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CONSTITUTIONALISM

Why in News: The Chief Justice of the Delhi High Court recently emphasized the judiciary's critical role in shaping and expanding modern constitutionalism in India. Over the past 75 years, India's constitutional principles have evolved significantly, ensuring a strong legal foundation for democracy, justice, and individual rights.

What is Constitutionalism?

Constitutionalism is the ideology that limits government power by ensuring it operates within the framework of a constitution. It asserts that the people are the ultimate source of authority, and the government must function under legal constraints to protect individual rights and maintain democracy and the rule of law.

Constitution	Constitutionalism
The Constitution is a document that limits the powers of the state.	Constitutionalism is the ideology behind limiting the powers of the state.
It is a written document.	It is unwritten and is the soul/philosophy of the Constitution.
It deals with the structure of the government, political processes, and citizen rights.	It deals with limiting the powers of the state and protecting individual rights.
It sets rules and standards to distribute benefits and burdens in a society.	It is a living idea, which focuses on the application of laws in achieving justice and equality.
Not necessarily related to liberal democracy. For example, China has a constitution but is not a liberal democracy.	Constitutionalism is the underlying basis/ principle of liberal democracy.

Key Principles of Constitutionalism

Rule of Law

- **No one is above the law**—every citizen, including public officials, must abide by legal principles.
- **Government actions must follow legal procedures**, preventing arbitrary decisions.
- **Example:** The Supreme Court of India striking down unconstitutional laws to protect citizens' rights.

Limited Government

- Power is **divided among different branches** (Executive, Legislature, and Judiciary) to **prevent authoritarianism**.
- **Decentralization** ensures governance at **national, state, and local levels**.
- **Example:** The Indian Constitution grants **limited powers** to the central government while protecting **state autonomy**.

Separation of Powers

- Power is distributed among the **Legislature, Executive, and Judiciary** to avoid **concentration of authority**.
- Each branch functions **independently** to maintain **checks and balances**.

- **Example:** The Judiciary can **review laws passed by the Legislature** to ensure they align with constitutional values.

Checks and Balances

- Ensures **no single branch dominates** governance.
- Each branch has **oversight mechanisms** over the others to maintain accountability.
- **Example:** The **President's veto power**, **Parliament's ability to impeach the President**, and the **Supreme Court's power of judicial review**.

Protection of Individual Rights

- Constitutionalism safeguards **fundamental rights** such as **freedom of speech, religion, and equality**.
- Prevents **government overreach** into citizens' personal freedoms.
- **Example:** The Supreme Court ruling that **Right to Privacy is a Fundamental Right (2017, Puttaswamy Case)**.

Democratic Principles

- Governance is based on **popular sovereignty**—power ultimately rests with the people.

- Upholds **regular elections, majority rule, and protection of minority rights**.
- **Example:** India's free and fair elections under the supervision of the **Election Commission**.

Why is Constitutionalism Necessary?

1. Preventing Arbitrary Rule

- Ensures **government actions follow laws**, reducing the risk of **dictatorship**.
- Protects citizens from **misuse of power** by political authorities.
 - **Example:** Judicial review in India prevents **unconstitutional laws** from being implemented.

2. Protecting Individual Rights

- Enshrines **fundamental rights** such as **free speech, religion, and equality**.
- Prevents **state abuse of power** against minorities and weaker sections.
 - **Example:** **Article 21 (Right to Life and Liberty)** ensures no person is deprived of life **without due legal process**.

3. Ensuring Rule of Law

- Guarantees **transparent, fair, and consistent** legal systems.
- Everyone, including **government officials, is accountable** under the law.
 - **Example:** The Supreme Court's **striking down of Section 66A of the IT Act (2015)** for violating **free speech**.

4. Maintaining Democratic Governance

- Establishes **mechanisms for accountability, free elections, and public participation**.
- Ensures leaders are **answerable to the people** through **elections and oversight**.
 - **Example:** The **Right to Information (RTI) Act (2005)** enhances transparency in governance.

5. Promoting Transparency and Accountability

- Constitutional frameworks provide **oversight mechanisms** such as an **independent judiciary and legislative checks**.
 - **Example:** The **Comptroller and Auditor General (CAG)** ensures **government funds** are used efficiently.

6. Balancing Power

- Divides power among **different branches** to **prevent authoritarian rule**.
- Strengthens **federalism** by distributing authority between **central and state governments**.
 - **Example:** **Article 356 (President's Rule)** is used cautiously to maintain state autonomy.

7. Providing Stability and Continuity

- Constitutionalism ensures **political stability** through a **structured legal framework**.
- Encourages **peaceful transitions of power**.
 - **Example:** Smooth **Prime Ministerial transitions** in India's democracy, avoiding conflicts.

8. Facilitating Peaceful Change

- Provides **legal methods to amend** the Constitution as society evolves.
- Ensures **social and political progress** without conflicts.
 - **Example:** The **73rd and 74th Constitutional Amendments (1992)** strengthened **local self-governance**.

9. Protecting Minorities and Marginalized Groups

- Safeguards against **majoritarian rule** by protecting minority rights.
 - **Example:** **Article 15** prohibits **discrimination based on religion, caste, or gender**.

10. Promoting Good Governance

- Defines **roles and responsibilities** of various government institutions.
- Ensures government actions align with **public welfare**.
 - **Example:** **Directive Principles of State Policy (DPSP)** guides laws towards **social justice and equality**.

Conclusion

- The **Constitution and constitutionalism** together uphold **democratic values**, ensure **social justice**, and **protect individual rights**. India's constitutional framework has played a **pivotal role** in maintaining a **just, inclusive, and progressive society**.
- As India moves forward, **constitutionalism will remain essential** in safeguarding democracy, **ensuring accountability, and fostering national progress**.
- "A Constitution is not a mere lawyer's document; it is a vehicle of life, and its spirit is always the spirit of age." — **Dr. B.R. Ambedkar**

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. Discuss the key principles and the need for Constitutionalism as an ideology. Highlight the differences between constitutionalism and constitution. [250 words] [15 marks]

JUDICIAL OVERREACH

Why in News: The *Supreme Court of India* recently set aside an order of the *Allahabad High Court*, which had directed the *Director of the Narcotics Control Bureau (NCB)* to pay ₹5 lakh as compensation to a man allegedly *wrongfully confined* in jail.

Key Details

This case has reignited discussions on *judicial overreach*, as the apex court ruled that the *High Court exceeded its jurisdiction* by granting compensation without legal authority.

Case Overview: NCB vs. Allahabad High Court Judgment

Background of the Case

- **NCB Seizure:** The Narcotics Control Bureau (NCB) seized 1,280 grams of brown powder, suspected to be heroin, from two individuals—Man Singh Verma and Aman Singh.
- **Legal Action:** A case was filed against Verma under Sections 8(C), 21, and 29 of the Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985. He was remanded to judicial custody while awaiting lab test results.
- **Bail Application:** While in custody, Verma applied for bail, but the Special NDPS Court in Barabanki rejected his plea. He then approached the Allahabad High Court.

Revelation & Release

- **Lab Report:** The laboratory tested the seized substance and found that it did not contain heroin or any narcotic substances.
- **NCB Closure Report:** Based on this finding, NCB filed a closure report, and Verma was released from jail.

Allahabad High Court's Ruling

- **Despite the closure report,** the High Court adjudicated Verma's bail application and observed that he was wrongfully confined for four months.
- **Compensation Order:** The High Court directed the Director of NCB to pay ₹5 lakh compensation for Verma's alleged wrongful detention.

Supreme Court's Verdict

- The Supreme Court overturned the High Court's ruling, stating that:
 - The compensation order was beyond the High Court's jurisdiction since the accused had already been released.
 - Compensation should be granted based on legal authority, not judicial discretion.
 - The High Court's decision amounted to judicial overreach as it exceeded its lawful scope.

Judicial Review, Activism, and Overreach in India

Judicial Review: The Power to Uphold the Constitution

- The judiciary has the power to review laws and government actions to ensure they comply with the Constitution of India.

- This power helps **strike down unconstitutional laws** and safeguard fundamental rights.
- Landmark cases include:
 - **A.K. Gopalan Case (1950):** Addressed the validity of preventive detention laws.
 - **Golaknath Case (1967):** Asserted that fundamental rights cannot be amended by Parliament.

Judicial Activism: The Judiciary as a Guardian of Rights

- Judicial activism allows courts to **step in when the legislature or executive fails to protect citizens' rights**.
- Mechanisms like **suo motu actions** and **Public Interest Litigations (PILs)** enable the judiciary to address public grievances.
- Historical roots:
 - **1893 Allahabad High Court case:** First instance of judicial activism in India.
 - **Post-1960s & 70s:** Increased judicial interventions in governance.
- **Significance of Judicial Activism:**
 - **Protects marginalized communities.**
 - **Ensures government accountability.**
 - **Bridges gaps in legislation** when needed.

Judicial Overreach: When Activism Crosses Its Limits

Judicial overreach occurs when courts **exceed their authority and interfere in the legislative or executive domain**.

Examples of Judicial Overreach in India

- **National Anthem Case:** The Supreme Court mandated the **playing of the national anthem in cinema halls**, later modifying its stance after criticism.
- **Lodha Committee's Reforms for BCCI:** The judiciary intervened in **cricket administration**, affecting an autonomous sports body.
- **NJAC Verdict (2015):** The Supreme Court **struck down the National Judicial Appointments Commission (NJAC) Act**, overriding a constitutional amendment passed by Parliament.

Criticism of Judicial Overreach

- **Violation of Separation of Powers** – Courts should interpret laws, not make or enforce them.
- **Creates Judiciary vs. Government Tensions** – Undermines Parliament's authority.
- **Lack of Accountability** – Judges may not have the **technical expertise** to manage governance issues.

The Indian judiciary plays a crucial role in upholding democracy, protecting fundamental rights, and ensuring executive and legislative accountability.

