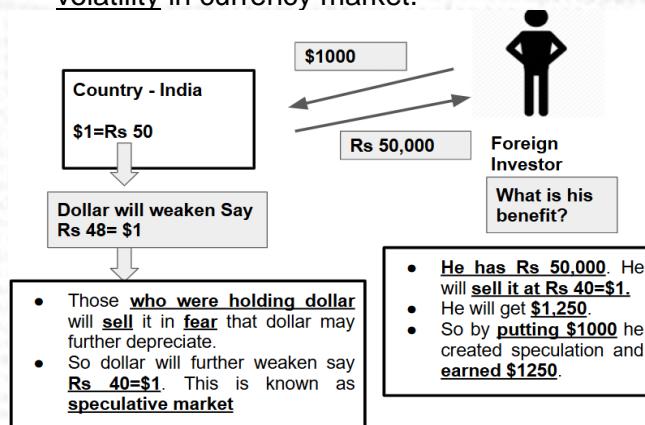
Securities Transaction Tax and F&O

GS Paper III-Indian Economy Prelims

Youtube: DNA 20.01.2025

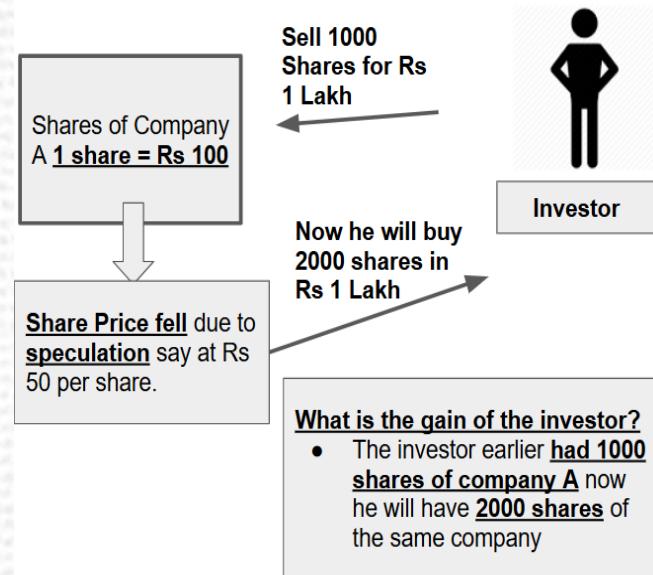
Tobin Tax

- First proposed in 1972 by James Tobin (Nobel Laureate).
- Objective- To avoid speculative transaction on currency.
- Excessive speculative transactions lead to volatility in currency market.



Speculative stock market

- Just like currency speculative market there are speculative market of stocks and securities as well.
- Too much speculation leads to instability in stock and security market.
- To prevent too much speculation in security and stock market the Government of India in 2004 introduced Security Transaction Tax.



Securities Transaction Tax

- Whenever securities (like Shares, Bonds, Derivatives) are purchased or sold on a recognized exchange, a security transaction tax is imposed.
- STT is a direct tax.
- STT is levied on both the buyer and the seller, but the tax is collected and paid by the stock exchange on behalf of the buyer and seller.

Note-

- Securities Transaction Tax (STT) and Tobin Tax are conceptually related but they are not same.
- They are conceptually related since both aim at reducing too much speculative transactions.

Aspect	Securities Transaction Tax (STT)	Tobin Tax
Market Scope	Securities (stocks, derivatives, etc.)	Currency markets
Primary Objective	Revenue generation	Reducing speculative trading
Implementation Level	National	Requires global cooperation



Taxable Transactions	STT Rate
Equity share purchase	0.1%
Equity share sale	0.1%
Sale of oriented Mutual Fund unit	0.001%
Equity shares sale or equity oriented Mutual Fund sale in a recognised stock exchange	0.025%
Derivative on sale of a securities option	0.017%
Derivative on sale of exercised securities option	0.125%
Derivative on sale of security futures	0.01%
Sale of equity-oriented fund unit to the Mutual Fund - Exchange Traded Funds (ETFs)	0.001%
Sale of unlisted shares through the IPO process and subsequently listed publicly	0.2%
Purchase of equity oriented Mutual Fund units	-

Tax Rate

- Varies depending on the type of security and transaction (e.g., intraday trades, delivery-based trades).

Current news?

- Securities Transaction Tax (STT) collection increased by 75%, reaching ₹44,538 crore as of January 12, 2025, compared to ₹25,415 crore in the same period of 2024.
- The increase in STT collection occurred despite volatility in the stock market.

Reason for Increase

- The rise is attributed to a hike in STT rate on futures and options (F&O) of securities.

Objective

- The hike was implemented to curb speculative market activity in the F&O segment.

RATE OF SECURITIES TRANSACTION TAX (STT)

Type of Securities	Rate of STT till 30.09.2024	Rate of STT from 01.10.2024
Sale of Options	0.0625%	0.1%
Sale of Futures	0.0125% 	0.02%
Delivery Trades in Equity Shares on purchase & sale	0.1%	0.1%
Sale of an option in securities where option is exercised	0.125%	0.125%

Future and Option trade of Securities

Futures contract

- A futures contract is a legal agreement to buy and sell an assets like Stocks or Bonds at a predetermined price at a specific time in the future.
- Both parties are obligated to execute the contract.
- Risk is higher as both parties are committed to the contract. Losses can be unlimited.

Options contract

- An options contract gives the buyer the right, but not the obligation, to buy an asset at a specified price within a set time period.
- The buyer's risk is limited to the premium paid, but the seller can face unlimited losses depending on the market movement.

FEATURE	FUTURES CONTRACT	OPTIONS CONTRACT
Nature of the contract	Agreement to buy/sell an underlying asset at a fixed future price. Both parties are obliged to fulfil the contract.	Right to buy an underlying asset at a fixed price. Buyer has the choice to exercise. The seller is obliged if the buyer chooses to buy.
Risk involved	Both parties must honour the contract, resulting in potential unlimited profit or loss.	Buyers can opt out, limiting potential loss and allowing unlimited profit.
Premiums	No premium payments.	Upfront payment (premium) made by the holder, granting the right to exercise or lapse. Maximum loss is limited to the premium paid. The writer has unlimited loss potential.
Margins and P&L	Initial deposit (margin) required. Margin call possible.	No margin requirement for option buyers. P&L is calculated based on the price difference and is realised upon closing the position.

UNDERSTANDING FUTURES AND OPTIONS

FUTURES CONTRACTS

• Definition

A contract to buy or sell an asset at a predetermined future date and price.

KEY FEATURES

• Obligation

Both the buyer and seller are obligated to fulfill the contract.

• Leverage

Higher potential for both profit and loss.

• Expiration

Contracts have a set expiration date.

INDIA TODAY

OPTIONS CONTRACTS

• Definition

A contract giving the buyer the right, but not the obligation, to buy or sell an asset at a specific price before a certain date.

KEY FEATURES

• Choice

The buyer can choose whether to execute the option.

• Premium

The buyer pays a premium for this right.

• Expiration

Contracts have a set expiration date.



Futures & Options Strategies



Prelims Practice Question

Q. Choice Question on Securities Transaction Tax (STT). Which of the following statement is incorrect?

- STT is a direct tax imposed on the profit earned from the sale or purchase of securities in India.
- STT applies to all types of securities transactions, including the trading of government bonds.
- STT is applicable to both intraday and delivery-based equity transactions.
- The STT rate varies depending on the type of security and the nature of the transaction (buying or selling).

Q. The Tobin Tax and the Securities Transaction Tax (STT) are mechanisms aimed at regulating financial markets and generating revenue. Compare the objectives and implications of these taxes. 10 marks/150 words

Hints

- The Tobin Tax, proposed by economist James Tobin, is a tax on short-term currency transactions aimed at curbing speculative trading and stabilizing financial markets.
- The Securities Transaction Tax (STT), implemented in India, is a tax levied on the purchase and sale of securities to generate revenue and moderate speculative trading. Both taxes target financial markets but differ in objectives and implications.

Objectives

1. Tobin Tax:

- Primary goal is to discourage excessive speculation in foreign exchange markets.
- Aims to stabilize volatile currency exchange rates and reduce the risk of financial crises.

2. Securities Transaction Tax (STT)

- Designed to curb excessive short-term trading in equity and derivative markets.
- Generates revenue for the government.

- Simplifies taxation by replacing capital gains tax in specific cases.

Implications

Tobin Tax:

Positive:

- Can reduce volatility in currency markets and discourage speculative flows that destabilize economies.

Negative:

- May deter legitimate trade-related and investment transactions, leading to reduced liquidity.

STT:

Positive

- Provides a steady source of revenue; easy to implement and administer.

Negative

- Marginally increases transaction costs, potentially discouraging high-frequency trading but with limited impact on overall market speculation.

Conclusion

- While the Tobin Tax focuses on stabilizing currency markets at an international level, the STT operates domestically, targeting equity and derivative markets. The effectiveness of both taxes depends on their design and implementation. While the Tobin Tax remains largely theoretical with limited global adoption, India's experience with STT highlights its feasibility in revenue generation but limited efficacy in curbing speculation.

RBI's instruction to ARCs

GS Paper III-Indian Economy Prelims

Youtube: DNA 21.01.2025

SARFAESI Act 2002

- In order to understand what are ARCs we need to first of all understand SARFAESI Act 2002.

SARFAESI Act 2002

- The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 allows banks and other financial organizations to recover bad loans effectively.
- This act makes court's intervention unnecessary in case of secured loans.

Let's first understand Secured and Unsecured loans
Unsecured loan



- Not protected by any collateral. If you default on the loan, the lender can't automatically take your property.

Secured loan

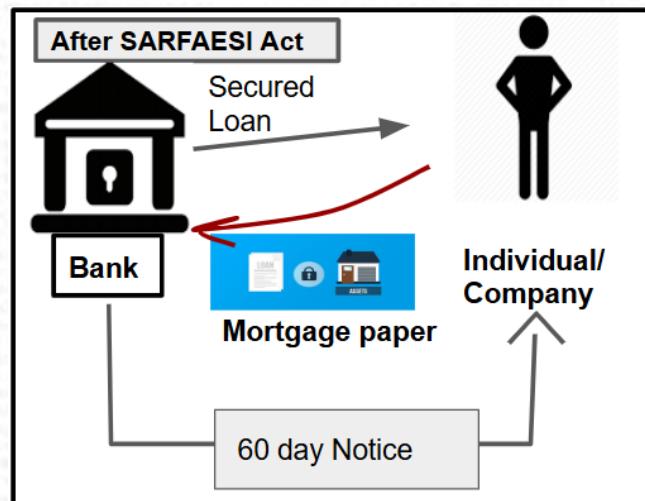
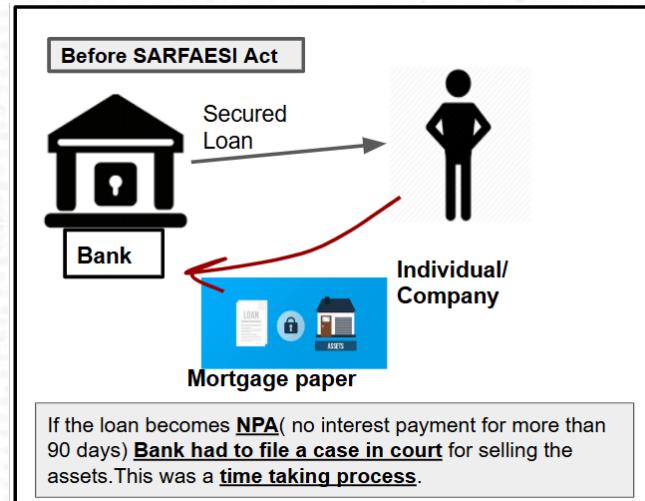
- Protected by any collateral. If you default on the loan, the lender can take your property. Example Home loan, Car loan etc.



In simple terms-

- Loan against some asset is known as secured loan

SARFAESI Act 2002: how it works?



After 60 days the Bank can -

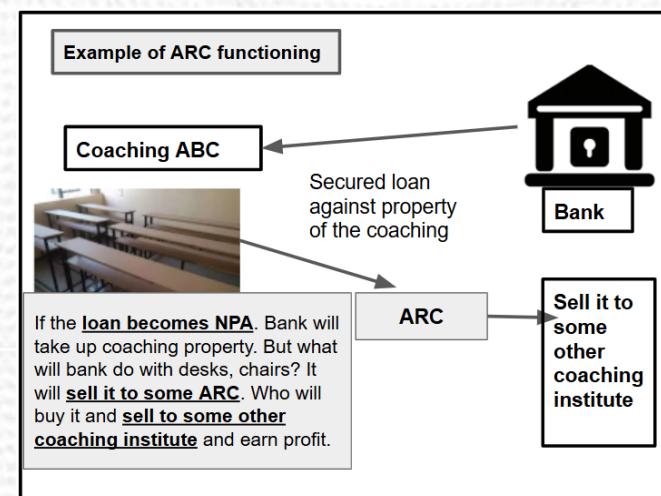
- Take the possession of the loan security.
- Sell or lease the loan security.

What are Asset Reconstruction Companies (ARCs)?

- The Act also laid provisions for creation of Asset Reconstruction Companies (ARC).

Asset Reconstruction Companies

- An Asset Reconstruction Company is a specialized financial institution that buys the NPAAs or bad assets from banks and financial institutions.
- It improves the asset then again sell it back.
- India's first ARC (ARCIL) was created under this act.
- Banks like SBI and PNB are sponsors of ARCIL.



Current news?

- The Reserve Bank of India (RBI) recently issued new rules aimed at streamlining and tightening functioning of ARCs.
- RBI said Settle with borrowers only after exhausting all options like restructuring of asset and selling it.

Prelims Practice Question

Q. The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 is an important piece of legislation in India's financial and banking sector. Evaluate the following statements regarding the SARFAESI Act, 2002:

1. The SARFAESI Act allows banks and financial institutions to auction properties of defaulters to recover loans without court intervention.



2. The Act applies only to secured loans and does not cover unsecured loans.
3. Cooperative banks are excluded from the purview of the SARFAESI Act.

Which of the above statements are correct?

- a. 1,2 only
- b. 2,3 only
- c. 1,3 only
- d. None

Contract framing

GS Paper III-Indian Economy Prelims

Youtube: DNA 22.01.2025

Contract Farming

- It is an agricultural production system where farmers enter into agreements with buyers, often agribusiness firms or processors, to produce specific crops.
- The contract specifies the crop type, quality, quantity, and price.
- The buyers also support the farmers with technology transfer.

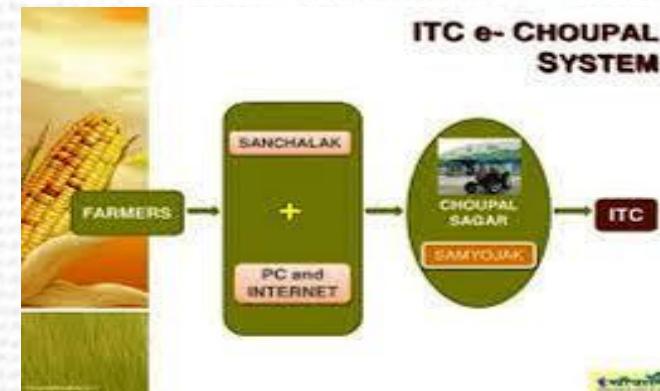
Legal framework

- Model Agricultural Produce and Livestock Contract Farming and Services (Promotion & Facilitation) Act, 2018 provides for-
 - a. Transparent agreements.
 - b. Protects farmers interests by setting clear terms for dispute resolution.



Examples of Contract farming in India

1. Amul
 - Dairy farmers supply milk based on quality and quantity agreements.
2. PepsiCo
 - Contracts with farmers for specific potato varieties used in their products.
3. ITC e-Choupal
 - Rural internet kiosks are set up in villages, acting as a hub for information and services.
 - Farmers can access market prices, weather forecasts, best farming practices, and crop management techniques.
 - Farmers sell directly to ITC, bypassing traditional intermediaries, ensuring better prices for their produce.



Current article

- The article talks about success of Indian agri sector in the direction of growing special potatoes for French fries.
- The success can be mainly attributed to Contract framing.
- As consumption of the crispy straight-cut deep-fried potatoes grew, so did imports – crossing 5,000 tonnes annually by the mid-2000s and peaking at 7,863 tonnes in 2010-11 (April-March).
- But in 2023-24, when not only have imports practically ceased, India actually exported 135,877 tonnes of FF valued at Rs 1,478.73 crore.





Q. What is contract farming? Discuss its potential benefits and challenges in the context of Indian agriculture. 10 marks/150 words

- Define contract farming and provide a brief overview of its concept.

Benefits

- Enhanced market access, assured income for farmers, technology transfer, reduction in post-harvest losses, etc.

Challenges

- Issues like power imbalance between farmers and contractors, price fixation disputes, exclusion of small farmers, regulatory gaps, etc.

Mention regulatory feature of Model Agricultural Produce and Livestock Contract Farming and Services (Promotion & Facilitation) Act, 2018 in India.

- Give examples-Amul,PepsiCo,ITC e-Choupal

Conclusion

- Contract farming offers immense potential to transform Indian agriculture by addressing key challenges like market access and income stability. However, its success hinges on safeguarding farmers' interests through robust regulatory frameworks, equitable contracts, and effective grievance redressal mechanisms. A balanced approach can ensure the model contributes to inclusive and sustainable agricultural growth in India.

Poverty Estimation in India

GS Paper III-Indian Economy Prelims

Youtube: DNA 24.01.2025

Poverty Estimation in India

- The estimation of poverty in India has evolved significantly over time.

Pre-Independence Era

- By Dadabhai Naoroji (1876)
- Introduced the concept of a "poverty line" based on the cost of subsistence needs.
- Defined subsistence as the cost of food (bare minimum) required for survival.

Post-Independence Era

1. VM Dandekar and N. Rath, 1971

- Proposed the first systematic poverty estimation based on caloric intake.
- Suggested that rural individuals require 2,400 calories/day and urban individuals require 2,100 calories/day.
- Poverty line was defined based on income required to meet this caloric need.



2. Alagh Committee (1979)

- Formally defined poverty line based on calorie requirements and consumption expenditure.
- Used National Sample Survey Office (NSSO) data for estimation.

3. Lakdawala Committee (1993)

- Retained calorie-based norm but used price indices to account for inflation (making 1973–74 prices as Base Price).

4. Tendulkar Committee (2009)

- Shifted focus from calorie intake to expenditure on food, health, education, and other essentials.

Defined Poverty line as

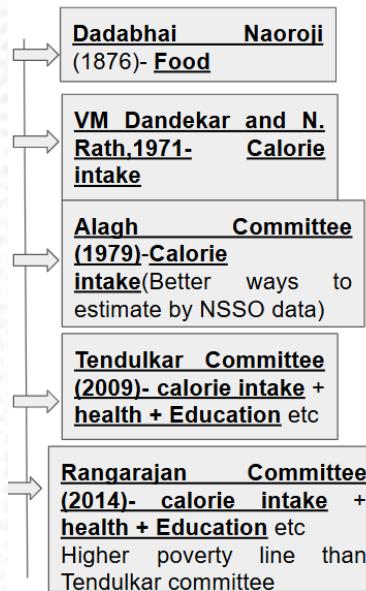
- a. Rural poverty: ₹27/day
- b. Urban poverty: ₹33/day (2011–12)

5. Rangarajan Committee (2014)

- Just like Tendulkar committee, suggested to move beyond calorie intake to expenditure on food, health, education, and other essentials.
- Proposed a higher poverty line than Tendulkar Committee.



Poverty: Evolution in understanding



- In current times Poverty estimation in India is done in 2 ways-

1. **Household Consumption Expenditure Survey** (Covered in Newspaper Analysis on 30th December 2024)

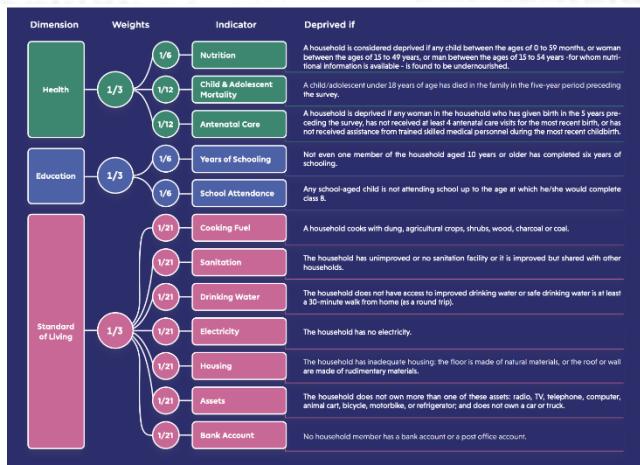
2. This survey is conducted by National Sample Survey Office (NSSO) under the Ministry of Statistics & Programme Implementation (MoSPI).

Data collected in HCES is also used to-

- measure poverty, inequality.
- update the basket of consumer goods and services and weights used for the calculation of the Consumer Price Index.

2. Multidimensional Poverty Index

- By NITI Aayog
- The MPI by NITI Aayog is calculated at the national, state, and district levels and focuses on three broad dimensions with a total of 12 indicators.



The MPI in India is calculated by the NITI Aayog in collaboration with the Oxford Poverty and Human Development Initiative (OPHI) and UNDP.

Multidimensional Poverty Index vs Household Consumption Expenditure Survey

Aspect	Multidimensional Poverty Index (MPI)	Household Consumption Expenditure (HCE)
Focus	Measures non-monetary deprivations in health, education, and living standards.	Measures monetary poverty through consumption patterns (food, housing, etc.).
Unit of Measurement	Deprivation across 12 indicators.	Total consumption expenditure in monetary terms.
Data Sources	NITI Aayog uses NFHS data (e.g., NFHS-4, NFHS-5).	Based on Periodic Labour Force Survey (PLFS) or NSSO surveys.
Purpose	Identifies multidimensional poverty to address broader well-being.	Defines economic poverty and helps calculate poverty lines.
Policy Targeting	Focuses on interventions in health, education, and infrastructure.	Focuses on income-enhancing measures and subsidies.

Prelims Practice Question

Q. Analyze the following statements about the Multidimensional Poverty Index (MPI) in India:

- The MPI in India is calculated by the NITI Aayog in collaboration with the Oxford Poverty and Human Development Initiative (OPHI).
- According to recent MPI reports, India has made significant progress in reducing multidimensional poverty, especially in rural areas.
 - 1 only
 - 2 only
 - Both
 - None

Q. The methodology of estimation of poverty in India has evolved significantly over time, reflecting changes in economic realities. Discuss. 10 marks/150 words

- The methodology for estimating poverty in India has undergone significant evolution, adapting to changing economic realities and priorities.
- The understanding of poverty has become dynamic from mere fulfilment of fooding to quality of life including health and education.

Poverty estimation in India: Evolution

- Dadabhai Naoroji (1876) - Food
- VM Dandekar and N. Rath, 1971 - Calorie intake
- Alagh Committee (1979) - Calorie intake (Better ways to estimate by NSSO data)
- Tendulkar Committee (2009) - calorie intake + health + Education etc
- Rangarajan Committee (2014) - calorie intake + health + Education etc
- Higher poverty line than Tendulkar committee



With growing economic prosperity in India, understanding of quality of life has witnessed significant changes. Accordingly poverty estimation has been transformed.

- Now poverty in India is measured by NITI Aayog. It included three broad dimensions ie Health, Education and Standard of Living with a total of 12 indicators.
- This method is known as Multidimensional Poverty Index.
- With further economic progress, emotional wellbeing may also be considered as part of quality life and its denial may be considered as impoverished living.

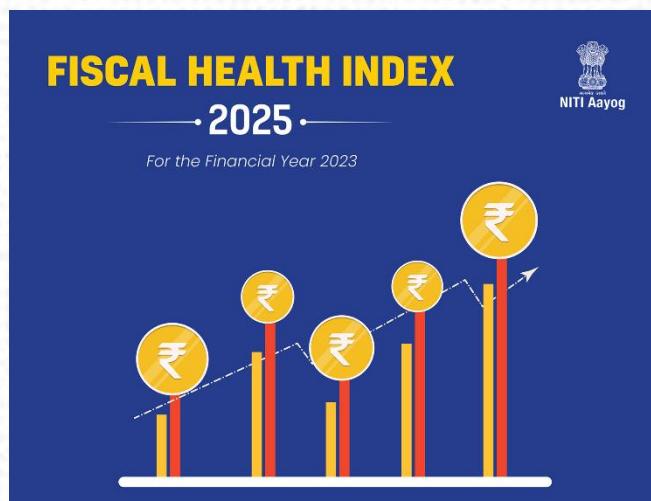
NITI Fiscal health index

GS Paper III-Indian Economy Prelims

Youtube: DNA 25.01.2025

Current news?

- Recently NITI Aayog released first Fiscal Health Index (FHI) report.
- The report titled "Fiscal Health Index 2025" ranked 18 major States for 2022-23, in terms of their contribution to-
 - India's GDP
 - Demography
 - Total public expenditure
 - Revenues
 - Overall Fiscal stability
- The report highlights the importance of balanced fiscal management for economic stability.



Key Findings of the report

- Odisha scored the highest debt index score of 99.0, maintaining low fiscal deficits, a good

debt profile, and above-average capital outlay/GSDP ratios.

- Chhattisgarh ranked next with strong fiscal discipline.
- Punjab was worst ranked.

E.1 Final Ranking of States for 2022-23

States	FHI Score	Rank 2022-23	Quality of Expenditure	Revenue Mobilization	Fiscal Prudence	Debt Index	Debt Sustainability
Odisha	67.8	1	52.0	69.9	54.0	99.0	64.0
Chhattisgarh	55.2	2	55.1	56.5	56.0	79.6	29.0
Goa	53.6	3	45.5	87.1	59.4	51.0	25.2
Jharkhand	51.6	4	47.3	45.7	62.4	66.9	35.7
Gujarat	50.5	5	40.0	48.7	52.7	69.0	42.0
Maharashtra	50.3	6	37.1	59.1	41.8	76.4	36.8
Uttar Pradesh	45.9	7	45.8	34.6	44.7	59.9	44.5
Telangana	43.6	8	36.9	75.2	40.8	53.3	11.7
Madhya Pradesh	42.2	9	59.7	27.6	35.6	61.0	27.2
Karnataka	40.8	10	47.4	43.9	43.9	62.2	6.7
Tamil Nadu	29.2	11	32.0	41.2	25.8	36.0	11.1
Rajasthan	28.6	12	38.3	35.4	19.9	32.3	16.8
Bihar	27.8	13	56.1	5.3	11.5	47.2	18.8
Haryana	27.4	14	24.8	47.8	26.1	24.1	14.3
Kerala	25.4	15	4.2	54.2	34.0	23.1	11.3
West Bengal	21.8	16	32.3	12.4	25.4	18.3	20.6
Andhra Pradesh	20.9	17	31.4	22.1	13.3	37.8	0.0
Punjab	10.7	18	4.7	28.1	5.6	0.0	15.2

Key Findings of the report

States were divided into four categories

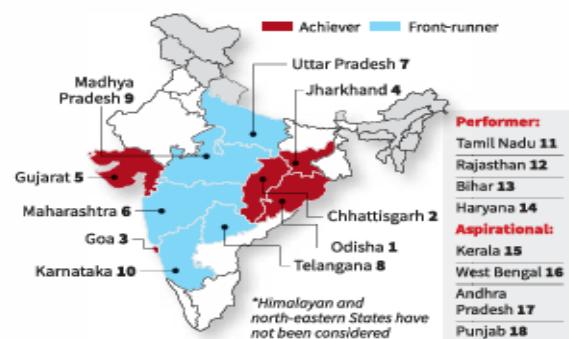
- Achievers:** States with the best fiscal health
 - Odisha, Chhattisgarh, Goa, and Jharkhand.
- Front-runners:** States performing well but below the achievers
 - Maharashtra, Uttar Pradesh, Telangana, Madhya Pradesh, and Karnataka.
- Performers:** States with average fiscal health
 - TN, Rajasthan, Bihar, Haryana
- Aspirational:** States with poor fiscal health and requiring significant improvement
 - Punjab, Andhra Pradesh, West Bengal, and Kerala

Note-

- Himalayan and North Eastern states were not considered for NITI Fiscal health index.

Fine balance

Analysis in the Niti Aayog's report on the fiscal health index for FY23 highlights that strong revenue mobilisation, effective expenditure management, and prudent fiscal practices are critical determinants of success



Prelims Practice Question

Q. Consider the following statements regarding the Fiscal Health Index 2025:

1. The FHI evaluates states based on five sub-indices, including Quality of Expenditure and Debt Sustainability.
2. Odisha ranked first in the FHI 2025 with an overall score of 67.8.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both
- d. None

National Critical Minerals Mission

GS Paper III-Indian Economy Prelims

Youtube: DNA 30.01.2025

What are Critical minerals?

- Critical minerals are elements that are the building blocks of essential modern-day technologies.
- Used in making mobile phones, computers to batteries, electric vehicles and green technologies like solar panels and wind turbines.

Why are they called 'Critical'?

- They are important for future transitions like transition towards clean energy and digital economy.
- These minerals are at risk of supply chain disruptions especially from countries like China.



CRITICAL MINERALS

OUR GROWING DEPENDENCE ON CRITICAL MINERALS

WHAT ARE CRITICAL MINERALS? Minerals deemed critical vary by country. The United States classifies 35 minerals as critical because they are:

- essential to economic and national security.
- from vulnerable supply chains, or
- a key part of the manufacturing of a product.

TOP INDUSTRIES THAT RELY ON CRITICAL MINERALS

- 1 Telecommunications and electronics
- 2 Energy
- 3 Defence
- 4 Aerospace
- 5 Transportation

Critical Minerals Are Everywhere

 Lithium is used to create batteries.	 Potash is used in fertilizer.
 Helium is used in MRIs.	 Indium is used to make LCD screens.
 Uranium is used in radiation therapy.	 Strontium is used in fireworks.

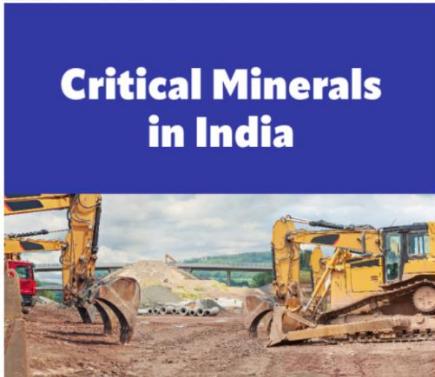


Critical minerals of India

- Critical Minerals are not clearly defined globally, but countries identify them based on their own needs.
- Based on their individual needs and strategic considerations, different countries create their own lists.
- Some common critical elements- graphite, lithium, cobalt, rare earths and silicon.
- The US defined 50 minerals as critical, Japan 31.
- India has listed 30 such minerals as critical minerals.
- India will look forward for self sufficiency in production of these 30 critical minerals.

- | | |
|---|---------------|
| 1. Antimony | 20. Rhenium |
| 2. Beryllium | 21. Selenium |
| 3. Bismuth | 22. Silicon |
| 4. Cadmium | 23. Strontium |
| 5. Cobalt | 24. Tantalum |
| 6. Copper | 25. Tellurium |
| 7. Gallium | 26. Tin |
| 8. Germanium | 27. Titanium |
| 9. Graphite | 28. Tungsten |
| 10. Hafnium | 29. Vanadium |
| 11. Indium | 30. Zirconium |
| 12. Lithium | |
| 13. Molybdenum | |
| 14. Niobium | |
| 15. Nickel | |
| 16. PGE (Platinum Group Elements) i. Platinum ii. Palladium iii. Rhodium iv. Ruthenium v. Iridium vi. Osmium | |
| 17. Phosphorus | |
| 18. Potash | |
| 19. REE (Rare Earth Elements) i. Lanthanum ii. Cerium iii. Praseodymium iv. Neodymium v. Promethium vi. Samarium vii. Europium viii. Gadolinium ix. Terbium x. Dysprosium xi. Holmium xii. Erbium xiii. Thulium xiv. Ytterbium xv. Lutetium xvi. Scandium xvii. Yttrium | |





Steps taken by India for self sufficiency in Critical minerals

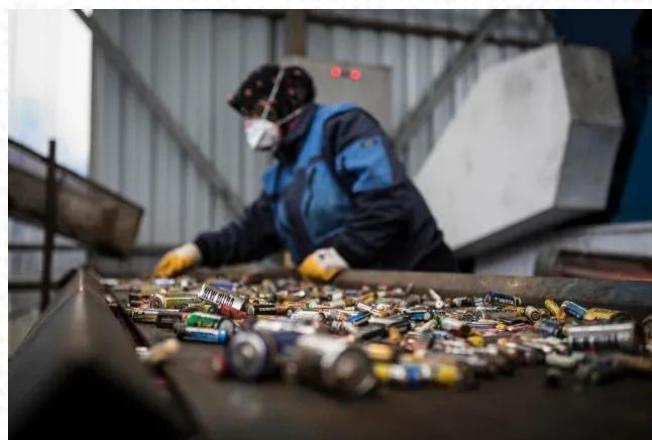
1. Joint venture company KABIL- KhanijBidesh India Ltd. (KABIL)
2. Mineral Security Partnership (MSP)-a US-led collaboration of 14 countries including India
3. India-Australia critical mineral partnership agreement.
4. Negotiations going on with Africa and Latin America for Critical mineral exploration.

5. Import Duty Waivers

- The government has removed customs duties on several critical minerals to encourage domestic processing and manufacturing.

6. PLI for recycling of Critical minerals in India

- The Ministry of Mines is developing a Production Linked Incentive (PLI) scheme to enhance the recycling of critical minerals in India.
- The PLI scheme targets e-waste recycling to recover critical minerals like lithium, copper, cobalt, graphite, chromium, and silicon essential for clean energy and electronics.



Current news?

- The Indian government has approved the National Critical Minerals Mission (NCMM) with

a total outlay of ₹34,300 crore over seven years.

- ₹16,300 crore will be sourced through budgetary allocation, while ₹18,000 crore will be invested by Central PSUs.

The NCMM is expected to

1. Boost domestic manufacturing of EV batteries and renewable energy components.
2. Secure mineral supply chains for India's clean energy sector.
3. Strengthen India's position in the global critical minerals market.

Prelims Practice Question

Q. Consider the following statements regarding Critical Minerals:

1. Critical minerals are those that are essential for economic and national security but have a high risk of supply disruption.
2. Lithium, cobalt, and rare earth elements (REEs) are considered critical minerals due to their use in modern technologies such as batteries and electronics.
3. The availability of critical minerals is solely determined by their geological abundance in the Earth's crust.

Which of the above statement is incorrect?

- a. 1,2 only
- b. 2,3 only
- c. 1,2,3 all
- d. 3 only

Budgetary allocation under different schemes

GS Paper III-Indian Economy Prelims

Youtube: DNA 30.01.2025

Scheme	Explanation	2024-25
PM Surya Ghar Muft Bijli Yojana	For installing rooftop solar panels	6,250
Centres of Excellence (CoE) in Artificial Intelligence (AI)	To establish three centres of excellence for AI in educational institutions for research and development	255
IndiaAI Mission	To catalyse the AI innovation ecosystem	551.75
National Green Hydrogen Mission	To make India the global hub for production, usage and export of green hydrogen	600
Legal Aid Defense Counsel System (LADCS)	To provide legal aid work in criminal matters	200
PM Vishwakarma	To strengthen and nurture the guru-shishya parampara or family-based practice of traditional skills	4,824
Rashtriya Gram Swaraj	To re-imagine panchayati raj institutions	1063.67
Global Biofuels Alliance	To expedite the global uptake of biofuels	0.01
Mission Anveshan	To fill gaps in seismic coverage and build a robust geoscientific database	332
National Quantum Mission	To create an ecosystem in quantum technology	427
Pradhan Mantri Janjati Advisi Nyaya Maha Abhiyan (PM JANMAN)	To enhance the socio-economic conditions of particularly vulnerable tribal groups	240
National Action for Mechanised Sanitation Ecosystem (NAMASTE)	To ensure the safety and dignity of sanitation workers and safe delivery of mechanised sanitation services	116.94
ITI Upgradation Scheme	To upgrade ITIs	1,000



Scheme	Explanation	2022-23	2023-24	2024-25
Regional connectivity scheme	To enhance regional air connectivity from unserved and underserved airports	1,063.81	850	502
Smart cities mission	Aims to enhance the quality of life in 100 selected cities	8,652.92	8,000	2,400
Promotion of digital payment	To help in growth of digital transactions	1,989.62	584	-
Digital India	To transform India into a digitally empowered society	5,518.09	4,428.01	4,216.51
Startup India	Aims to support entrepreneurs and build a strong startup ecosystem	44.21	45.61	0.01
Prime Minister Employment Generation Programme (PMEG)	To generate self-employment opportunities through the establishment of micro-enterprises in the non-farm sector	2733.21	2,958.22	2,300
Unnat Bharat Abhiyan	To enable higher educational institutions to work with the people in rural India in identifying development challenges	11.58	5	5
Internationalisation of Higher Education	Help internationalisation of education services	144.36	100	104
Development of Particularly Vulnerable Tribal Groups (PVTGs)	Provides various measures for the overall development of the backward population of STs	137.18	-	20

Scheme	Explanation	2024-25
FAME	To promote electric mobility in India	2,671.33
Electric mobility promotion scheme	To accelerate the adoption of electric two-wheelers	500
Scheme to promote manufacturing of electric passenger cars in India (SMEC)	To promote manufacturing of electric passenger cars in India	13
PM-eBus Sewa Scheme	To boost India's electric mobility infrastructure	1,300

Prelims Practice Question

Q. Consider the following statements regarding Mission Anveshan:

1. Mission Anveshan is an initiative aligned with India's Exploration and Production (E&P) Vision 2025.
 2. The project aims to build a geoscientific database of India's sedimentary basins.
- 1 only
 - 2 only
 - Both
 - None

Economic Survey 2024-2025

GS Paper III-Indian Economy

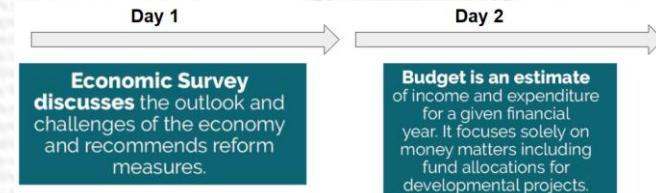
Youtube: DNA 31.01.2025

Budget Session (Started on January 31, 2025)



Start of the Budget Session

- The President addressed the joint sitting of both Houses of Parliament signalling the start for the Budget session.
- The President highlighted initiatives taken by the government for welfare of the people.



Economic Survey

- Health Report of the Indian Economy

Budget

- Prescription for the Indian Economy

What is Economic Survey?

- An annual document released by the Ministry of Finance, Government of India.
- Presented typically a day before the Union Budget is presented in Parliament by the Finance Minister.

Prepared by-

- The Chief Economic Adviser (CEA) under the guidance of the Economic Division of Department of Economic Affairs (DEA), Ministry of Finance.

Acts as a Policy Guide

- It provides an insights and suggestions for economic management to the government.
- But it is not binding on the government.
- The first Economic Survey in India was presented in the year 1950-51.
- Up to 1964, it was presented along with the Union Budget.
- From 1964 onwards, it has been delinked from the Budget.



Finance Minister - Nirmala Sitharaman

Chief Economic Advisor - V Anantha Nageswaran



Chapters

- Chapter 1: State of the Economy: Getting Back into the Fast Lane
- Chapter 2: Monetary and Financial Sector Developments: The cart and the horse
- Chapter 3: External Sector: Getting FDI Right
- Chapter 4: Prices and Inflation: Understanding the Dynamics
- Chapter 5: Medium-Term Outlook: Deregulation Drives Growth
- Chapter 6: Investment and Infrastructure: Keeping it Going
- Chapter 7: Industry: All about Business Reforms
- Chapter 8: Services -New Challenges for the Old War Horse
- Chapter 9: Agriculture and Food Management: Sector of the Future
- Chapter 10: Climate & Environment: Adaptation Matters
- Chapter 11: Social Sector -Extending reach and driving empowerment
- Chapter 12: Employment and Skill Development: Existential priorities
- Chapter 13: Labour in AI era: Crisis or Catalyst

Chapter 1: State of the Economy: Getting Back into the Fast Lane

The chapter has 3 segments-

1. Global Economic Overview

- This section outlines the global economic scenario comprehensively, highlighting growth and inflation trends, policy stances, and key emerging risks and uncertainties.

2. Domestic macroeconomic situation

- The second section focuses on the status of Indian economy.

3. Trends in Public finances and Market scenario in India

- The third section delves into the emerging trends in public finances, inflation, external sector, financial markets and employment.

STATE OF THE ECONOMY: GETTING BACK INTO THE FAST LANE



The global economy exhibited steady yet uneven growth across regions in 2024. A notable trend was the slowdown in global manufacturing, especially in Europe and parts of Asia, due to supply chain disruptions and weak external demand. In contrast, the services sector performed better, supporting growth in many economies. Inflationary pressures eased in most economies. However, services inflation has remained persistent. Although commodity prices have stabilised, the risk of synchronised price increases persists. With growth varying across economies and last-mile distribution proving sticky, central banks may chart varying paths of monetary easing. This will lead to uncertainty over future policy rates and inflation trajectories. This apart, geopolitical tensions, ongoing conflicts, and trade policy risks continue to pose significant challenges to global economic stability.

1. Global Economic Overview

- Russia-Ukraine conflict and the Israel-Hamas conflict increased regional instability.
- Cyberattacks became more frequent causing financial consequences.
- Nonetheless, global economic growth has remained fairly moderate.

IMF projection (in its World Economic Outlook Report) regarding growth of global economy-

- 3.2 per cent for 2024
- 3.3 per cent for 2025

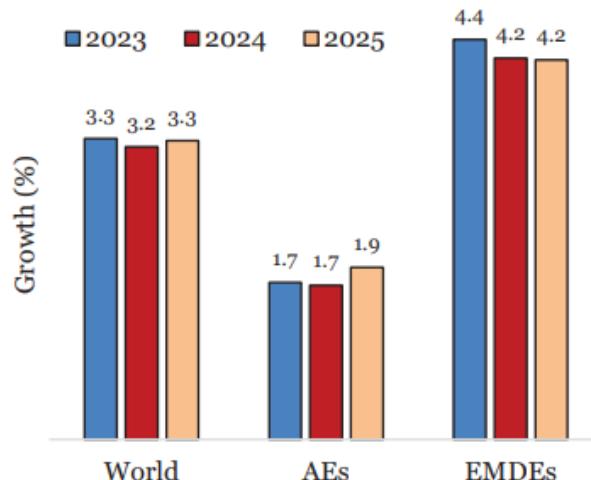
Status of major economies-

1. The US

- Expected to remain strong at 2.8 percent in 2024.

2. European Economies

- 0.4 per cent in 2023
- 0.8 per cent in 2024
- Expected to 1.0 per cent in 2025



Source: IMF WEO (January 2025)

Note: AEs- Advanced Economies, EMDEs- Emerging market and developing economies

The chart also reflects base effect.

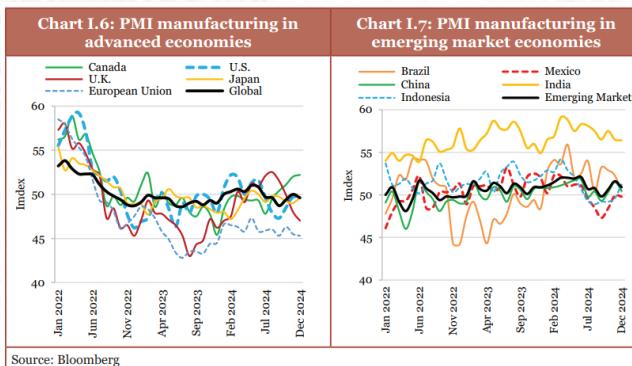
Indian Economy in comparison to other economies

Purchasing Managers Index

- It is a survey-based measure that asks the respondents about changes in their perception about key business variables as compared with the previous month.
- It is calculated separately for the manufacturing and services sectors.
- The PMI is a number from 0 to 100.
- PMI above 50 represents an expansion when compared to the previous month;
- PMI under 50 represents a contraction, and



- A reading at 50 indicates no change.



Inflation

- Inflation rates across economies have trended downward steadily, approaching central bank target levels.
- This has been the result of tighter monetary policy regimes across the globe.

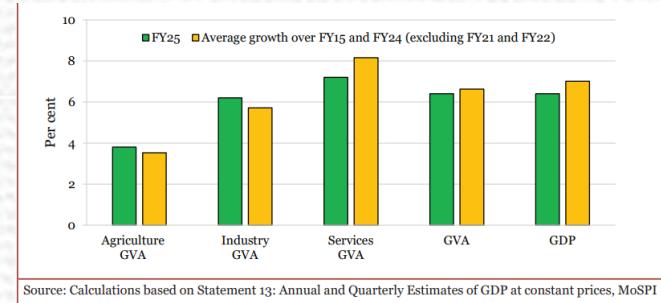
Some recent shipping route disruptions

- Disruptions in the Red Sea
- Delays at the Panama Canal

This led to increase in commodity prices especially crude oil. This had impact on recent inflationary impact post June 2024.

2. Domestic macroeconomic situation

- Real GDP growth for FY 25 is estimated to be 6.4 per cent.
- Despite global uncertainty, India's growth remains close to decadal average.
- The figure reflects there has been resilient recovery post pandemic.



a. Private Final Consumption Expenditure (PFCE)

- It is the money spent by people in their private capacity.

b. Gross Fixed Capital Formation (GFCF)

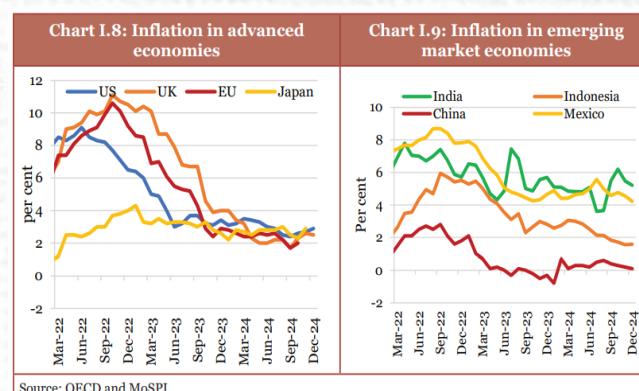
- It is the money spent by companies and government towards making investments such as building a new office or building a new road etc

c. Government Final Consumption Expenditure (GFCE)

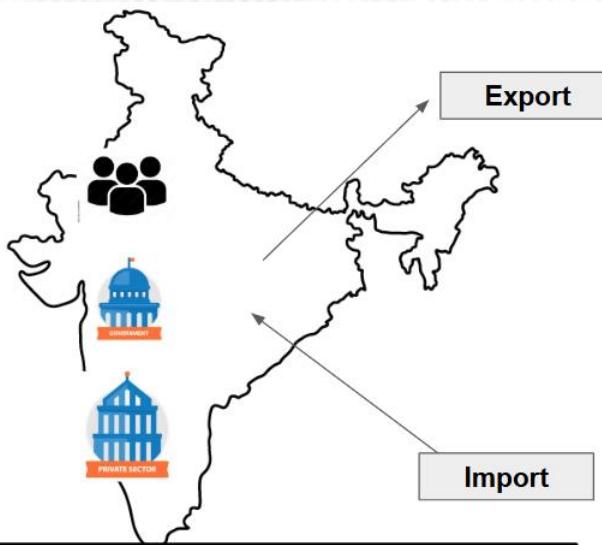
- Money spent by the government towards its day-to-day expenses such as paying salaries, pensions etc.

d. Net Exports" (NX)

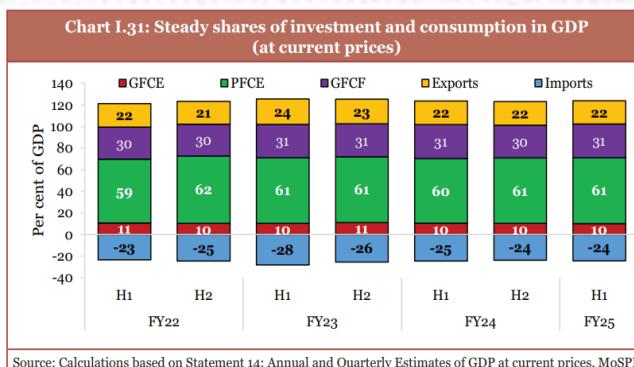
- This is the money spent by Indians on foreign goods (that is, imports) subtracted



from the money spent by foreigners on Indian goods (exports).

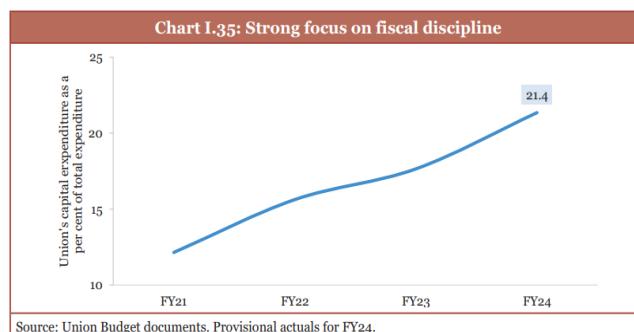


$$\text{GDP}(\text{Expenditure method}) = \text{PFCE} + \text{GFCF} + \text{GFCE} + \text{NX}$$



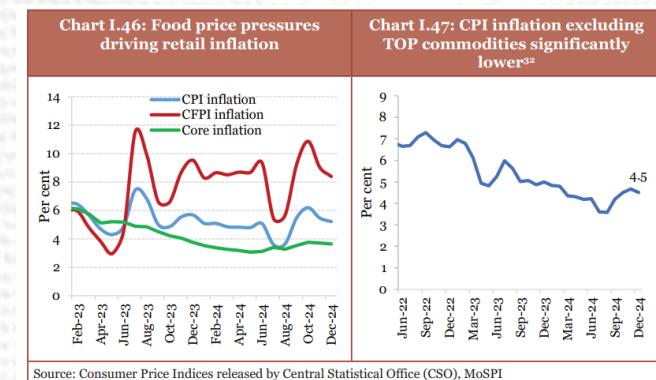
Investment & Consumption Trends

- Private capital investment remained moderate, influenced by global uncertainties.
- The government's capital expenditure (capex) rebounded after a slowdown during election months.
- Consumer confidence improved, but urban consumption patterns showed mixed trends.



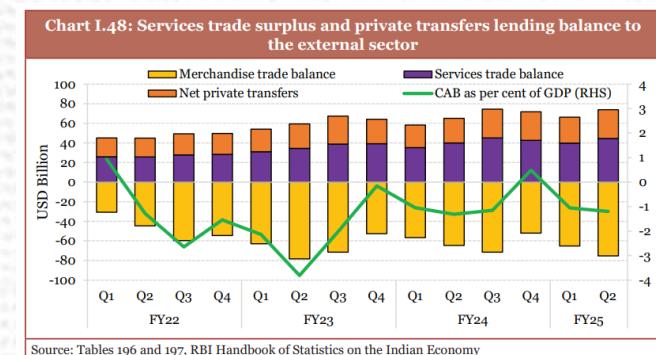
Inflation & Price Pressures:

- Retail inflation (CPI) eased to 4.9% (n April – December 2024).
 - This is close to target of 4 (+/-) 2 percent.
 - But food prices remained volatile.
- Inflation in essential commodities like tomato, onion, and potato (TOP) created temporary price surges.



External Sector Stability:

- Merchandise trade deficit
- Services trade surplus has lent balance to the overall trade deficit.
- These two factors combined to ensure that India's current account deficit (CAD) remains relatively contained at 1.2 per cent of GDP in Q2 FY 25.



3. Fiscal & Policy Outlook

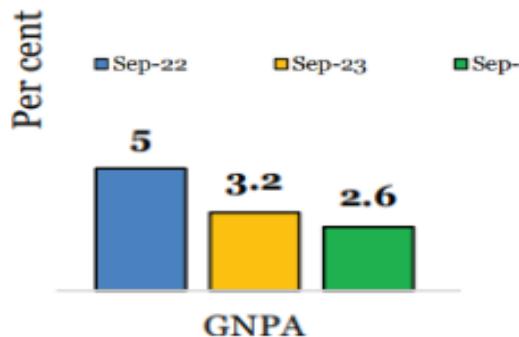
Financial sector

- Stability in the banking sector is underscored by declining GNPA.

Employment trends

- Unemployment rate for individuals aged 15 years and above has steadily declined from 6 per cent in 2017-18 to 3.2 per cent in 2023-24.





Source: Various editions of RBI Financial Stability Report

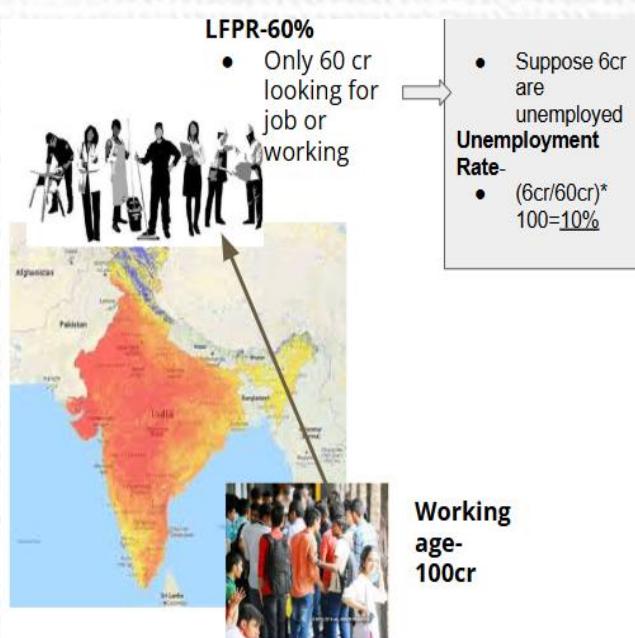
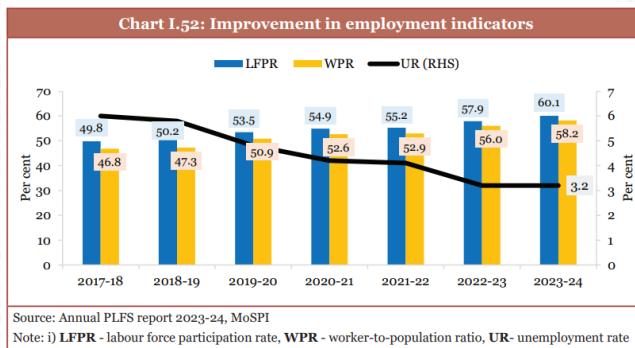


Figure to present meaning of Labour Force Participation Rate(LFPR) and Unemployment Rate(UR)

Conclusion of Chapter 1

The positives

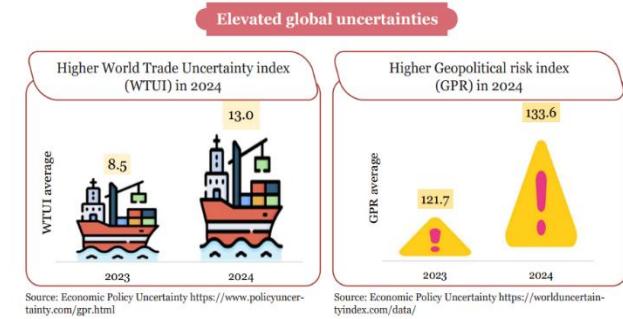
- Despite global uncertainties, India's economy remains resilient, with strong growth in services, agriculture, and capital investment.

Risk factors

- Geopolitical tensions (Higher Geopolitical Risk-133.6 in 2024)
- Rising trade uncertainty (World Trade Uncertainty Index-13 in 2024)
- Food price volatility,

Way forward

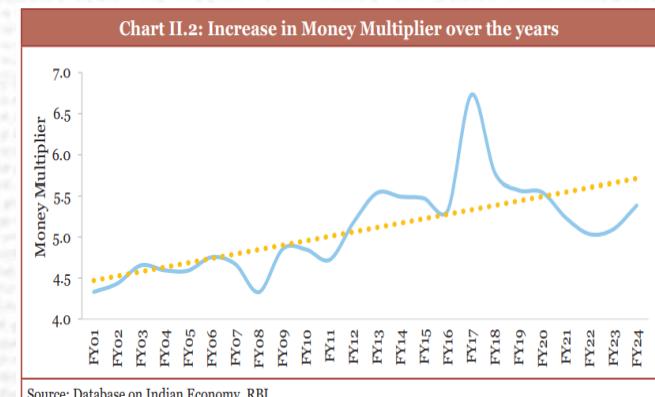
- Policymakers need to focus on domestic reforms and investment-friendly measures to sustain long-term growth momentum.



Chapter 2: Monetary and Financial Sector Developments: The cart and the horse

Monetary Policy:

- RBI kept the repo rate unchanged at 6.5% throughout 2024.
- In December 2024, RBI reduced the Cash Reserve Ratio (CRR) to 4%, injecting ₹1.16 lakh crore liquidity.
- Money multiplier has increased to 5 signaling high banking activities.
- A money multiplier of 5 means that for every Rs of reserves, Rs 5 of money is created in the money supply.



UPSC 2021

Q. The money multiplier in an economy increases with which one of the following?

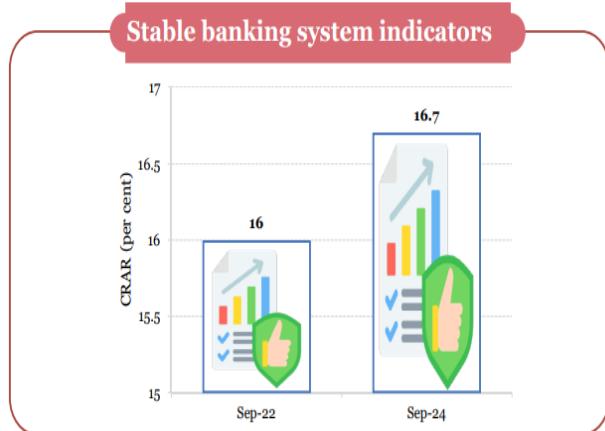
- Increase in the Cash Reserve Ratio in the banks



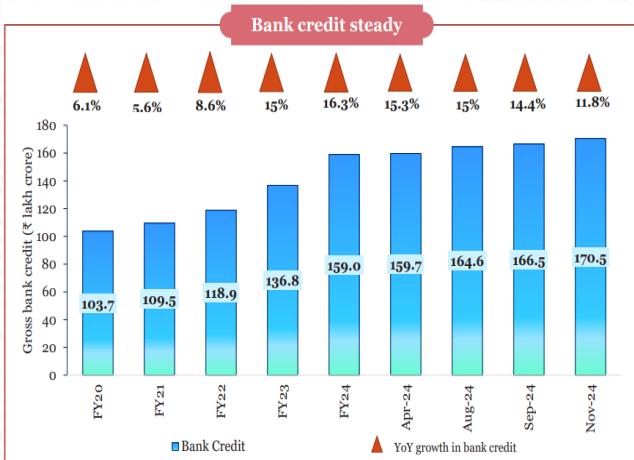
- b. Increase in the Statutory Liquidity Ratio in the banks
- c. Increase in the banking habit of the people
- d. Increase in the population of the country

Banking & Credit Growth

- Bank credit growth at 11.8% (YoY), converging towards deposit growth.
- GNPA (Gross Non-Performing Assets) fell to 2.6%, a 12-year low.
- Capital-to-risk ratio (CRAR at 16.7%) indicates strong banking sector stability.



Source: Various editions of RBI Financial Stability Report
 Note: CRAR: Capital to risk-weighted assets ratio.



Financial Inclusion

- Financial Inclusion Index (released by RBI) improved from 53.9 (2021) to 64.2 (2024), reflecting wider banking penetration.
- Regional Rural Banks have played significant role in financial inclusion.

Rural Financial Institutions have played a significant role in advancing financial inclusion



Government's strong emphasis on Financial Inclusion

↓
 Improvement in RBI's Financial Inclusion Index from 53.9 in March 2021 to 64.2 by March 2024

• Performance of Regional Rural Banks •

22,069 branches in 700 districts

- 26 States & 3 UTs
- 14% share in all branches (all banks)
- 30% share in rural branches (all banks)
- 92% branches in rural/semi-urban areas



₹6.6 lakh crore deposits

- 31.3 crore deposit accounts
- 3.2% share in deposit amount (all banks)
- 13.7% share in deposit accounts (all banks)



₹4.7 lakh crore advances

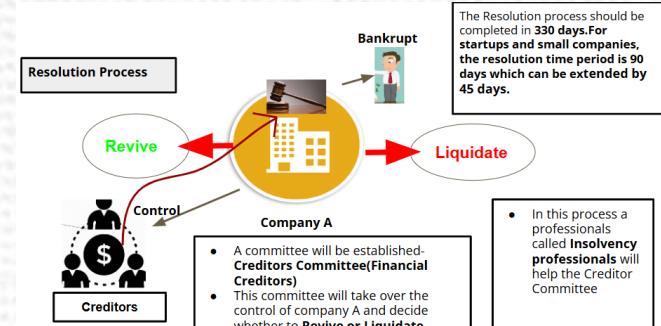
- 3 crore loan accounts
- 2.9% share in advances (all banks)
- 8% share in loan accounts (all banks)

Concerns of Banking Sector

- Rising unsecured lending pose financial stability risks.
- The Insolvency and Bankruptcy Code (IBC) has helped recover ₹3.6 lakh crore, but delays in resolution persist.

Note-

- Insolvency and Bankruptcy Code covered in detail in newspaper analysis of 14th Aug 2024.



Capital Market

- Indian stock markets hit record highs, outperforming emerging market peers.
- IPOs surged six fold between FY13 and FY24
- Mutual fund participation increased, with SIP investments reaching ₹10.9 lakh crore.

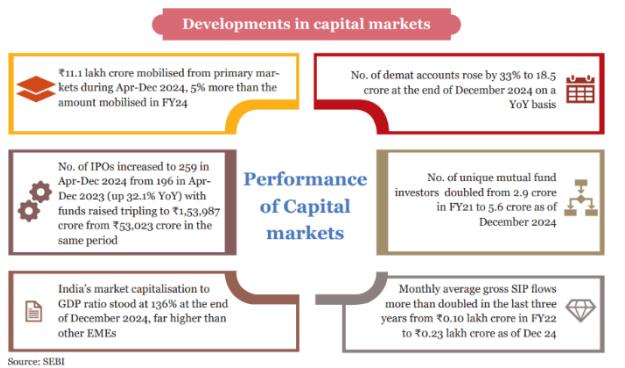
Insurance sector

- India's insurance market continued its upward trajectory, with total insurance premium growing by 7.7 per cent in FY24, reaching ₹11.2 lakh crore.



Pension sector

- India's pension sector experienced significant growth, with the total number of pension subscribers growing by 16 per cent (YoY) as of September 2024.



GIFT City

- It is India's first International Financial Services Centre (IFSC), developed as a global financial hub in Gandhinagar, Gujarat.
- It aims to compete with international financial centers like Dubai, Singapore, and London.
- It provides a tax-friendly, globally competitive financial ecosystem.
- Unlike the rest of India, GIFT IFSC operates as a non-resident zone.
- International Financial Services Centres Authority (IFSCA) is a regulator for India's International Financial Services Centres (IFSCs).
- It aims to align with global financial standards.
- Stock exchanges like NSE & BSE have also started to operate in GIFT City, providing international investment opportunities.



Why is GIFT City Important?

- Reduces reliance on offshore financial hubs.
- Tax incentives for companies operating in GIFT IFSC.

- Promotes India as a global financial services hub for banking, capital markets, insurance etc

Financial Sector and Economic growth relations

Lessons from the 2008 Financial Crisis

- Unchecked financial sector growth can destabilize the real economy.

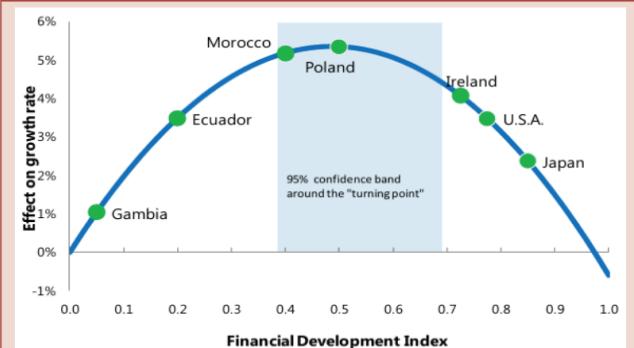
Importance of Financial sector

- A developed financial system reduces transaction costs, aids capital flow and aids growth.

Over-Financialization

- Financial sector competes for skilled labor, diverting resources from productive industries and may cause decline in growth.

Chart II.13: Financial development and growth – a bell-shaped relationship



Bell Curve of Financial Development

- Developed nations (USA, Japan, Ireland) have surpassed the point where finance boosts growth.
- Developing nations (Gambia, Ecuador, Morocco) still benefit from financial expansion.

Chapter 3: External Sector: Getting FDI Right

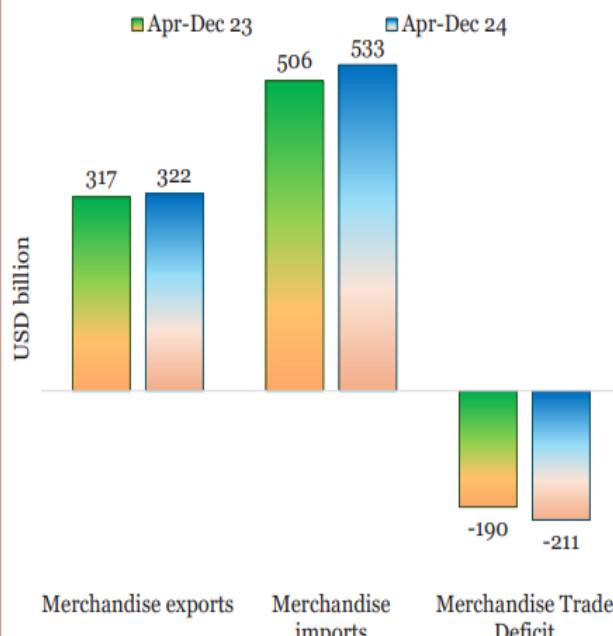
- India's external sector continues to display resilience amidst global uncertainties.

Exports

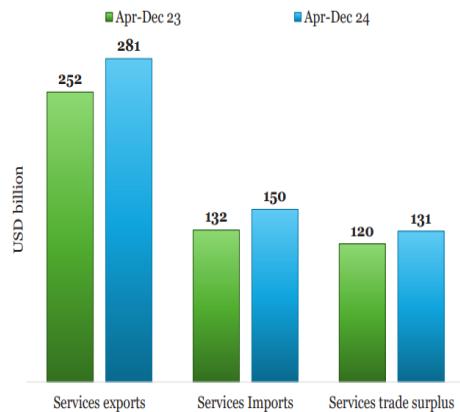
- Overall exports (merchandise + services) grew by 6 per cent (YOY) in the first nine months of FY25.
- Services sector by 11.6 per cent during the same time.



Merchandise trade deficit widened in the first nine months of FY25



Services trade surplus in the first nine months of FY25

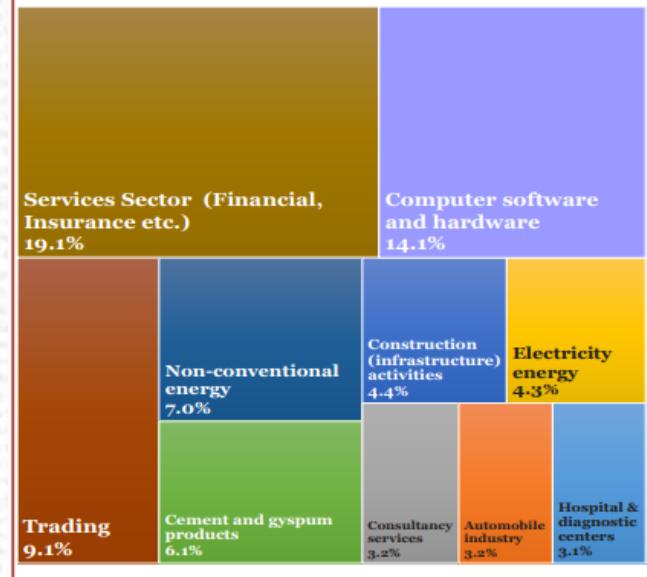


Source: DGCIS, M/o Commerce and Industry

FDI Inflows

- Gross Foreign Direct Investment (FDI) inflows recorded a revival in FY25, increasing from USD 47.2 billion in the first eight months of FY24 to USD 55.6 billion in the same period of FY25, a YoY growth of 17.9 per cent.
- Service sector leads in FDI inflows too.

Services sector leads FDI inflows with 19.1% share in H1 FY25, followed by technology, trading and non-conventional energy



India's FOREX reserves

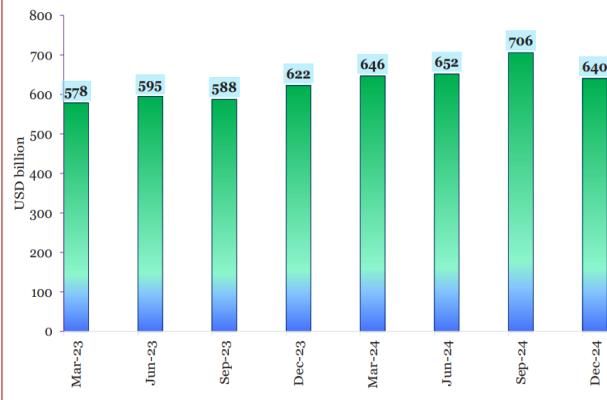
- USD 640.3 billion as of the end of December 2024.
- It is sufficient to cover 10.9 months of imports and approximately 90 per cent of the country's external debt.

India's External debt

- India's external debt remained stable over the past few years, with the external debt to GDP ratio standing at 19.4 per cent at the end of September 2024.

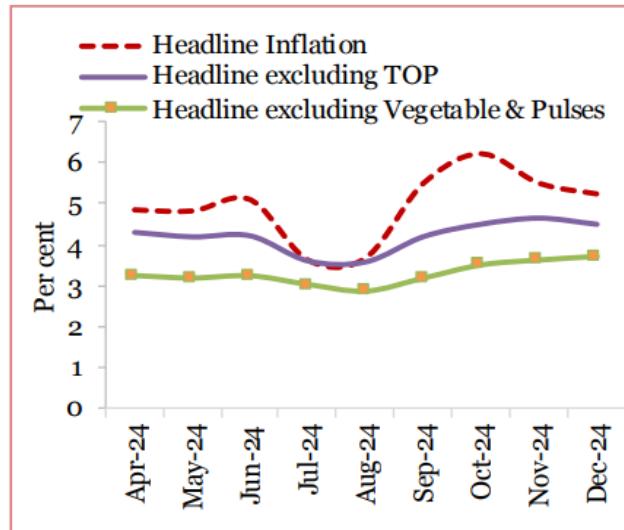
Strengthening Forex Reserves

Forex reserves were at a high of USD 706 billion in September 2024; and stood at USD 640.3 billion by 27 December, 2024, covering 89.9% of external debt



Chapter 4: Prices and Inflation: Understanding the Dynamics

- As per the IMF, the global inflation rate moderated to 5.7 per cent by 2024 from its peak of 8.7 per cent in 2022.
- Retail inflation in India saw a reduction from 5.4 per cent in FY24 to 4.9 per cent in FY25 (April-December 2024).
- RBI and the IMF project India's consumer price inflation will gradually align with the target of around 4 per cent in FY26.



Source: Consumer Price Indices released by CSO, MoSPI

Policy measures to control inflation

- Development of climate-resilient crop varieties and enhanced farming practices are essential to mitigate the effects of extreme weather events and achieve long-term price stability.

Administrative measures to control food inflation



Source: Various PIB releases

Chapter 5: Medium-Term Outlook: Deregulation Drives Growth

- India is undergoing a major economic transformation, facing both challenges and

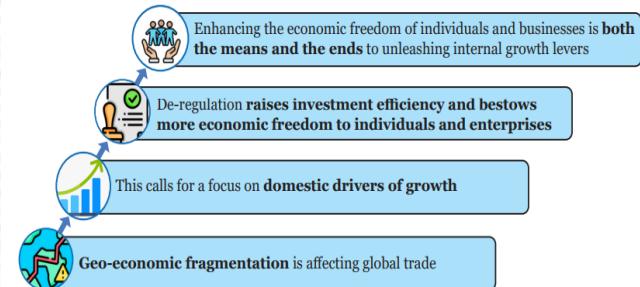
opportunities due to Geo-Economic Fragmentation (GEF), which is replacing globalization.