- *Judicial review is essential to strike down unconstitutional laws.*
- *Judicial activism is beneficial when the government fails to act in public interest.*

- However, *judicial overreach disrupts the balance of power and affects governance.*

Striking a balance between judicial activism and restraint is key to maintaining India's constitutional democracy.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

- Q. Analyze the role of judicial review and judicial activism in upholding constitutional values in India. Discuss how judicial overreach can disrupt the balance of power among the organs of the state, citing relevant cases. [250 words] [15 marks]

ENFORCEMENT DIRECTORATE'S ACTIONS AGAINST POLITICIANS

Why in News: The Enforcement Directorate (ED) has registered **193 cases against politicians** in the past decade under anti-money laundering laws. However, only **two convictions** have been secured so far, raising concerns about the effectiveness and challenges of financial crime investigations in India.

Key Details

- Between **April 2015 and February 2025**, the ED registered **193 cases** against politicians, including sitting and former **Members of Parliament (MPs) and Members of Legislative Assemblies (MLAs)**.
- Despite numerous cases being filed, only **two convictions** have been secured, with **zero acquittals** so far.
- The two convictions include **former Jharkhand Ministers Anosh Ekka and Hari Narayan Rai**, who were sentenced to **seven years of rigorous imprisonment** under the **Prevention of Money Laundering Act (PMLA), 2002**.
- The **highest number of cases in a single fiscal year** was recorded in **2022-23**, with **32 cases** filed.

About the Enforcement Directorate (ED)

It is a specialized **financial investigation agency** operating under the **Department of Revenue, Ministry of Finance, Government of India**. Established in **1956**, the ED is primarily responsible for **enforcing financial and anti-money laundering laws** in the country.

Key Laws Enforced by the ED

- **Prevention of Money Laundering Act (PMLA), 2002** – Targets money laundering, confiscation of crime proceeds, and financial fraud.
- **Foreign Exchange Management Act (FEMA), 1999** – Regulates external trade, foreign payments, and cross-border financial transactions.

Key Functions of the Enforcement Directorate

1. Money Laundering Investigations

- The ED investigates financial crimes under **PMLA, 2002**,

identifying **money laundering networks** and prosecuting offenders.

- **Example:** The ED played a key role in the **Punjab National Bank (PNB) fraud case**, tracking fraudulent transactions and recovering assets linked to the scam.

2. Enforcement of FEMA Regulations

- The ED ensures **compliance with FEMA, 1999**, regulating foreign exchange transactions to prevent illicit financial activities.
- **Example:** The ED investigated the **NDTV group** for alleged foreign exchange violations under FEMA.

3. Attachment and Confiscation of Assets

- The ED has the authority to **attach and seize properties** acquired through illegal financial activities.
- **Example:** The agency confiscated the assets of fugitive offenders like **Vijay Mallya** under PMLA, preventing them from benefiting from illicit wealth.

4. Coordination with National & International Agencies

- The ED collaborates with various national and international agencies, including **Interpol, CBI, and financial intelligence units** worldwide, to track and curb cross-border financial crimes.

5. Prosecution under PMLA

- The agency files **chargesheets and prosecutes offenders** in special **PMLA courts**, ensuring strict legal action against financial misconduct.
- **Example:** The ED initiated legal proceedings against the **Sahara Group** for financial irregularities and money laundering.

6. Promoting Financial Awareness & Compliance

- The ED conducts **training programs, awareness campaigns, and workshops** to educate financial institutions and businesses about compliance with **anti-money laundering laws**.

Conclusion

The *Enforcement Directorate* plays a critical role in tackling *financial crimes, money laundering, and foreign exchange violations*. Its *investigations against politicians* reflect a growing focus on *curbing corruption and illicit financial activities*. However, the *low conviction rate* underscores the need for *stronger legal frameworks, faster judicial processes, and enhanced investigative mechanisms*. Strengthening enforcement will help ensure *greater accountability and transparency* in India's financial and political landscape.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. With reference to the role of the Enforcement Directorate (ED), consider the following statements:
1. The ED investigates financial crimes under the Prevention of Money Laundering Act (PMLA) and the Fugitive Economic Offenders Act (FEOA).

2. The ED can directly convict individuals without judicial review.

Which of the above statements is/ are correct?

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

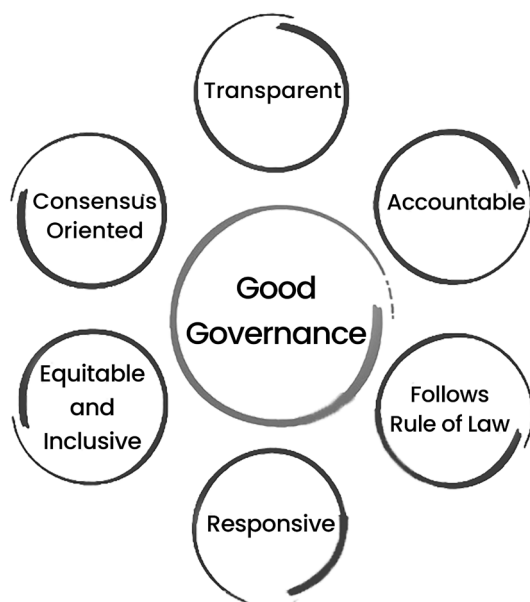
Answer: (a)

POPULISM THREATENS GOOD GOVERNANCE

Why in News: The Vice President of India recently highlighted the adverse impact of populism on effective governance. Speaking at the inaugural ‘Murli Deora Memorial Dialogues’ in Mumbai, he cautioned against emotion-driven policies disguised as democratic measures. He emphasized that such policies could undermine democratic principles, disrupt fiscal discipline, and hinder long-term development.

Understanding Good Governance

Good governance refers to a system of administration where decisions are made in a transparent, accountable, efficient, and inclusive manner. It ensures that political and socio-economic power is exercised responsibly to serve the interests of all citizens. Good governance is based on key principles such as transparency, accountability, efficiency, participation, and rule of law.



Significance of Good Governance

1. Ensures Accountability and Transparency

- Public officials are held answerable for their actions, reducing corruption and enhancing citizens’ trust in the government.

- Example: The implementation of the *Right to Information (RTI) Act, 2005* enables citizens to seek government-related information.

2. Improves Service Delivery

- Ensures timely and efficient access to essential public services such as healthcare, education, and infrastructure.
- Example: *Direct Benefit Transfer (DBT)* has streamlined welfare schemes by eliminating intermediaries and reducing leakages.
- Fosters Economic Growth
- A well-governed economy attracts investment, fosters entrepreneurship, and generates employment opportunities.
- Example: The *Ease of Doing Business* reforms have simplified regulations, making India an attractive destination for investors.

3. Strengthens Democracy

- Upholds citizens’ rights, promotes equal participation, and creates an inclusive society where all voices are heard.
- Example: Electoral reforms, such as the introduction of *Voter Verifiable Paper Audit Trail (VVPAT)*, ensure free and fair elections.

4. Promotes Sustainable Development

- Encourages responsible resource management and long-term planning to balance economic, social, and environmental needs.
- Example: The *Sustainable Development Goals (SDGs)* framework aligns government policies with global development objectives.

Challenges to Good Governance

1. Populism and Emotion-Driven Policies

- Short-term policies aimed at gaining public support often lead to financial instability and derail long-term growth plans.
- Example: Unplanned subsidies and loan waivers strains government finances without addressing structural economic issues.

2. Corruption

- The misuse of public power for private gain hinders development and erodes citizens’ faith in institutions.
- Example: The *Lokpal and Lokayuktas Act, 2013* was enacted to investigate corruption cases involving public officials.

3. Bureaucratic Red Tape

- Cumbersome administrative procedures slow down decision-making and delay project implementation.
- Example: Streamlining processes through the *PRAGATI (Pro-Active Governance and Timely)*

Implementation) Platform has expedited project approvals.

4. Digital Divide

- Unequal access to digital services limits participation in governance and prevents marginalized communities from benefiting from e-governance initiatives.
- Example: The *Digital India Mission* aims to bridge this gap by enhancing digital infrastructure and connectivity.

Way Forward: Strengthening Good Governance

1. Fiscal Prudence

- Governments should prioritize sustainable financial policies over short-term populist measures.
- Example: The *Fiscal Responsibility and Budget Management (FRBM) Act* sets targets for reducing fiscal deficits and improving financial discipline.

2. E-Governance Expansion

- Leveraging digital platforms can enhance service delivery, reduce corruption, and improve transparency.
- Example: The *Aadhaar-enabled Direct Benefit Transfer (DBT) system* has minimized fraudulent claims in subsidy distribution.

3. Strengthening Accountability Mechanisms

- Strict implementation of laws ensuring transparency and anti-corruption measures is essential.
- Example: The *Whistle Blowers Protection Act, 2014* encourages citizens to report corruption and misconduct.

4. Capacity Building of Public Servants

- Regular training programs for civil servants can improve efficiency and decision-making.
- Example: *Mission Karmayogi* is an initiative to enhance the skills of bureaucrats and improve governance outcomes.

5. Citizen Participation and Policy Engagement

- Encouraging public involvement in governance can lead to more inclusive and effective policies.
- Example: The *MyGov* platform enables citizens to provide feedback on government policies and contribute ideas for national development.

Key Government Initiatives for Improving Governance

- **Digital India:** Enhances digital infrastructure and promotes online governance services.
- **Right to Information Act (2005):** Empowers citizens by ensuring transparency in government functioning.
- **Mission Karmayogi:** Aims to enhance the skills of civil servants to improve efficiency in administration.

- **PRAGATI Platform:** Facilitates real-time monitoring of government projects to ensure timely implementation.
- **Lokpal and Lokayuktas Act (2013):** Establishes independent anti-corruption bodies to investigate misconduct in public offices.