- To achieve Viksit Bharat by 2047, India must sustain an 8% growth rate at constant prices for the next 10-20 years.

Medium-term growth strategy constraints

1. GEF (Geo-Economic Fragmentation)
2. China's manufacturing dominance
3. Energy transition dependencies.

Unleashing the domestic drivers of growth and the economic freedom of individuals and businesses



Geo-Economic Fragmentation

- Rising tensions between countries can lead to a policy reversal of global economic integration.

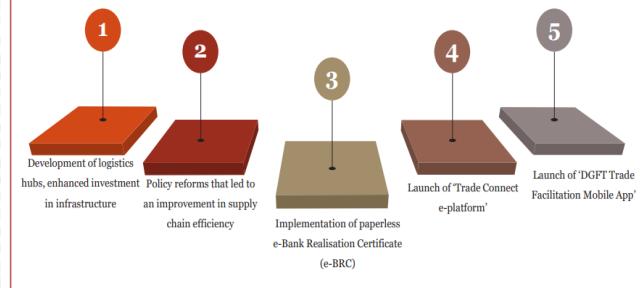
Reforms should focus on:

- Ease of Doing Business 2.0
- Developing a strong SME sector (Mittelstand model).

Mittelstand Model

- The Mittelstand model refers to the successful ecosystem of small and medium-sized enterprises (SMEs) in Germany.
- These businesses form the backbone of the German economy.
- They are Known as "Hidden Champions", they export high-quality, specialized products worldwide.

Ease of Doing Business initiatives for exporters





Chapter 6: Investment and Infrastructure: Keeping it Going

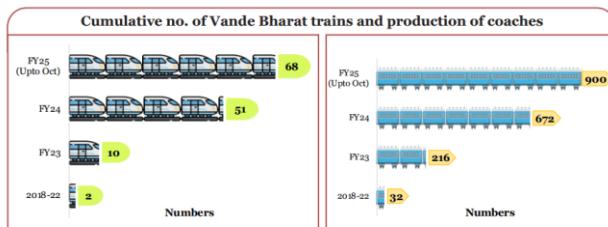
Infrastructure Investment & Development

- Public infrastructure spending grew by 38.8% (FY20-FY24).
- National Infrastructure Pipeline & National Monetisation Pipeline launched to attract private investment.

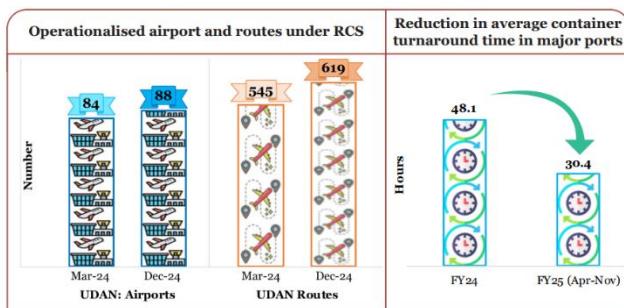
Railway & Road Connectivity

- 2031 km of railway network commissioned (Apr-Nov 2024).
- 17 new pairs of Vande Bharat trains introduced (Apr-Oct 2024).
- 5853 km of National Highways constructed (Apr-Dec 2024).

Railways

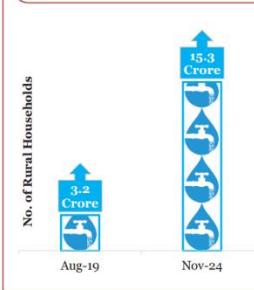


Civil aviation and ports and shipping



Rural infrastructure

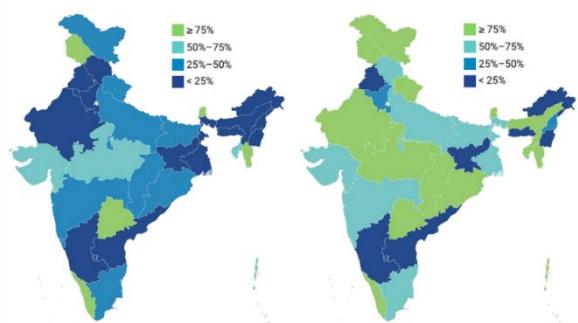
Progress under Jal Jeevan Mission: Access to safe piped drinking water



- States achieving full coverage under JJM:
- Arunachal Pradesh
 - Goa
 - Haryana
 - Himachal Pradesh
 - Gujarat
 - Punjab
 - Telangana
 - Mizoram

Increasing number of villages achieving ODF plus status

As of 31 March 2024 As of 22 November 2024



Source: Ministry of Jal Shakti
Note: Charts present "Model" villages

Progress under various initiatives



Pradhan Mantri Awas Yojana – Urban: 1.18 crore houses have been sanctioned as of 25 Nov 2024



Urban transport: Metro rail systems: 1010 kilometres currently operational in 23 cities and an additional 980 kilometres underway



Atal Mission for Rejuvenation and Urban Transformation: tap water coverage increased to 70%, and sewerage coverage risen to 62%



Smart Cities Mission: 93% projects completed as of 13 Jan 2025

ODF+

ODF Plus is an advanced stage of the Open Defecation Free (ODF) status, introduced under Swachh Bharat Mission (SBM) - Phase II to ensure

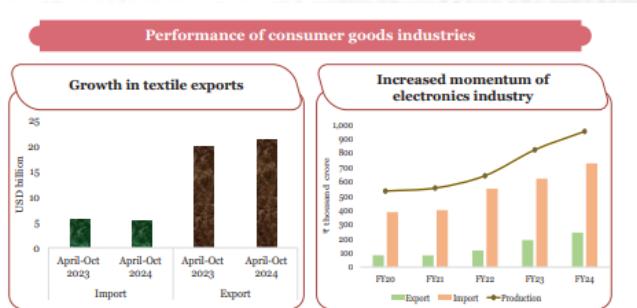
- proper maintenance and usage of toilets.
- Promote solid and liquid waste management.

Chapter 7: Industry: All about Business Reforms

- The industrial sector expected to grow by 6.2 per cent in FY-25 (first advance estimates), driven by robust growth in electricity and construction.



- The government has been actively promoting Smart Manufacturing and Industry 4.0, supporting the establishment of SAMARTH Udyog centres.
- 99 percent smartphones now manufactured domestically, drastically reducing India's dependence on imports.
- As per the WIPO Report 2022, India ranks sixth among the top 10 patent filing offices globally.
- To provide equity funding to MSMEs with the potential to scale up, the government launched the Self-Reliant India Fund with a corpus of ₹50,000 crore.

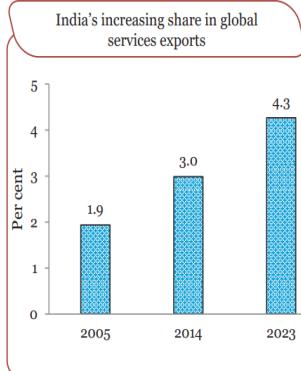
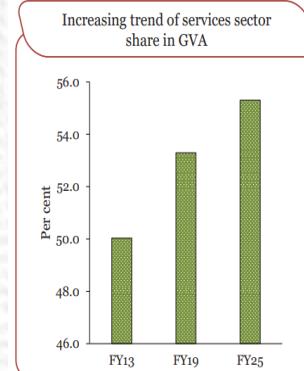


What is SAMARTH Udyog?

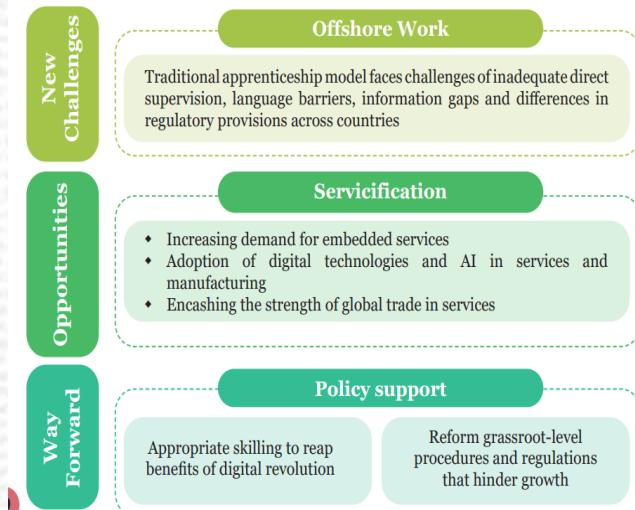
- SAMARTH Udyog (Smart Advanced Manufacturing & Rapid Transformation Hubs) is an initiative under the Ministry of Heavy Industries, Government of India to promote Industry 4.0 adoption in manufacturing. It aims to drive the digital transformation of Indian industries by integrating automation, data analytics, and smart manufacturing technologies.

Chapter 8: Services -New Challenges for the Old War Horse

- The service sector's contribution to total GVA has risen from 50.6 per cent in FY14 to 55.3 per cent in FY25 (First Advance Estimates).
- The average growth rate of the services sector was 8 per cent in the pre-pandemic years (FY13-FY20).
- It stood at 8.3 per cent in the post-pandemic period (FY23-FY25).
- India held a 4.3 per cent share in global services exports in 2023, ranking seventh Worldwide.
- The tourism sector's contribution to GDP returned to its pre-pandemic level of 5 per cent in FY23.



Challenges, opportunities and way forward for services

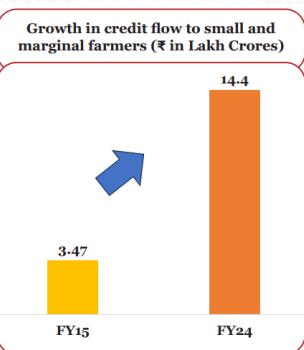
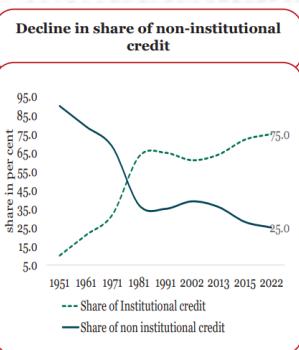
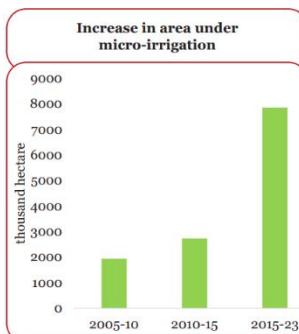


Embedded services refer to seamlessly integrated services within a product, platform, or system, enhancing its functionality without requiring separate access. These services often leverage technology, automation, and AI to improve user experience and efficiency.

Chapter 9: Agriculture and Food Management: Sector of the Future

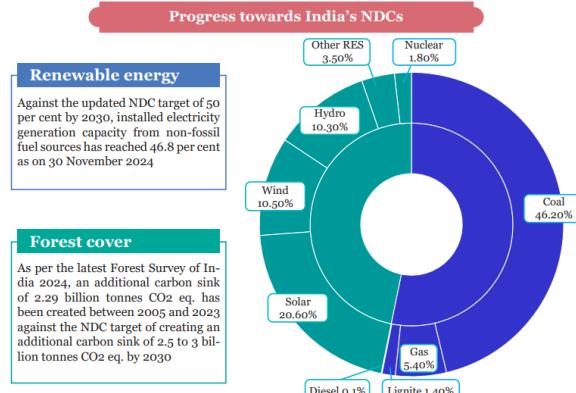
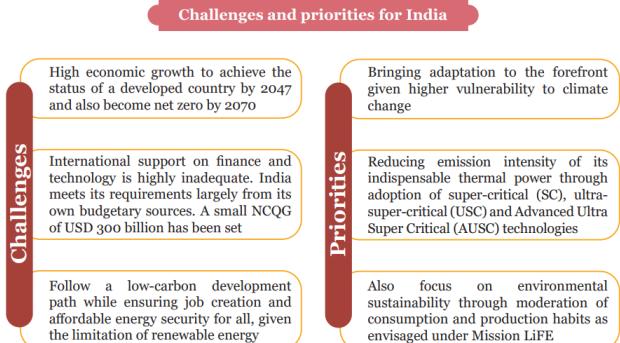
- The 'Agriculture and Allied Activities' sector contributes approximately 16 percent of the country's GDP for FY 24 (PE) at current prices.
- High-value sectors like horticulture, livestock, and fisheries have become key drivers of overall agricultural growth.
- The provision of free food grains under PMGKAY for another five years, reflects the long-term commitment of Govt towards food and nutrition security
- Growth in institutional credit witnessed.



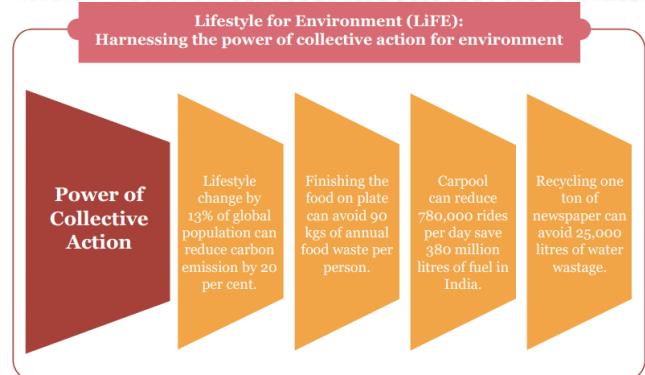


Chapter 10: Climate & Environment: Adaptation Matters

- India has installed electricity generation capacity of 2,13,701 megawatts from non-fossil fuel sources, which accounts for 46.8 per cent of the total capacity as of 30 November 2024.
- As per the Forest Survey of India 2024 an additional carbon sink of 2.29 billion tonnes CO2 equivalent has been created between 2005 and 2023.
- The India-led global movement, Lifestyle for Environment (LiFE), aims to enhance the country's sustainability efforts.
- By 2030, it is estimated that LiFE measures could save consumers around USD 440 billion globally through reduced consumption and lower prices



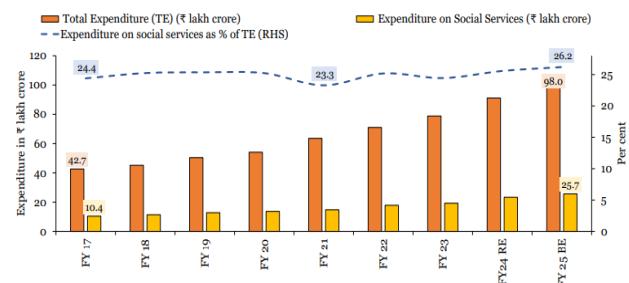
Climate initiatives
 India's achievements on its climate commitments is attributed to a wide variety of schemes, policies, financial incentives and regulatory measures to boost renewable energy and green investments



Chapter 11: Social Sector -Extending reach and driving empowerment

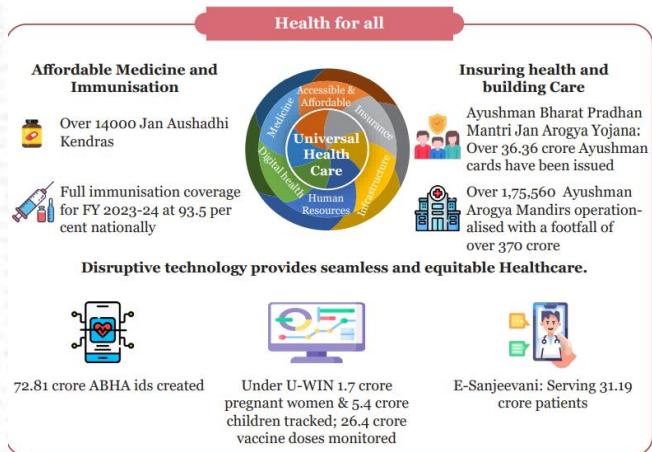
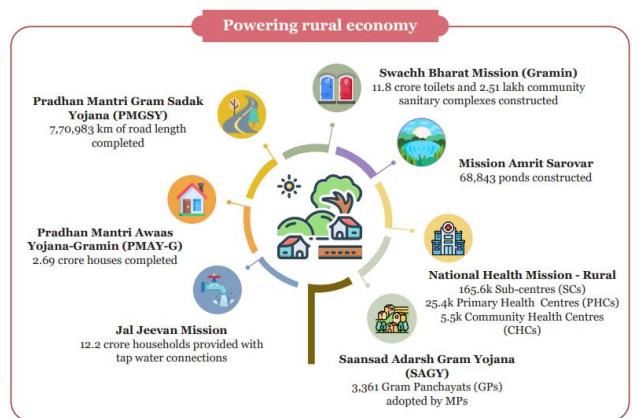
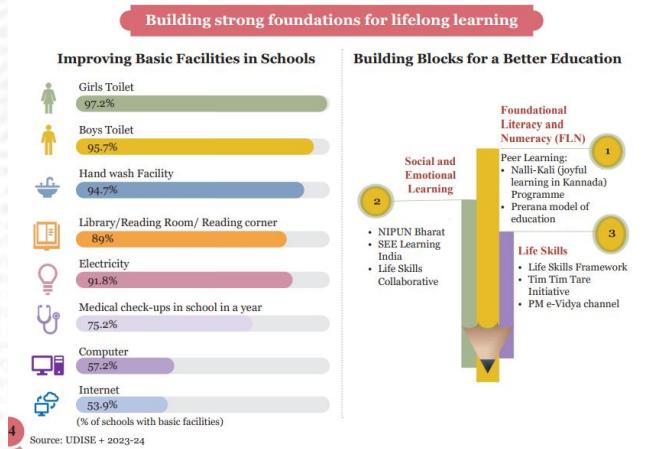
- The social services expenditure of the government (combined for Centre and States) increased at a compound annual growth rate of 15 per cent from FY21 to FY 25.
- Gini coefficient, a measure of inequality in consumption expenditure, is declining.
- For rural areas it declined to 0.237 in 2023-24 from 0.266 in 2022-23, and for urban areas, it fell to 0.284 in 2023-24 from 0.314 in 2022-23.

Increase in social services expenditure (Union+States)



Note: As per the Ministry of Education (MoE) estimates, the total expenditure on education is ₹ 9.7 Lakh Crore for FY 22(BE).

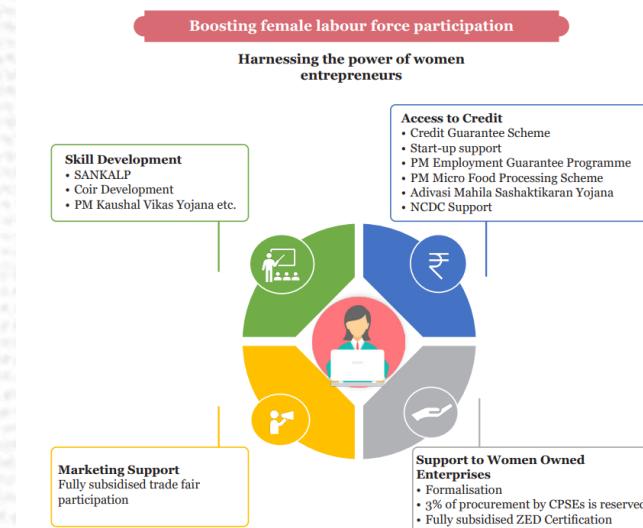
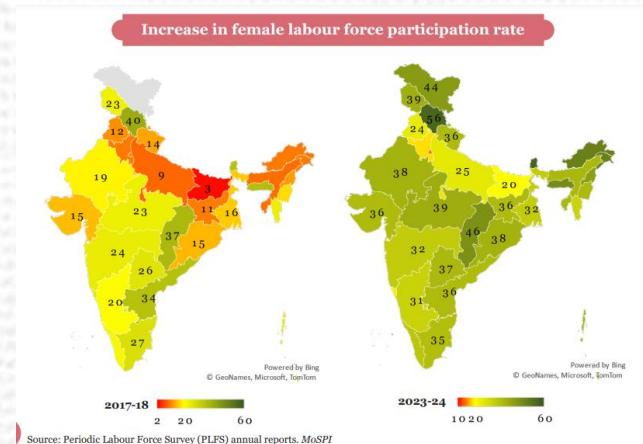
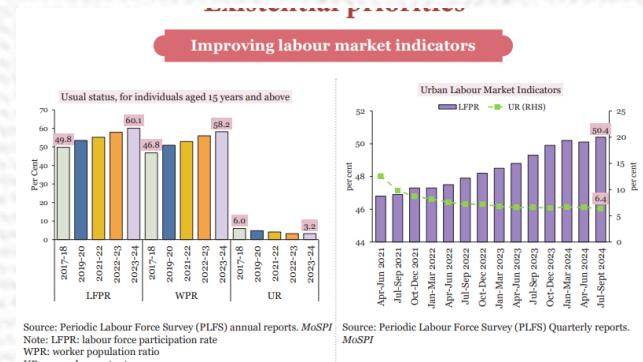




Chapter 12: Employment and Skill Development: Existential priorities

- Unemployment rate declining to 3.2 per cent in 2023-24 (July-June) from 6.0 per cent in 2017-18 (July-June).
- With around 26 per cent of the population in the age group of 10-24 years, India stands at the cusp of a unique demographic opportunity, as one of the youngest nations globally.

- The recently launched PM-Internship Scheme is emerging as a transformative catalyst for employment generation.

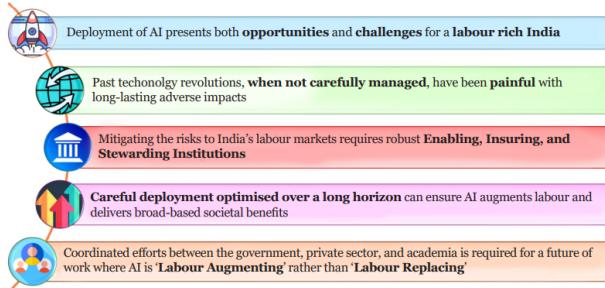
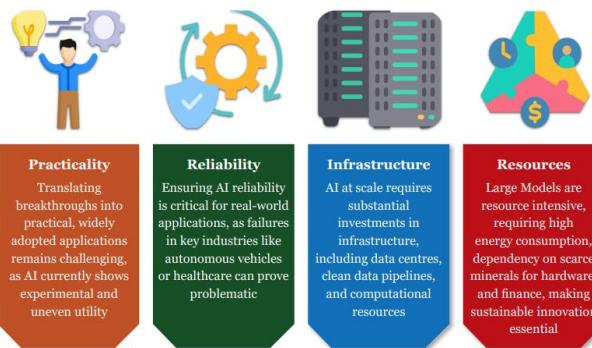


Chapter 13: Labour in AI era: Crisis or Catalyst

- The future revolves around 'Augmented Intelligence', where the workforce integrates both human and machine capabilities.



- This approach aims to enhance human potential and improve overall efficiency in job performance, ultimately benefiting society as a whole.

A Future for human centric automation

Challenges to scaling AI


Science & Technology

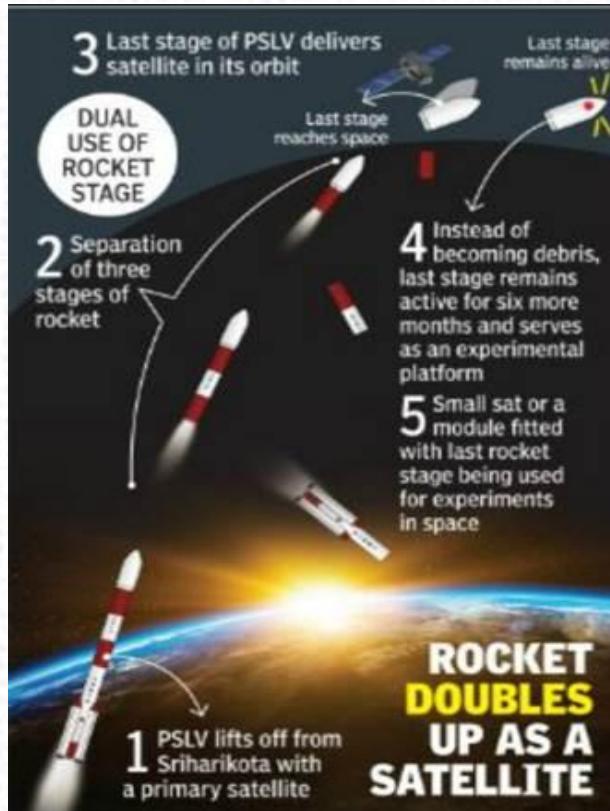
POEM

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Youtube: DNA 01.01.2025

What is POEM in space missions?

- POEM stands for PSLV Orbital Experimental Module in space missions.
- PSLV is a four-stage rocket of ISRO having solid and liquid propulsion systems alternately.
- Generally in PSLV the first three spent stages fall back into the ocean, and the final stage (PS4) — after launching the satellite into orbit — ends up as space junk.
- However in the POEM developed by ISRO the 4th stage utilised as a "stabilised platform" to orbit Earth and perform experiments.
- Basically in POEM the rocket turns into satellite in the end.



Current news?

- The recently SpaDeX mission was launched using PSLV-C60 whose 4th stage was POEM.
- It was overall 4th POEM mission.
- The PSLV-C60/SpaDeX mission carried a total of 10 payloads onboard the POEM module.

- These payloads were from Non-Government Entities (NGEs) and facilitated by IN-SPACe (Indian National Space Promotion and Authorization Centre).
- IN-SPACe works in the direction to promote private entities in the field of space sector.

Prelims Practice Question

Q. Evaluate the following statements about POEM (PSLV Orbital Experimental Module):

1. POEM is a platform used by the Indian Space Research Organisation (ISRO) to conduct scientific experiments in orbit after a satellite launch.
2. POEM operates using the leftover fuel of the PSLV rocket's upper stage.
3. The experiments conducted on POEM are limited to Earth observation studies.
4. POEM is equipped with solar panels for generating power in orbit.

Which of the above statements are correct?

- a. Only 1 and 2
- b. Only 1, 2, and 4
- c. Only 2 and 3
- d. Only 1, 3, and 4

Underwater telescope for 'Ghost particles'

GS Paper III-S&T Prelims

Youtube: DNA 04.01.2025

What are 'Ghost particles'?

- Proton, neutron, and electron are tiny particles that make up atoms.
- Similarly neutrino is also a tiny elementary particle, but it is not part of the atom.
- Such particles are found to exist freely in nature.
- Neutrino has a very tiny mass, no charge.
- It interacts very weakly with other matter particles.
- So weakly that every second trillions of neutrinos fall on us and pass through our bodies unnoticed.
- Thus they are also known as 'Ghost particles'





Significance of Neutrino Study

- Understanding of the origins of the universe since some neutrinos were formed during the Big Bang, others continue to be formed as a result of supernova explosions or because of nuclear reactions in the Sun.

Current news?

- Scientists are deploying two telescopes to detect high-energy neutrinos, also known as ghost particles, under the Mediterranean Sea.
- The two telescopes are part of the Cubic Kilometre Neutrino Telescope or KM3Net.
- These telescopes are much like the IceCube Neutrino Observatory, the world's largest neutrino detector.



IceCube Neutrino Observatory

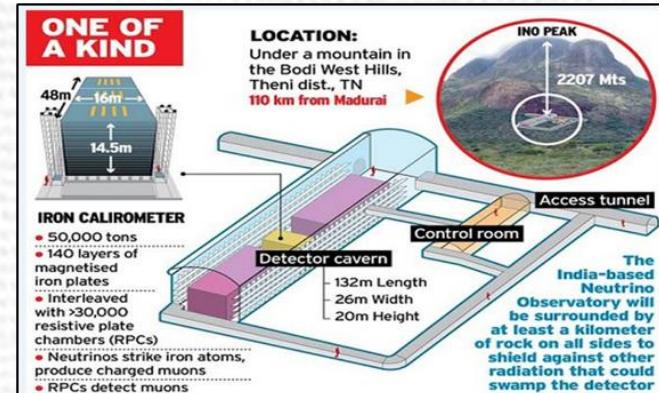
- The world's largest neutrino detector.
- It is under the frozen ice in the Antarctic rather than being in the water.

India-based Neutrino Observatory mission

- The Indian Neutrino Observatory (INO), approved in 2015, is a proposed particle physics research mega project.

Objective

- To study neutrinos in a 1,200-metre-deep cave.
- Neutrino detectors are often built underground to isolate them from cosmic rays from space and any other sources of background radiation.
- The location of the Observatory would be in the Bodi West Hills region of the Theni district, about 110 kilometres west of Madurai in Tamil Nadu.



Prelims Practice Question

- Q. Consider the following statements.
1. Neutrinos are subatomic particles with high mass but no charge.
 2. Neutrinos are also known as ghost particles.
- Which of the following statements are correct?
- a. 1 only
 - b. 2 only
 - c. Both
 - d. None

Gravitational Lensing

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Youtube: DNA 09.01.2025

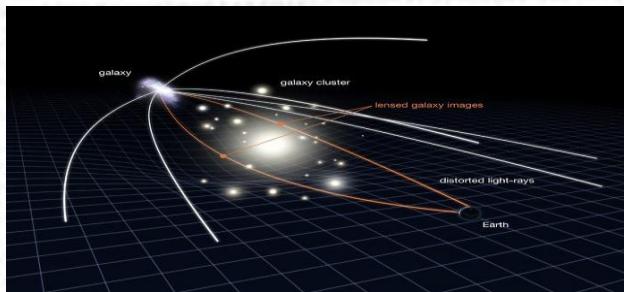
What is Gravitational lensing?

Let's understand Gravitational lensing in simple manner-

- Imagine light traveling from a distant star or galaxy toward Earth.
- On its way, if it passes near a massive object, like a galaxy or a black hole, the strong gravity of that object bends the light.
- This bending of light makes the distant star or galaxy appear distorted, magnified, or even duplicated when we observe it from Earth.
- It's similar to how a glass lens bends light to focus it, but here, gravity does the bending instead of a physical lens.



- Scientists use this effect to study faraway galaxies and even dark matter (the invisible stuff in the universe) because gravitational lensing reveals things that are usually too faint or too far to see.

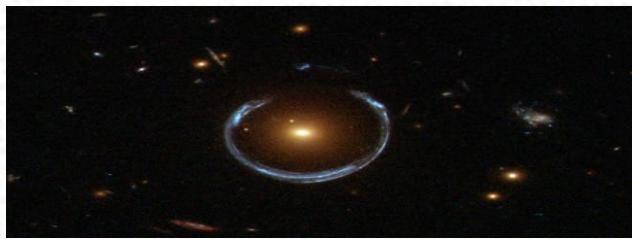


Gravitational Lensing

- Curvature of spacetime due to Gravity.

Current news?

- Physicists studying a distant galaxy using a telescopic technique called "gravitational lensing" found 44 new stars.



Prelims Practice Question

Q. Gravitational lensing occurs because:

- Gravity can bend the path of light.
 - The mass of celestial objects distorts spacetime.
 - Light is unaffected by the presence of massive objects.
 - Only black holes can cause gravitational lensing.
- 1 and 2 only
 - 2 and 3 only
 - 3 and 4 only
 - 1, 2, and 4 only

Mission Mausam and 150 years of IMD

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Youtube: DNA 16.01.2025

India Meteorological Department

- IMD was established in 1875(completed 150 years).

- The Director General of Meteorology is the Head of the IMD.
- There are 6 Regional Meteorological Centres, each under a Deputy Director General with headquarters at Mumbai, Chennai, New Delhi, Calcutta, Nagpur, and Guwahati.
- Its headquarters is in New Delhi.
- IMD is under the Ministry of Earth Sciences (MoES).
- It takes meteorological observations and forecast meteorological information and statistics for weather-sensitive activities like agriculture, shipping, aviation, offshore oil explorations, etc.



Current news?

- Prime Minister launched 'Mission Mausam' during the 150th foundation day celebration of the India Meteorological Department.

Mission Mausam

- Aims to boost India's weather- and climate-related science, research, and services
- Budgetary outlay of Rs 2,000 crore over two years.
- To be jointly implemented by the
 - India Meteorological Department,
 - Indian Institute of Tropical Meteorology
 - National Centre for Medium-Range Weather Forecasting

Prelims Practice Question

Q. Mission Mausam is a government initiative aimed at promoting historical and cultural ties in the Indian Ocean region. Consider the following statements about Mission Mausam:

- The mission focuses on reviving ancient maritime routes and cultural linkages between India and countries in the Indian Ocean region.
- It is an initiative spearheaded by the Ministry of Environment, Forest, and Climate Change in India.

Which statement is correct?

- 1 only



- b. 2 only
- c. Both
- d. None

Docking experiment is successful

GS Paper III-S&T Prelims

Youtube: DNA 17.01.2025

Background

- ISRO launched the SpaDeX mission on December 30 onboard PSLV C60.
- The mission carried 2 satellites SDX01 (Chaser) and SDX02 (Target) about 220 kg each.
- The satellites were launched into a 475-km circular orbit around the Earth as intended.

The planned manoeuvre for the satellites-

1. Docking
- Integrating the satellite as one entity.
2. Power transfer
 - Essential for future space application such as in-space robotics that requires time to time charging
3. Un-Docking
- Separation of the two satellites to be used as independent pay loads in a space to conduct future experiments for their life next 2 years



Current news

- ISRO successfully executed a satellite docking experiment
- The experiment made India the fourth country after the U.S., Russia and China to achieve this feat.

Space docking capability will be helpful in upcoming projects of ISRO, like-

1. Chandrayaan 4
- Which requires sample return from the Moon
2. Bhartiya Antriksh Abhiyan
- Aimed at building India's own Space Station

On track

On December 30, ISRO's SpaDeX mission launched into orbit two satellites, SDX01 (Chaser) and SDX02 (Target). Two weeks on, the mission proved a success but it was not without a few hiccups. Here's a timeline of events:

Jan. 7 The space agency had initially scheduled the docking for this day but postponed it to Jan. 9	Jan. 8 ISRO observed a more-than-desired drift between the two satellites and postponed the docking again	Jan. 12 The satellites were moved within 3 metres of each other in a trial attempt and then returned to a safe distance	Jan. 16 Inter-satellite distance was reduced to 3 metres from 15 metres and both satellites were successfully docked
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SIGNIFICANCE
 Demonstration of this technology is vital for futuristic missions such as manned craft to the moon and building and operating an Indian space station

Prelims Practice Question

Q. Consider the following statements regarding ISRO's satellite docking experiment (SpaDeX mission):

1. The successful docking experiment made India the fourth country after the U.S., Russia, and China to achieve this feat.
2. The SpaDeX mission involved two satellites, SDX01 (Chaser) and SDX02 (Target), launched aboard the GSLV rocket.

Which of the above statements is/are correct?

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

Q. Discuss the significance of India's Spadex Mission in advancing the country's space exploration capabilities and its implications for scientific research and international collaborations. 10 marks/150 words

Hints

- Briefly define the Spadex Mission and its objectives.

Advancing Space Exploration Capabilities:

1. Technological Milestones: India-4th country to achieve the feat
2. Self-Reliance in Space: Contribution to India's Atma Nirbhar Bharat initiative in space.
3. Boost to ISRO: Chandrayaan 4 and Bhartiya Antriksh Abhiyan

Implications for Scientific Research

1. InSpace charging for space robotics
2. Applications for Earth-e.g., climate monitoring, disaster management

International Collaborations



1. **Global Partnerships:** Collaborations with other space agencies or countries for technology sharing, data, or joint missions.
2. **Augment Soft power through Space diplomacy**
Experiments of ISRO aims at positioning India amongst leading countries in space technology, strengthening India's capability and bringing positive change in life of a common Indian through space based technological interventions

Chandra X-Ray Observatory

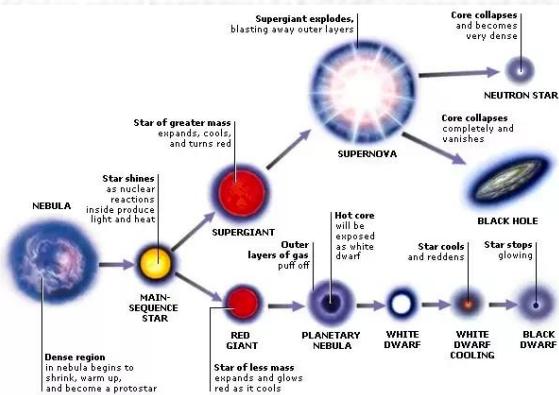
GS Paper III-S&T Prelims

Youtube: DNA 23.01.2025

What are Neutron stars and Blackhole?