Good governance is the foundation of a strong, inclusive, and sustainable democracy. While challenges such as populism, corruption, and bureaucratic inefficiencies persist, strategic reforms and public engagement can help overcome them. By promoting transparency, accountability, and efficiency, India can ensure long-term development and uphold the true spirit of democracy.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. Discuss the significance of good governance in sustainable development. What are the key challenges to good governance in India, and suggest ways to address them? [150 words] [10 marks]

WOMEN'S ARREST AND SAFEGUARDS

Why in News: The Madras High Court recently ruled that the legal provision restricting the arrest of women after sunset and before sunrise under the Bharatiya Nagarik Suraksha Sanhita (BNSS), 2023, is directory and not mandatory. This means that while the provision serves as a guideline, failure to comply does not automatically make the arrest illegal.

Understanding the Safeguards for Women Against Arrest

Indian law provides specific safeguards to protect women from arbitrary or harsh treatment during arrest. These safeguards are primarily enshrined in Section 43(5) of BNSS, which corresponds to Section 46(4) of the CrPC.

Key Provisions Under Section 43(5) of BNSS

Time Restrictions on Arrest

- A woman cannot be arrested between sunset and sunrise unless there are exceptional circumstances.
- Even in exceptional situations, the arresting officer must obtain prior written permission from the jurisdictional magistrate.

Lack of Clarity on 'Exceptional Circumstances'

- The law does not define what qualifies as an exceptional situation, leaving room for interpretation by the police and courts.

Guidelines for Handling Female Suspects

- Section 46(1) of the CrPC states that a woman police officer should carry out the arrest whenever possible.
- If a male officer must arrest a woman, he cannot touch her unless absolutely necessary due to the situation.

Note: The Law Commission of India, in its 135th and 154th reports, recommended adding Section 46(4) to the CrPC in 2005 to strengthen safeguards for women.

Recent Judgement

- The Madras High Court said that Section 46(4) of CrPC does not spell out the consequence of non-compliance with the provision.
- The Court underlined that there could be a situation where a heinous offence is committed by a woman at night and the magistrate may not be available for obtaining permission.
- Under such a situation, the accused woman may escape. Therefore, such mechanical adherence to procedure can injure public interest.
- The Court has clearly said that despite holding Section 46(4) of CrPC/43(5) as directory and not mandatory, the provision cannot be rendered futile by the police.
- The Court directed the police to issue guidelines, clarifying what constitutes exceptional circumstances.

Rights of an Arrested Woman in India

To ensure fair treatment, the law grants women several rights during and after arrest.

Right to Free Legal Aid

- Article 39A of the Constitution guarantees free legal assistance to those who cannot afford legal representation.
- Section 304 of BNSS ensures that:
 - State Legal Services Authorities will cover legal expenses, including translation, documentation, and lawyer fees.
 - Any woman accused of a crime has the right to free legal representation for a fair trial.

Right to Be Informed About Arrest & Bail

- Section 50(1) of BNSS:
 - Every arrested individual has the right to know the reason for their arrest.
- Section 50(2) of BNSS:
 - ◆ If a woman is arrested without a warrant for a bailable offense, she must be informed of her right to seek bail.
 - ◆ The police must advise her to arrange sureties for bail.

Right Against Manhandling & Handcuffing

- Section 46(1) of BNSS assumes that a woman submits to custody upon verbal notice of arrest.
- A male officer cannot touch or physically restrain a woman unless:
 - She actively resists arrest, or
 - Exceptional circumstances justify the use of force.

Rights During Detention

- A police officer cannot detain an arrested person for more than 24 hours without presenting them before a magistrate.
- Women should not be placed in the same lock-up as male prisoners.
- Authorities must ensure the dignity and safety of a detained woman at all times.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

- Q. Does the recent ruling of the Madras High Court dilute the provisions for safeguarding the arrest of a woman? Analyse. [150 words] [10 marks]

ELECTION PHOTO IDENTITY CARD (EPIC)

Why in News: The credibility of the Election Commission of India (ECI) has come under scrutiny due to duplicate EPIC numbers being reported across multiple voter IDs. A delegation from the Trinamool Congress (TMC) recently met with the Election Commission (ECI) to present evidence of such duplications, raising concerns over electoral roll integrity and possible voter list manipulations.

More about the news:

The controversy adds to the ongoing debate over the ECI's impartiality and credibility, especially in the lead-up to elections. In response, the ECI acknowledged that the duplication issue arose due to an earlier decentralized mechanism of issuing EPIC numbers, which has since been rectified by shifting the electoral database to the ERONET platform.

What is EPIC?

EPIC (Electors Photo Identification Card) is the unique voter ID number assigned to each registered voter by the Election Commission of India (ECI). It serves as:

- Official identity proof for Indian citizens aged 18 years and above.
- A key document for voting in elections at all levels – Lok Sabha, State Assemblies, and Local Bodies.
- A tool to prevent electoral fraud by ensuring each voter has a unique ID.

How to Find Your EPIC Number?

Voters can check their EPIC number by visiting the National Voters' Service Portal (NVSP) and entering their personal details such as name, date of birth, and constituency information.

🔗 Website: www.nvsp.in

Uses of the EPIC Number

The **EPIC number** plays a crucial role in election processes and voter verification. Here's how:

Access to Electoral Services

- Voters can **check their registration status**, **apply for a new voter ID**, or **update information** (such as change of address or name correction) using the EPIC number.

Prevention of Electoral Fraud

- Since each **EPIC number is unique**, it helps prevent **bogus voting, duplicate voter IDs, and identity fraud**.

Verification of Registered Voters

- Possessing an EPIC number confirms that a person is an **officially registered voter**.
- Election officials use it to **locate voter details in the electoral rolls**.

Participation in the Election Process

- The **EPIC number helps determine electoral roll details** maintained by state and central election bodies.
- It ensures **fair and transparent elections** by minimizing errors in voter lists.

Why Did the EPIC Duplication Issue Occur?

The **ECI explained** that duplicate EPIC numbers were generated due to a **decentralized manual mechanism** used for issuing voter IDs before all **States and Union Territories (UTs) shifted to ERONET**.

Key Reasons for Duplication:

- **Manual Entry Errors:** Since **State/UT Chief Electoral Officers (CEOs)** handled voter ID registrations separately, some used the **same EPIC number series**, leading to **overlapping numbers across different constituencies**.
- **Lack of a Centralized Database:** Before ERONET, each state maintained its **own records**, causing inconsistencies in voter ID generation.
- **Inter-State Migration of Voters:** People who **shifted states** sometimes ended up with **two different voter IDs** (one from the previous state and another from the new state).

What is ERONET?

ERONET (Electoral Roll Management System):

ERONET is an advanced digital platform designed to **standardize voter registration, detect duplicate entries, and maintain an accurate electoral roll**. It was introduced to ensure **better transparency, accountability, and efficiency** in the electoral system.

Key Features of ERONET

- **A Unified National Database** – Maintains a **centralized database for all States and UTs**, eliminating duplication risks.

- **Supports Multiple Languages & Scripts** – Available in **14 languages and 11 scripts** to ensure inclusivity.
- **Automated Form Processing** – Helps **track applications** for voter ID registration, corrections, and deletions.
- **Duplicate Entry Detection** – Uses **AI-based technology** to detect:
 - **PSE (Photo Similar Entries):** Identifies duplicate voter IDs using **facial recognition technology**.
 - **DSE (Demographic Similar Entries):** Matches voter data (name, age, address, etc.) to **remove multiple registrations** of the same person.
- **Performance Monitoring & Data Analysis** – Generates reports to **track election officials' efficiency** and **improve decision-making**.

The EPIC duplication issue has raised serious concerns about the credibility of the Election Commission of India (ECI). While the problem stemmed from a previous manual system, the implementation of ERONET marks a significant step forward in improving electoral transparency and accuracy.

Going forward, a stronger voter verification process, AI-driven monitoring, and continued updates to ERONET will be essential to maintaining the integrity of Indian elections. Addressing these concerns proactively will restore public confidence in the Election Commission and ensure free and fair elections in the country.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. ERONET recently seen in news is related to:

- Satellite Internet System
- A satellite launched by ISRO
- A web-based solution for Vaccination
- A single unified database of Electoral data

(d) Answer

DIGITAL TRANSFORMATION OF JUSTICE: INTEGRATING AI IN INDIA'S JUDICIARY AND LAW ENFORCEMENT

Introduction

The integration of **Artificial Intelligence (AI)** in **India's criminal justice system** marks a significant step toward modernizing legal processes, improving efficiency, and ensuring justice delivery. However, it also brings challenges related to **privacy, bias, accountability, and transparency** that need careful regulation.

This article explores how **AI is transforming India's judiciary and law enforcement**, the potential risks, and the necessary safeguards to ensure ethical and effective implementation.

Understanding India's Criminal Justice System (CJS)

India's **criminal justice system (CJS)** operates under three newly enacted laws:

1. **Bharatiya Nyaya Sanhita (BNS), 2023** – Governs substantive criminal law, replacing the Indian Penal Code (IPC).
2. **Bharatiya Nagarika Suraksha Sanhita (BNSS), 2023** – Deals with procedural aspects of criminal law, replacing the Code of Criminal Procedure (CrPC).
3. **Bharatiya Sakshya Adhinyam (BSA), 2023** – Governs rules of evidence, replacing the Indian Evidence Act.

Key Institutions in the Criminal Justice System

1. **Police Force** – The **first point of contact** for crime victims; responsible for investigation and apprehension of offenders.
2. **Courts** – Handle **prosecution, trials, and adjudication** of cases.
3. **Correctional Facilities (Prisons)** – Ensure **rehabilitation and reintegration** of convicted individuals.