- Neutron stars or Black Hole are formed when a massive star explodes and run out of fuel and collapses.
- If the star is not very big it collapses to form Neutron Star but if it is very big it leads to formation of Black Hole.
- A neutron star is about 1.4-2 times the mass of the Sun while the other Black Hole is much more massive.
- A neutron star has a surface and a Black Hole does not.
- Black Hole is still collapsing.
- Black Hole has such a high density and gravity is so strong that not even light can escape.

Note-Expllosion of a star is known as Supernova.



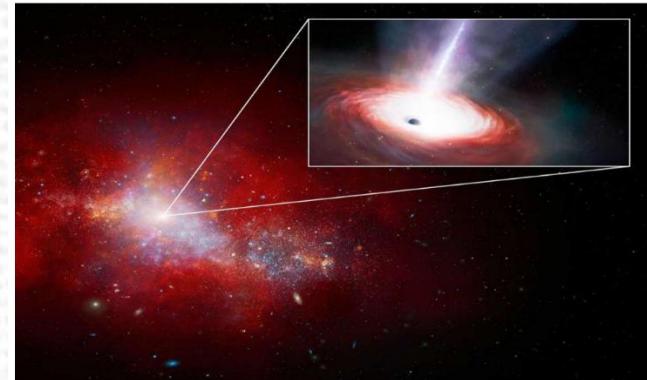
Nebula

- a cloud of gas and dust in outer space

Supermassive Black Hole

- Supermassive black holes are among the most common types of black holes in the universe.
- Most galaxies contain a supermassive black hole at their centres.

- These black holes have masses ranging from millions to billions of times that of the sun.
- The supermassive black hole Sagittarius A*, located at the center of the Milky Way galaxy, has a mass of approximately 4.3 million solar masses.
- However, scientists are not yet fully certain how these giants grow to become so big.



Current news?

- An international team of researchers using NASA's James Webb Space Telescope (JWST) and the Chandra X-ray Observatory has discovered a bizarre black hole that may provide insights into the genesis and growth of supermassive black holes.

Chandra X-ray Observatory

- NASA's premier space telescopes specially designed to detect X-ray emission from very hot regions of the Universe such as exploded stars, clusters of galaxies, and matter around black holes.
- It is the world's most powerful X-ray telescope.
- The Chandra X-ray Observatory is named after Subrahmanyan Chandrasekhar, an Indian-American astrophysicist and Nobel laureate.

Note-

- James Webb Space Telescope covered in the Newspaper Analysis of 3rd June 2024.



NASA's fleet of "Great Observatories"

- Hubble Space Telescope,
- The Spitzer Space Telescope
- Compton Gamma Ray Observatory (deorbited)
- Chandra X-ray Observatory

Prelims Practice Question

Q. Consider the following statements regarding the Black Hole:

1. A black hole is a place in space where gravity pulls so much that even light cannot get out.
2. The super-massive black hole at the center of the Milky Way galaxy is called Sagittarius A.
3. The Sun is not a big enough star to make a black hole.

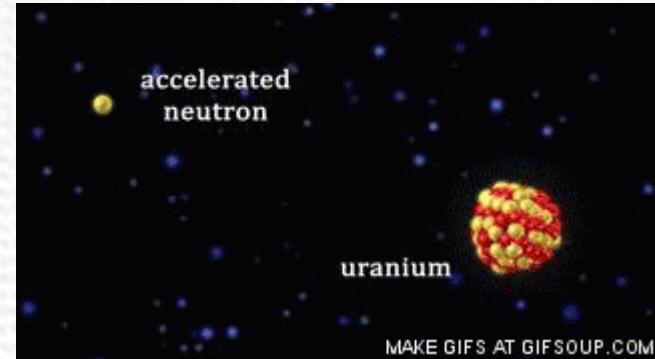
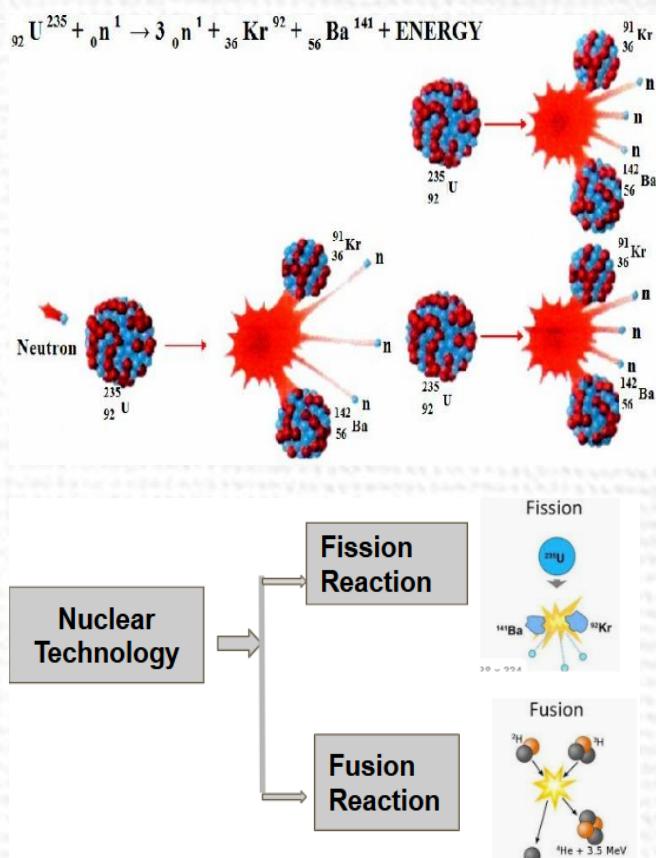
Which of the statements given above is/are correct?

- a. 1 only
- b. 1 and 2 only
- c. 2 and 3 only
- d. 1, 2 and 3

Experimental Advanced Superconducting Tokamak

GS Paper III-S&T Prelims

Youtube: DNA 30.01.2025

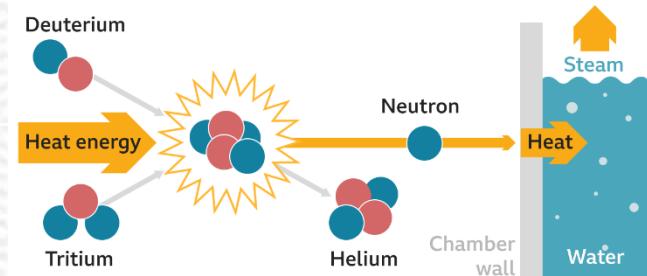


Deuterium-Deuterium Fusion Reaction

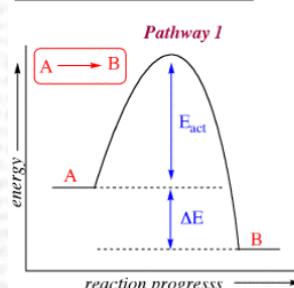


How nuclear fusion works

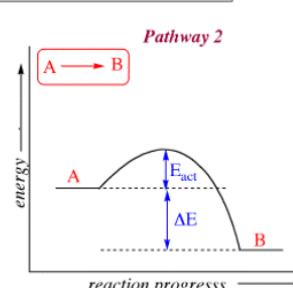
1	2	3	4
Hydrogen atoms are heated	Fusion reaction	Helium, neutron and energy released	Neutron energy heats water



Fusion Reaction



Fission Reaction



Fission vs Fusion

Energy comparison

- Fusion is the same process that powers the sun and creates huge amounts of energy—several times greater than fission.

Waste comparison



- While fission is an easier process to carry out, it generates far more nuclear waste(radioactive).
- Fusion considered a safer process with lower risk of accidents (as fusion reaction can't produce chain reaction).
- Once mastered, nuclear fusion could potentially provide unlimited clean energy at very low costs.

Tokamak

- A Tokamak is a type of nuclear fusion reactor.
- Mimic the fusion processes that power the sun, thus known as "artificial sun."

Important Tokamaks being developed worldwide-

1. ITER (International Thermonuclear Experimental Reactor)

- Location: Cadarache, France
- A global collaboration involving 35 countries (European Union, USA, China, India, Russia, Japan, and South Korea).

2. ADITYA & ADITYA-U

- Location: Institute for Plasma Research (IPR), Gandhinagar, India.
- India's first Tokamak focusing on plasma behavior studies.
- Plasma is state of matter made up of charged particles.

3. EAST (Experimental Advanced Superconducting Tokamak)

- Location: Hefei, China/Nickname: "Artificial Sun"

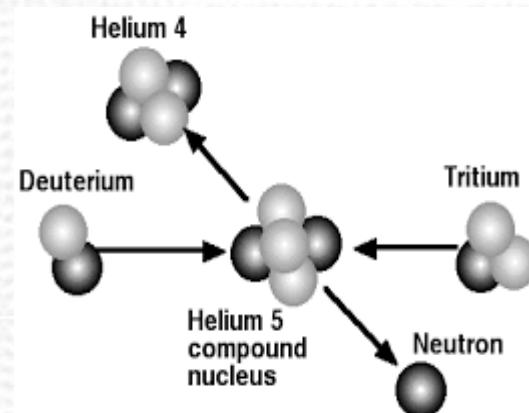


ITER (International Thermonuclear Experimental Reactor)

- Under development since 2005
- To become one of the biggest international science facilities in the world.
- It would begin deuterium-tritium fusion reactions by 2039, producing 500 MW of fusion power.

Current news?

- Experimental Advanced Superconducting Tokamak (EAST), the experimental nuclear fusion reactor in China created a new record by keeping its operational state maintained for more than 1,000 seconds, or over 17 minutes.
- The Chinese reactor did not produce electricity.
- It did not even carry out a fusion reaction.
- The technology has not yet reached that stage.
- However, the reactor managed to maintain plasma in a steady state of confinement for a long time.
- This steady state of plasma is prerequisite for fusion reaction.
- The plasma must be maintained at a consistent, high temperature and density for a sustained period to enable fusion to occur effectively.



Fusion reaction

- Scientists across the world have been trying to recreate fusion reaction produce electricity.
- The technology can eliminate the world's energy crisis, and the problem of climate change, but it has not been mastered yet.

Prelims Practice Question

Q. Consider the following statements regarding a Tokamak:

1. A Tokamak is a device used to confine plasma using magnetic fields for controlled nuclear fusion.
2. The primary purpose of the Tokamak is to sustain a fission reaction similar to that in nuclear reactors.
 - a. 1 only
 - b. 2 only
 - c. Both
 - d. None



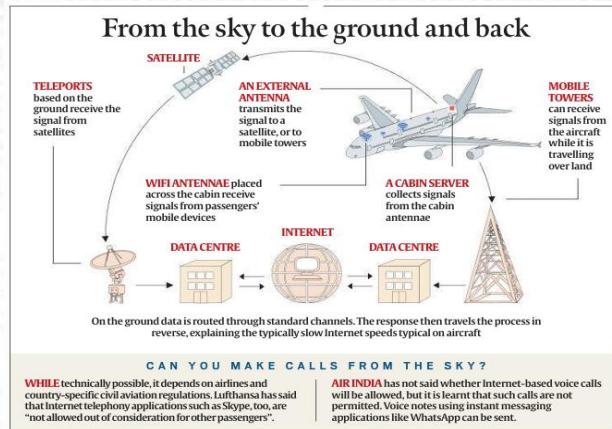
In flight internet

GS Paper III-S&T Prelims

Youtube: DNA 03.01.2025

How In-Flight Wi-Fi Works?

- Passengers' devices connect to multiple Wi-Fi antennae located in the cabin.
- Signals are sent from these antennae to an onboard server.
- Signals from the onboard server are transmitted via an antenna on top of the aircraft to a satellite.
- The satellite relays the signals to a ground station/teleport.
- Response signals follow the reverse path back to the aircraft through the satellite.
- In-flight Wi-Fi is slower than ground internet, but advancements in technology are gradually improving its speed and reliability.



Current news?

- Air India has become the first Indian airline to offer Wi-Fi internet connectivity on select domestic and international flights.
- Initially, the service will be free on select domestic flights during a limited introductory period, with plans to expand to other aircraft in the fleet.

Prelims Practice Question

Q. Consider the following statements regarding the mechanism of in-flight internet:

1. In-flight internet relies solely on satellite communication, with no role for ground-based towers.
2. Antennas mounted on the aircraft are used to receive and transmit signals necessary for connectivity.

Which of the above statements is/are correct?

- Only 1

- Only 2
- Both 1 and 2
- Neither 1 nor 2

'Life sprouts in space'

GS Paper III-S&T Prelims

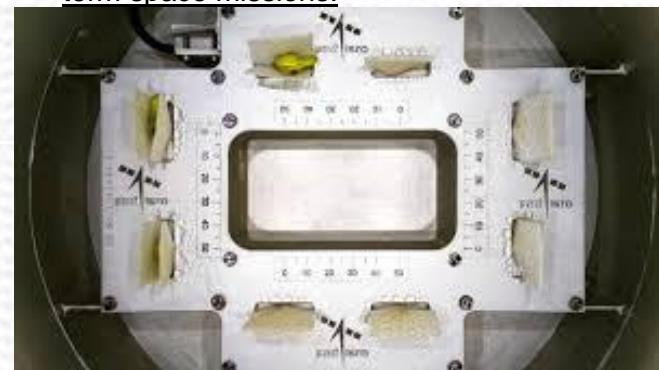
Youtube: DNA 06.01.2025

What is the news?

- ISRO successfully conducted an experiment where cowpea seeds germinated in space.
- The experiment was part of the Compact Research Module for Orbital Plant Studies (CROPS) conducted onboard the PSLV-C60 POEM-4 platform.
- Leaves also have sprouted.

Significance of the project

- The experiment aims to understand plant growth in microgravity and its potential for future space farming.
- It demonstrates the potential for cultivating plants in controlled environments during long-term space missions.



Prelims Practice Question

Q. Which of the following is true about ISRO's experiment involving cowpea seeds germinating in space?

1. The experiment was conducted as part of the Compact Research Module for Orbital Plant Studies (CROPS).
 2. It aims to study plant growth in microgravity for future space farming and long-term space missions.
 3. The experiment was conducted onboard the PSLV-C60 POEM-4 platform.
- 1 and 2 only
 - 2 and 3 only
 - 1 and 3 only
 - All of the above



Human Metapneumovirus (HMPV)

GS Paper III-S&T-Health Prelims

Youtube: DNA 07.01.2025

What is Human Metapneumovirus (HMPV)?

- HMPV is a respiratory virus causing mild infections similar to a common cold.

Symptoms:

- HMPV infections include cough, runny nose, sore throat, fever, and blocked nose.
- In severe cases, it may lead to bronchitis or pneumonia, particularly in children, the elderly, or those with weakened immune systems.

Transmission:

- Spreads through contact with infected individuals or contaminated surfaces.
- Transmission occurs via respiratory secretions like coughs, sneezes, or touching contaminated objects.

Treatment:

- There is no vaccine or specific antiviral for HMPV.
- Most cases resolve on their own with rest and over-the-counter medications to manage symptoms like fever and pain.

WHAT DO WE KNOW

What is human metapneumovirus?

Human metapneumovirus (hMPV) is a viral infection that typically leads to symptoms resembling those of the common cold.



Symptoms: Cough, fever, runny or blocked nose, sore throat, wheezing, shortness of breath, and rashes

Treatment: Currently, there are no antiviral treatments for hMPV

How is hMPV contracted?

It is caused by a virus which belongs to same viral family as those responsible for RSV, measles, and mumps.

Transmission mode:

- Coughing and sneezing
- Physical contact such as shaking hands, or hugging
- Touching contaminated objects or surfaces, such as phones, doorknobs, etc

Note- Human Metapneumovirus belongs to the Pneumoviridae family, which includes RSV, measles, and mumps.

Recent Developments in China

- China is monitoring cases of unknown pneumonia, including HMPV infections, as respiratory cases surge in winter.

- Posts about "Chinese hospitals overwhelmed" emerged, but there has been no official declaration of an outbreak.

Indian Government's Response:

- The National Centre for Disease Control (NCDC) is closely monitoring respiratory cases, in touch with international organizations.
- Cases have been reported in India, including Karnataka and Ahmedabad.
- But health experts confirm that HMPV is not new, it already existed.

Prelims Practice Question

Q. Evaluate the following statements about Human Metapneumovirus (hMPV):

- Human Metapneumovirus primarily affects young children, the elderly, and immunocompromised individuals, often causing respiratory tract infections.
- Human Metapneumovirus is classified under the Orthomyxoviridae family, alongside influenza viruses.

Which of the above statements are correct?

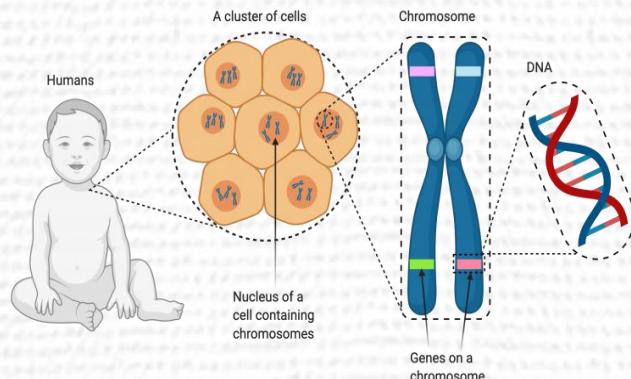
- Only 1
- Both 1 and 2
- Neither 1 nor 2
- None of the above

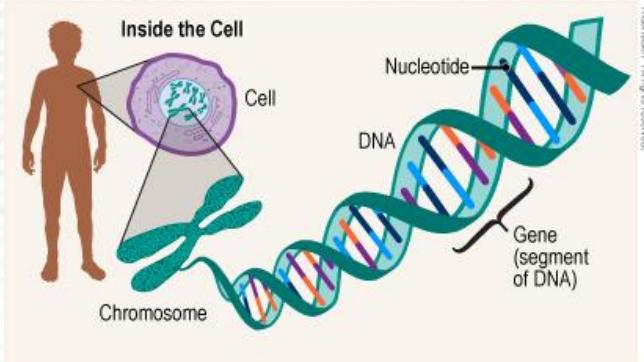
The 'Genome India' database

GS Paper III-S&T Prelims

Youtube: DNA 10.01.2025

What makes us up?





Genes

- Genes are made up of DNA
- DNA carries hereditary information

Genomes

- All Genes within the cell is known as genome.
- It is complete information about a person's Genetic makeup.

Genome India Project

- Launched in 2020 by Department of Biotechnology (DBT).
- Involves 20+ institutions to collect samples and create a reference grid.

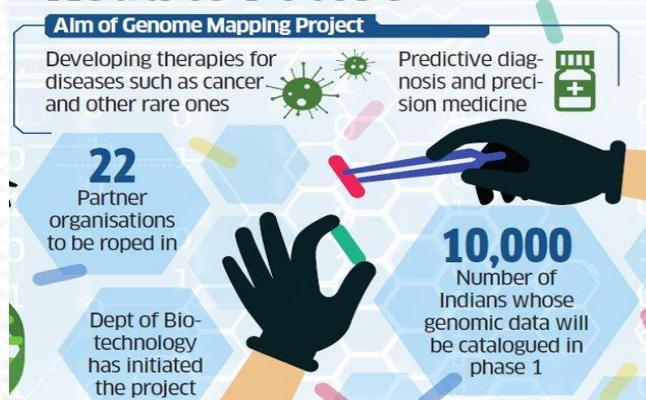
Aim

- To sequence 10,000 Indian genomes representing 83 population groups, making up about 2% of the country's 4,600 population groups.

Benefits

1. Healthcare
- To study Genetic make up Indian people - develop medical research to curb diseases like cancer, diabetes etc.
2. Prenatal Genetic Screening
- Screening for diseases prior to the birth.
3. Evolution Puzzle
- Questions regarding evolution by comparing human DNA with primate DNA.
4. To evaluate rare disorder

Road to Future



Current news?

- India has completed and made available a compilation of 10,000 human genomes.
- The database is housed at the Indian Biological Data Centre (IBDC) in Faridabad, Haryana.
- The 'Genome India' database, as it is known, will now be available to researchers across the world for investigation.



A major focus of the Indian reference genomes is to have researchers study diseases. GETTY IMAGES

Human Genome Project

- Genome India Project started after taking inspiration from the Human Genome Project.

Human Genome Project

- Started in 1990.
- It was an international research effort to determine the sequence of the human genome.
- The HGP has revealed that there are probably about 20,500 human genes.
- It was a collaborative effort led by the National Institutes of Health and the Department of Energy in the USA.



THE HUMAN GENOME PROJECT (HGP) 1990 - 2003



"The human genome underlies the fundamental unity of all members of the human family, as well as the recognition of their inherent dignity and diversity. In a symbolic sense, it is the heritage of humanity."

Universal Declaration on the Human Genome and Human Rights



Prelims Practice Question

- Q. Consider the following statements with reference to Genome sequencing:
1. It refers to figuring out the order of DNA nucleotides in a genome.
 2. Human Genome Project was launched by India in 1990 to better understand the genetic variations and disease-causing mutations specific to the Indian population.
- Which of the statements given above is/are not correct?
- a. 1 only
 - b. 2 only
 - c. Both 1 and 2
 - d. Neither 1 nor 2

Small Language Models

GS Paper III-S&T Prelims

Youtube: DNA 14.01.2025

What are Small Language Models?

- They are AI models designed to process and generate human language but in a limited framework.
- They are called "small" because they have a relatively small number of parameters compared to large language models (LLMs) like GPT-3.
- They are specialized in specific tasks eg Healthcare, Banking services etc



Small Language Models



Large Language Models

Ideal for specialized tasks, faster inference, and resource efficiency

Suitable for general tasks but resource-intensive

Examples of Small Language Model

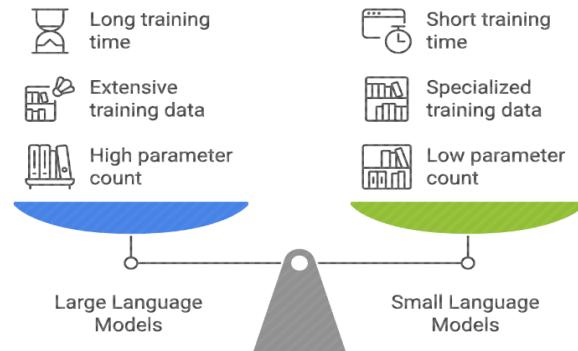
- Microsoft Phi (the latest Phi-3-mini has 3.8 billion parameters).
- LLaMA 3 (by Meta)
- Gemma (by Google)

Examples of Large Language Model

- ChatGPT (by Open AI),
- Gemini (Google)
- Llama (Meta).

Limitations

- Less capable of handling complex tasks
- Less accuracy and creativity



Prelims Practice Question

Q. Consider the following statements about Small Language Models (SLMs):

1. SLMs are trained on text data to understand and generate human-like text.
2. SLMs are limited to rule based responses and cannot learn from new data.
3. SLMs are designed to perform specific tasks only.

Which of the statements given above is/are correct?

- a. 1 and 2 only
- b. 2 only
- c. 1 and 3 only
- d. 2 and 3 only

Plant growth in space

GS Paper III-S&T Prelims

Youtube: DNA 16.01.2025

Current context

- Recently, ISRO sent CROPS (Compact Research Module for Orbital Plant Studies) module in the space with the aim of germination of seeds in space.
- CROPS module had soil-like medium with water, sunlight-mimicking LEDs, and Earth-like air and LOBIA (black eyed pea) seeds.
- Germination was realised four days after sending the seed in space.

Why Grow Plants in Space?

1. To provide a sustainable food source for long-duration missions to Mars or the Moon.
2. Plants recycle carbon dioxide and generate oxygen, creating a closed-loop life-support system.



3. They also reduce astronaut stress and improve mental well-being.



Lobia seeds germinate in space in ISRO's CROPS module. ISRO

Challenges of Growing Plants in Space

1. Microgravity
 - Gravity in the module was around 0.01 g (1% of Earth's surface gravity).
 - Microgravity makes water and nutrient delivery to plant roots difficult.
 - Lack of gravity disrupts normal root growth and adherence to surfaces.
2. Radiations
 - Plants must be shielded from radiation and temperature fluctuations.
3. Light requirement for photosynthesis
 - For photosynthesis, ISRO used four warm LEDs and four cool LEDs.
 - The lights are programmed to be on for 16 hours and off for 8 hours, simulating day and night conditions.
4. Temperature requirement
 - Temperatures inside the module were regulated between 20 and 30 degrees Celsius, and Earth-like atmospheric conditions were maintained.

How Plants Are Grown in Space?

1. Hydroponics: Water and nutrients are delivered via liquid solutions.
2. Aeroponics: Plants grow in nutrient mist without soil



Prelims Practice Question

Q. Hydroponics is an agricultural technique where plants are grown without soil. Consider the following statements about hydroponics:

1. Hydroponics involves growing plants in a nutrient-rich water solution.
 2. It requires the use of artificial light to ensure plant growth.
- a. 1 only
 - b. 2 only
 - c. Both
 - d. None

Third launch pad of ISRO

GS Paper III-S&T Prelims

Youtube: DNA 17.01.2025

What is a launch pad?

- A launch pad is a specialized structure or platform used to support and launch rockets.
 - As of now, ISRO has two launch pads
1. First Launch Pad (FLP)
 - FLP was realized 30 years ago for PSLV and continues to provide launch support for SSLV.
 2. Second Launch Pad (SLP)
 - SLP was established primarily for GSLV & LVM3 and also functions as standby for PSLV.
 - SLP was realized 20 years ago
- Both launch pads are at Satish Dhawan Space Centre of ISRO at Sriharikota, Andhra Pradesh.





Current news?

- The Union Cabinet chaired by the Prime Minister Shri Narendra Modi today approved the establishment of the Third Launch Pad (TLP) at Satish Dhawan Space Centre of ISRO at Sriharikota, Andhra Pradesh.
- The total fund requirement is Rs. 3984.86 Crore.
- TLP is targeted to be established within a duration of 48 months or 4 years.
- The Third Launch Pad project envisages the establishment of the launch infrastructure at Sriharikota, Andhra Pradesh for the Next Generation Launch Vehicles (NGLV) of ISRO
- The TLP is designed to have configuration that is as universal and adaptable as possible that can support not only NGLV but also the LVM3 vehicles with Semi Cryogenic stage as well as scaled up configurations of NGLV.

THIRD LAUNCH PAD AT SRIHARIKOTA

Cabinet approves establishment of Third Launch Pad at Satish Dhawan Space Centre of ISRO at Sriharikota, Andhra Pradesh at a cost of ₹ 3984.86 Crore

Launchpad to be used for:

- Next Generation Launch Vehicles of ISRO
- As standby launch pad for the Second Launch Pad at Sriharikota
- Enhance launch capacity for future Indian human spaceflight missions

Launchpad to be established within 4 years.

Next Generation Launch Vehicle

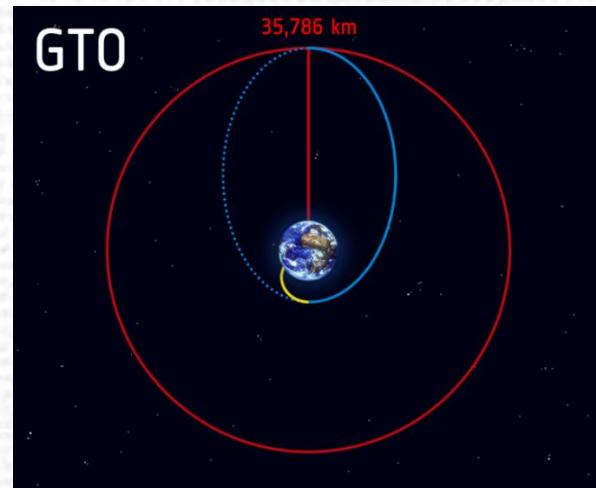
- The Next Generation Launch Vehicle (NGLV) is an advanced rocket system being developed

by the Indian Space Research Organisation (ISRO) to cater to the growing demands of space exploration and satellite launches.

Key Features of NGLV

- Heavy Payload Capacity
- Designed to carry payloads of 10–20 tons to Low Earth Orbit (LEO) and 4–10 tons to Geostationary Transfer Orbit (GTO)
- Three-Stage Rocket Design
- Incorporates semi-cryogenic, solid, and cryogenic stages for enhanced efficiency and payload capabilities.

NGLV is going to be important for future Gaganyaan (human spaceflight) and Chandrayaan (lunar exploration) missions.



GTO (Geostationary Transfer Orbit)

- An elliptical orbit used to transfer satellites from low Earth orbit (LEO) to GEO.

GEO (Geostationary Earth Orbit)

- Circular, with a near-constant altitude of ~35,786 km above the equator.

Prelims Practice Question

Q. Which of the following statements about Geostationary Transfer Orbit (GTO) is/are correct?

- GTO is an elliptical orbit used to transfer satellites to a geostationary orbit.
- The apogee of GTO lies at a distance equivalent to a geostationary orbit.
- Satellites require an additional propulsion system to move from GTO to a geostationary orbit.
- GTO is a circular orbit with a uniform altitude around Earth.
 - Only 1 and 3 are correct
 - Only 2 and 4 are correct
 - Only 1, 2, and 3 are correct
 - All four statements are correct



Reason behind Anaemia

GS Paper III-S&T-Health Prelims

Youtube: DNA 18.01.2025

Anaemia

- Anaemia is caused due to a lack of enough red blood cells (RBC) or haemoglobin.
- Conventional understanding is that iron deficiency is the primary cause of anemia in India.
- NFHS-5 recorded anemia prevalence at 60.8% for women aged 15-49.

Recent development

- The assumption that iron deficiency is the primary cause of anemia in India is being questioned.
- Studies revealed that factors like Vitamin B12 deficiency and air pollution also influence anemia.



The NFHS relied on drawing capillary blood, or from a pinprick, compared with the venous-blood draw.

Prelims Practice Question

Q. Which of the following statements about anaemia is/are correct?

1. Anaemia occurs when there is a deficiency of red blood cells or haemoglobin in the blood.
 2. Iron deficiency is the only cause of anaemia.
- a. Only 1 is correct
 - b. Only 2 is correct
 - c. Both 1 and 2 are correct
 - d. Neither 1 nor 2 is correct

Distributed Ledger Technology

GS Paper III-S&T Prelims

Youtube: DNA 20.01.2025

What is Distributed Ledger Technology?

- Distributed Ledger Technology (DLT) is a digital system for recording transactions and related data across multiple locations simultaneously.

- Unlike traditional databases, distributed ledgers do not have a central authority or central storage, making them decentralized, secure, and transparent.

Example of DLT in-

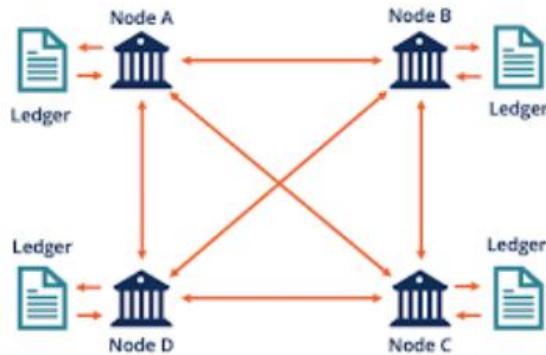
1. Governance

- India's Land Records: Several states in India are experimenting with DLT to digitize and secure land records.
- Estonia's e-Governance System: Estonia uses DLT to secure government records and citizen data, ensuring transparency and efficiency.

2. Healthcare and Pharma

- MyClinic app: A healthcare system using DLT to store patient records securely and give authorized providers access.

Distributed Ledgers



Blockchain Technology

- It is a type of distributed ledger system that records transactions in a secure, transparent, and tamper-resistant manner.
- Transactions are grouped into blocks.
- Each block is connected to the previous one using a cryptographic hash, forming a chain (hence the name "blockchain").
- Once a block is added to the chain, it is very difficult to alter.
- It was initially introduced as the underlying technology behind Bitcoin but has since evolved to support various applications beyond cryptocurrencies.

Note-

- Blockchain Technology is a type of Distributed Ledger Technology.
- Distributed Ledger Technology is a broader term.





Current news?

- Telecom Regulatory Authority of India (TRAI) will be using distributed ledger technology (DLT) to register spam numbers from customer.
- The TRAI regulates the telecom industry, and its main role is in regulating Unsolicited Commercial Communications (UCC), the official name for spam.



Prelims Practice Question

Q. Consider the following statements regarding Distributed Ledger Technology (DLT) and Blockchain Technology:

1. Blockchain is a type of Distributed Ledger Technology that organizes data in blocks linked in a sequential manner.
2. All Distributed Ledger Technologies use blocks and chains to structure and store data.
3. Distributed Ledger Technology can function without the need for a central authority, relying on decentralized consensus mechanisms.
4. Blockchain technology always requires cryptocurrencies for its operation.

How many of the above statements are correct?

- a. Only one
- b. Only two
- c. Only three
- d. All four

Meme coins

GS Paper III-S&T Prelims

Youtube: DNA 24.01.2025

What are 'Meme coins'?

- Meme coins are a type of cryptocurrency that originates from internet memes, viral trends.
- Unlike traditional cryptocurrencies like Bitcoin or Ethereum, which often have clear use cases and underlying technology, meme coins are largely driven by social media hype.
- Example: Dogecoin (DOGE) started as a joke based on the "Doge" meme and popularised by Elon Musk.

Dogecoin (DOGE)

- Dogecoin (DOGE) was created by two software engineers, Billy Markus and Jackson Palmer, in December 2013.
- Dogecoin was initially created as a parody cryptocurrency to mock the growing hype around cryptocurrencies like Bitcoin.



"Doge" meme, featuring a Shiba Inu dog and humorous captions.

'Meme coins' vs Traditional Cryptocurrencies like Bitcoins

- Anyone can create a meme coin, provided they have basic knowledge of blockchain technology and cryptocurrency creation.
- Meme coins can be easily copied too.
- Thus Memecoins are highly volatile and considered risky investments.

If meme coin can be copied how does it attain value?

- Social Media Influence
- Celebrity Endorsements

Current news?

- Donald Trump launched his memecoin, \$TRUMP.
- \$TRUMP coin priced at \$38.





GetTrumpMemes.com

STRUMP

X.COM/Donald Trump

Prelims Practice Question

Q. Consider the following statements about meme coins and traditional cryptocurrencies like Bitcoin:

1. Meme coins are primarily created as a joke or for entertainment purposes, whereas traditional cryptocurrencies like Bitcoin were developed with a focus on decentralization and serving as a digital alternative to fiat money.
2. Meme coins typically have a higher circulating supply and lower per-unit value compared to traditional cryptocurrencies.
3. Bitcoin is backed by a finite supply cap of 21 million coins, whereas meme coins generally do not have strict supply limits.
4. Meme coins usually have a robust underlying blockchain technology similar to Bitcoin's, offering secure and efficient transactions.

How many of the above statements are correct?

- a. Only 1
- b. Only 2
- c. Only 3
- d. All 4

How a Stove-Lighter Works?

GS Paper III-S&T Prelims

Youtube: DNA 28.01.2025

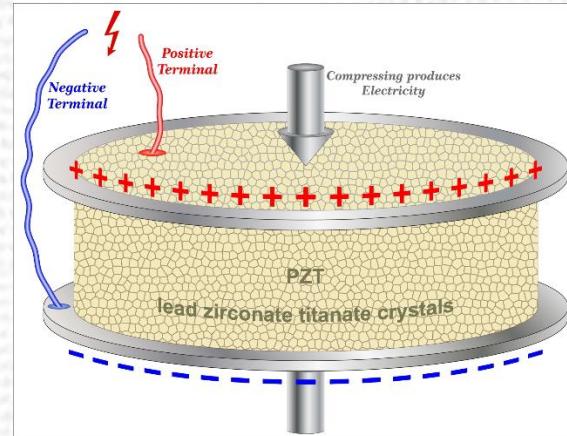
Functioning of a Stove lighter

- Stove-lighters generate a spark when pushed, causing a flame to appear.
- The spark is a result of an electric discharge.

How electric discharge is generated by a stove lighter?

- Some materials, called piezoelectrics, generate an electrical charge when mechanical stress is applied.

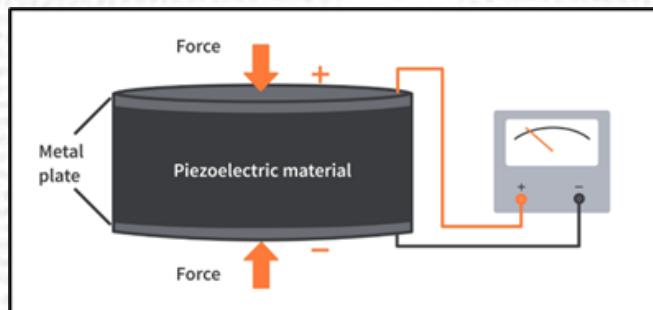
- When pressed, the piezoelectric material inside the lighter generates a charge imbalance.
- This imbalance results in a spark that ignites the gas in the stove.



Flow of electrons in the air causes spark. The spark when mixed with fuel causes flame.

Piezoelectricity in Quartz

- Piezoelectric materials are materials that can produce electricity due to mechanical stress.
- Piezoelectric materials are both natural and manmade.
- Piezoelectric effect is reversible in nature, meaning that materials exhibiting the direct piezoelectric effect (the generation of electricity when stress is applied) also exhibit the converse piezoelectric effect (the generation of stress when an electric field is applied).



Prelims Practice Question

Q. Evaluate the following statements based on the information about stove lighters and piezoelectric materials:



1. Electric discharge in a stove lighter is produced due to a charge imbalance caused by piezoelectric materials.
2. Pressing the stove lighter generates mechanical stress in the piezoelectric material, leading to the formation of a spark.

Which of the above statements are correct?

- Only 1
- Only 2
- Both 1 and 2
- Neither 1 nor 2

100th Mission of ISRO

GS Paper III-S&T Prelims

Youtube: DNA 29.01.2025

Current context

- ISRO is set for its 100th launch from the Satish Dhawan Space Centre (SDSC) in Sriharikota with the GSLV-F15 mission.

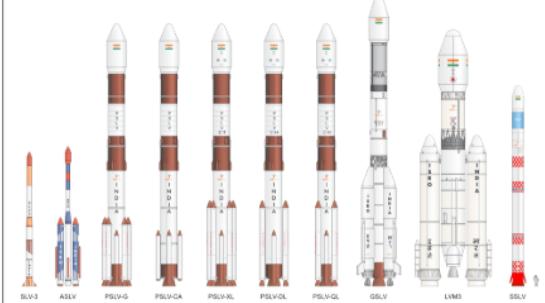
ISRO's history

- First Launch from Sriharikota on August 10, 1979, with SLV-3 E10, carrying the Rohini Technology Payload.
- The mission was only partially successful.
- Former President Dr. A.P.J. Abdul Kalam was the mission's director.
- The fully successful SLV-3 E2 launch happened on July 18, 1980, placing Rohini satellite, RS-1, into orbit.

100 LAUNCHES, BY VEHICLE

LAUNCH VEHICLE	MISSIONS
Satellite Launch Vehicle	4
Augmented Satellite Launch Vehicle	4
Polar Satellite Launch Vehicle	62
Geosynchronous Launch Vehicle	16
Launch Vehicle Mark III (previously GSLV Mk III)	7
Small Satellite Launch Vehicle	3
Reusable Launch Vehicle	1
Test Vehicle Mission	1
Pad Abort Test	1

Indian Rockets



Several launch vehicles developed with time-

- SLV (Satellite Launch Vehicle)
- ASLV (Augmented Satellite Launch Vehicle)
- PSLV (Polar Satellite Launch Vehicle)
- GSLV (Geosynchronous Satellite Launch Vehicle)
- LVM3 (Launch Vehicle Mark 3)
- SSLV (Small Satellite Launch Vehicle)
- RLV (Reusable Launch Vehicle)

SLV-3 E10: ISRO's first launch

- On August 10, 1979, ISRO launched its first Satellite Launch Vehicle named as the SLV-3 and while it was a failure.
- After 317 seconds of its launch, the Satellite Launch Vehicle crashed into the Bay of Bengal due to a faulty valve.

Since then ISRO achieved many milestones like-

- Mangalyaan (2013) – India's first interplanetary mission.
- Chandrayaan-3 (2023) made India the first country to land on the Moon's south pole.
- Aditya-L1 (2023) – India's first solar mission.
- PSLV-C37 (2017) – Set a record by launching 104 satellites in a single flight(the record later broken by SpaceX's Falcon 9 launched 143 satellites in one mission).

How to use in essay writing?

- First mission of ISRO- a failure or first step towards success?



This was a great day in 1979, where ISRO realised the failure with the Launch of SLV-3 and Successfully launched it again on 18th July 1980, and placed Rohini-1 satellite into its orbit.

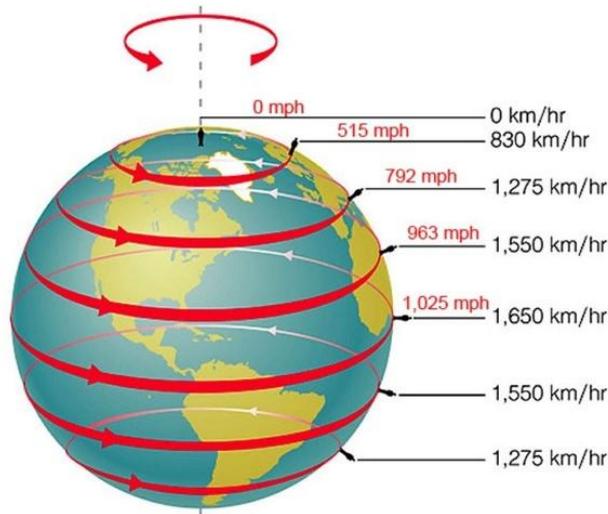


With this ISRO proved that Failure is not the opposite of success; it's part of Success !

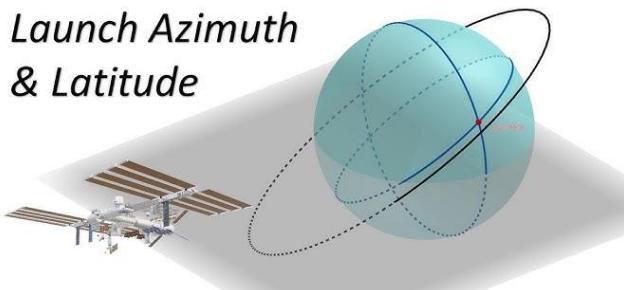


Why Sriharikota was chosen for first launch?

1. Equator proximity
 - Proximity to equator provides benefits of Earth's rotation for launches.
2. Uninhabited area and nearness to the sea
 - The surrounding area is sparsely populated, ensuring safety in case of launch vehicle debris falling into the sea.
3. Good launch azimuth corridor
 - The launch azimuth is the angle between north direction and the projection of the initial orbital plane onto the launch location.
 - Azimuth is crucial in space launch because it determines the initial direction of a rocket upon liftoff, essentially dictating which way it will travel to reach its intended orbit.



Orbital Inclination Launch Azimuth & Latitude



Prelims Practice Question

Q. Consider the following statements regarding SLV-3:

1. SLV-3 was India's first indigenously developed satellite launch vehicle, successfully launching Rohini-1 in its maiden flight.

2. Dr. A.P.J. Abdul Kalam played a crucial role in the development of SLV-3.

Which of the above statements is/are correct?

- a. 1 only
- b. 2 only
- c. Both
- d. None

2nd generation NavIC satellites

GS Paper III-S&T Prelims

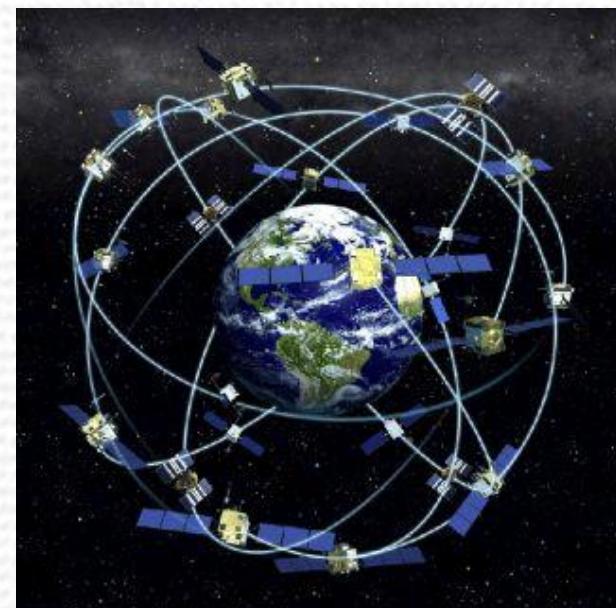
Youtube: DNA 30.01.2025

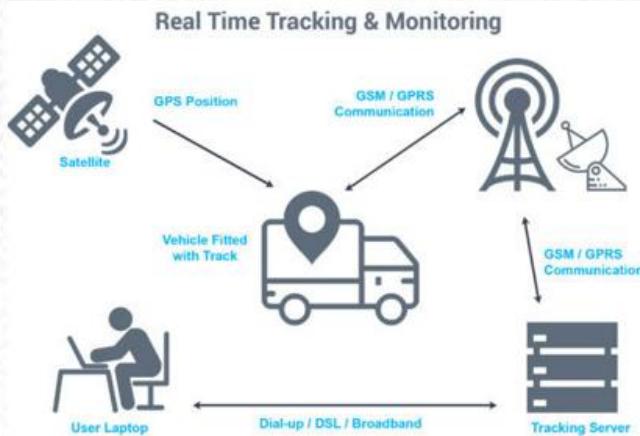
Global Positioning system (GPS)

- Developed by the United States Department of Defense (DoD) in 1970's, fully operational since 1993.
- Operates with at least 24 satellites in Medium Earth Orbit (altitude of 20,200 km).
- 24 satellites in six orbits (4 satellites in each orbit).
- Operates through satellite-transmitted radio signals at specific frequencies (L1 and the L2 frequencies).
- GPS provides Standard Positioning Service (SPS) worldwide.

Standard Positioning Service (SPS)

- Freely available, non-encrypted navigation service.
- Used in smartphones and other navigation devices for transportation, mapping, agriculture, and disaster management etc





Satellite navigation system built by other countries

1. GLONASS – Russia (Global)

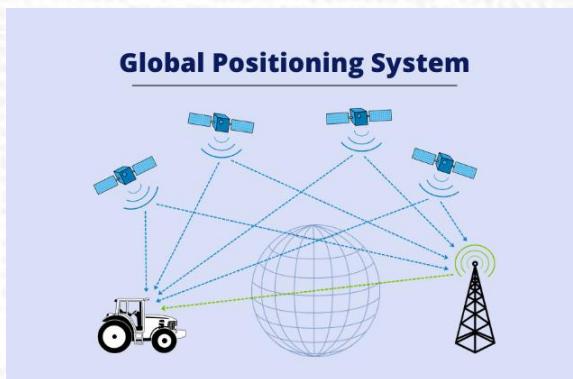
- Tagged as an alternative GPS service, GLONASS ranks second as the provider of global navigational system services with reasonable precision.
- It became operational in 1995.

2. Galileo – European Union (Global)

3. Bei-Dou – China (Global)

4. QZSS – Japan (Regional)

5. NAVIC (IRNSS) – India- It is a regional positioning system.



Different countries have developed their own satellite based navigation system but so far GPS developed by the US is most used and relied upon.

NAVIC – India

- The GPS service is provided by the U.S, can selectively deny access to the system, as happened to the Indian military in 1999 during the Kargil War.
- Since then India decided to build its own navigation system NAVIC.

Navigation in Indian Constellation (NavIC)

- It is an Indian Regional Navigation Satellite System (IRNSS), developed by ISRO.

• IRNSS originally consists of Eight satellites (7 active)-

- 3 satellites in geostationary orbit
 - 4 satellites in geosynchronous orbit.
- It works just like the U.S. Global Positioning System (GPS) but with limited coverage.
 - It is available for users in India and 1,500 kilometres beyond the Indian landmass.

It provides two kinds of services-

- Standard positioning services available to all users
- Restricted services available only to military and security services.

IRNSS

Indian Regional Navigation Satellite System

IRNSS (NavIC) is designed to provide accurate real-time positioning and timing services to users in India as well as region extending up to 1,500 km from its boundary

NAVIGATION CONSTELLATION CONSISTS OF SEVEN SATELLITES

3 in geostationary earth orbit (GEO) and 4 in geosynchronous orbit (GSO) inclined at 29 degrees to equator

Each sat has three rubidium atomic clocks, which provide accurate locational data

IT WILL PROVIDE TWO TYPES OF SERVICES

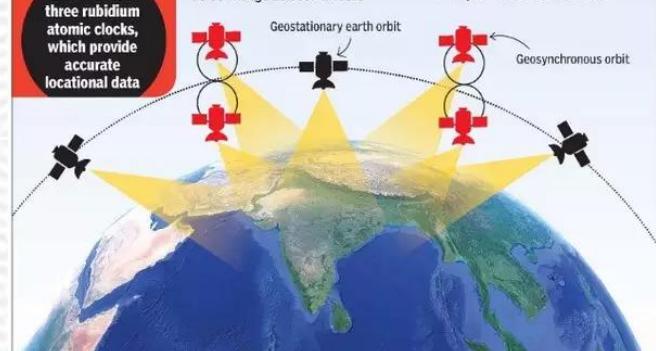
1 Standard positioning service | Meant for all users

2 Restricted service | Encrypted service provided only to authorised users (military and security agencies)

Applications of IRNSS are:

Terrestrial, aerial and marine navigation; disaster management; vehicle tracking and fleet management; precise timing mapping and geodetic data capture; terrestrial navigation aid for hikers and travellers; visual and voice navigation for drivers

While American GPS has 24 satellites in orbit, the number of sats visible to ground receiver is limited. In IRNSS, four satellites are always in geosynchronous orbits, hence always visible to a receiver in a region 1,500 km around India



Second generation NAVIC satellites

- To ensure continuous service and improved features, five second-generation NavIC satellites — NVS-01 to NVS-05 — are planned to enhance the existing constellation.
- These satellites incorporate L1 band communication, which broadens applications.
- India launched NVS-01 satellite on May 29, 2023.

Current news?

- The GSLV-F15(having indigenous Cryogenic engine) successfully placed the NVS-02 satellite in the intended orbit.
- NVS-02 satellite carries an advanced navigation payload operating in three



- frequency bands (L1, L5, and S) to ensure high accuracy.
- It also has a precise atomic clock called the Rubidium Atomic Frequency Standard (RAFS) for accurate timekeeping.
 - Even NVS-01 had this advanced precise atomic clock.
 - With time the second generation NavIC satellites will replace the existing ones.
 - The 2nd-generation satellites will also have a longer mission life of more than 12 years (existing satellites - 10 years).
 - They will also provide better coverage with accuracy and precision.



Century by ISRO

- GSLV-F15 was ISRO's 100th space mission
- Overall placed in orbit 548 satellites

UPSC 2023

Q1. Which one of the following countries has its own Satellite Navigation System?

- a. Australia
- b. Canada
- c. Israel
- d. Japan

UPSC 2018

Q2. With reference to the Indian Regional Navigation Satellite System (IRNSS), consider the following statements:

1. IRNSS has three satellites in geostationary and four satellites in geosynchronous orbits.

2. IRNSS covers entire India and about 5500 sq. Km beyond its borders.
 3. India will have its own satellite navigation system with full global coverage by the middle of 2019.
- Which of the statements given above is/are correct?
- a. 1 only
 - b. 1 and 2 only
 - c. 2 and 3 only
 - d. None

Q. Why is Indian Regional Navigational Satellite System (IRNSS) needed? How does it help in navigation? (UPSC 2018)

- Indian Regional Navigation Satellite System (IRNSS), developed by ISRO.
- It is named Navigation in Indian Constellation (NavIC).

Why it is important?

1. Strategic reason
 - The GPS service is provided by the U.S., can selectively deny access to the system, as happened to the Indian military in 1999 during the Kargil War.
2. Tracking device- Ola, Uber
3. Missile guided system are based on GPS
4. Used in military operations
5. Flight operation are controlled by GPS
6. Train tracking systems
7. Women senior citizen children safety tracking device
8. Epidemiological control- Arogya Setu app works on this
9. Weather prediction system

How Does IRNSS Help in Navigation?

- IRNSS consists of a constellation of seven satellites positioned in geostationary and geosynchronous orbits, covering a region of 1,500 km beyond India's borders. It provides two types of services:
 - a. Standard Positioning Service (SPS) for civilian users.
 - b. Restricted Service (RS) for military and strategic applications.

The IRNSS/NavIC system is a crucial step towards India's self-reliance in satellite navigation.



Environment

Genetic Engineering Appraisal Committee

GS Paper III-Environment Prelims

Youtube: DNA 03.01.2025

Genetically Modified (GM) Crops

- Genetically Modified (GM) crops are plants whose DNA has been altered through genetic engineering techniques to introduce desirable traits.

Desirable traits include-

- Resistance to pests, diseases, or environmental conditions,
- Improved nutritional content, or increased yield.
- Increased Yield: GM crops can produce higher yields, contributing to food security.

Concerns of GM crops-

1. Health Concerns

- There are public concern about potential long-term health effects persists.

2. Economic Issues

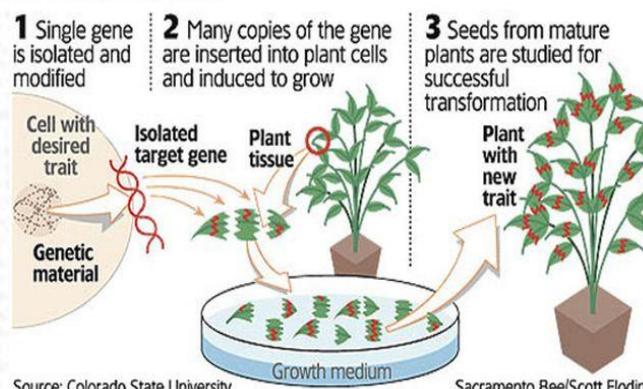
- GM seeds are often patented, leading to concerns about corporate control over seeds impacting small scale farmers.

3. Environmental Impact

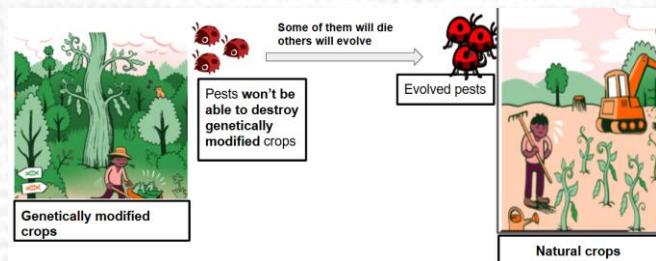
- Potential for GM crops to affect non-target species and lead to a reduction in biodiversity.

Genetic engineering

Researchers isolate a gene from an organism that has the trait they want to impart to a plant.



How genetically modified organisms can impact biodiversity?



Mechanism to allow cultivation of GM crops in India

- Genetic Engineering Appraisal Committee (GEAC) is apex body under Ministry of Environment, Forests and Climate Change for regulating manufacturing, use, import, export and storage of hazardous microorganisms or genetically engineered organisms (GMOs) and cells in the country.
- GEAC is also responsible for giving technical approval of proposals relating to release of GMOs and products including experimental field trials.
- However, Environment Minister gives final approval for GMOs.
- Genetic Engineering Appraisal Committee (GEAC) constituted Environment Protection Act (EPA) – 1986

Genetic Engineering Appraisal Committee (GEAC)

About: It is the statutory committee constituted under the "Rules for Manufacture, Use, Import, Export and the Storage of Hazardous Micro-organisms, Genetically Engineered Organisms or Cells, 1989" framed under Environment (Protection) Act, 1986.

Ministry: Ministry of Environment, Forest and Climate Change (MoEF&CC)

Composition:

- Chairman:** Special Secretary/Additional Secretary, Ministry of Environment, Forest and Climate Change (MoEF&CC)
- Co-Chairman:** Representative of Department of Biotechnology

Responsibilities:

- Appraisal of proposals relating to release of Genetically engineered (GE) organisms and products into the environment including experimental field trials.
- Appraisal of activities involving large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.



GM Crops in India

1. BT Cotton

- The Maharashtra Hybrids Seed Company (Mahyco) jointly with the US seed company Monsanto developed the genetically modified Bt Cotton to tackle the bollworm problem.
- In 2002, Bt Cotton became the first and only transgenic crop approved by the GEAC.

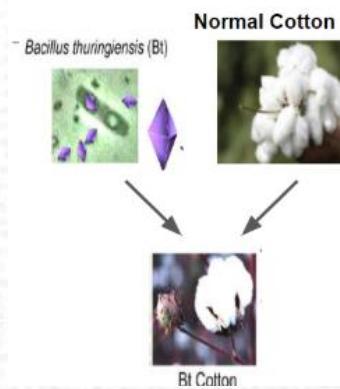
2. BT Brinjal



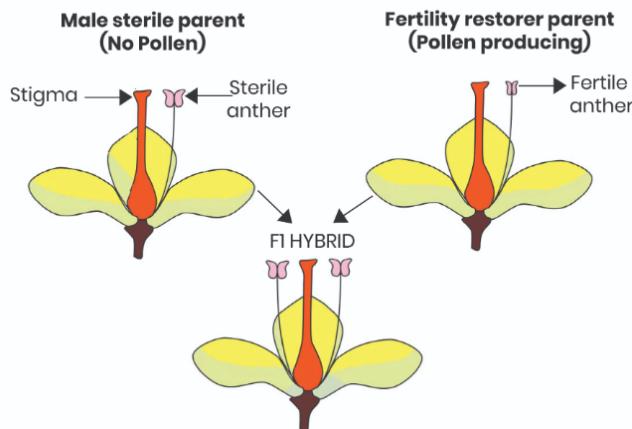
- It was developed by Mahyco (Maharashtra Hybrid Seeds Company) in collaboration with the Dharward University of Agricultural Sciences and the Tamil Nadu Agricultural University.
- The GEAC in 2007, recommended the commercial release of Bt Brinjal. The initiative was blocked in 2010.

3. HT Mustard:

- Dhara Mustard Hybrid (DMH-11) is created by using “barnase/barstar” technology for genetic modification by adding genes from soil bacterium that makes mustard self-pollinating plant.
- The technology was developed by Delhi university.
- In 2017, GEAC recommended the commercial, stayed by SC.



Barnase-Barstar system



Current news?

- The Union Ministry of Environment, Forest and Climate Change has amended the rules governing the selection of experts to the Genetic Engineering Appraisal Committee (GEAC).

- Under the new rules, an “expert member” ought to be disclosing their “interest” that could conflict with their duties.
- The expert is also expected to take all steps necessary to ensure that any conflict of interest not affect any decision of the GEAC.

UPSC 2018

Q1. With reference to the Genetically Modified mustard (GM mustard) developed in India, consider the following statements:

- GM mustard has the genes of a soil bacterium that give the plant the property of pest-resistance to a wide variety of pests.
- GM mustard has the genes that allow the plant cross-pollination and hybridization.
- GM mustard has been developed jointly by the IARI and Punjab Agricultural University.

Which of the statements given above is/are correct?

- 1 and 3 only
- 2 only
- 2 and 3 only
- 1, 2 and 3

Q. Discuss the potential benefits and challenges associated with GM crops adoption in India. Critically examine the role of regulatory frameworks and public perception in shaping the future of GM crops in the country.” 10 marks/150 words

Hints

- Genetically Modified (GM) crops are developed by altering their genetic makeup to introduce desired traits such as pest resistance, improved yield, or climate resilience. In India, their adoption remains contentious due to a mix of potential benefits and challenges.
- BT Cotton, the first and only transgenic crop approved GM in India so far.

Potential Benefits:

- Enhanced Productivity: GM crops like Bt cotton have demonstrated increased yields, addressing food security concerns.
- Reduced Dependence on Chemicals: Pest-resistant GM crops lower pesticide usage, reducing environmental harm and input costs.
- Climate Resilience: Crops engineered for drought or salinity tolerance could mitigate climate change impacts.

Challenges:



1. **Environmental Risks:** Concerns include loss of biodiversity, unintended cross-pollination, and resistance in pests.
2. **Health Concerns:** Long-term impacts on human health remain debated.
3. **Economic Inequities:** Dependence on proprietary seeds may burden small farmers financially.

Regulatory Frameworks and Public Perception:

- India's Genetic Engineering Appraisal Committee (GEAC) regulates GM crops, but delays and controversies hinder approvals. Mistrust among farmers and consumers, fueled by inadequate awareness and misinformation, further impedes adoption.

Conclusion:

- A balanced approach—strengthening regulatory frameworks, promoting transparent communication, and enhancing research—can harness GM crops' potential while addressing concerns for sustainable agricultural development.

Nimesulide ban

GS Paper III-Environment Prelims

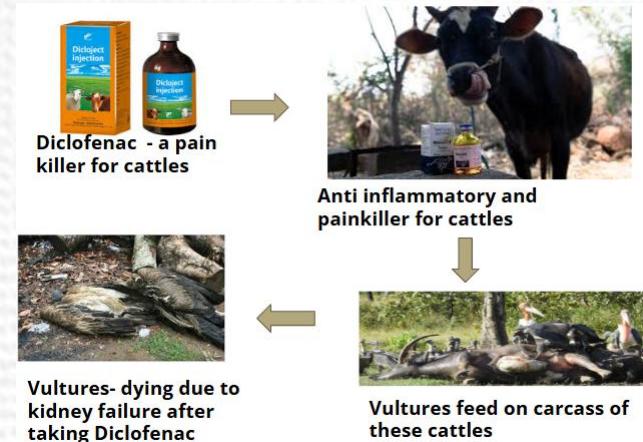
Youtube: DNA 10.01.2025

What is Nimesulide?

- Nimesulide is a non-steroidal anti-inflammatory drug (NSAID).
- It is used for pain-relieving, anti-inflammatory, and fever-reducing properties.

Nimesulide impact on vulture population-

- Nimesulide residues in livestock carcasses (when the animals are treated with the drug) are suspected to be toxic to vultures that feed on these carcasses.
- Similar to diclofenac, which was proven to cause renal failure in vultures, nimesulide is thought to affect vultures' kidneys, leading to death.
- India's vulture population has experienced a catastrophic decline (up to 99% since the 1990s) due to NSAIDs like diclofenac.
- Thus diclofenac was banned for veterinary use in 2006.

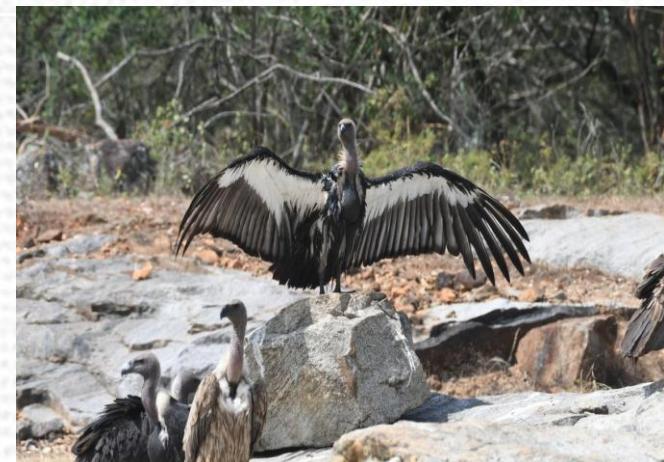


Current news?

- The Union ministry of health has banned manufacturing and sale of non-steroidal anti-inflammatory drug (NSAID) nimesulide and its formulation for animal use.
- The ban has been brought due to its toxic impact on the endangered vultures.

Vultures

- Often referred to as nature's sanitation workers.
- They play a crucial role in maintaining the ecosystem health by swiftly removing dead animals that might otherwise spread harmful diseases.



Prelims Practice Question

Q. Evaluate the following statements regarding the effect of Nimesulide on vulture populations:

1. Nimesulide has been directly linked to kidney failure in vultures.
2. Vultures often consume livestock carcasses containing traces of Nimesulide, leading to toxicity.

Which of the above statement is/are correct?

- a. 1 only



- b. 2 only
- c. Both
- d. None

What breaching 1.5°C means?

GS Paper III-Environment Prelims

Youtube: DNA 11.01.2025

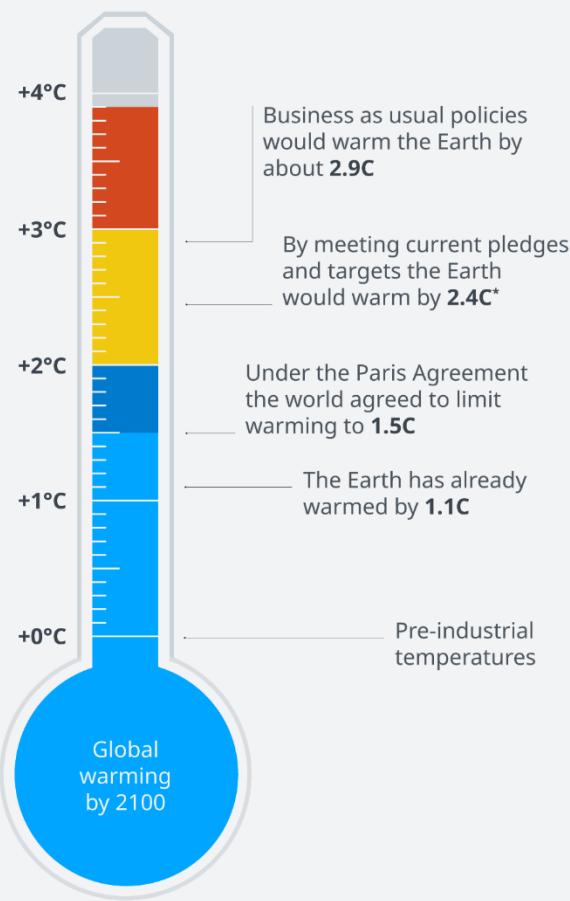
1992: EARTH SUMMIT, RIO DE JANEIRO

The meeting that set up the architecture for negotiations on an international climate change agreement. It finalised the UN Framework Convention on Climate Change (UNFCCC), the mother agreement that lays down the objectives and principles on which climate action by countries are to be based. It acknowledged that developing countries had fewer obligations and capabilities to bring down emissions. Developed countries agreed to a non-binding commitment to take measures aimed at returning to their 1990 emissions levels by 2000.



Projected global warming by 2100

Rise in temperatures above pre-industrial



*China's new climate goals have reduced this estimate from 2.7C

 Source: Climate Action Tracker, September 2020

Under UNFCCC

- World countries agreed to meet once in a year to make decisions regarding Climate change.
- Such yearly meeting at UNFCCC is known as CoP

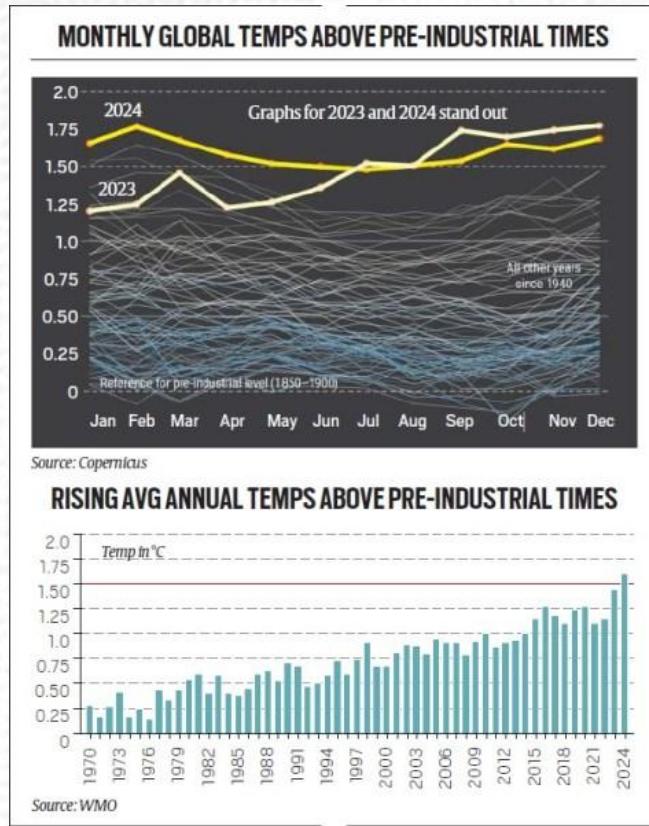
UNFCCC-CoP 21(Year 2015)

- The Paris Agreement does not assign emission reduction targets to any country.
- Instead, it asks all to do the best they can.
- But the targets known as INDC (Intended Nationally Determined Contribution) they set for themselves must be reported and verified.
- The objective is to limit the global rise in temperatures to within 2°C from pre-industrial times (1870), preferably below 1.5°C.

Current news?

- As per the World Meteorological Organization the year 2024 has now been confirmed to have breached the 1.5 degree Celsius global warming threshold, becoming the first calendar year to do so.
- The annual average temperature of Earth's surface in 2024 was 1.6 degrees Celsius above pre-industrial times (average of the 1850-1900 period).





What breaching 1.5°C means?

- The 2024 breach does not mean that the 1.5 degree target is over.
- This target, mentioned in the 2015 Paris Agreement, refers to long-term temperature trends, usually over two to three decades, not annual or monthly averages.
- As a result, this new data is unlikely to trigger any fresh response measures from countries to deal with the problem of climate change.
- Global emissions are still on the rise, and the 2030 emission cut targets are almost certain to be missed.
- Therefore, there is every likelihood that the breach that has happened in 2024 would become a norm within the next decade.

Prelims Practice Question

Q. Consider the following statements regarding the Paris Climate Agreement:

- The Paris Climate Agreement was adopted at the Conference of Parties (COP) 21 in 2015.
- The agreement aims to limit global warming to well below 2°C above pre-industrial levels and pursue efforts to limit it to 1.5°C.

Which of the above statements are correct?

- 1 only
- 2 only
- Both

d. None

Forever Chemicals

GS Paper III-Environment Prelims

Youtube: DNA 24.01.2025

What are 'Forever Chemicals'?

- Forever chemicals refer to a group of man-made chemicals known as per- and polyfluoroalkyl substances (PFAS).
- They are called "forever chemicals" because they are extremely persistent in the environment and the human body.
- It means they do not break down easily over time.
- They are also known as Persistent Organic Pollutants (POPs).

Characteristics of Forever Chemicals

1. High Stability

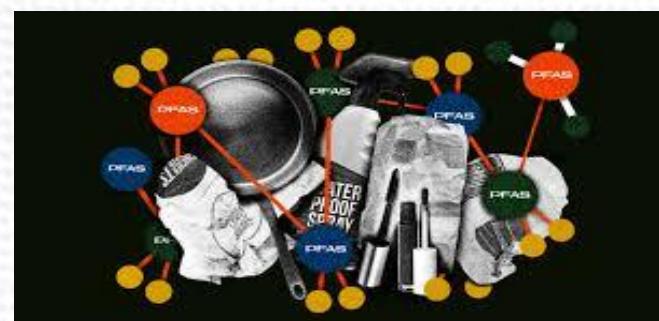
- PFAS are resistant to heat, water, and oil, making them extremely durable.

2. Non-biodegradable

- They do not degrade naturally, leading to accumulation in soil, water, and living organisms.

3. Bioaccumulation

- They can accumulate in the food chain and are often found in human blood and tissues.



Common Uses of 'Forever Chemicals':

- Non-stick cookware (Teflon coatings)
- Waterproof fabrics and stain-resistant carpets
- Food packaging like grease-resistant wrappers
- Firefighting foams
- Cosmetics like foundations and mascaras

Concerns and Health Impacts of Forever Chemicals

- Forever chemicals are associated with a range of environmental and health concerns.

Studies suggest they may:

- Contaminate drinking water and soil.



2. Persist in ecosystems, affecting wildlife.
 3. Contribute to health issues such as:
 4. Cancer (e.g., kidney and testicular cancers)
 5. Hormonal disruptions
 6. Immune system suppression
 7. Developmental delays in children
 8. Thyroid disorders
- Thus Stockholm Convention aims at limiting Persistent Organic Pollutants (POPs) or 'Forever Chemicals'.

Current news?

- The European Commission intends to propose a ban on the use of PFAS, or "forever chemicals", in consumer products, with exemptions for essential industrial uses.