Four Key Components of the Criminal Justice Process

1. **Police Investigation** – Officers collect evidence, interrogate suspects, and record statements as per BNS provisions.
2. **Prosecution** – Legal professionals formally charge suspects and present evidence in court.
3. **Judicial Adjudication** – Courts determine guilt based on evidence, considering factors like criminal history and rehabilitation potential.
4. **Correctional System** – Prisons focus on reforming inmates through education, vocational training, and rehabilitation programs.

Role of AI in India's Criminal Justice System

Artificial Intelligence has the potential to **revolutionize India's legal and law enforcement framework** by streamlining case management, improving legal research, and enhancing crime prevention efforts.

Artificial Intelligence (AI) in the Criminal Justice System

- **Automated Case Management:** AI-driven tools can be used for **smart scheduling, case prioritization, and proactive backlog reduction**.
- **AI in Legal Research and Documentation:** **Simplifying legal research, finding pertinent case precedents, and summarizing rulings** are all made easier for judges and attorneys by sophisticated AI-powered technologies.
- **AI-Assisted Filing and Court Procedures:** These

technologies automate the filing of court documents, ensuring **faster processing and reducing manual errors** in the documentation process.

- **AI for User Assistance and Chatbots:** AI-driven virtual legal assistants and chatbots are available to provide litigants with **real-time information on case status, procedural guidance, and essential legal updates**.
- **AI for Predictive Analysis in Case Outcomes:** AI models examine past rulings and case information to **provide forecasts for possible case outcomes and risk evaluations**.
- **AI for Legal Translation and Language:** AI-driven legal translation tools are being deployed to make legal documents and judgements **accessible in non-English languages**.
- **AI in Law Enforcement and Crime Prevention:** To improve crime **detection, surveillance, and criminal investigations**, AI is being used in police and law enforcement.
- **Predictive policing:** AI algorithms **examine criminal activity, high-risk locations, and crime trends** to help law enforcement take preventative action.
- **AI in FIR Filing and Judicial Proceedings:** AI-driven speech-to-text tools assist in **real-time FIR filing and case documentation**.

Challenges with integration of AI with criminal justice

- **Privacy Concerns and Surveillance:** The use of AI in surveillance and data collection poses serious privacy risks, especially in a country like India, where comprehensive data protection legislation is still in its nascent stages. Without proper oversight, **law enforcement agencies might use AI tools to monitor political activists, journalists, or minority communities, leading to violations of civil liberties**.
- **Cyber Attacks:** The collection and storage of vast amounts of personal data by AI systems present a **significant risk of data breaches and unauthorised access**.
- **Bias and Discrimination:** AI systems are only as good as the data they are trained on, and if **that data reflects societal biases—such as those related to caste, religion, gender, or socioeconomic status—the AI system may replicate and reinforce those biases**. In the context of predictive policing, for instance, AI algorithms trained on historical crime data **may disproportionately target marginalized communities** if the data is biased against them.
- **Lack of Transparency and Accountability:** AI algorithms, particularly those based on machine learning, often function as “blackboxes”, making it difficult to understand how they arrive at certain decisions or predictions. This **opacity can be problematic in the criminal justice context, where decisions based on AI could significantly impact individuals' lives and freedoms**.
- **Issue of responsibility:** When AI systems make erroneous

or biased decisions, it can be difficult to determine who is responsible—whether it is the **developers** of the AI system, the **government agency** that implemented it, or the **individual officers** or **judges** who relied on the system's recommendations.

- **Undermine human dignity:** The use of AI for predictive policing or risk assessment can **reduce individuals to mere data points, ignoring the broader social and personal context in which they operate.**

Way Forward

- **Authentication of Electronic Evidence: Establishing the reliability and integrity of AI-generated evidence** would be crucial in legal proceedings, ensuring fairness and accountability.
- **Expert Opinion Evidence:** AI systems, particularly those involving machine learning algorithms, can offer expert opinions in various fields. However, there is a need for specific **guidelines on how courts should treat opinions rendered by AI systems.**
- **Data Privacy and Admissibility:** Issues related to data privacy and the admissibility of evidence obtained through AI processes may need further clarification within the legal framework. This is especially relevant considering the increasing importance of protecting individual privacy rights.
- **Criminal Profiling and Bias:** Authorities need to **incorporate provisions addressing the potential biases in AI algorithms** and ensuring that any evidence derived from AI systems is fair and non-discriminatory.
- **Educating Legal Professionals:** Given the technical nature of AI, there might be a need for educating legal professionals, including judges and lawyers, about the functioning and limitations of AI.
- **International Best Practices:** Learning from AI regulations and frameworks in other countries can help India develop a balanced and effective AI-driven criminal justice system.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. Critically analyse the challenges and opportunities in use of AI in India's criminal justice system. Suggest measures to ensure its ethical and effective implementation. [250 words] [15 marks].

BILLS OF LADING BILL, 2025

Why in News? The Lok Sabha recently passed the **Bills of Lading Bill, 2025**, replacing the **169-year-old Indian Bills of Lading Act, 1856**. This legislative move aims to modernize and streamline shipping laws in India, aligning them with contemporary global trade practices.

Key Highlights of the Bill

- **Repeals the Indian Bills of Lading Act, 1856:** The 1856 Act provided the legal framework for issuing bills of lading, a crucial document in the shipping industry. The new bill retains the core provisions while incorporating modern practices.

What is a Bill of Lading?

A **bill of lading** is a legally binding document issued by a freight carrier to a shipper. It serves multiple purposes, including:

- A **receipt** acknowledging that goods have been loaded onto a vessel.
- A **contract** between the shipper and carrier, outlining the terms of transportation.
- A **title document** that allows ownership of the goods to be transferred to a third party.

It contains vital information, such as:

- Type of goods being transported
- Quantity and condition of goods
- Destination of the shipment

Key Provisions of the Bill

- **Recognition of Bill of Lading as Conclusive Evidence:**
 - The bill states that a **bill of lading serves as conclusive evidence** of the shipment of goods onboard a vessel.
- **Legal Rights & Liabilities:**
 - The bill specifies that **all legal rights and liabilities related to the goods are transferred to:**
 - ◆ The **receiver** mentioned in the bill of lading.
 - ◆ Any **third party** to whom the receiver transfers ownership of the goods.
- **Power of the Central Government:**
 - The bill empowers the **central government** to issue directions for the proper implementation of its provisions.

Significance of the Bills of Lading Bill, 2025

- **Streamlined Business Processes:** By updating an outdated colonial-era law, the bill simplifies shipping transactions, making the system more efficient and reducing administrative hurdles.
- **Reduced Litigation Risks:** The clearer legal framework will **minimize disputes** between shipping companies, shippers, and consignees, reducing the need for lengthy litigations.
- **Greater Transparency and Legal Clarity:** The bill provides **better-defined legal protections** for carriers, shippers, and lawful holders of goods, ensuring that responsibilities and rights are explicitly stated.

Boost to India's Global Trade:

- India is increasingly playing a significant role in global commerce.

- This modernized legislation **enhances India's competitiveness** in the international shipping industry by making trade processes smoother.
- It aligns India's shipping regulations with **global best practices**, attracting more investments in maritime trade.

Supports Digitalization in Shipping:

- The new bill is expected to encourage **electronic bills of lading**, which facilitate faster, more secure, and cost-effective trade transactions.
- This move aligns with India's push toward **digital transformation in logistics and trade**.

The Bills of Lading Bill, 2025 is a significant step toward modernizing India's shipping laws. By replacing the archaic 1856 Act, it enhances transparency, strengthens legal protections, and fosters a more efficient shipping ecosystem. This reform will not only streamline trade processes but also strengthen India's position as a global maritime hub, supporting its aspirations of becoming a leader in international trade and commerce.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. What is the primary function of a Bill of Lading?
- It serves as a receipt for the cargo delivered to the carrier.
 - It represents the contract of carriage between the shipper and the carrier.
 - It acts as a document of title, enabling the transfer of ownership of the goods.
 - All of the above.

Answer: (d)

IMMIGRATION AND FOREIGNERS BILL, 2025

Why in News: The Union government recently introduced the **Immigration and Foreigners Bill, 2025**, in the Lok Sabha. This proposed legislation seeks to **streamline the regulation of immigration, entry, stay, and exit of foreigners in India**, replacing several outdated laws with a **comprehensive framework**.

Laws Repealed by the Bill

- The Bill repeals the following four existing Acts, consolidating them into a single legislation:
 - Passport (Entry into India) Act, 1920
 - Registration of Foreigners Act, 1939
 - Foreigners Act, 1946
 - Immigration (Carriers' Liability) Act, 2000

Key Provisions of the Bill

Immigration Regulations

- Foreigners must have a **valid passport and visa** to enter India.
- The **Central Government** can designate specific **immigration posts** for entry and exit.
- Establishes the **Bureau of Immigration** to:
 - Issue visas and regulate entry.
 - Oversee the **transit, stay, movement, and departure** of foreigners.

Registration of Foreigners

- Foreigners **must register** with a **Registration Officer** upon arrival.
- Strengthens tracking mechanisms to **monitor movements of foreign nationals**.

Reporting Obligations for Entities

- **Airlines, Shipping Companies & Transporters**
 - Must provide details of **foreign passengers and crew members** to immigration authorities.
- **Educational Institutions**
 - Must report details of **admitted foreign students** to the Registration Officer.
- **Medical Institutions**
 - Must report details of **foreign patients receiving in-patient treatment**.

Expanded Definition of Carriers

The **definition of a 'carrier'** now includes:

- **Airlines, shipping companies, and land transport operators.**
- Any entity involved in **transporting passengers or cargo**.

Mandatory Clearance for Departure

- Any transport **departing from India** must obtain **clearance** from the Immigration Officer.

Enhanced Power of Arrest

- **Current Law:** Police officers of **Sub-Inspector rank or above** can arrest individuals without valid passports.
- **New Provision:** **Head Constables** or higher-ranked officers **can now make arrests** without a warrant.