Prelims Practice Question

Q. Consider the following statements regarding the Stockholm Convention:

1. The Convention aims to phase out the production and use of all chemicals classified as Persistent organic pollutants (POPs).
 2. Persistent organic pollutants (POPs) are resistant to environmental degradation and can bioaccumulate in living organisms.
- 1 only
 - 2 only
 - Both
 - None

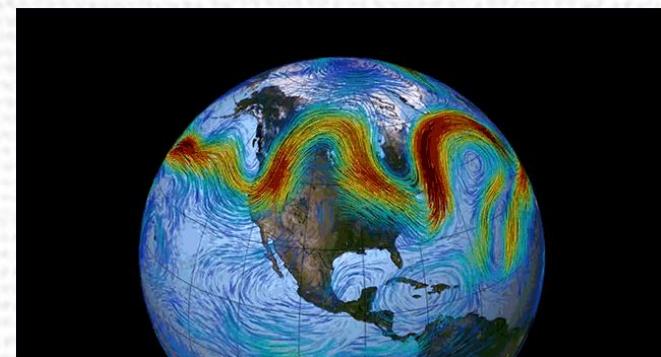
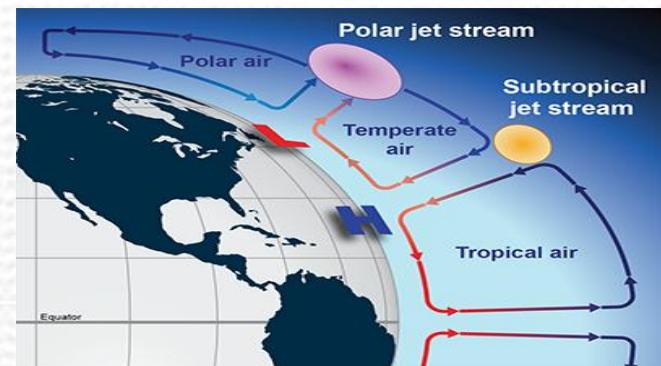
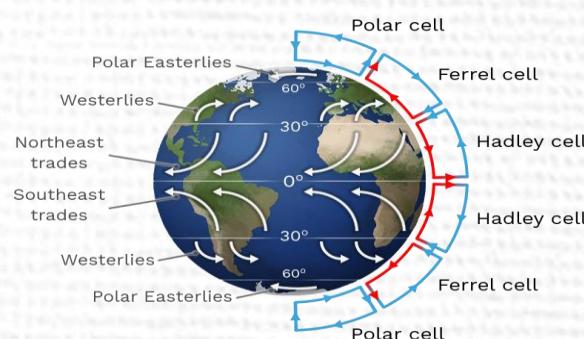
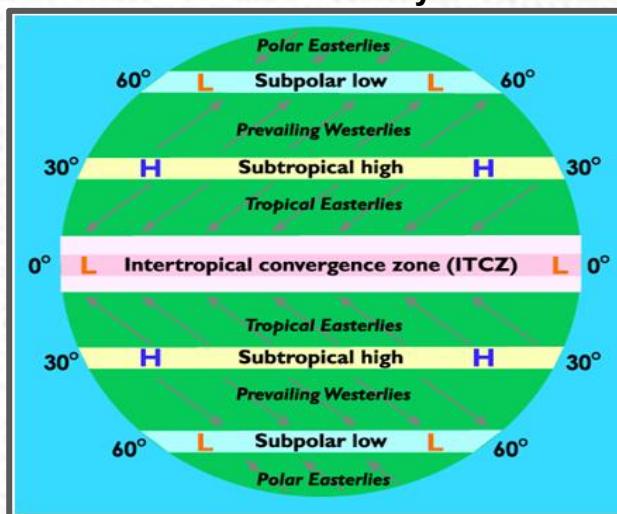
Geography & Disaster Management

Polar Vortex and Snow storm in the US

GS Paper I-Geography Prelims

Youtube: DNA 09.01.2025

Pressure belts and Planetary winds

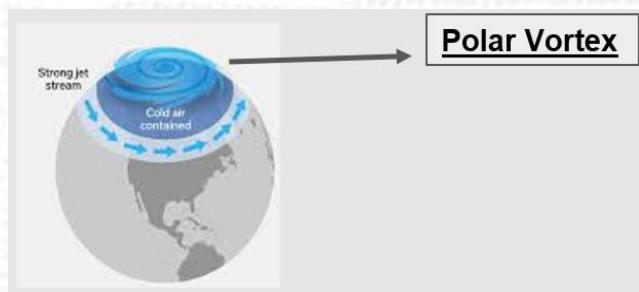
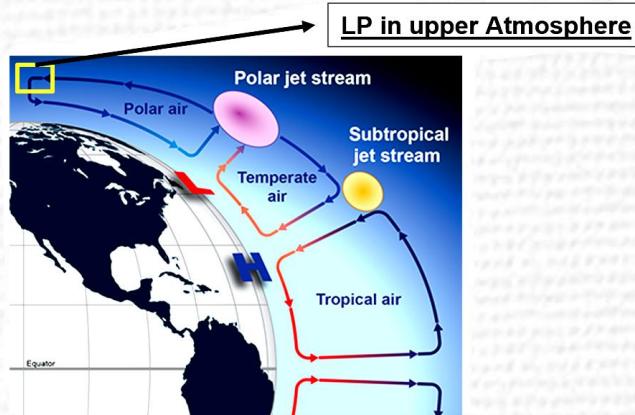


Polar Vortex

- It's a fast, circulating, cold wind system in the upper tropospheric region of both poles.
- The polar vortex is a large area of low pressure. Mechanism involved in the formation of Polar vortex
 1. LP in upper atmospheric region due to convergence of winds.
 2. Converging cold winds spirals in counter clockwise manner due to high Coriolis force.



This convergence and spiralling of winds causes Polar vortex.



Current news?

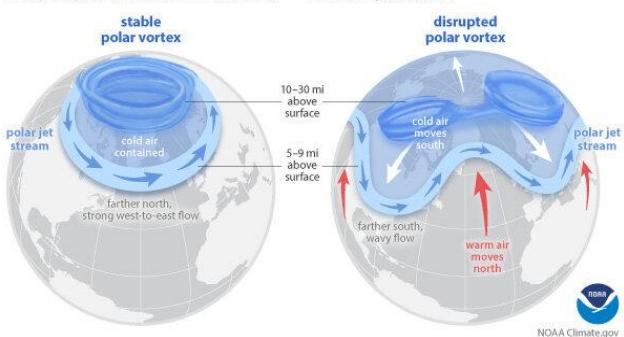
- Sometimes the Polar Vortex starts expanding southwards.
- It causes extremely low temperature and snow storm in the US and Canada.
- Recently the US and Canada were hit with a massive winter storm over the weekend, leading to mass school closures, dangerous road conditions, and power cuts.
- At least five people died in the storm.
- This extreme weather is the outcome of southward expansion of the polar vortex.

Understanding the polar vortex

The Arctic polar vortex is a strong band of winds in the stratosphere, surrounding the North Pole 10–30 miles above the surface.

The polar vortex is far above and typically does not interact with the polar jet stream, the flow of winds in the troposphere 5–9 miles above the surface. But when the polar vortex is especially strong and stable, the jet stream stays farther north and has fewer "kinks". This keeps cold air contained over the Arctic and the mid-latitudes warmer than usual.

Every other year or so, the Arctic polar vortex dramatically weakens. The vortex can be pushed off the pole or split into two. Sometimes the polar jet stream mirrors this stratospheric upheaval, becoming weaker or wavy. At the surface, cold air is pushed southward to the mid-latitudes, and warm air is drawn up into the Arctic.



Prelims Practice Question

Q. Consider the following two statements about the polar vortex:

1. The polar vortex is a large area of low pressure and cold air surrounding the Earth's poles, primarily confined to the stratosphere.
2. A weakened polar vortex can result in extreme cold weather in lower-latitude regions due to the southward displacement of Arctic air.

Which of the above statements is/are correct?

- a. Only 1
- b. Only 2
- c. Both 1 and 2
- d. Neither 1 nor 2

Rat hole mining

GS Paper III-Disaster Management Prelims

Youtube: DNA 08.01.2025

What is Rat hole mining?

- In this kind of mining small holes created in the hills to collect coal in smaller amount.
- The term "rat hole" refers to the narrow pits dug into the ground, typically just large enough for one person to descend and extract coal.
- It mainly uses child labour due to their smaller height and they charge low wages.
- It is mainly practised in Meghalaya and some hilly terrain of Assam.

Techniques adopted

- Side-cutting procedure and box-cutting.



Why Rat hole mining is practiced in Meghalaya?

- Since the coal seam is extremely thin in Meghalaya, no other method would be economically viable.
- The coal seam in the hills of Meghalaya is very thin, less than 2 m in most cases.
- Removal of rocks from the hilly terrain and putting up pillars inside the mine to prevent collapse would be costlier.



- In Meghalaya this is the locally developed technique known as Rat hole mining is most commonly used one.



Issues associated with Rat hole mines

1. Promotes Child Labour

- Since Rat holes are smaller in size it mainly employs child labours.

2. Creates Hazard

- Disasters like Landslide happens due to Rat hole mining.

3. River water pollution

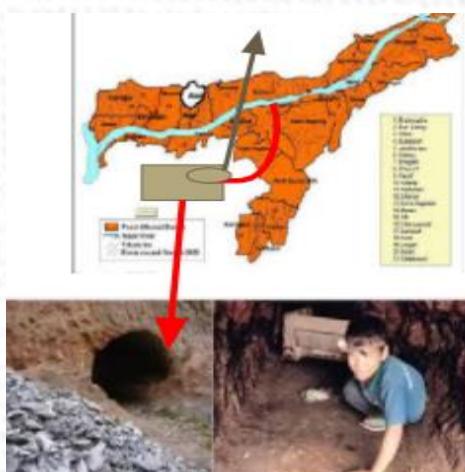
- Since this mining approach is unscientific, Ferrous Sulphide released in the process and gets mixed with river water.

4. Acid Mine Drainage

- The ferrous sulphide reacts with water and releases Sulphuric acid. Acidic water can cause industrial accidents. Eg Kopili blast.

Kopili dam accident in 2019

- 4 persons had died in the accident.
- Large scale coal mining in Meghalaya has polluted the water of Kopili river
- Water of the river has turned acidic
- Acidic water has corroded the pipeline -that burst



Current news?

- Several workers have been trapped for more than 12 hours in a coal "rat-hole" mine after it was flooded with water on in Dima Hasao district of Assam.
- National Disaster Relief Force and the State Disaster Relief Force are being applied to the site to aid in rescue efforts.



Prelims Practice Question

Q. Consider the following statements regarding rat-hole mining:

- Rat-hole mining is a type of mining practice where miners dig narrow vertical or horizontal tunnels to extract coal.
- Rat-hole mining is primarily practiced in the northeastern state of Meghalaya in India.
- The practice of rat-hole mining was banned by the National Green Tribunal (NGT) in 2014 due to its environmental impact and unsafe conditions for workers.
- Rat-hole mining is considered an environmentally sustainable and safe method of mining.

How many of the above statements are correct?

- Only one
- Only two
- Only three
- All four

Q. "Rat-hole mining, though banned, continues to persist in certain regions of India due to socio-economic and governance challenges. Critically analyze. 10 marks/150 words

Hints

- Rat-hole mining, a hazardous and unscientific mining practice involving narrow tunnels, is prevalent in regions like Meghalaya despite being banned by the National Green Tribunal (NGT) in 2014. Its persistence highlights deep-rooted socio-economic dependencies and governance failures.

Reasons for Persistence

- Socio-economic Factors:
 - Livelihood dependency: Rat-hole mining provides direct and indirect employment to



thousands, especially in tribal areas with limited alternative economic opportunities.

b. High demand for coal: The superior quality of Meghalaya's coal and its ease of extraction make it lucrative despite the ban.

2. Governance Challenges:

a. Weak enforcement of laws: Poor monitoring and lack of adequate resources for implementing the NGT ban enable illegal operations.

b. Political patronage: Allegations of collusion between local authorities, politicians, and mining operators hinder strict enforcement.

c. Regulatory loopholes: Absence of clearly defined property rights under the Sixth Schedule leads to unregulated practices by private landowners.

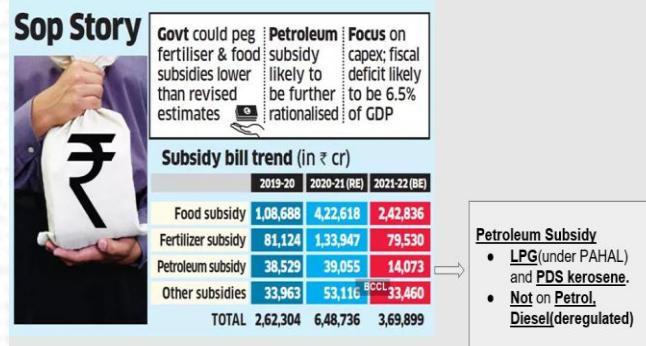
The persistence of rat-hole mining underscores the need for a multi-pronged approach combining enforcement, economic alternatives, and community participation. Only by addressing the underlying socio-economic and governance challenges can this practice be eradicated sustainably while ensuring environmental preservation and social equity.

Issues regarding fertiliser subsidy

GS Paper III-Agriculture Issues Prelims

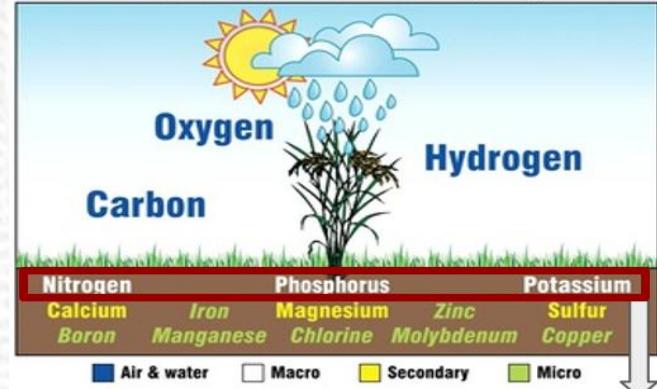
Youtube: DNA 02.01.2025

Subsidy provided by the Government



Nutrients required by plants

16 Essential Nutrients for maximum plant growth



Primary nutrients

- Present in all types of fertilizers in different proportion

Popular Fertilisers sold in India



Urea
N-46
P- 0
K-0



Di-Ammonium phosphate (DAP)
N- 18%
P- 46%
k-Negligible

Desirable ratio of N:P:K- 4:2:1.

Popular Fertilisers sold in India



Urea
N-46
P- 0
K-0



Di-Ammonium phosphate (DAP)
N- 18%
P- 46%
k-Negligible

Most used fertilizer by farmers- 350.42 lakh tonnes (lt) in 2022-23

- Subsidy on urea is known as Controlled pricing scheme.

Second most used fertilizer by farmers- 105 lakh tonnes (lt) in 2022-23

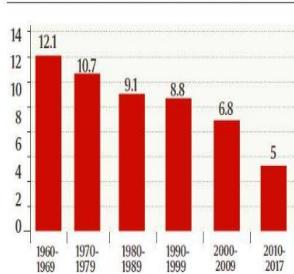
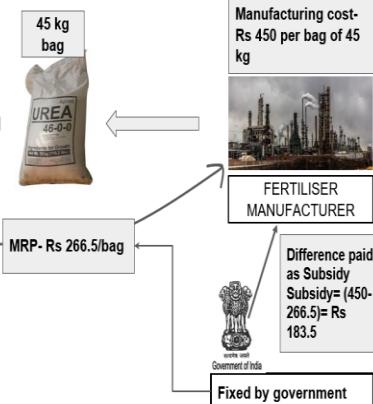
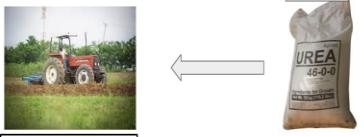
- Subsidy scheme on DAP is known as Nutrient Based Subsidy.



ALL-INDIA USE OF FERTILISER PRODUCTS

	UREA	DAP	MOP*	NPKS	SSP
2009-10	266.73	104.92	46.34	80.25	26.51
2010-11	281.13	108.7	39.32	97.64	38.25
2011-12	295.65	101.91	30.29	103.95	47.46
2012-13	300.02	91.54	22.11	75.27	40.3
2013-14	306	73.57	22.8	72.64	38.79
2014-15	306.1	76.26	28.53	82.78	39.89
2015-16	306.35	91.07	24.67	88.21	42.53
2016-17	296.14	89.64	28.63	84.14	37.57
2017-18	298.94	92.94	31.58	85.96	34.39
2018-19	314.18	92.11	29.57	90.28	35.79
2019-20	336.95	101	27.87	98.57	44.03
2020-21	350.43	119.11	34.25	118.11	44.89
2021-22	341.8	92.72	24.57	114.79	56.81
2022-23	357.25	105.31	16.32	100.73	50.18

*For direct application, excluding supply to complex fertiliser units.


CROP YIELD RESPONSE TO FERTILISERS

Urea-Controlled Pricing scheme

Subsidy provisions for different kinds of fertilisers
Subsidy on Urea:

- In India, urea is the most produced, imported, consumed fertiliser of all.
- It is subsidised only for agricultural uses.
- The Centre pays a subsidy on urea to fertiliser manufacturers on the basis of cost of production at each plant and the units are required to sell the fertiliser at the government-set Maximum Retail Price (MRP).

Subsidy on Non-Urea Fertilisers:

- The MRPs of non-urea fertilisers are decontrolled or fixed by the companies.
- All Non-Urea based fertilisers are regulated under Nutrient Based Subsidy (NBS) Scheme.
- Examples of non-urea fertilisers - DAP and MOP.

Bhartiya Jan Urvarak Yojana
**ONE NATION,
ONE FERTILIZER**

 Empowering Farmers For
Aatmanirbhar Krishi

Features:

 Single Brand '**Bharat**' Will Be Used
For All Type of Major Fertilizers
to be Sold in Country

 With a '**Single Bag Design**' Across
the Country, '**Bharat Urea**',
'**Bharat DAP**', '**Bharat MOP**' and
'**Bharat NPK**' Will be Sold

Nutrient Based Subsidy

- Under the NBS regime – fertilizers are provided to the farmers at the subsidized rates based on the nutrients (N, P, K & S) contained in these fertilizers.
- Also, the fertilizers which are fortified with secondary micronutrients such as molybdenum (Mo) and zinc are given additional subsidy.
- The subsidy on P&K fertilizers is announced by the Government on an annual basis for each nutrient on a per kg basis – which are determined taking into account the international and domestic prices of P&K fertilizers, exchange rate, inventory level in the country etc.
- NBS policy intends to increase the consumption of P&K fertilizers so that optimum balance (N:P:K= 4:2:1) of NPK fertilization is achieved.

Note

- Considering importance of DAP the central government gives special subsidy on DAP for time being apart from NBS.



Nutrient Based Subsidy Scheme

About:

- A fixed rate of subsidy (in ₹ per Kg) decided on an annual basis
- Being implemented since 2010

Implemented by:

- Department of Fertilisers, Ministry of Chemicals & Fertilizers

Ambit of NBS:

- Given on nutrients - Nitrogen, Phosphate, Potash and Sulphur
- For Phosphatic and Potassic (P&K) fertilisers
- Doesn't include Urea based fertilisers
- NBS is available for imported complex fertilisers except Ammonium Sulphate

Nutrient	Main Source
Nitrogen (N)	Urea
Phosphorus (P)	DAP
Potassium (K)	MOP

Aim:

- Ensure the availability of fertilisers to farmers at an affordable price
- Increase consumption of P&K fertilizers to achieve optimum NPK ratio (4:2:1)

Fertilisers in India:

- 3 basic fertilisers – Urea, Diammonium Phosphate (DAP), and Muriate of Potash (MOP)
- Urea is the most – produced, consumed, imported and physically regulated fertiliser of all
- Urea is subsidised only for agricultural uses



Current news?

- The Central government has extended a special subsidy of Rs 3,500 per tonne on diammonium phosphate (DAP), which was to end on December 31, for a further one-year period from January 1, 2025.
- The decision, cleared by the Union Cabinet Wednesday, is aimed at containing any surge in farmgate prices of India's second most-consumed fertiliser.

Price of Urea

- MRP of Urea has been statutorily fixed at Rs 266.50 per 45-kg bag (after neem-coating and goods and services tax) since November 2012.

HARISH DAMODARAN
 NEW DELHI, JANUARY 1

THE CENTRE has extended a special subsidy of Rs 3,500 per tonne on di-ammonium phosphate (DAP), which was to end on December 31, for a further one-year period from January 1, 2025.

The decision, cleared by the Union Cabinet Wednesday, is aimed at containing any surge in farmgate prices of India's second most-consumed fertiliser. That

pressure is more, given the rupee's recent slide against the US dollar.

The Modi government has informally frozen the maximum retail prices (MRP) of all non-urea fertilisers. This is despite them being "decontrolled" on paper, unlike urea whose MRP has been statutorily fixed at Rs 266.50 per 45-kg bag (after neem-coating and goods and services tax) since November 2012.

CONTINUED ON PAGE 2

UPSC-2019

Q1. With reference to the cultivation of Kharif crops in India in the last five years, consider the following statements

- Area under rice cultivation is the highest.
- Area under the cultivation of jowar is more than that of oilseeds.
- Area of cotton cultivation is more than that of sugarcane.
- Area under sugarcane cultivation has steadily decreased.

Which of the statements given above are correct?

- 1 and 3 only
- 2, 3 and 4 only
- 2 and 4 only
- 1, 2, 3 and 4

UPSC-2020

Q2. With reference to chemical fertilizers in India, consider the following statements:

- At present, the retail price of chemical fertilizers is market-driven and not administered by the Government.
- Ammonia, which is an input of urea, is produced from natural gas.
- Sulphur, which is a raw material for phosphoric acid fertilizer, is a byproduct of oil refineries.

Which of the statements given above is/are correct?

- 1 only
- 2 and 3 only
- 2 only
- 1, 2 and 3

UPSC 2013

Q. What are the different types of agriculture subsidies given to farmers at the national and at state levels? Critically analyse the agricultural subsidy regime with reference to the distortions created by it.

Hints

- Agricultural subsidies in India are vital for ensuring food security and supporting the livelihoods of farmers.

Types of Agricultural Subsidies at national level-

1. Input Subsidies

- Fertilizer Subsidy: Urea subsidy and Nutrient-Based Subsidy (NBS) scheme for non Urea fertilizers.
- Others-Electricity Subsidy, Credit Subsidy under Kisan Credit Card (KCC), Irrigation Subsidy Pradhan Mantri Krishi Sinchayee Yojana (PMKSY).

2. Price Support Subsidy:



- Minimum Support Price (MSP): Ensures remunerative prices for crops like wheat, rice, and pulses.
3. Income Support:
- Pradhan Mantri Kisan Samman Nidhi (PM-KISAN): Direct income support of ₹6,000 annually to small and marginal farmers.

State Level Subsidies

- State-specific income support schemes like Telangana's Rythu Bandhu and Odisha's KALIA.

Benefits of subsidy

- Provides a safety net for vulnerable farmers.
- Ensures food security by stabilizing crop production.
- Encourages adoption of modern farming techniques.

Distortions:

1. Overutilization of Resources: Free electricity leads, groundwater depletion excessive use of Urea causing soil salinity.
2. Skewed Crop Patterns: MSP encourages cultivation of water-intensive crops like rice and sugarcane, exacerbating regional imbalances.
3. Fiscal Burden: High subsidy costs strain public finances, diverting funds from investment in infrastructure and R&D.
4. Inefficiency: Benefits often accrue to large farmers, sidelining marginal and tenant farmers.
5. Market Distortions: Artificial price controls hinder private sector participation and competitiveness.

Way Forward:

- Gradual rationalization of subsidies to reduce fiscal stress.
- Promotion of direct benefit transfers (DBT) to ensure targeted delivery.
- Shift focus from input subsidies to investments in agri-infrastructure, research, and sustainable farming practices.

A balanced subsidy regime is essential to address resource inefficiencies while ensuring farmer welfare and long-term agricultural sustainability.

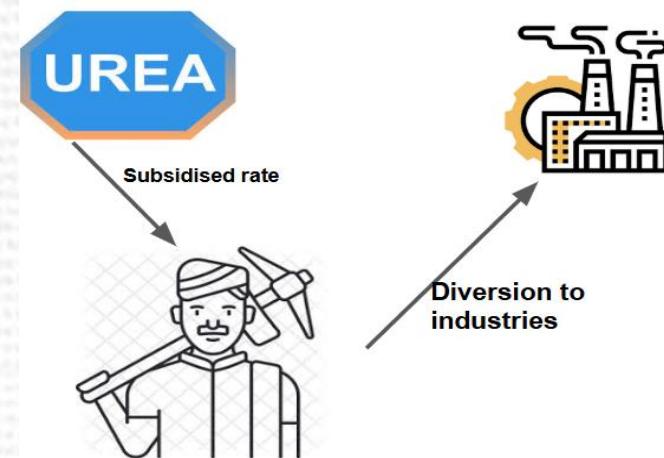
“Neem coated Urea” and “Urea Gold”

GS Paper III-Agriculture Issues Prelims

Youtube: DNA 02.01.2025

Issue of diversion of Urea

- Urea is used in various industries such as resin/glue, plywood, crockery, moulding powder, cattle feed, dairy and industrial mining explosives.
- Due to controlled price subsidy scheme of Urea, Urea for agriculture is very cheap.
- The subsidized urea is getting diverted mainly to industries.



Neem Coated Urea Policy, 2015

- The government has made it mandatory for domestic fertilizer firms to “Neem coat” at least 75 per cent of their urea production (It can even go upto 100%).

Benefits

- Neem will act as pesticide.
- Prevent diversion of urea for industrial use.



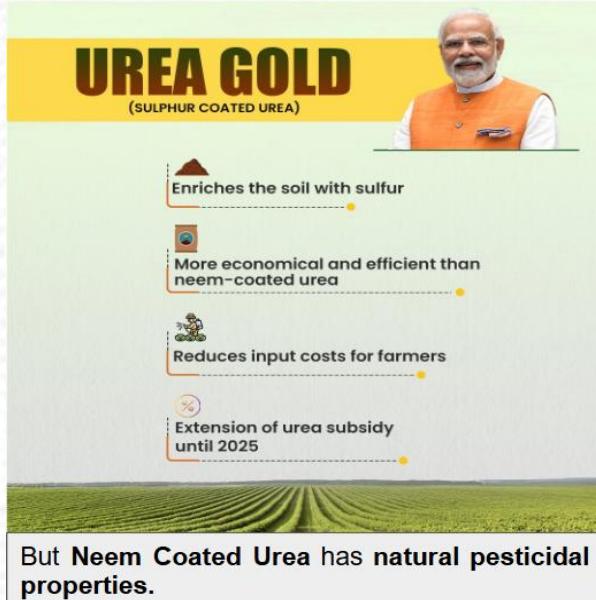
Urea Gold

- Launched last year(2023).
- It is a new variety of Urea coated with Sulphur.
- It is being introduced to address the Sulphur deficiency in soil and save input costs for the farmers.
- Urea Gold surpasses the existing Neem-coated urea in terms of both economic viability and efficiency.

How Urea Gold Is Better Than Others?



- Sulphur-coated urea facilitates a gradual release of nitrogen, thereby enhancing its availability and uptake by crops.
- The inclusion of humic acid in Urea Gold further extends its lifespan as a fertilizer.



Prelims Practice Question

Q. Why does the Government of India promote the use of Neem-coated Urea' or Urea Gold in agriculture?

- Release of Neem oil in the soil increases nitrogen fixation by the soil microorganisms
- Neem coating slows down the rate of dissolution of urea in the soil
- Nitrous oxide, which is a greenhouse gas, is not at all released into atmosphere by crop fields
- It is a combination of a weedicide and a fertilizer for particular crops

Crop Insurance schemes and tech infusion in agriculture

GS Paper III-Agriculture Issues Prelims

Youtube: DNA 02.01.2025

What is the news?

- The central government approved continuation of two key crop insurance schemes:

 - Pradhan Mantri Fasal Bima Yojana
 - Restructured Weather Based Crop Insurance Scheme

- The schemes are extended until 2025-26.

- The government also allocated Rs. 824.77 crore for technology infusion to improve the insurance process.
- The fund to be utilised under tech schemes for agriculture like YES-TECH and WINDS.

Continuation of

PM Fasal Bima Yojana and Restructured Weather Based Crop Insurance Scheme

Cabinet approves continuation of the two schemes till 2025-26

- Overall outlay of ₹ 69,515.71 Crore from 2021-22 to 2025-26
- Cabinet has also approved creation of Fund for Innovation and Technology with Corpus of ₹ 824.77 Crore
- Fund to be utilised towards funding technological initiatives under the scheme namely, YES-TECH, WINDS, etc as well as R&D
- Fund to cause
 - Large scale technology infusion in implementation of the scheme
 - Increasing transparency and claim calculation and settlement

01-01-2025
CABINET DECISION



Pradhan Mantri Fasal Bima Yojana

- The Pradhan Mantri Fasal Bima Yojana was launched in 2016.
- The scheme is being administered by the Ministry of Agriculture and Farmers Welfare.
- This is insurance scheme of crops for farmers.

Uniform premium

- 2% to be paid by farmers for Kharif crops,
- 1.5% for Rabi crops,
- 5% for Horticulture crops.
- The premium rates to be paid by farmers are very low and balance premium will be paid by the Government.
- There is no upper limit on Government subsidy (even if balance premium is 90%, it will be borne by the Government).



Premium is shared between the Union and States

- Union and state governments on a 50:50 basis and on a 90:10 basis in the case of northeastern states.

Note-

- The scheme is compulsory for loanee farmer obtaining crop loan or kisan credit card (KCC) account for notified crops.

Premium to be paid by the farmer

S. No.	Season	Crops	Maximum Insurance charges payable by farmer (% of sum insured)
1	Kharif	All foodgrain and Oilseeds crops (all Cereals, Millets, Pulses and Oilseeds crops)	2.0% of SI or Actuarial rate, whichever is less
2	Rabi	All foodgrain and Oilseeds crops (all Cereals, Millets, Pulses and Oilseeds crops)	1.5% of SI or Actuarial rate, whichever is less
3	Kharif and Rabi	Annual Commercial / Annual Horticultural crops	5% of SI or Actuarial rate, whichever is less

Agriculture Insurance Company
 Chitramandiram MS General Insurance Company
 Reliance General Insurance Co. Ltd.
 Bojjo Allianz
 Future Generali India Insurance Co. Ltd.
 ICICI Lombard General Insurance Co. Ltd.
 IIFCO Tokio General Insurance Co. Ltd.
 Universal Sompo General Insurance Company
 ICICI Lombard General Insurance Co. Ltd.
 Tata AIG General Insurance Co. Ltd.
 SBI General Insurance
 United India Insurance Co.

Limited Premium
 Remaining Premium amount




Pradhan Mantri Fasal Bima Yojana

- It is in line with One Nation -One Scheme theme.
- It replaced the existing two schemes National Agricultural Insurance Scheme as well as the Modified NAIS.
- Even shared croppers and tenets are covered under it.

Risks covered under the scheme

- Pre harvest loss-Yield Losses,natural Fire and Lightning, Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane, Tornado, animal attack, pest attack
- Post Harvest loss-In post-harvest losses, coverage will be available up to a maximum period of 14 days from harvesting for those crops which are kept in "cut & spread" condition to dry in the field.

Restructured Weather-Based Crop Insurance Scheme

- The Restructured Weather-Based Crop Insurance Scheme (RWBCIS) is a Government of India initiative aimed at mitigating the financial risks faced by farmers due to adverse weather conditions.

Premium Rates:

- Farmers pay a subsidized premium rate:

 - Kharif crops: 2% of the sum insured.
 - Rabi crops: 1.5% of the sum insured.
 - Commercial/Horticultural crops: 5% of the sum insured.

Differences with PMFBY?

- RWBCIS is parameter-based insurance, where payouts are determined by weather deviations.
- Provides insurance based on weather parameters such as rainfall, temperature, humidity, wind speed, etc.
- Compensation is triggered when the observed weather parameters deviate from a pre-defined threshold, which is deemed harmful to the crop.
- PMFBY is yield-based insurance, where payouts are determined by actual crop loss assessments.

Aspect	RWBCIS	PMFBY
Basis of Loss Assessment	Weather parameters like rainfall or temperature.	Field-based crop yield assessment.
Trigger Mechanism	Weather data from AWS.	Crop Cutting Experiments (CCE).
Coverage	Weather risks.	All non-preventable natural risks.
Payout Time	Faster, as it does not require field inspections.	Relatively slower due to yield verification.



News regarding Tech fund

- Cabinet approved the creation of the Fund for Innovation and Technology (FIAT) with a corpus of ₹824.77 crore.

Technological Initiatives under FIAT

- Yield Estimation System using Technology (YES-TECH):
 - Utilizes Remote Sensing Technology for yield estimation, with at least 30% weightage to technology-based estimates.
 - Currently implemented in 9 states, with efforts to onboard others.
- Weather Information and Network Data Systems (WINDS):
 - Plans to establish Automatic Weather Stations (AWS) at the block level and Automatic Rain Gauges (ARGs) at the Panchayat level.
 - Aims to increase network density fivefold for hyper-local weather data.
 - WINDS implementation starts in 2024-25, with states like Kerala, Uttar Pradesh, and Himachal Pradesh participating.





Prelims Practice Question

Q. Evaluate the following statements regarding the technological initiatives under the Fund for Innovation and Technology (FIAT):

- Yield Estimation System using Technology (YES-TECH) utilizes Remote Sensing Technology for yield estimation, with at least 30% weightage given to technology-based estimates.
- Weather Information and Network Data Systems (WINDS) plans to establish Automatic Weather Stations (AWS) at the block level and Automatic Rain Gauges (ARGs) at the Panchayat level, aiming to increase network density fivefold.
- YES-TECH is currently implemented across all states and union territories of India, with efforts underway to refine technology further.
- WINDS implementation starts in 2024-25, with states like Kerala, Uttar Pradesh, and Himachal Pradesh participating.

Which of the above statements are correct?

- Only 1 and 2
- Only 1, 2, and 4
- Only 2 and 3
- Only 1, 3, and 4

History, Art & Culture

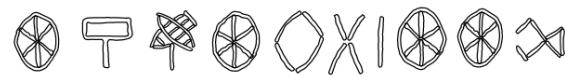
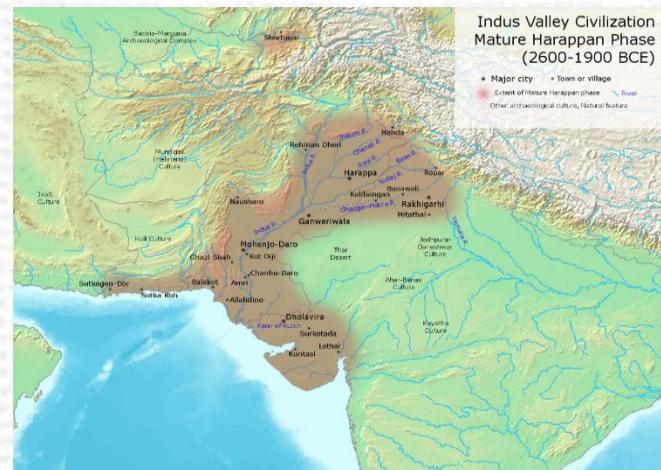
Indus Valley script

GS Paper I-Indian History Prelims

Youtube: DNA 06.01.2025

Harappan civilization

- The Indus River Valley Civilization, 3300-1300 BCE, also known as the Harappan Civilization, extended from modern-day northeast Afghanistan to Pakistan and northwest India.
- Important innovations of this civilization include standardized weights and measures, seal carving, and metallurgy with copper, bronze, lead, and tin.
- Little is understood about the Indus script, and as a result, little is known about the Indus River Valley Civilization's institutions and systems of governance.
- The civilization likely ended due to climate change and emigration.



The Ten Indus Scripts discovered near the northern gateway of the citadel Dholavira. Image courtesy of Siyajkak and Gregors of Wikimedia Commons.

Pictographic script of IVC



Current news?

- The Indus Valley script remains undeciphered even after 100 years.
- Researchers and archaeologists worldwide have made efforts to interpret the script but without definitive success.
- Tamil Nadu Chief Minister M.K. Stalin announced a \$1-million prize for experts or organizations that succeed in deciphering the Indus Valley Civilization script.