Stricter Penalties for Immigration Offences

- **All four Acts provide for the imposition of penalties upon contravention of various provisions.**
- The Bill seeks to change the penalty for certain offences. Under the **Passport (Entry into India) Act, 1920**, entering without a valid passport is punishable with imprisonment of up to five years, fine up to Rs 50,000 or both.
- The Bill penalises foreigners entering without a valid passport or other travel documents with imprisonment of up to five years, a fine of up to Rs. 5 lakhs, or both.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. The Immigration and Foreigners Bill, 2025, repeals which of the following Acts:

1. Passport (Entry into India) Act, 1920
2. Registration of Foreigners Act, 1939
3. Foreigners Act, 1946
4. Immigration (Carriers' Liability) Act, 2000

Select the correct answer using the codes given below:

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

Answer: (d)

ARTICLE 136 OF THE INDIAN CONSTITUTION: SPECIAL LEAVE PETITION AND ITS IMPLICATIONS

Why in News: Recently, the Vice President of India highlighted the growing concern that the broad application of Article 136 is undermining the arbitration process in India.

Key Details

- Speaking at the 'International Arbitration: Indian Perspective' colloquium organized by the India International Arbitration Centre in New Delhi, he pointed out that the provision, originally meant as a narrow exception, is now widely used, affecting the efficiency of arbitration.
- The Vice President also referred to former Chief Justice of India D.Y. Chandrachud's remark that arbitration in India has become an "old boys' club," emphasizing the need for greater participation from domain experts in arbitration proceedings.

Understanding Article 136

Article 136 of the Indian Constitution grants the Supreme Court discretionary power to grant special leave to appeal from any judgment, decree, determination, sentence, or order passed by any court or tribunal in India.

Key Features of Article 136:

- It does not provide an absolute right to appeal but a right to apply for special leave.
- The Supreme Court has complete discretion to accept or reject the petition.
- It applies to all types of cases, whether civil, criminal, or constitutional.
- It covers both final judgments and interim orders.

- However, it does not apply to cases adjudicated by military courts or courts-martial (an exception derived from the UK Constitution).

What is a Special Leave Petition (SLP)?

A Special Leave Petition is a legal mechanism that allows an aggrieved party to seek special permission from the Supreme Court to appeal against a ruling from a lower court or tribunal. It ensures that cases of significant legal importance or injustice can be reviewed at the highest judicial level.

Historical Context

The concept of special leave to appeal was borrowed from the Government of India Act, 1935. It serves as a safeguard, allowing the Supreme Court to intervene in cases where there might be a miscarriage of justice.

Time Limits for Filing an SLP

- Within 90 days from the date of the judgment of the lower court.
- Within 60 days if the High Court refuses to grant a certificate of fitness for appeal to the Supreme Court under Article 134A.

Requirements for Filing an SLP

- The petition must contain all essential facts for the Supreme Court to decide whether to grant the SLP.
- It must be signed by an Advocate on Record (AOR).
- The petitioner must declare that no other petition has been filed in the High Court for the same matter.
- The annexures attached must be true copies of the pleadings presented in the lower courts.
- A copy of the judgment against which the appeal is being filed must be included.

Tribunals and SLPs

Although the Supreme Court is the primary authority for granting SLPs, certain tribunals recognized by law can also handle such appeals under specific circumstances. These tribunals must have judicial powers similar to courts, such as:

- Calling and examining witnesses under oath.
- Reviewing evidence.
- Issuing orders that have legal authority.

Concerns Over Excessive Use of Article 136

1. **Impact on Arbitration:** Frequent interventions by the Supreme Court through SLPs undermine the efficiency of the arbitration process, making it less attractive for commercial dispute resolution.
2. **Judicial Burden:** An increasing number of SLPs put an immense workload on the Supreme Court, delaying justice in critical cases.
3. **Need for Judicial Discipline:** Experts argue that the Supreme Court should exercise restraint and only admit SLPs in cases involving substantial legal questions.

members are retired bureaucrats, raising concerns about judicial neutrality (Parliamentary Report, 2022).

Inadequate Infrastructure

- Many tribunals lack proper offices, staff, and digital systems, making case resolution inefficient.
- **Examples:**
 - **Debt Recovery Tribunals (DRT):** Many tribunals function without full-time presiding officers (Finance Ministry Report, 2023).
 - **NGT's Kolkata Bench (2023):** Lacked office space, and staff shortages delayed hearings.
 - **CAT Chandigarh:** No digital filing or video conferencing facilities despite being a central tribunal (Law Commission Report, 2022).

Overlapping Jurisdiction and Confusing Appeal Process

- Tribunal decisions often land in High Courts, increasing judicial burden.
- **Example:**
 - **Debt Recovery Appellate Tribunal (DRAT)** cases still go to High Courts, negating the purpose of creating specialized tribunals (RBI Report, 2023).
 - **Supreme Court (2023):** Observed that 60% of cases from tribunals were appealed in High Courts, making them ineffective in reducing judicial workload.

Way Forward

- **Filling Vacancies & Transparent Appointments**
 - **Parliamentary Committee (2021)** recommended filling vacancies within 3 months, but delays continue.
 - **Solution:** A National Tribunal Commission for independent recruitment.
- **Reducing Executive Interference**
 - **SC (2022):** Recommended judicial oversight in tribunal appointments.
 - **Solution:** A separate tribunal cadre, free from bureaucratic control.
- **Improving Infrastructure & Digitalization**
 - **E-Committee of SC (2022):** Only 10% tribunals have full digital case management.
 - **Solution:** Implement e-filing, virtual hearings, and better IT systems.
- **Clear Appeal Structure**
 - **SC (2023):** Urged setting up a Unified Appellate Tribunal to reduce tribunal-to-court litigation.
 - **Solution:** A single appellate mechanism to reduce High Court burden.

Tribunals in India were created to reduce the burden on regular courts and provide quick and specialized justice. However, due to vacancies, executive interference, poor infrastructure, and

lack of clear appeal mechanisms, they are failing to function effectively.

The Supreme Court and various reports have highlighted the need for urgent reforms. Addressing these challenges through independent appointments, better funding, digitalization, and a streamlined appeal system will ensure that tribunals fulfill their intended role in the Indian justice system.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding tribunals in India:

1. The Supreme Court in L. Chandra Kumar case (1997) ruled that tribunals can replace High Courts in their jurisdiction.
2. The Tribunals Reforms Act, 2021 was struck down by the Supreme Court for giving excessive control to the executive over appointments and tenure of tribunal members.

Which of the above statements is / are *not* correct?

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

Answer: (a) 1 only

VIOLENCE IN CINEMA AND FUNDAMENTAL RIGHT TO FREEDOM OF SPEECH & EXPRESSION

Why in News: The Kerala High Court recently observed that while the glorification of violence in cinema and visual media can have a negative influence on society, any attempt to curb it must be balanced with the fundamental right to freedom of speech and expression under Article 19(1)(a) of the Constitution.

Understanding Violence in Cinema

Violence has been a recurring theme in cinema for decades. It reflects not only real-world conflicts and societal issues but also serves as a tool for dramatic storytelling.

Purposes of Cinematic Violence:

1. **Spectacle:**
 - Used to create tension, drama, and thrill.
 - Engages audiences emotionally.
2. **Metaphorical Role:**
 - Represents deeper social or psychological disorders, such as inequality, oppression, or injustice.

- Can serve as **critique or commentary** on societal violence.

Psychological and Societal Impact of Cinematic Violence

Numerous studies have explored how exposure to on-screen violence affects behavior and perceptions, especially among children and young adults.

Key Observations:

Albert Bandura's Bobo Doll Experiment (1960s): Children who watched violent behavior in media were **more likely to imitate aggression**, especially when the violent acts were rewarded or shown without consequences.

Desensitization Effect:

- Continuous exposure to violent scenes can **dull emotional responses** to real-world violence.
- Leads to **apathy** and reduces empathy for victims of violence.

Glorification Without Accountability:

- Films often portray **violent heroes** without exploring the **real consequences of their actions**, potentially **normalizing aggression**.

Cultural and Religious Sensitivities:

- Some violent films risk **offending religious or cultural sentiments**, triggering backlash or even unrest.

Challenges in Balancing Freedom of Expression and Censorship

- **Role of the Central Board of Film Certification (CBFC)**
 - The CBFC regulates cinematic content, including violence, **under the Cinematograph Act**.
 - Films depicting violence often face demands for cuts, modifications, or bans if deemed "against public order" or "obscene."
- **Artistic Expression vs. Public Morality**
 - Filmmakers argue that violence is a **narrative tool** to reflect societal realities.
 - Critics emphasize the need for regulation to prevent harm, especially in a diverse society like India.
- **Legal and Regulatory Ambiguities**
 - Vague definitions in laws (e.g. **public order, decency**) enable arbitrary censorship.
 - **Example:** Section 66A of the IT Act (struck down in 2015) was misused to suppress online dissent.
- **Political and Cultural Pressures**
 - Government may censor content to control narratives or appease interest groups.
 - **Films and art are often targeted for challenging political ideologies or religious sentiments.**
- **Impact on Creativity and Dissent**
 - Self-censorship by filmmakers to avoid controversy stifles innovation.

- **Example:** Sedition laws have been weaponized to silence critical voices in media and cinema.

Digital Age Complexities

- Rising digital platforms complicate regulation. **The IT Rules 2021 mandate content moderation but risk overreach.**
- Misinformation and hate speech online blur the lines between free speech and harm.