Prelims Practice Question

Q. Which of the following statements is/are correct about the Indus Valley Civilization (IVC)?

1. The civilization is known for its advanced urban planning, including well-organized drainage systems and grid-based city layouts.
 2. Mohenjo-Daro and Harappa were primarily agricultural settlements with little evidence of trade or craft specialization.
 3. The script of the Indus Valley Civilization remains undeciphered, and its language is unknown.
 4. Evidence of the use of baked bricks for construction has been found in several sites of the civilization.
- a. 1 and 3 only
 - b. 1, 3, and 4 only
 - c. 2 and 4 only
 - d. All of the above

Q. The script of the Indus Valley Civilization remains undeciphered to date, posing significant challenges to understanding the socio-political and cultural aspects of this ancient civilization. Discuss. 10 marks/150 words

Hints

- The Indus Valley Civilization (IVC), one of the world's earliest urban civilizations, is noted for its advanced urban planning, trade networks, and material culture. However, its script remains undeciphered, hindering a complete understanding of its socio-political and cultural dimensions.

Features of the Indus Script

1. Pictographic Nature
 - Comprising approximately 400-600 signs, the script appears on seals, pottery, and tablets.
2. Brevity of Inscription
 - Most inscriptions are short, averaging 5 symbols, which complicates linguistic analysis.

Bidirectional Writing

- Evidence suggests a right-to-left and boustrophedon style.

Contextual Usage

- Found on trade goods, seals, and amulets, indicating economic and ritual purposes.

Challenges in Decipherment

1. Absence of a Rosetta Stone

- Unlike the Egyptian script, there is no bilingual text to aid comparison.

2. Unknown Language Base

- The linguistic roots (Dravidian, Proto-Indo-European, or otherwise) remain uncertain.

3. Lack of Long Texts

- The brevity of inscriptions limits phonetic and syntactic analysis.

4. Ambiguity in Symbols

- Overlapping interpretations (logographic, syllabic, or mixed) hinder consensus.

Impact on Understanding Early Indian History

- The undeciphered script limits insights into:

1. Administrative Systems:

- Understanding governance and trade mechanisms is incomplete.

2. Religious Practices

- Potential links between Harappan and later Indian traditions remain speculative.

3. Interregional Interactions

- Deciphering could reveal connections with Mesopotamia and other civilizations.

Efforts by scholars using AI and linguistic tools offer hope for breakthroughs. Deciphering the script would provide invaluable insights into the origins of Indian culture and heritage.

Pravasi Bhartiya Diwas

GS Paper II-Indian Diaspora Prelims

Youtube: DNA 04.01.2025

Pravasi Bhartiya Diwas

- Pravasi Bharatiya Divas is celebrated in India every year on 9th January.
- Pravasi Bharatiya Divas is a celebratory day observed to mark the contribution of the overseas Indian community towards the development of India.
- It is the flagship event of the Ministry of External Affairs.
- It was first celebrated in 2003.
- It was an annual event earlier, but in 2015, the government revised its format to celebrate PBD once every two years.



- The last Pravasi Bharatiya Divas was celebrated in the Indore of Madhya Pradesh in 2023.



Significance of 9th January

- 9th January was chosen as the day to celebrate PBD since it was on this day in 1915 that Mahatma Gandhi (the greatest Pravasi) returned to India from South Africa.

Significance of Indian diaspora

- Freedom struggle**
 - Mahatma Gandhi, Ghadarite movt etc
- Soft Power**
- Remittances**
 - India received approximately 110 billion dollars in remittances in 2023(highest by any country in the world).
- Role in diplomacy**
 - Eg lobbying for the US-India Civilian Nuclear Agreement Bill in 2008

Current news?

- Trinidad and Tobago President Christine Carla Kangaloo will be the chief guest at the 18th Pravasi Bharatiya Divas (PBD) in Bhubaneswar, scheduled for January 8–10.

Prelims Practice Question

Q. Consider the following facts about Mahatma Gandhi:

- In January 1917, Mohandas Karamchand Gandhi returned to his homeland after two decades of residence abroad.
- Mahatma Gandhi went South Africa as a lawyer, and became a leader of the Indian community in that territory.
- It was in South Africa that Mahatma Gandhi first forged the distinctive techniques of nonviolent protest known as satyagraha, first promoted harmony between religions, and first alerted upper-caste Indians to their discriminatory treatment of low castes and women.

Which of the following statement(s) is/are correct?

- Only 1
- 1 and 2
- 2 and 3
- All of the above

Parakram Diwas

GS Paper I-Indian History Prelims

Youtube: DNA 23.01.2025

Parakram Diwas

- Today ie 23rd January, 2025 is 128th birth anniversary of Netaji Subhas Chandra Bose.
- This day is celebrated as Parakram Diwas across the country.
- In 2021, Government of India decided to celebrate birthday of Netaji Subhas Chandra Bose on the 23rd day of January every year as 'PARAKRAM DIWAS'.

Objective behind Parakram Diwas celebration

- To remember Netaji's indomitable spirit and selfless service to the nation and to inspire people of the country, especially the youth.



Netaji Subhas Chandra Bose



- He was an Indian Nationalist born on January 23, 1897 (Cutack, Odisha).
- In 1920 he passed the Civil Service examination, but resigned in 1921 to join NCM.
- Politics style- militant approach, socialist policies.
- President of INC in 1938 and 1939.
- He formed a national planning committee, which formulated a policy of broad industrialization.
- After resignation from INC he lead Indian National Army (INA) or Azad Hind Fauz during WWII for India's independence.

Note

- Mohan Singh, an Indian revolutionary formed the Indian National Army from among the Indian prisoners of war with the aim of liberating India from the British rule.
- The title of "Netaji" (meaning "Respected Leader") was given to Subhash Chandra Bose by the Indian soldiers of the Azad Hind Fauj (Indian National Army).



Prelims Practice Question

Q. Who gave "Father of Nations" title to Mahatma Gandhi?

- Subhash Chandra Bose
- GK Gokhale
- Rabindranath Tagore
- Jawaharlal Nehru

Hints

- Mahatma Gandhi and Kasturba Gandhi were detained at Aga Khan Palace, Pune in the wake of the Quit India Movement.

- It was while serving the prison term Kasturba passed away on 22 February, 1944.
- Concerned about Gandhiji, Netaji sent message to the Mahatma Gandhi on Azad Hind Radio, Rangoon on 4th June, 1944.

"Nobody would be more happy than ourselves if by any chance our countrymen at home should succeed in liberating themselves through their own efforts or by any chance, the British Government accepts your 'Quit India' resolution and gives effect to it. We are, however proceeding on the assumption that neither of the above is possible and that a struggle is inevitable. Father of our Nation in this holy war for India's liberation, we ask for your blessings and good wishes".

Netaji Subhash Chandra Bose

Q. Indian National Army was a military failure but not in vain completely. Discuss 10 marks/150 words

Hints

- Indian National Army was formed from among the Indian prisoners of war with the aim of liberating India from the British rule. After resignation from INC Subhash Chandra Bose lead Indian National Army (INA) or Azad Hind Fauz during WWII for India's independence. While militarily unsuccessful, the INA played a crucial role in India's struggle for independence.

Why INA failed militarily?

- From the very beginning, Bose had pinned his hopes on a large-scale uprising within the country, to complement the INA's attack at the border.
- But to spark a countrywide revolution, the INA needed to first achieve some military successes of its own.
- Instead of a victorious romp into Assam and then to Delhi, as Bose had hoped, the Imphal offensive of 1944 failed due to air superiority and gunpowder of British.

INA fight was not in vain despite defeat-

- After the war, Claude Auchinleck, the Commander-in-Chief of the British Indian army, decided to publicly prosecute senior INA officers for high treason.
- The trials would be held publicly at the Red Fort from November 1945 to May 1946, and unleash a wave of nationalist sentiment among the public.
- Indian public overwhelmingly sympathised with Bose's INA, hailing the soldiers as heroes in



- India's national struggle—Shah Nawaz Khan, Prem Sahgal and Gurbaksh Singh Dhillon.
- The Indian National Congress — which had been highly critical of Bose and his decision to ally with the Japanese — decided to assume responsibility for defending the accused. Jawaharlal Nehru himself put on his barrister's coat for the trial.
- Thus it can be said the INA was a military failure but was successful in uniting sentiments of Indians against British. It further strengthened Indian National Movement.

Iron Age

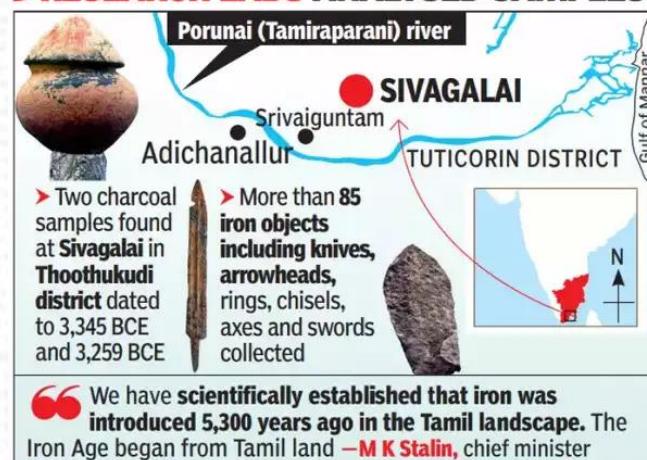
GS Paper I-Indian History Prelims

Youtube: DNA 25.01.2025

Current context

- Recent findings reveal iron technology in Tamil Nadu dates back to as early as 3345 BCE.
- Samples from archaeological sites such as Sivagalai, Adichanallur, Mayiladumparai, and Kodumanal support this evidence.
- Accelerator Mass Spectrometry (AMS) and Optically Stimulated Luminescence (OSL) confirmed dates from 3345 BCE to 953 BCE.

3 RESEARCH LABS ANALYSED SAMPLES



Significance of the findings

1. Redefines history

- Iron technology in Tamil Nadu predates known global benchmarks.
- The findings redefine global cultural trajectories, suggesting Tamil Nadu's early role as a pioneer in metallurgy.

2. Cultural Significance

- Suggests that the Copper Age of Northern India and Iron Age of Southern India might have been contemporary.

3. Technological advancement of South India

- Sites like Kodumanal and Porenthal demonstrated advanced pyro-technology, including sponge iron production and durable iron tools.
- Furnace temperatures reached 1300°C.

Future research needed

- Further excavation and interdisciplinary studies are proposed to deepen understanding of early Indian metallurgical advancements.

Prelims Practice Question

Q. Analyze the following statements regarding the chronology of the Iron Age and Copper Age (also known as the Chalcolithic Age)?

- The Copper Age preceded the Iron Age and marked the first extensive use of metals by humans.
- The Iron Age began immediately after the Copper Age without any intermediate period.
 - 1 only
 - 2 only
 - Both
 - None

Kumbh Mela

GS Paper I-Indian Culture Prelims

Youtube: DNA 13.01.2025

Current context

- The Maha Kumbh 2025, a grand religious event held every 12 years, will take place in Prayagraj, starting on January 13, with the first holy bath (snan).
- It is one of the largest gatherings on earth, expected to attract over 45 crore devotees over one-and-a-half months.

Frequency of Kumbh Mela

- Maha Kumbh (Poorna Kumbha): Held every 12 years at 4 locations Prayagraj, Haridwar, Ujjain, and Nashik-Trimbakeshwar(but in different 12 years cycle).
- Ardh-Kumbh: Held in Prayagraj and Haridwar every 6 years.
- The Kumbh Mela was recognized by UNESCO as an Intangible Cultural Heritage of Humanity in 2017.



Kumbh Mela occurs every 12 years at four locations, while Mahakumbh Mela is held every 144 years only at Prayagraj.


EXPRESS EXPLAINED
 CULTURE


Kumbh Mela

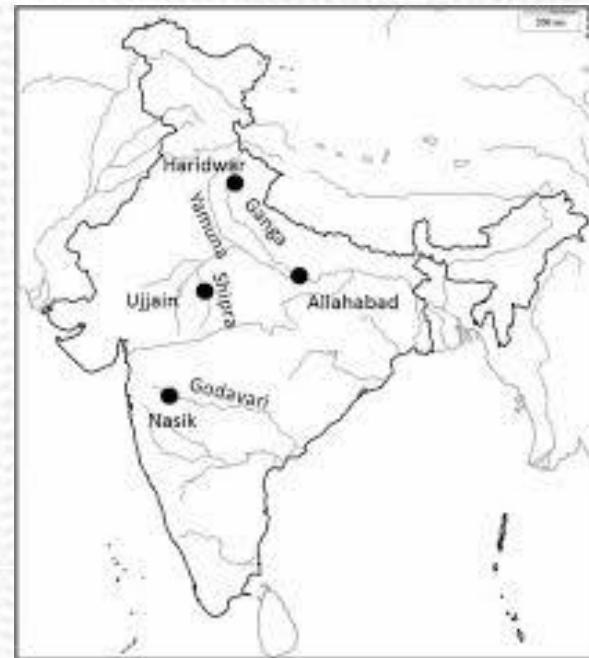
- Bathing in these rivers during Kumbh is believed to cleanse sins and provide spiritual merit (punya).
- Kumbh Melas attract Sadhus and holy men, especially from the akhadas, providing opportunities for devotees to meet and learn from them.

The Kumbh Mela-Mythology behind

- The Sanskrit word "kumbh" means pot.
- According to mythology, during the ocean churning by Devas (gods) and Asuras (demons), Dhanvantari emerged with a pitcher of amrita (elixir of immortality).
- To prevent Asuras from getting it, Jayant, Indra's son, fled with the pot, protected by the Sun, Shani, Brihaspati (Jupiter), and the Moon.
- As Jayant ran for 12 divine days (equal to 12 human years), amrita spilled at four locations: Haridwar, Prayagraj, Ujjain, and Nashik-Trimbakeshwar.

The festivals occur on the banks of sacred rivers:

1. Haridwar: Ganga
2. Prayagraj: Confluence of Ganga, Yamuna, and mythical Saraswati
3. Ujjain: Kshipra (believed to emerge from Vishnu's heart in his Varah avatar)
4. Nashik-Trimbakeshwar: Godavari (known as the Ganga of the south)



Historical References to Kumbh Mela

1. The Skanda Purana is often cited as proof of Kumbh Mela's antiquity
2. The Chinese pilgrim Xuanzang described a seventh-century fair in Prayag, but it is unclear whether it was the Kumbh Mela.
3. The 8th-century philosopher Adi Shankaracharya is believed to have formalized the four periodic fairs, creating opportunities for Hindu ascetics and scholars to gather and guide the public.
4. The Role of Congress and Religious Leaders
 - By the 1930s, the Congress Party actively used Kumbh Melas for political mobilization.
 - Sadhus and ascetics played a key role in spreading nationalist messages, blending religious authority with Congress policies.

Prelims Practice Question

Q. Consider the following statements regarding the Kumbh Mela:



1. Kumbh Mela is celebrated at four locations in India: Prayagraj, Haridwar, Ujjain, and Nashik.
2. The event is held every 12 years at each location in rotation.
3. The Kumbh Mela is recognized by UNESCO as an Intangible Cultural Heritage of Humanity.
4. The main ritual of the Kumbh Mela is the mass gathering of devotees for a ceremonial bath in a sacred river.

Which of the above statements is/are correct?

- a. 1, 2, and 3 only
- b. 1, 3, and 4 only
- c. 2 and 4 only
- d. All of the above

Makar Sankranti

GS Paper I-Indian Culture Prelims

Youtube: DNA 14.01.2025

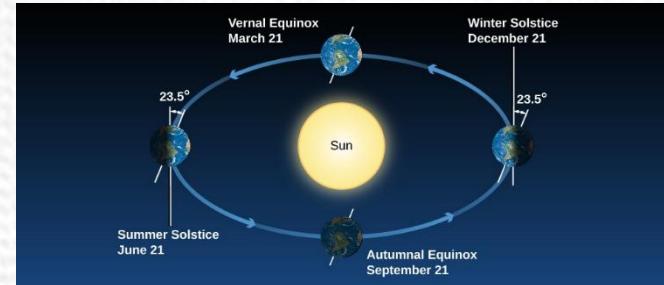
Makar Sankranti

- Makar Sankranti is a festival day in the Hindu calendar.
- It is held normally on the 14th of January, or a day before or after.



Significance of 14th January

- Marks the transition of the sun into the zodiac sign of Capricorn (Makara).
- End the inauspicious phase of the preceding month that is called Paush.
- The festival signifies the end of winter and the beginning of the harvest season.



Bihu

- Bihu is one of Assam's most prominent cultural events, celebrating the changing seasons.
- The festival of Bihu has three forms: Bohag Bihu, Kati Bihu and Magh Bihu.
- Each of these falls in the agriculture calendar.



Makaravilakku festival

- The Makaravilakku festival is a prominent religious event celebrated annually at the Sabarimala temple in Kerala, India.
- Lord Ayyappa is the presiding deity of the famous Sabarimala temple, which is a major pilgrimage center.



For a holy glimpse: Pilgrims gather at the Sabarimala temple on Monday ahead of the Makaravilakku festival. LEJU KAMAL

Prelims Practice Question

Q. Consider the following statements regarding Makaravilakku:

1. Makaravilakku is a festival celebrated at the Sabarimala temple in Kerala, marking the celestial event of the Makar Sankranti.
2. The event includes the appearance of a sacred flame, believed to be man-made, as a part of the rituals.



Which of the above statements is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Jallikattu and animal rights

GS Paper I-Culture GS Paper II-Indian Polity Prelims

Youtube: DNA 20.01.2025

What is Jallikattu?

- Jallikattu is a traditional bull-taming sport associated with the Tamil festival of Pongal.

Cultural Significance:

- The event dates back to the Sangam period and is considered a symbol of Tamil culture.
- It attracts thousands of spectators annually, including international tourists from countries like the U.S., U.K., Australia, and Belgium.
- Traditionally a male-dominated sport, it now includes increasing participation by women and transgender persons, highlighting inclusivity.

Criticism

- Safety concerns of the participants and spectators
- Animal rights groups like PETA criticize the event for alleged cruelty to bulls.

Jallikattu and similar sport of bullock-cart races in Maharashtra was challenged in the Supreme Court by Animal Welfare Board of India for cruelty against animal.



Animal Welfare Board of India v. A. Nagaraja, 2014

- The SC judgment banned the practice of jallikattu and bullock-cart races.
- SC emphasizing that animals' rights must be considered under Article 21 (Right to Life) of the Indian Constitution.

- The court prioritized the Article 21 over Article 29(cultural rights of minorities), asserting that even traditional events cannot justify cruelty.

Criticism of the judgement

- Advocates of Jallikattu argue that it is a centuries-old tradition and integral to Tamil culture and heritage.
- Jallikattu is also seen as a way to preserve native cattle breeds by incentivizing their use in festivals and sports.

Note

- Animal Welfare Board of India is a statutory body under Prevention of Cruelty to Animals Act, 1960.



Getting ready: Bulls receive special care as the jallikattu event approaches. This includes baths twice a week and swimming sessions to build muscle. G. MOORTHY

How Jallikattu continues even after ban by SC?

- Following public protests in Tamil Nadu, the state government passed the Tamil Nadu Regulation of Jallikattu Act, 2017, to allow the sport while imposing certain conditions.
- The central government amended the Prevention of Cruelty to Animals Act via notifications to exempt Jallikattu from its purview.

Judicial Review

- In 2023 Constitution Bench of the Supreme Court on upheld the amendments made by Tamil Nadu, Karnataka, and Maharashtra to the Prevention of Cruelty to Animals Act, 1960 [PCA Act] permitting the traditional bull-taming sports of Jallikattu and Kambala and other bullock-cart races.

Prelims Practice Question

Q. Consider the following statements related to animal rights and their connection to Article 21 of the Indian Constitution:

- Article 21, which guarantees the right to life and personal liberty, has been interpreted to include the rights of animals.



2. The Constitution of India explicitly lists "animal rights" under the Fundamental Duties of every citizen.

Which of the above statements is/are correct?

- 1 only
- 2 only
- Both
- None

Ethics

National Youth Day

Paper I-Essay GS Paper IV-Ethics and Integrity-Learnings from life Great leaders and thinkers Prelims

Youtube: DNA 13.01.2025

National Youth Day

- National Youth Day is celebrated on 12 January being the birthday of Swami Vivekananda.
- In 1984 the Government of India declared this day as National Youth Day.

Some of his teachings relevant to the youth today are:

- Relentless efforts towards goal
 - He said "Arise, Awake and Stop not till the goal is achieved".
- Balanced life
 - Youth to live a meaningful life through different quests like physical quest (for ensuring physical fitness), social quest (for undertaking social activities for the betterment of society), intellectual quest (for building intellectual strength) and spiritual quest (for achieving spiritual and psychological well-being).
- Self belief
 - According to him there is immense power in Indian traditional knowledge. Youth should try to realise its potential rather than blindly copying the west.
- Religious tolerance
 - His famous speech at the World Parliament of Religions, emphasized universal tolerance. This teaching is significant for the youth in a highly polarised global world order.



"Youth to have 'muscles of iron', 'nerves of steel' and 'minds like thunderbolt'. Then only we realize the dream of making Bharat a Vishwa Guru once again".

Parliament of World's Religions

- The Parliament of World's Religions, held for the first time in 1893.
- So far, six international modern Parliaments have been hosted.
- The Council for a Parliament of the World's Religions is headquartered in Chicago.
- Its board of trustees are elected from various faith communities.

Participants in the first conference:

- Jain preacher Virchand Gandhi.
- Buddhist preacher Anagarika Dharmapala.
- Swami Vivekananda represented Hinduism (first to speak on 11th September 1893).
- Christianity was represented by G. Bonet Maury.
- Islam was represented by Mohammed Alexander Russell Webb.



Theme of Swami Vivekananda's speech

- He stressed upon world harmony, and how religions, while co-existing with one another,



must preserve their individuality and grow according to their own law of growth.

What Swamiji realised in the US?

- When Swami Vivekananda went to America he found that the labourers were unaware of religion.
- When he asked them about their religion the labourers replied, "We do not know, we go to church."
- Swamiji then realised how conscious Americans were about their socio-economic conditions than about religion.
- As per Swami Vivekananda, the reason behind backwardness in Indian society was too much emphasis on spirituality, neglecting material advancement.
- Swamiji emphasised on balanced approach towards life.



"It is bread that the suffering millions of burning India cry out with parched throats. It is an insult to starving people to offer them religion."

Swami Vivekananda



Gandhian concept of Sarvodaya is similar. It means development of all, in all dimension.

Current context

- On the occasion of National Youth Day Prime Minister Narendra Modi emphasized that India's youth will play a pivotal role in making the nation a developed country by 2047, requiring daily targets and consistent efforts.
- PM urged the younger generation to step out of their comfort zones, take risks, and engage

actively in politics to contribute to India's progress.

- He also said hosting the Olympics in the next decade is part of India's vision for global prominence.

VIKSIT BHARAT

Youth power will make India a developed nation: PM



NEWS » PAGE 5

Prelims Practice Question

Q. Consider the following statements about National Youth Day in India:

- National Youth Day is celebrated annually on January 12 to commemorate the birth anniversary of Swami Vivekananda.
- The day aims to inspire the younger generation to contribute to the development of the nation by following the teachings of Mahatma Gandhi.

Which of the above statements are correct?

- 1 only
- 2 only
- Both
- None

UPSC Mains question

Q. Highlight the important teachings of Swami Vivekananda, relevant to the youth of today. (150 words) 10 marks

The philosophy of Swami Vivekananda and the ideals for which worked are a great source of inspiration for the youth today. Owing to this, his birth anniversary i.e. January 12th is commemorated and celebrated as National Youth Day.

- Spirit of national awakening: He wanted youth who would eventually be leaders, contribute to national awakening for which India has been known ie Spiritualism.
- Relentless efforts towards goal: He said "Arise, Awake and Stop not till the goal is achieved".
- Philanthropy & service to mankind: According to him "so as long as the millions live in hunger and ignorance, I hold each man a traitor."



4. Religious tolerance: His famous speech at the World Parliament of Religions, emphasized universal tolerance. This teaching is significant for the youth in a highly polarised global world order.
5. Balanced life- youth to live a meaningful life through different quests like physical quest (for ensuring physical fitness), social quest (for undertaking social activities aimed not only for the betterment of society but also the individuals), intellectual quest (for building

intellectual strength) and spiritual quest (for achieving spiritual and psychological well-being).

6. Self belief: According to him there is immense power in Indian traditional knowledge. Youth should try to realise its potential rather than blindly copying the west. Swami Vivekananda wanted youth to have 'muscles of iron', 'nerves of steel' and 'minds like thunderbolt'. Then only we realize the dream of making Bharat a Vishwa Guru once again.

Internal Security

National Security Act, 1980

GS Paper III-Internal Security Prelims

Youtube: DNA 06.01.2025

National Security Act, 1980

- It is a preventive detention law.
- The NSA empowers the government to detain individuals in order to prevent them from acting in any manner prejudicial to national security, public order, or the maintenance of essential supplies and services.

Provisions

- Allows preventive detention for up to 12 months without trial.
- The detainee can be held for 10 days without being informed of the charges against them.
- State or Central governments can detain individuals under the Act.

Scope

- Covers threats to national security, public order, and activities affecting the supply of essential services.
- Prevents actions like espionage, sabotage, terrorism, smuggling of arms, and activities that could harm the sovereignty and integrity of India.



Criticism

- The law is criticised for accused of being misused for political purposes or to suppress dissent.
- Often criticized for violating fundamental rights, particularly Article 21 (Right to Life and Liberty) and Article 22 (Protection against arbitrary detention) of the Indian Constitution.
- The NSA has been invoked in cases of communal violence, protests, and actions perceived to threaten public order or national security.

Current news?

- The newly appointed Governor of Manipur, Ajay Kumar Bhalla suggested using the National Security Act (NSA), 1980, to detain individuals involved in fueling violence and creating unrest.

Prelims Practice Question

Q. Which of the following statements is/are correct about the National Security Act (NSA)?

1. The NSA is a preventive detention law that allows detention for up to 12 months without trial.
 2. Under the NSA, a detainee can be held for 10 days without being informed of the charges against them.
 3. Both State and Central governments are empowered to detain individuals under the NSA.
 4. The Act covers threats to national security, public order, and activities affecting the supply of essential services.
- a. 1 and 3 only
 - b. 2 and 4 only
 - c. 1, 3, and 4 only
 - d. All of the above



Unlawful Activities Prevention Act

GS Paper III-Internal Security Prelims

Youtube: DNA 09.01.2025

Unlawful Activities Prevention Act

- It was passed in 1967.
- It aims at effective prevention of unlawful activities and associations in India.

2004 amendment

- The 2004 amendment, added "terrorist act" to the list of offences.
- This empowers central government to ban organisations for terrorist activities.
- It is also applicable if the offences are committed outside India.
- Both Indian and foreign nationals can be charged.
- It has death penalty and life imprisonment as highest punishments.

Note- Since 2004 UAPA has become main law to deal with terrorism.

Hard line

The UAPA Bill, 2019, amends the Unlawful Activities (Prevention) Act, 1967. Some highlights:

TERRORISM: Under the Act, the central government may designate an organisation as a terrorist organisation if it: (i) commits or participates in acts of terrorism, (ii) prepares for terrorism, (iii) promotes terrorism, or (iv) is involved in terrorism. The Bill additionally empowers the government to designate individuals as terrorists on the same grounds

SEIZURE OF PROPERTY: Under the Act, an investigating officer must obtain prior approval of the DGP to seize properties that may be connected with terrorism. If the investigation is conducted by an officer of the National Investigation Agency (NIA), the approval of the Director General, NIA is mandatory

INVESTIGATION: Under the Act, investigation of cases may be conducted by officers of the rank of DSP or ACP or above. Officers of the NIA, of the rank of Inspector or above, can also investigate cases

Significance of UAPA

- To maintain sovereignty and integrity
- Prevent secessionist tendencies.
- Maintain law and order
- The law restricts organized crime, money laundering, and trafficking.

Terrorism

- Terrorism a major threat to human and economic security. UAPA specifically deals with act of terror.

Special agency to ensure speedy redressal of terror related cases

- NIA gets power to deal with terror acts under UAPA amendment of 2019.

Special courts to conduct trials

- It allows for the setting up of special courts to conduct trials in cases related to terrorism and provides for stringent punishment for offenses related to terrorism.



BANNED UNLAWFUL ORGANISATIONS IN INDIA

1	Students Islamic Movement of India	8	Liberation Tigers of Tamil Eelam
2	United Liberation Front of Assam	9	National Socialist Council of Nagaland (Khaplang)
3	National Democratic Front of Bodoland	10	Islamic Research Foundation
4	Meitei Extremist Organization of Manipur	11	Jamaat-e-Islami, Jammu and Kashmir
5	All Tripura Tiger Force	12	Jammu and Kashmir Liberation Front (Mohd. Yasin Malik faction)
6	National Liberation Front of Tripura	13	Sikhs for Justice
7	Hynnewtrep National Liberation Council	14	Popular Front of India & 8 front organisations

Source: Ministry of Home Affairs

Issues

1. Misuse

- In 2021, Muhammad Manan Dar, a young Kashmiri photojournalist, was arrested and imprisoned for documenting the daily lives of common Kashmiris with his camera.

1. Vagueness

- The definitions of "terrorist acts" under the UAPA are broad and vague, and can be interpreted in a way that infringes on the freedom of speech and assembly.

1. Used as a tool to suppress genuine dissent by authorities

2. Reversal of legal jurisprudence

- The law requires that the accused show that they are not guilty, shifting the burden of proof from the prosecution to the accused.

1. Disproportionately high punishment

Low conviction rate indicates at misuse-

- According to a PUCL (People's Union for Civil Liberties) report in 2022, less than 3 percent of arrests made under the UAPA resulted in convictions between 2015 and 2020.





APSC Prelims 2023

Q3. Which of the following preventive detention law is now not applicable in India-

1. NSA
2. MISA
3. UAPA
4. FEMA

Select the correct answer-

- a. 1,2 only
- b. 2,3 only
- c. 2,4 only
- d. 2 only

Q. UAPA is antithetical to constitutional freedom to dissent, and fair trial. Comment. 10 marks/150 words

Hints

- Explain what is UAPA
- Highlight its importance in brief
- Then in detail explain issues-especially freedom to dissent, and fair trial

Dissent

- Journalist, Sidheeque Kappan was covering Hathras rape case, was charged with participating in a plot to ignite rioting in Hathras, Uttar Pradesh.

Issues regarding free and fair trial

- Reversal of legal jurisprudence
- Disproportionate punishment
- Low conviction rate

Concerns over the UAPA highlight the need for a balanced approach in the fight against terrorism, one that protects national security while also ensuring the protection of fundamental rights and freedoms.

Submarine, 2 warships commissioned

GS Paper III-Defence Prelims

Youtube: DNA 16.01.2025

Different projects being run for Indian Navy
Project 17A

- It is an advanced shipbuilding initiative for the Indian Navy.
- It is aimed at constructing a new class of stealth frigates to enhance India's maritime capabilities.
- Frigates are a class of warships designed for a variety of naval missions, such as escorting larger ships, protecting merchant vessels.

Current news?

- The first ship of Project 17A, INS Nilgiri has been commissioned with Indian Navy.
- It has been built by Mazagon Dock Shipbuilders Limited (MDL) in Mumbai.



Project 15B

- It is aimed at developing Visakhapatnam-class destroyers ships for Indian Navy.
- Built for the Indian Navy by Mazagon Dock Shipbuilders Limited (MDL) in Mumbai.
- The Visakhapatnam-class destroyers incorporate enhanced stealth features and missiles like-
 1. BrahMos supersonic cruise missiles for precision strikes.
 2. Barak-8 surface-to-air missiles (SAM) for air defense.

Current news?

- INS Surat is the fourth and final ship of Project 15B destroyers has been inducted with Indian Navy.



4 Ships in Project 15B

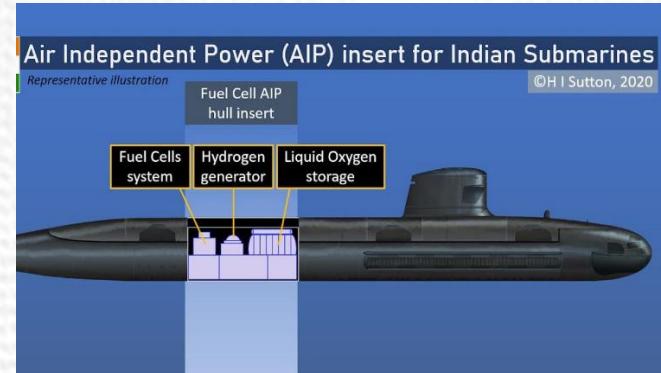
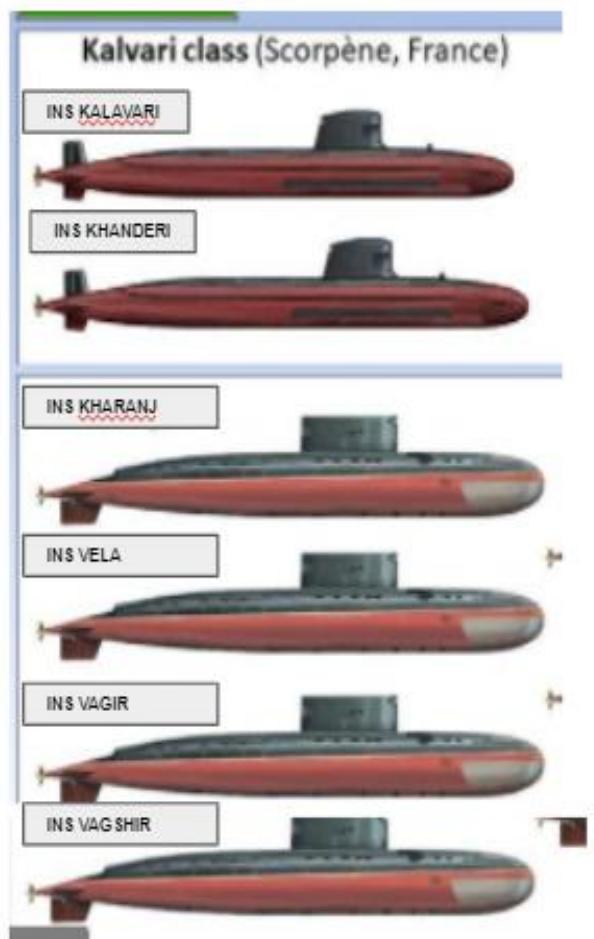
1. INS Visakhapatnam (The lead ship)
2. INS Mormugao
3. INS Imphal
4. INS Surat (recently inducted)

Project 75

- For the construction of six Scorpene-class diesel-electric attack submarines in collaboration with Mazagon Dock Shipbuilders Limited (MDL), Mumbai, and Naval Group (formerly DCNS) of France.
- Lead Submarines is INS Kalvari so these submarines are also known as Kalvari class submarines.

Current news?

- The Indian Navy submarine INS Vagsheer (S26) was commissioned on January 15, 2025. It was the last of six submarines in the Scorpene class.



Historic Commissioning Event

- For the first time, three frontline platforms—INS Nilgiri, INS Vagsheer, and INS Surat—were commissioned into the Indian Navy on the same day.
- PM Modi highlighted the significance of the event as a leap toward Atma Nirbhar Bharat (self-reliant India).
- He said these ships apart from securing India's coast they will also play role in conserving Maritime heritage.

Maritime Heritage:

- INS Nilgiri honors India's ancient naval tradition tied to the Chola Empire.
- INS Surat reflects India's cultural and historical connection with Gujarat and West Asia.



Major boost: INS Surat, INS Nilgiri and INS Vagsheer being commissioned at an event in Mumbai on Wednesday. ANI

Prelims Practice Question

Q. Match the following naval ships with their respective descriptions or characteristics:

Column A Column B

- | | |
|-----------------|---|
| 1. INS Vagsheer | A. First stealth frigate under Project 17A |
| 2. INS Nilgiri | B. Scorpene-class submarine |
| 3. INS Surat | C. Last destroyer of the Visakhapatnam-class series |
- a. 1-B, 2-C, 3-A
 b. 1-C, 2-A, 3-B
 c. 1-B, 2-A, 3-C
 d. 1-A, 2-C, 3-B



Prelims Specific

Exercise Surya-Kiran

Prelims

Youtube: DNA 01.01.2025

Current news?

- The 18th edition of Exercise Surya Kiran, a joint military exercise between India and Nepal, commenced in Nepal.
- The exercise aims to enhance interoperability, friendship, and collaboration between the two nations' armies.