Way Forward

- **Legal Reforms**
 - Clarify definitions in censorship laws to prevent misuse (e.g. **hate speech, public order**).
 - Reform outdated laws like the sedition law to protect legitimate criticism.
- **Transparent and Accountable Mechanisms**
 - Ensure **CBFC decisions are evidence-based** and open to public scrutiny.
 - Establish independent oversight bodies to review censorship disputes.
- **Promote Media Literacy**
 - Educate audiences to critically analyze cinematic violence and contextualize content.
 - **Example:** Public campaigns on distinguishing between artistic expression and harmful propaganda.
- **Support Diverse Voices**
 - Encourage platforms for marginalized filmmakers to share narratives without fear of censorship.
 - Fund independent cinema that addresses social issues responsibly.
- **International Collaboration**
 - Adopt global best practices for balancing free speech and harm prevention.
 - Engage with tech companies to develop ethical AI tools for content moderation.

Landmark Judgements on Film Censorship and Freedom of Speech in India

- **K.A. Abbas vs. Union of India (1970):** The Supreme Court upheld restrictions on public exhibition under the Cinematograph Act, 1952, and rejected the petition that challenged the Act's powers of censorship.
- **Ramesh vs Union of India (1988):** The Supreme Court held that the balance has to be struck between the general provisions of IPC and the special provisions of the Cinematograph Act, 1952.
- **S. Rangarajan vs. P. Jagjivan Ram (1989):** According to Article 19(1)(a) of the Indian Constitution, the question of cinema censorship was upheld by the Supreme Court of India.

The debate over violence in cinema is not just about entertainment but about how media influences minds and society.

While there is a legitimate need to regulate excessive or harmful content, it must be done without undermining the constitutional right to freedom of speech and expression.

Moving forward, clear laws, transparent governance, public education, and support for creative voices are essential to ensure that Indian cinema continues to be both responsible and vibrant.

EXPECTED QUESTION FOR UPSC CSE**Descriptive Question**

Q. What are the challenges in balancing freedom of speech & expression and censorship? Discuss the role of various stakeholders in achieving the balance. [150 words] [10 marks]

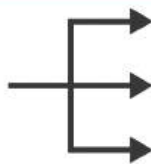
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INDIA-UAE RELATIONS

Why in News? The India-UAE Comprehensive Economic Partnership Agreement (CEPA) has completed three years since its signing on February 18, 2022 — marking a significant milestone in bilateral trade and economic cooperation.

Key Details of the CEPA Agreement

The CEPA Agreement was signed during a virtual summit between India's Prime Minister and UAE's President on 18th February 2022 — strengthening economic ties across goods, services, investment, and employment sectors.

Goods Domain:

- **Duty Elimination:**
 - UAE eliminated duties on 97.4% of its tariff lines, covering 99% of imports from India.
 - India secured immediate duty elimination on over 80% of its tariff lines, representing 90% of India's exports (in value terms).
- **Focus on Labor-Intensive Sectors:** This duty elimination benefits India's key labor-intensive sectors, including:
 - Oil seeds & edible oils
 - Beverages
 - Cotton
 - Fish & fish products
 - Textiles & clothing
 - Gems & jewellery
 - Leather & footwear
 - Pharmaceuticals
 - Engineering products

Services Domain:

- **Broader Commitments:** Both countries took broader and deeper commitments across multiple sectors and modes of supply.
- **India's Offer:** India offered access to 100 services sub-sectors (out of 160).
- **UAE's Offer:** UAE reciprocated with 111 services sub-sectors — expanding market access for Indian businesses.

Significance of CEPA for India

1. Surge in Bilateral Trade:

- **Trade Growth:** Bilateral merchandise trade nearly

doubled — from \$43.3 billion in FY 2020-21 to \$83.7 billion in 2023-24.

- **Current Year Performance:** By January 2025, trade reached \$80.5 billion — highlighting sustained momentum.

2. Rise in Non-Oil Trade:

- **Diversification:** Non-oil trade increased to \$57.8 billion in FY 2023-24 — accounting for more than half of total trade.
- **Non-Oil Exports:** Reached \$27.4 billion in FY 2023-24, marking an average growth of 25.6% since CEPA came into force.

3. Diversification of Exports:

- **Sectoral Growth:** In addition to traditional exports like refined crude oil products and gems & jewellery, new sectors gained momentum:
 - Electrical machinery & equipment
 - Light & medium high-tech goods (e.g., boilers, generators, reactors)
 - Organic & inorganic chemicals
- **Product-Level Breakthrough:** Smartphones emerged as a major export item, showcasing India's expanding tech manufacturing prowess.

4. Supporting Initiatives: Bharat Mart

- The Bharat Mart — inaugurated by India's Prime Minister in Dubai — serves as a One-Stop-Shop for Indian manufacturers to showcase products globally.
- **Objective:** Empower MSMEs, boost exports, and create new business opportunities in global markets.

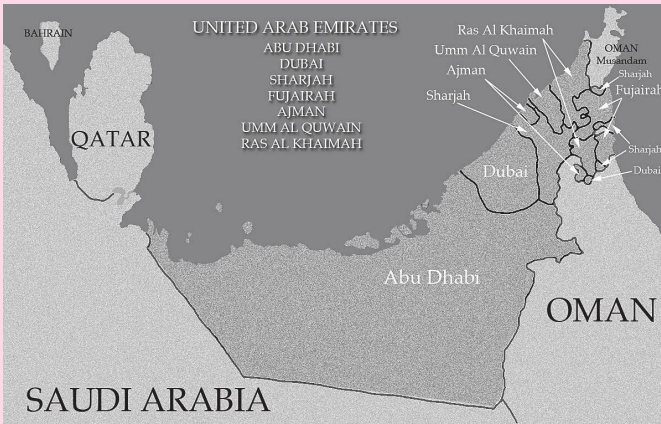
Conclusion

The India-UAE CEPA has paved the way for a new era of economic partnership, fostering:

- Empowerment of MSMEs
- Job creation
- Diversified trade opportunities
- Stronger diplomatic and economic ties

Moving forward, India and UAE can further deepen their collaboration — leveraging CEPA to reach new economic heights and broaden strategic engagement.

About the United Arab Emirates (UAE)



Political Structure:

- The UAE is a **federation of seven emirates**, with **Abu Dhabi** as the **capital**.
- **Abu Dhabi** is known for its **oil wealth**, while **Dubai** stands as an **international hub for business, finance, and tourism**.

Geographical Location:

- **Borders:**
 - **Oman** (East & Northwest)
 - **Saudi Arabia** (Southwest)
 - **Maritime borders:** **Qatar, Iran, Oman** (Gulf of Oman & Persian Gulf)

Demographics:

- **Population (2024):** Over **10 million**, of which **11%** are **Emirati citizens**.
- **Dubai** — the **most populous city** — serves as a **global business epicentre**.

Language and Culture:

- **Islam** is the **official religion**.
- **Arabic** is the **official language**, but **English** remains **widely spoken** — especially in **business and tourism sectors**.

Economy:

- Oil and Gas Reserves:
 - **6th largest oil reserves** globally.
 - **7th largest natural gas reserves** globally.

However, the UAE is actively **diversifying** its economy — focusing on **renewable energy, tourism, technology, and finance**.

INDIA-UK RELATIONS

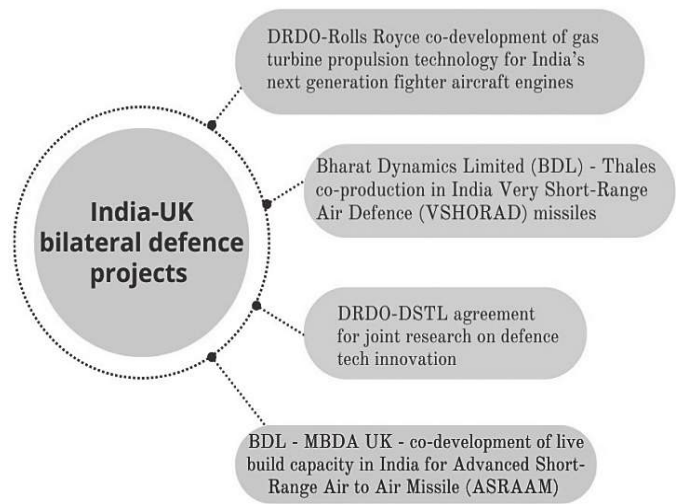
Why in News: Recently, India’s External Affairs Minister S. Jaishankar met British Prime Minister Keir Starmer during his six-day official visit to the UK and Ireland. The visit focused on boosting bilateral cooperation, including trade, technology, mobility, and international issues such as the Ukraine conflict.

Overview of India–UK Relations

Historical Background and Evolution

- India and the UK share a complex, centuries-old relationship rooted in colonial history.
- For decades, despite mutual interest, ties remained relatively underwhelming, especially when compared to India’s engagements with the US or France.
- Post-**Brexit**, the UK has prioritized diversifying its global partnerships, leading to renewed focus on India.
- Despite recent political instability in Britain, bilateral relations have steadily improved, marked by stronger diplomatic and economic engagement.