Sangita Kalanidhi Award 2024

Prelims

Youtube: DNA 02.01.2025

Sangita Kalanidhi Award

- The 'Sangita Kalanidhi' is one of the most prestigious awards given for exceptional contribution to Carnatic music.
- It is conferred annually by the Madras Music Academy to outstanding artists for their exceptional contribution to Carnatic music.
- First awarded in 1942.

Current news?

- The Sangita Kalanidhi Award for 2024 has been conferred upon renowned Carnatic vocalist T.M. Krishna.



T.M. Krishna receives the Sangita Kalanidhi title from David Shulman, Chair, Renee Lang Professor of Humanistic Studies, in the presence of N. Murali, President, Music Academy. S.R. RAGHUNATHAN

Prelims Practice Question

Q. Who has been selected for the Sangita Kalanidhi Award 2024?

- Aruna Sairam
- Bombay Jayashri
- Neyveli Santhanagopalan
- T. M. Krishna

National Sports Awards

Prelims

Youtube: DNA 03.01.2025

Current news?

- Recently, the Union Ministry of Youth Affairs & Sports announced the National Sports Awards 2024.
 - Major Dhyan Chand Khel Ratna Award'
 - Given for the spectacular and most outstanding performance in the field of sports by a sportsperson over the period of the previous four years.
 - Arjuna Award
 - For good performance over a period of the previous four years and for showing qualities of leadership, sportsmanship and a sense of discipline.
 - Arjuna Award (Lifetime)
 - Given to honour and motivate those sportspersons who have contributed to sports by their performance and continue to contribute to promotion of sports even after their retirement from active sporting career.
 - 'Dronacharya Award'
 - Outstanding coaches in Sports and Games'



5. Maulana Abul Kalam Azad (MAKA) Trophy

- awarded for the overall top performing university in Khelo India University Games.



Major Dhyan Chand Khel Ratna 2024

- D. Gukesh(Chess Champion)
- Harmanpreet Singh (Hockey Captain)
- Praveen Kumar (Paralympian)
- Manu Bhaker(Shooter)

1978 'anti-conversion' law in Arunachal

Prelims

Youtube: DNA 06.01.2025

Arunachal Pradesh Freedom of Religion Act, 1978

- Enacted by the Union Territory of Arunachal Pradesh's first Legislative Assembly.
- Prohibits religious conversion through force, inducement, or fraudulent means.
- Punishment: Up to two years of imprisonment or a fine of up to ₹10,000.
- Requires every religious conversion to be reported to the Deputy Commissioner.

Reason for Introduction:

- Arunachal Pradesh has a mix of ethnic communities practicing diverse faiths, including Mahayana and Theravada Buddhism.
- The Act aimed to protect indigenous practices and counter proselytization by Christian missionaries.



Why in news?

- The law was dormant for nearly 46 years.
- Successive governments did not frame implementation rules.
- The Arunachal Christian Forum has consistently opposed it, calling it an "anti-Christian Act."

Current development

- The Advocate General of Arunachal Pradesh assured the finalization of rules within six months.

Prelims Practice Question

Q. Which of the following statements is/are correct about the Arunachal Pradesh Freedom of Religion Act?

- 1 and 2 only
- 2, 3, and 4 only
- 1, 3, and 4 only
- All of the above

Golden Globe Awards

Prelims

Youtube: DNA 07.01.2025

Golden Globe Awards 2025

Best Drama movie

- "The Brutalist" won, telling the story of a Holocaust survivor chasing the American dream.

Best Comedy or Musical movie

- "Emilia Pérez", a musical thriller, won Best Comedy or Musical.

Major Acting Awards:

- Best Male Actor, Drama: Adrien Brody for "The Brutalist."
- Best Female Actor, Drama: Fernanda Torres for "I'm Still Here."
- Best Male Actor, Comedy or Musical: Sebastian Stan for "A Different Man."



- Best Female Actor, Comedy or Musical: Demi Moore for "The Substance."



New ISRO chairman

Prelims

Youtube: DNA 09.01.2025

What is the news?

- V. Narayanan, a propulsion expert, will take over as Chairman of ISRO on January 14, succeeding S. Somanath.

Major Projects to be taken by V. Narayanan:

- Gaganyaan human spaceflight mission,
- Chandrayaan-4 mission,
- Bharatiya Antariksha Station,
- Development of GSLV Mk III/IRNSS-1K.



On an upward trajectory: V. Narayanan with a model of the Chandrayaan-3 moon lander. M PERIASAMY

Kashmir-Ladakh corridor- Z-Morh tunnel

Prelims

Youtube: DNA 10.01.2025

Z-Morh Tunnel

- It is 6.4-kilometer-long tunnel between Gagangir and Sonamarg on the Srinagar-Leh Highway in Jammu and Kashmir.
- Named after the Z-shaped road stretch in its location, this tunnel provides all-weather connectivity to Sonamarg on the Srinagar-Leh highway, which is usually cut off during winter due to heavy snow and avalanches.

Strategic significance of the tunnel

- Along with the 14.15 km Zojila Tunnel to its east, it aims to enhance the Indian military capabilities in Kashmir and Ladakh along both the Line of Control (LOC) to the north and the Line of Actual Control (LAC) further east.



Henley Passport Index 2025

Prelims

Youtube: DNA 10.01.2025

Henley Passport Index

- It is a global ranking of countries according to the travel freedom for their citizens.
- It is published by the consultancy firm named 'Henley & Partners' in based on data by International Air Transport Association (IATA).
- The index includes 199 different passports and 227 different travel destinations.

Basis for ranking



- The number of countries that a specific passport holder can access becomes its visa-free 'score'.

Current news?

- Recently, the Henley Passport Index 2025 was published.



Henley Passport Index 2025

- Singapore has topped the passport rankings with visa-free access to 192 global destinations.
India's rank
- India's ranking has dropped five places – from 80th to 85th – in the list of the world's most powerful passports, according to the Henley Passport Index 2025.
- An Indian passport holder can travel visa-free to 57 destinations.



Prelims Practice Question

- Q. With reference to Henley Passport Index, consider the following statements:
- It is the ranking of world's passport according to the number of destinations their holders can visit without a prior visa.
 - Ranking is based on data provided by International Air Transport Association.
- Which of the statements given above is/are correct?

- 1 only
- 2 only
- Both
- None

Renaming of 'Gulf of Mexico' to 'Gulf of America'

Prelims

Youtube: DNA 11.01.2025

Current context

- US President-elect Donald Trump said that he will change the name of the Gulf of Mexico to "Gulf of America".
- Trump's statement is being viewed in terms of his general criticism of Mexico because of drug cartel active in Mexico.

Can Trump actually rename the Gulf of Mexico?

- Renaming would not be a "unilateral decision" of the US.
- The International Hydrographic Organisation — of which both the United States and Mexico are members — works to ensure all the world's seas, oceans and navigable waters are surveyed and charted uniformly, and also names some of them.

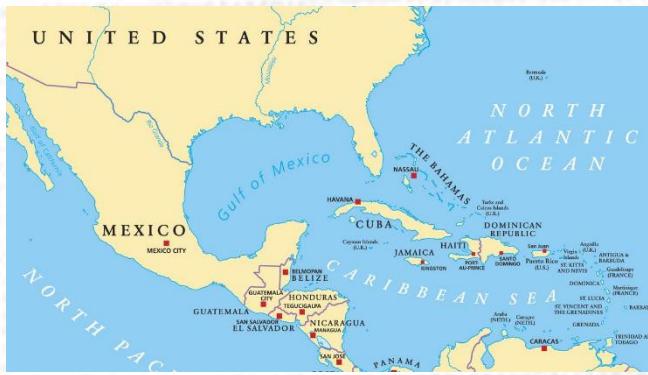


Gulf of Mexico

- It is connected to the Atlantic Ocean by the Straits of Florida.
- It is a marginal sea of the Atlantic Ocean and the world's largest gulf.
- It is often referred to as the "Mediterranean of the Americas".
- It was formed as a result of seafloor subsidence due to the movement of the tectonic plates.



- The Mississippi and the Rio Grande are the major rivers draining into the gulf.
- The shallow continental shelf regions of this Gulf contain large deposits of petroleum and natural gas.



Prelims Practice Question

Q. Consider the following statements about the Gulf of Mexico:

1. The Gulf of Mexico is bordered by the United States, Mexico, and Cuba.
2. It is one of the largest sources of natural gas and oil production in the world.

Which of the above statements is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Indian Army Day

Prelims

Youtube: DNA 16.01.2025

Indian Army Day

- India celebrates Army Day on January 15 every year to commemorate the achievements of the first Indian Commander in Chief of the Indian Army — General (later Field Marshal) K.M. Cariappa.

Field Marshal KM Cariappa

- He was the First Indian Commander-in-Chief of the Indian Army.
- Field Marshal Kodandera M. Cariappa, on Jan 15, 1949, became the first Indian Commander-in-Chief of the Indian Army, taking over from General F R R Bucher -- the last British chief.



Field Marshal K.M. Cariappa

Fast Track Immigration – Trusted Traveller Programme

Prelims

Youtube: DNA 17.01.2025

Current news?

- Union Home Minister Amit Shah inaugurated the Fast Track Immigration – Trusted Traveller Programme (FTI-TTP) at seven airports: Mumbai, Chennai, Kolkata, Bengaluru, Hyderabad, Cochin, and Ahmedabad.



What is Fast Track Immigration – Trusted Traveller Programme (FTI-TTP)?

- Initially launched at Delhi's IGI Airport seven months ago, FTI-TTP aims to simplify and secure international travel.
- The programme facilitates faster, smoother, and secure immigration clearance for Indian Nationals and Overseas Citizens of India (OCI) passengers arriving from abroad.



Union Home Minister Amit Shah launches FTI-TTP at the Sardar Vallabhbhai Patel International Airport in Ahmedabad on Thursday. MHA

Overseas Citizens of India (OCI)

- The Overseas Citizenship of India (OCI) scheme was introduced by the Government of India through an amendment to the Citizenship Act, 1955, in 2005.
- It aims to provide a lifelong visa-free travel facility and other benefits to Persons of Indian Origin (PIOs) who have acquired citizenship of another country, except Pakistan and Bangladesh.

Eligibility

- Any person who was eligible to become a citizen of India on January 26, 1950.
- Was a citizen of India on or after January 26, 1950.
- Belonged to a territory that became part of India after August 15, 1947.
- Minor children or spouse of such individuals.

Benefits

- Multiple-entry, lifelong visa to India.
- Parity with Indian citizens in certain economic and financial fields, such as entry fees for national parks etc

Note-OCI cardholders are not allowed to vote in Indian elections.

OCI vs. PIO

- The OCI scheme replaced the Person of Indian Origin (PIO) card in 2015.
- Existing PIO cardholders were allowed to convert their cards into OCI cards.

QS World Future Skills Index

Prelims

Youtube: DNA 18.01.2025

QS World Future Skills Index

- The inaugural Future Skills Index, released by London-based Quacquarelli Symonds (QS), evaluates countries on their readiness to meet evolving job market demands.

The index assesses four main areas:

- skills fit
- academic readiness
- future of work
- economic transformation

Current news?

- According to the QS World Future Skills Index 2025, India has emerged as the second most prepared job market globally for future in-demand skills, trailing only the United States.



Kalaripayattu

Prelims

Youtube: DNA 20.01.2025

Kalaripayattu

- Kalaripayattu is an ancient Indian martial art form that originated in Kerala.



- It is considered one of the oldest fighting systems in existence.
- The term "Kalaripayattu" is derived from two Malayalam words: "Kalari" (training hall or battlefield) and "Payattu" (fight or practice).
- It is believed to have originated over 3,000 years ago.



Why in news?

- Kalaripayattu has been moved out of the competition list of the 38th National Games, scheduled to be held in Uttarakhand in 2025.
- Indian Olympic Association (IOA) decided to move Kalaripayattu to "demonstration section".
- This has led to criticism of Indian Olympic Association (IOA) by Indian Kalaripayattu Federation.
- The removal from the competitive section may discourage athletes and reduce opportunities for the martial art's practitioners.

UPSC 2014

Q4. With reference to India's culture and tradition, what is 'Kalaripayattu'?

- It is an ancient Bhakti cult of Shaivism still prevalent in some parts of South India.
- It is an ancient style bronze and brass work still found in southern part of Coromandel area.
- It is an ancient form of dance-drama and a living tradition in the northern part of Malabar.
- It is an ancient martial art and a living tradition in some parts of South India.

'Planet parade'

Prelims

Youtube: DNA 20.01.2025

What is a 'Planet parade'?

- Recently, four planets in our solar system namely Venus, Saturn, Jupiter, and Mars have formed an arc across the night sky and created a rare phenomenon known as 'planet parade'.

Planet Parade

- It refers to a situation when several planets in our solar system are visible in the night sky, at the same time.
- This planetary meet-up, also known as a conjunction, makes the two planets appear close together or even touch in the Earth's night sky.



National Turmeric Board

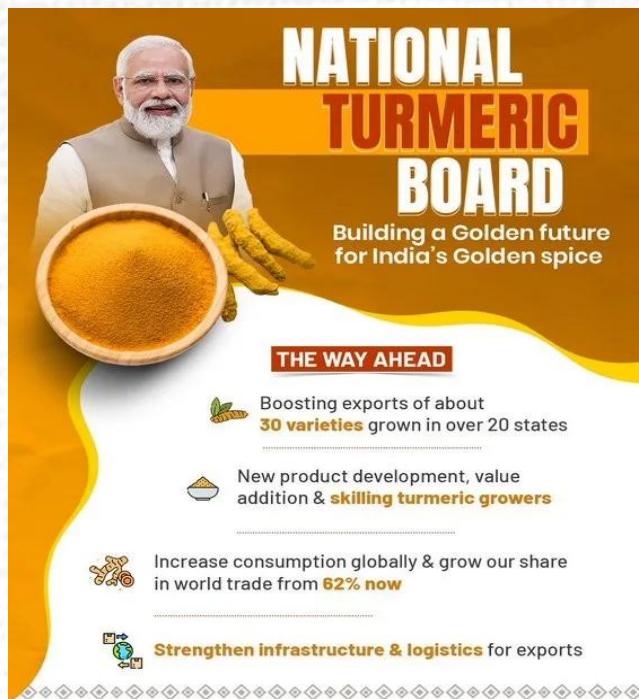
Prelims

Youtube: DNA 22.01.2025

Current news?

- The National Turmeric Board (NTB) was established in Nizamabad, Telangana by Government of India.
- Palle Ganga Reddy has been announced as its first Chairperson.
- The board will support turmeric farmers in around 20 states, including Maharashtra, Tamil Nadu, Andhra Pradesh, and Meghalaya.
- Farmers and associations, like the Telangana Turmeric Farmers' Association, continuously pushed for a board akin to the Spice Board and Tobacco Board.
- In October 2023, Prime Minister Narendra Modi announced the creation of the board, though specifics like its headquarters were clarified later.





Turmeric

- It is a plant belongs to the ginger family.

Soil and climate

- Well drained, red loamy soil in wet or garden lands under tropical conditions is ideal.

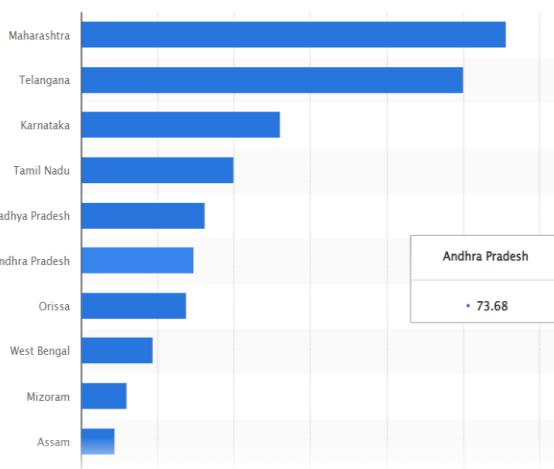
Rain

- It can be grown in regions receiving an annual rainfall of 1500 mm.

Temperature

- range of 20 to 35 °C
- India is the largest producer, consumer and exporter of turmeric in the world.
- The largest producing states of Turmeric are Maharashtra, Telangana, Karnataka and Tamil Nadu.

Note-Earlier Telangana was at top but in 2023 Maharashtra have become the largest turmeric producer.



Prelims Practice Question

Q. Consider the following statements regarding the National Turmeric Board (NTB):

- The National Turmeric Board (NTB) was established in Nizamabad, Telangana by the Government of India.
- Palle Ganga Reddy has been announced as the first Chairperson of the NTB.
- The board supports turmeric farmers mainly in the state of Telangana.

Which of the statements given above is/are correct?

- 1 and 2 only
- 2 and 3 only
- 3 only
- 1,2,3 all

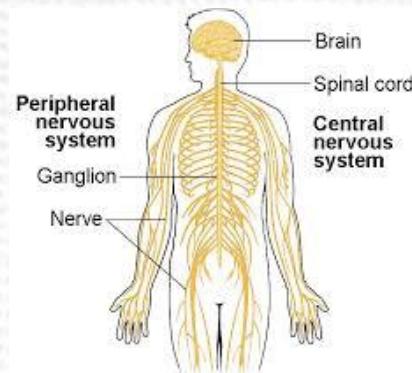
Guillain-Barré Syndrome

Prelims

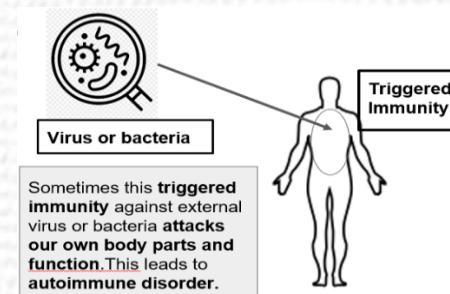
Youtube: DNA 25.01.2025

Guillain Barre Syndrome (GBS)

- It is a very rare autoimmune disorder caused by viral or bacterial infection.
- In GBS the immune system, in an attempt to kill the virus, accidentally starts attacking the peripheral nervous system.
- The condition often presents with ascending paralysis, starting in the legs and progressing upwards.



Attack on Peripheral nervous system may lead to weakening of spinal cord, reflex action, skin problem



Prelims Practice Question

Q. Consider the following statements regarding Guillain-Barré Syndrome:

1. Guillain-Barré Syndrome is an autoimmune disorder where the immune system attacks the myelin sheath of peripheral nerves.
2. The condition often presents with ascending paralysis, starting in the legs and progressing upwards.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both
- d. None



Prelims Practice Question

Q. Lezim is a traditional folk dance form of which Indian state?

- a. Gujarat
- b. Maharashtra
- c. Tamil Nadu
- d. Punjab

India's coastline expanded

Prelims

Youtube: DNA 28.01.2025

Current news?

- Recent reports indicate that India's coastline has been recalculated, showing an increase from 7,516 kilometers in 1970 to 11,098 kilometers in 2023-24, marking a 47.6% increase.

How the coastline increased?

- The apparent expansion is due to refined measurement techniques rather than actual physical changes in the coastline.
- Coastline length was calculated as the straight-line distance between major points, ignoring smaller curves, bays, and inlets.
- This approach resulted in underestimations due to the omission of finer details.
- Modern measurements utilize high-resolution satellite data to capture detailed features of the coastline, including minor curves and inlets.

Lezim dance

Prelims

Youtube: DNA 28.01.2025

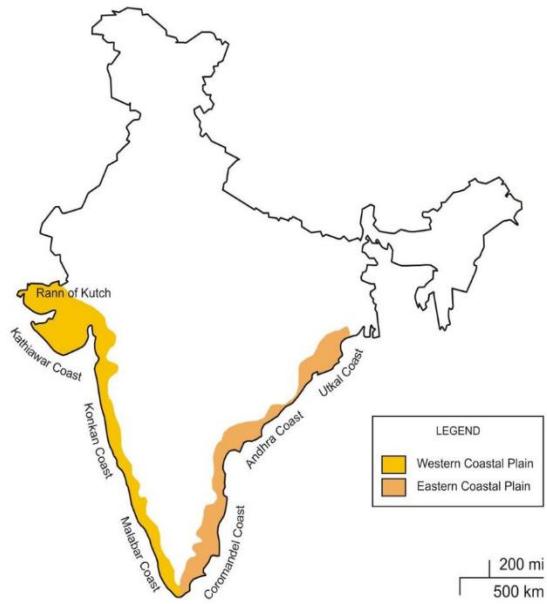
What is Lezim Dance?

- Lezim is a traditional folk-dance originating from Maharashtra.
- It is characterized by vigorous movements and rhythmic beats.
- During Chhatrapati Shivaji Maharaj's reign, the dance was popularized as a military exercise to maintain physical fitness among soldiers.
- Primarily performed in Maharashtra, especially during festivals like Ganesh Chaturthi, marriage processions, and cultural celebrations.

Current news?

- The upcoming Bollywood film Chhava, based on the life of Chhatrapati Sambhaji Maharaj, has sparked controversy over a scene where the Maratha king is depicted performing the Lezim dance.
- The film has been condemned for portraying historical inaccuracies.





Gujarat

- Increased from 1,214 km (1970) to 2,340 km (2023-24).
- Largest absolute growth in coastline length.
- Retains the position of the state with the longest coastline.

West Bengal

- Percentage increase of 357%, from 157 km to 721 km, marking the highest growth in percentage terms.

Tamil Nadu

- Revised length increased to 1,068 km from 906 km, overtaking Andhra Pradesh.

Corpse flower

Prelims

Youtube: DNA 29.01.2025

Current news?

- Recently, the corpse flower bloomed in Sydney, Australia, for the first time in over a decade.
- A similar bloom occurred in New York, U.S., on the same day.

What are these Corpse flower?

- It is known for its rare and unique blooming pattern.
- Blooming is rare (once every few years), and each bloom lasts about a day.
- The plant emits a strong odour resembling rotting flesh.
- The foul odour attracts carrion insects that aid in pollination.
- Chemicals emitted during female flowering are: Dimethyl disulfide, Dimethyl trisulfide, 3-Methylbutanal, Methanethiol, Methyl thioacetate and Isovaleric acid.
- These chemicals are responsible for foul odour.
- The smell can be detected from hundreds of meters away.
- It is categorized as Endangered by the IUCN.



The 'corpse flower' seen at the Royal Botanical Gardens in Sydney, Australia. REUTERS

Prelims Practice Question

Q. Consider the following statements regarding the Corpse Flower (*Amorphophallus titanum*):

- The Corpse Flower emits a strong odour resembling rotting flesh to attract pollinators like carrion insects.
- It is classified as Critically Endangered by the IUCN.

Which of the above statements is/are correct?

- 1 only
- 2 only
- Both
- None



PRACTICE QUESTIONS

Q1. Evaluate the following statements about POEM (PSLV Orbital Experimental Module):

1. POEM is a platform used by the Indian Space Research Organisation (ISRO) to conduct scientific experiments in orbit after a satellite launch.
2. POEM operates using the leftover fuel of the PSLV rocket's upper stage.
3. The experiments conducted on POEM are limited to Earth observation studies.
4. POEM is equipped with solar panels for generating power in orbit.

Which of the above statements are correct?

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

Q2. With reference to the cultivation of Kharif crops in India in the last five years, consider the following statements

1. Area under rice cultivation is the highest.
2. Area under the cultivation of jowar is more than that of oilseeds.
3. Area of cotton cultivation is more than that of sugarcane.
4. Area under sugarcane cultivation has steadily decreased.

Which of the statements given above are correct?

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

Q3. Evaluate the following statements regarding the technological initiatives under the Fund for Innovation and Technology (FIAT):

1. Yield Estimation System using Technology (YES-TECH) utilizes Remote Sensing Technology for yield estimation, with at least 30% weightage given to technology-based estimates.
2. Weather Information and Network Data Systems (WINDS) plans to establish Automatic Weather Stations (AWS) at the block level and Automatic Rain Gauges (ARGs) at the Panchayat level, aiming to increase network density fivefold.
3. YES-TECH is currently implemented across all states and union territories of India, with efforts underway to refine technology further.

4. WINDS implementation starts in 2024-25, with states like Kerala, Uttar Pradesh, and Himachal Pradesh participating.

Which of the above statements are correct?

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

Q4. With reference to the Genetically Modified mustard (GM mustard) developed in India, consider the following statements:

1. GM mustard has the genes of a soil bacterium that give the plant the property of pest-resistance to a wide variety of pests.
2. GM mustard has the genes that allow the plant cross-pollination and hybridization.
3. GM mustard has been developed jointly by the IARI and Punjab Agricultural University.

Which of the statements given above is/are correct?

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

Q5. Consider the following facts about Mahatma Gandhi:

1. In January 1917, Mohandas Karamchand Gandhi returned to his homeland after two decades of residence abroad.
2. Mahatma Gandhi went South Africa as a lawyer, and became a leader of the Indian community in that territory.
3. It was in South Africa that Mahatma Gandhi first forged the distinctive techniques of nonviolent protest known as satyagraha, first promoted harmony between religions, and first alerted upper-caste Indians to their discriminatory treatment of low castes and women.

Which of the following statement(s) is/are correct?

- (a) Only 1
- (b) 1 and 2
- (c) 2 and 3
- (d) All of the above



Q6. Which of the following statements is/are correct about the National Security Act (NSA)?

1. The NSA is a preventive detention law that allows detention for up to 12 months without trial.
 2. Under the NSA, a detainee can be held for 10 days without being informed of the charges against them.
 3. Both State and Central governments are empowered to detain individuals under the NSA.
 4. The Act covers threats to national security, public order, and activities affecting the supply of essential services.
- (a) 1 and 3 only
 (b) 2 and 4 only
 (c) 1, 3, and 4 only
 (d) All of the above

Q7. Which of the following is true about ISRO's experiment involving cowpea seeds germinating in space?

1. The experiment was conducted as part of the Compact Research Module for Orbital Plant Studies (CROPS).
 2. It aims to study plant growth in microgravity for future space farming and long-term space missions.
 3. The experiment was conducted onboard the PSLV-C60 POEM-4 platform.
- (a) 1 and 2 only
 (b) 2 and 3 only
 (c) 1 and 3 only
 (d) All of the above

Q8. Which of the following statements is/are true about the Data Protection Act, 2021 (India)?

1. The Act mandates businesses to obtain explicit consent before collecting personal data from individuals.
 2. Sensitive personal data under the Act includes health information, financial data, and biometrics.
 3. The Act provides provisions for the establishment of a Data Protection Authority (DPA) to ensure compliance and redress grievances.
 4. The Act allows personal data to be processed without consent for purposes such as national security or public health emergencies.
- (a) 1 and 2 only
 (b) 1, 2, and 3 only
 (c) 2, 3, and 4 only
 (d) All of the above

Q9. Evaluate the following statements about Human Metapneumovirus (hMPV):

1. Human Metapneumovirus primarily affects young children, the elderly, and immunocompromised individuals, often causing respiratory tract infections.
2. Human Metapneumovirus is classified under the Orthomyxoviridae family, alongside influenza viruses.

Which of the above statements are correct?

- (a) Only 1
 (b) Both 1 and 2
 (c) Neither 1 nor 2
 (d) None of the above

Q10. Consider the following statements regarding rat-hole mining:

1. Rat-hole mining is a type of mining practice where miners dig narrow vertical or horizontal tunnels to extract coal.
2. Rat-hole mining is primarily practiced in the northeastern state of Meghalaya in India.
3. The practice of rat-hole mining was banned by the National Green Tribunal (NGT) in 2014 due to its environmental impact and unsafe conditions for workers.
4. Rat-hole mining is considered an environmentally sustainable and safe method of mining.

How many of the above statements are correct?

- (a) Only one
 (b) Only two
 (c) Only three
 (d) All four

Q11. Consider the following statements with reference to Genome sequencing:

1. It refers to figuring out the order of DNA nucleotides in a genome.
2. Human Genome Project was launched by India in 1990 to better understand the genetic variations and disease-causing mutations specific to the Indian population.

Which of the statements given above is/are not correct?

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

Q12. Consider the following statements regarding the selection process of the Chief Election Commissioner (CEC) of India:



1. The Chief Election Commissioner is appointed by the President of India.
2. The Chief Election Commissioner serves a fixed tenure of six years or up to the age of 65 years, whichever is earlier.
3. The Constitution explicitly provides the procedure for the removal of the Chief Election Commissioner.
4. The Chief Election Commissioner can only be removed from office through a process similar to the removal of a Supreme Court judge.

Which of the above statements is/are correct?

- (a) 1 and 2 only
- (b) 1, 2, and 4 only
- (c) 3 and 4 only
- (d) All of the above

Q13. Consider the following statements about National Youth Day in India:

1. National Youth Day is celebrated annually on January 12 to commemorate the birth anniversary of Swami Vivekananda.
2. The day aims to inspire the younger generation to contribute to the development of the nation by following the teachings of Mahatma Gandhi.

Which of the above statements are correct?

- (a) 1 only
- (b) 2 only
- (c) Both
- (d) None

Q14. Consider the following statements about Small Language Models (SLMs):

1. SLMs are trained on text data to understand and generate human-like text.
2. SLMs are limited to rule-based responses and cannot learn from new data.
3. SLMs are designed to perform specific tasks only.

Which of the statements given above is/are correct?

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

Q15. Hydroponics is an agricultural technique where plants are grown without soil. Consider the following statements about hydroponics:

1. Hydroponics involves growing plants in a nutrient-rich water solution.
2. It requires the use of artificial light to ensure plant growth.

- (a) 1 only

- (b) 2 only
- (c) Both
- (d) None

Q16. Which of the following statements about Non-Banking Financial Companies (NBFCs) in India is/are correct?

1. NBFCs are allowed to accept demand deposits from the public.
 2. NBFCs are regulated by the Reserve Bank of India (RBI).
 3. NBFCs can provide loans and credit facilities similar to banks.
 4. NBFCs are required to maintain a minimum capital adequacy ratio as prescribed by the RBI.
- (a) Only 2 and 3 are correct
 - (b) Only 2, 3, and 4 are correct
 - (c) Only 1, 2, and 3 are correct
 - (d) All four statements are correct

Q17. Which of the following statements about the SVAMITVA programme is incorrect?

- (a) SVAMITVA is a scheme launched by the Government of India to provide property cards to rural households.
- (b) The scheme uses drone technology to map land parcels in rural areas.
- (c) It is implemented by the Ministry of Rural Development in collaboration with state governments.
- (d) The primary objective of the scheme is to facilitate bank loans using property cards as collateral.

Q18. Evaluate the following statements about the National Broadband Mission (NBM) and determine which statement is incorrect:

- (a) The National Broadband Mission was launched in 2019 to provide broadband access to all villages in India by 2022.
- (b) It aims to deploy an additional 30 lakh kilometers of optical fiber cable across the country.
- (c) The mission focuses on enabling fixed-line broadband access to at least 50% of households by 2024.
- (d) Under the mission, the government provides 100% funding for broadband infrastructure development in remote areas.



Q19. With reference to India's culture and tradition, what is 'Kalaripayattu'?

- (a) It is an ancient Bhakti cult of Shaivism still prevalent in some parts of South India.
- (b) It is an ancient style bronze and brass work still found in southern part of Coromandel area.
- (c) It is an ancient form of dance-drama and a living tradition in the northern part of Malabar.
- (d) It is an ancient martial art and a living tradition in some parts of South India.

Q20. Consider the following statements related to animal rights and their connection to Article 21 of the Indian Constitution:

1. Article 21, which guarantees the right to life and personal liberty, has been interpreted to include the rights of animals.
2. The Constitution of India explicitly lists "animal rights" under the Fundamental Duties of every citizen.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both
- (d) None

Q21. The Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002 is an important piece of legislation in India's financial and banking sector. Evaluate the following statements regarding the SARFAESI Act, 2002:

1. The SARFAESI Act allows banks and financial institutions to auction properties of defaulters to recover loans without court intervention.
2. The Act applies only to secured loans and does not cover unsecured loans.
3. Cooperative banks are excluded from the purview of the SARFAESI Act.

Which of the above statements are correct?

- (a) 1,2 only
- (b) 2,3 only
- (c) 1,3 only
- (d) None

Q22. With reference to India's decision to levy an equalization tax of 6% on online advertisement services offered by non-resident entities, which of the following statements is/are correct?

1. It is introduced as a part of the Income Tax Act.
2. Non-resident entities that offer advertisement services in India can claim a tax credit in their home country under the "Double Taxation Avoidance Agreements".

Select the correct answer using the code given below:

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

Q23. Consider the following statements regarding the World Health Organization (WHO):

1. The WHO is a specialized agency of the United Nations responsible for international public health.
2. The WHO's headquarters is located in Geneva, Switzerland.
3. The WHO issues the annual Global Competitiveness Report.
4. The WHO coordinates efforts to combat global health emergencies like pandemics.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 1, 2, and 4 only
- (c) 1, 3, and 4 only
- (d) All of the above

Q24. Consider the following statements regarding the Black Hole:

1. A black hole is a place in space where gravity pulls so much that even light cannot get out.
2. The super-massive black hole at the center of the Milky Way galaxy is called Sagittarius A*.
3. The Sun is not a big enough star to make a black hole.

Which of the statements given above is/are correct?

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

Q25. The doctrine of essentiality, as laid down by the Supreme Court of India, deals with the identification of practices essential to a religion. Evaluate the following statements about the doctrine of essentiality:

1. The doctrine of essentiality allows the courts to decide which religious practices are fundamental to a particular religion.
2. According to the doctrine, all practices followed by a religion must be protected under Article 25 of the Indian Constitution.
3. The doctrine was established by the Supreme Court in the case of Commissioner of Hindu Religious Endowments, Madras v. Sri



Lakshmindra Thirtha Swamiar of Shirur Mutt (1954).

4. The doctrine distinguishes between essential and non-essential religious practices to balance religious freedom and constitutional mandates.
- (a) Only statements 1 and 4 are correct
 (b) Only statements 2 and 3 are correct
 (c) Only statements 1, 3, and 4 are correct
 (d) All statements are correct

Q26. Consider the following statements about meme coins and traditional cryptocurrencies like Bitcoin:

1. Meme coins are primarily created as a joke or for entertainment purposes, whereas traditional cryptocurrencies like Bitcoin were developed with a focus on decentralization and serving as a digital alternative to fiat money.
2. Meme coins typically have a higher circulating supply and lower per-unit value compared to traditional cryptocurrencies.
3. Bitcoin is backed by a finite supply cap of 21 million coins, whereas meme coins generally do not have strict supply limits.
4. Meme coins usually have a robust underlying blockchain technology similar to Bitcoin's, offering secure and efficient transactions.

How many of the above statements are correct?

- (a) Only 1
 (b) Only 2
 (c) Only 3
 (d) All 4

Q27. Analyze the following statements regarding the chronology of the Iron Age and Copper Age (also known as the Chalcolithic Age)?

1. The Copper Age preceded the Iron Age and marked the first extensive use of metals by humans.
 2. The Iron Age began immediately after the Copper Age without any intermediate period.
- (a) 1 only
 (b) 2 only
 (c) Both
 (d) None

Q28. The Global Competitiveness Report is published by the-

- (a) International Monetary Fund
 (b) United Nations Conference on Trade and Development
 (c) World Economic Forum
 (d) World Bank

Q29. Consider the following statements about the BrahMos missile system:

1. BrahMos is a supersonic cruise missile jointly developed by India and Russia.
2. The missile can be launched from land, sea, air, and underwater platforms.
3. The name "BrahMos" is derived from the names of the rivers Brahmaputra in India and Moskva in Russia.

Which of the above statements is/are correct?

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

Q30. Consider the following statements regarding the Corpse Flower (*Amorphophallus titanum*):

1. The Corpse Flower emits a strong odour resembling rotting flesh to attract pollinators like carrion insects.
2. It is classified as Critically Endangered by the IUCN.

Which of the above statements is/are correct?

- (a) 1 only
 (b) 2 only
 (c) Both
 (d) None



ANSWERS

Q1. B	Q7. D	Q13. A	Q19. D	Q25. C
Q2. A	Q8. D	Q14. C	Q20. C	Q26. C
Q3. B	Q9. A	Q15. A	Q21. A	Q27. A
Q4. B	Q10. C	Q16. B	Q22. D	Q28. C
Q5. C	Q11. B	Q17. C	Q23. B	Q29. D
Q6. D	Q12. B	Q18. D	Q24. D	Q30. A

ALL THE BEST!!!