Key Areas of Cooperation



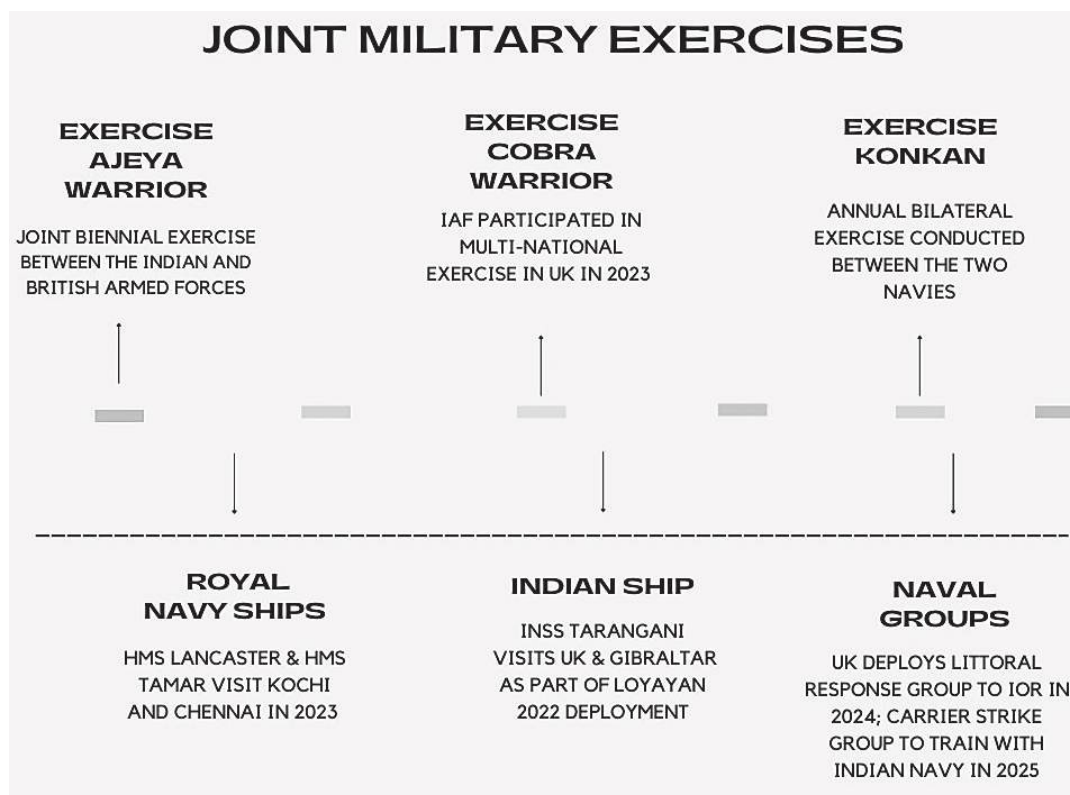
Trade and Investment

- **Bilateral trade** (as of 2023–24) stood at **GBP 42 billion**, with a surplus in India’s favour (**UK’s trade deficit with India: GBP 8.3 billion**).
- **India ranks as the UK’s 11th largest trading partner**, while the UK is **India’s 14th**.
- Negotiations are underway for a **Free Trade Agreement (FTA)**, a key component of the UK’s post-Brexit economic diversification strategy.
- Indian investment in the UK supports over **95,000 jobs**, while UK firms have a strong presence in India’s services and manufacturing sectors.

Security and Defence Cooperation

- Both countries share strategic interests in the **Indo-Pacific** and seek to counterbalance rising Chinese influence.
- **Defence ties include:**
 - **Joint military exercises** and **maritime interoperability** in the Indian Ocean Region.

JOINT MILITARY EXERCISES



- Collaboration in **counter-terrorism, disaster relief, and maritime security.**
- The UK joined the **Indian Navy's IFC-IOR (Information Fusion Centre – Indian Ocean Region)** in Gurugram, enhancing regional maritime awareness.
- In 2022, the UK issued its **first Open General Export Licence (OGEL)** to India, allowing faster transfer of military and dual-use technologies.

Diaspora and Cultural Ties

- Over **1.6 million people of Indian origin** live in the UK, comprising **2.5%** of the population and contributing over **6% to the British economy.**
- This vibrant diaspora acts as a cultural and economic bridge between the two nations.
- Strong educational links exist, with Indian students forming the **second-largest cohort** in UK universities after Chinese students.

Contentious issues of India- UK Free Trade Agreement

- **Issues of India regarding FTA with UK**
 - For India, these include greater mobility and a **liberalised visa regime** for its skilled professionals in the IT, healthcare, and other sectors as well as for Indians wishing to study in the UK.
- **Issues of UK regarding FTA with India**
 - Britain wants a **reduction in tariffs** on its exports of automobiles and alcohol, particularly scotch whiskies.

India levies tariffs as high as 100-150 percent in these sectors due to fears of competition hampering local industry.

- The UK also wants greater **access to the Indian market for its services sector**, which accounts for 80 percent of its economy. India is resistant to opening up its services sector, which contributes over 50 percent of its Gross Domestic Product (GDP), for fear of foreign competition.

Way Forward

- The **India-UK partnership is at a promising juncture**, with significant convergence in values and interests.
- The year **2025**, as a midpoint review of the **India-UK Roadmap 2030**, offers an opportunity to assess progress and recalibrate goals.
- Critical steps forward include:
 - Timely conclusion of the **FTA.**
 - Continued strategic engagement under the **Indo-Pacific framework.**
 - Managing **diaspora-related sensitivities and legacy issues.**
 - Expanding cooperation in **technology, education, clean energy, and climate resilience.**

As two major democracies with global ambitions, India and the UK have immense potential to shape a future-oriented partnership. Whether it's securing maritime routes in the Indo-Pacific, fostering innovation, or enabling fair trade, their collaboration is poised to become a cornerstone of global stability and prosperity.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. How can the proposed India–UK Free Trade Agreement (FTA) serve as a catalyst for unlocking the full potential of bilateral relations while addressing key areas of contention between the two countries? [10 Marks] [150 Words]

INDIA'S AFRICA POLICY

Why in News: India's External Affairs Minister recently emphasized that the country's approach to Africa focuses on building mutually beneficial partnerships, in contrast to "extractive" models of engagement, highlighting this distinction amid China's growing influence on the continent.

Key Details

- Speaking at the **Japan-India-Africa Business Forum**, the EAM emphasized that India's engagement with Africa focuses on **long-term collaboration**.
- Unlike approaches centered on resource extraction, India prioritizes **capacity-building, skill development, and technology transfer**. This ensures that African nations not only receive investments but also cultivate self-sustaining economic ecosystems.
- India stands as **Africa's fourth-largest trading partner**, with bilateral trade nearing **\$100 billion** and continuing to grow.
- Also, India has **pledged over \$12 billion** in concessional credit, supporting more than 200 infrastructure projects across the continent. These initiatives span vital sectors such as railways, power generation, agriculture, and water supply.

India as a bridge between Japan and Africa

- **India's geographical advantage:** Since India is located between Japan and Africa, it can act as a **physical and economic bridge** for trade and industrial activities.
- **India's industrial strength:** India's **growing economy, strong manufacturing base, and digital expertise** make it a reliable partner.
- **Japan's investments:** Japan has **capital and technology**, but lacks a direct presence in Africa. By collaborating with India, Japanese companies can **expand their reach** to African and Middle Eastern markets more easily.
- **Africa's role:** Africa provides **talent** (skilled workforce) and **demand** (a growing consumer market).

A **win-win-win** partnership for **India, Japan, and Africa** — where India helps facilitate industrial growth and supply chains. India and Japan aim to **build resilient supply chains** in Africa — especially in **critical sectors** like **manufacturing, energy, and digital technology**.

Evolution of India-Africa Relations

Initial Relations:

- **Historical bonds:** India's first Prime Minister, **Jawaharlal Nehru**, famously referred to Africa as India's "**sister continent**", recognizing the deep-rooted cultural and historical ties.
- **High-level engagements:** Since the **1960s**, Indian prime ministers have visited Africa **76 times** — a level of engagement unmatched by many other global powers.
- **Colonial struggle:** During Africa's **liberation movements**, India extended strong diplomatic and moral support to African nations, reinforcing political ties.
- **Non-Aligned Movement (NAM):** At the **Cold War's** peak, many African countries aligned with India in the **Non-Aligned Movement** — co-founded by **India, Egypt, Ghana, Indonesia, and Yugoslavia** — promoting independence from both US and Soviet blocs.

Cooperation during Decolonization and Non-Alignment:

- India became a **beacon of inspiration** for newly independent African nations, offering **political and ideological guidance** during the decolonization era.
- India championed Africa's cause on international platforms, advocating for **economic sovereignty** and **political independence**.

Pan Africa e-Network:

- In **2006**, India launched its **flagship aid initiative** — the **Pan-African e-Network** — a **\$125 million** project offering **tele-education** and **telemedicine** services across **47 African countries** via **satellite and fiber-optic links**.
- This initiative helped bridge **healthcare and education gaps**, providing **African students** access to **Indian universities** and **African patients** access to **Indian doctors**.

Importance of Africa for India

Strategic Significance:

- **African Union (AU)** — a 55-member continental body — gained **full membership in the G-20** during the **New Delhi Summit in September 2023**, reflecting Africa's growing global influence.
- **India-Africa Conclave 2023:** In **June 2023**, **African and Indian leaders** gathered for the **18th India-Africa Conclave**, hosted by **EXIM Bank** and **India's Foreign and Trade Ministries**, discussing trade, investment, and development partnerships.
- **India's observer status:** India holds **observer status** in key African economic communities — **Common Market for Eastern and Southern Africa (COMESA)**, **Southern African Development Community (SADC)**, and **Economic Community of West African States (ECOWAS)** — giving it leverage in regional trade and diplomacy.

Trade and Economic Partnership:

- India-Africa trade has surged from \$68.5 billion in 2011-12 to \$90.5 billion in 2022-23.
- Indian investments are expanding across mining, telecommunications, pharmaceuticals, agriculture, automobiles, and energy sectors in Africa.

Cultural and People-to-People Relations:

- The Indian diaspora — spread across 46 African countries — remains a vital link in enhancing cultural and economic ties.
- Indian communities are active in business, education, and governance, strengthening the people-to-people bond between India and Africa.

Challenges in India-Africa Relations

Growing Competition from Major Powers:

- The US, EU, and other nations are increasing their footprint in Africa, driven by concerns like terrorism, migration, health crises, and resource security.
- India must diversify its approach to stand out amid this competition.

China's Expanding Influence:

- China's "All-Weather Friend" strategy involves large-scale investments, infrastructure projects, and economic aid, making it a dominant player in African markets.
- China-Africa trade hit \$262 billion in 2022-23, dwarfing India's current figures.
- However, Chinese projects are increasingly criticized for resource exploitation, debt traps, and social tensions — a lesson for India to avoid.

Political Instability and Governance Issues:

- Many African nations face internal conflicts, fragile governance, weak law enforcement, and corruption — creating hurdles for business operations and diplomatic stability.
- India must balance diplomacy with capacity-building efforts to strengthen governance in these regions.

Way Forward

Long-Term, Sustainable Partnerships:

- India should emphasize a triad strategy — Training, Technological assistance, and Trade — to empower Africa's human capital and industrial base.

Recognizing Africa's Diversity:

- Africa isn't a single entity — it's a continent of 54 nations, each with unique cultures, languages, economies, and political landscapes.
- India must tailor its approach to address country-specific needs and aspirations.

Avoiding China's Resource-Extraction Model:

- China's exploitative approach has sparked resentment in several African countries.

- India should focus on sustainable development, local job creation, and capacity-building, promoting itself as an ethical and reliable partner.

Becoming a Stakeholder in Africa's Development:

- African leaders expect more than aid — they want India to invest in their long-term growth.
- India must engage in co-creating infrastructure, technology, healthcare, education, and agriculture innovations — empowering Africa from within.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

- Q. Explain the importance of India- Africa relations in light of progress of ties from post-colonial times and highlight the challenges for India in Africa. [250 words, 15 marks]

INDIA - NEW ZEALAND RELATIONS

Why in News: The Prime Minister of New Zealand, Rt Hon Christopher Luxon, recently undertook an official visit to India. The visit marked a significant milestone in the growing bilateral relationship, with both countries reaffirming their commitment to deepen cooperation across various sectors.

Key Outcomes of the Visit

- **Political & Strategic Engagement**
 - **Bilateral Dialogue:**
 - ◆ Reaffirmed commitment to strengthen India-New Zealand ties anchored in shared democratic values and people-to-people connections.
 - ◆ Agreed to enhance cooperation in defense, security, trade, education, agri-tech, space, and mobility.
 - **Indo-Pacific Cooperation:**
 - ◆ Emphasized support for an open, inclusive, and rules-based Indo-Pacific, upholding UNCLOS principles.
 - ◆ New Zealand expressed interest in joining India's Indo-Pacific Oceans Initiative (IPOI).
 - **Multilateral Collaboration:** New Zealand endorsed India's bid for permanent UN Security Council membership and agreed to explore mutual support for candidatures in multilateral forums.
- **Trade, Investment & Economic Cooperation**
 - **FTA Negotiations**
 - ◆ Launched negotiations for a comprehensive, balanced trade agreement to boost economic integration and address mutual concerns.

- ◆ Agreed to explore early cooperation in digital payments alongside FTA talks.
- **Sectoral Agreements**
 - ◆ Signed the Authorized Economic Operators Mutual Recognition Arrangement (AEO-MRA) to ease goods movement for trusted traders.
 - ◆ Memorandum of Cooperation on Horticulture and Letter of Intent on Forestry to promote research, infrastructure, and policy dialogues.
- **Tourism & Connectivity:** Updated Air Services Agreement to encourage direct flights between India and New Zealand.
- **Defense & Security**
 - **Signed India-New Zealand MoU for Defense Cooperation to enable regular engagements, joint exercises, and naval port calls.**
 - New Zealand welcomed India's entry into the Combined Maritime Forces; discussed maritime safety collaboration.
- **Science, Technology & Climate Action**
 - **Climate Resilience**
 - ◆ New Zealand joined the **Coalition for Disaster Resilient Infrastructure (CDRI)**.
 - ◆ New Zealand welcomed India's leadership in the International Solar Alliance (ISA).
 - **Earthquake Mitigation:** Agreed to a Memorandum of Cooperation on earthquake preparedness, focusing on emergency response and capacity building.
- **Regional & Global Issues**
 - **Middle East Peace:** Supported a two-state solution for Israel-Palestine and welcomed the 2025 ceasefire agreement.
 - **Ukraine Conflict:** Backed a peaceful resolution respecting territorial integrity and the UN Charter.
 - **Nuclear Non-Proliferation:** New Zealand acknowledged India's bid to join the Nuclear Suppliers Group (NSG).
- **Economic & Trade Relations**
 - **Trade**
 - ◆ **Total trade in 2023-24:** \$1.75 billion (India's imports - \$840 million; India's Exports - \$910 million)
 - ◆ India's Imports from NZ: Wool, iron & steel, fruits, nuts, aluminum.
 - ◆ India's Exports to NZ: Pharmaceuticals, machinery, textiles, precious stones.
 - **Key Agreements & Dialogues**
 - ◆ **Joint Trade Committee:** Latest meeting (April 2024) focused on agriculture, pharmaceuticals, and market access.

- ◆ **Customs Cooperation Arrangement:** Signed in August 2024 to boost trade and combat transnational crime.
- **Education & Technology**
 - **Student Mobility:** Approx. **8,000 Indian students** in NZ (2nd largest international cohort), studying IT, engineering, hospitality.
 - **Collaborative Initiatives**
 - ◆ **NZ Centre at IIT Delhi:** Joint research on cancer, cybersecurity, robotics (2020).
 - ◆ **Education Cooperation:** MoUs with GIFT City and IIM Ahmedabad.
 - **Technology Partnerships:** NZ's Rakon supplied components for India's Chandrayaan-3 mission.
- **Cultural & People-to-People Ties**
 - **Diaspora**
 - ◆ **292,092 people of Indian ethnicity in NZ, 70,000 of them Indian passport holders.**
 - ◆ New Indian Consulate opened in Auckland (September 2024).
 - **Cultural Festivals**
 - ◆ Indian festivals like Deepawali, Holi, Baisakhi, and regional festivals are celebrated widely in New Zealand.
 - ◆ **Indian dance (Kathak, Bharatanatyam) and language schools are found across NZ.**
 - **Sporting Links:** Cricket, hockey, and mountaineering (Sir Edmund Hillary served as NZ High Commissioner to India, 1985–88).

*India and New Zealand are **natural partners** bound by democratic values, cultural linkages, and complementary economic interests.*

*The recent visit by PM Christopher Luxon marks a **strategic upgrade** in ties, with a focus on **defense cooperation, climate resilience, trade liberalization, education, and technology.***

*With consistent diplomatic engagement and deeper people-to-people ties, India–New Zealand relations are poised for a **stronger and more dynamic future** in the Indo-Pacific and beyond.*

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. How has the recent official visit of New Zealand's Prime Minister to India has strengthened the bilateral relationship between the two countries? Evaluate the key outcomes of the visit. [150 words] [10 marks]

INDIA-MAURITIUS RELATIONS

***Why in News:** Recently, the Prime Minister of India visited Mauritius as the Chief Guest for its National Day celebrations, reaffirming the historical and strategic ties between the two nations. The visit marked a new phase in bilateral cooperation, with several key announcements and agreements.*

Key outcomes of the visit

Elevation to an Enhanced Strategic Partnership

- India and Mauritius elevated their ties to an **Enhanced Strategic Partnership**, focusing on **regional security, development cooperation, and trade in local currencies**.
- Reaffirmed their commitment to a **free, open, and safe Indian Ocean Region**, aligning with India's SAGAR (Security and Growth for All in the Region) doctrine.

Launch of MAHASAGAR Vision

- India launched the **MAHASAGAR Initiative** (*Mutual and Holistic Advancement for Security and Growth Across Regions*), aimed at:
 - Deepening India's engagement with the **Global South**.
 - Promoting **technology transfer, capacity building, concessional loans, and mutual security cooperation**.
- This initiative builds on the **SAGAR framework**, emphasizing collective progress in the Indian Ocean Region and beyond.

Security and Maritime Cooperation

- **India and Mauritius agreed to:**
 - **Enhance use of the new runway and port facilities on Agalega Island**, constructed with Indian assistance.
 - **Set up a regional hub for maritime information sharing**, to strengthen **maritime domain awareness and counter piracy**.
 - Sign a **technical agreement between the Indian Navy and Mauritius** for sharing **white shipping information** (non-military commercial shipping data).
- India **acknowledged Mauritius' sovereignty over the Chagos Archipelago**, reflecting India's respect for decolonization and international law.

Development Assistance and Capacity Building

- India extended its **first-ever Line of Credit denominated in Indian Rupees** to help Mauritius rebuild its **water pipeline infrastructure**.
- India will also assist in:
 - Establishing a **National Police Academy** in Mauritius.
 - Developing health and community infrastructure through Indian-funded projects.
- **Major inaugurations during the visit included:**
 - **Atal Bihari Vajpayee Institute of Public Service and Innovation**.
 - A new **healthcare facility**.
 - **20 community development projects**, funded by India.

Infrastructure and Symbolic Projects

- India will construct a **new Parliament building** for Mauritius, described as a **gift from the "Mother of Democracy"**—underscoring India's soft power diplomacy and civilizational connect.

Financial and Trade Cooperation

- **Framework Agreement between the Reserve Bank of India and Bank of Mauritius:**
 - Facilitates **cross-border trade and payments in local currencies** (Indian Rupee and Mauritian Rupee).
 - Reduces dependency on third-country currencies and enhances financial sovereignty.
- **Credit Facility Agreement:**
 - Signed between the **Government of Mauritius** and the **State Bank of India** to enable development finance.
- **MSME Cooperation:**
 - MoU signed between **Ministries of Micro, Small and Medium Enterprises** to support small business ecosystems through training, incubation, and policy exchange.

India-Mauritius relations

- **Almost 70% of the 1.2 million people who live on the island are of Indian descent.**
- Approximately half a million Indians were transported to Mauritius as **indentured servants** between 1834 and the turn of the 20th century.
- **Institutions preserving Indian heritage:**
 - **Indian Cultural Centre, Mahatma Gandhi Institute, and the World Hindi Secretariat** play a vital role in fostering cultural bonds.
- Traditionally, India has served as Mauritius' **"first responder" in emergency situations, such as the most recent Covid-19 and Wakashio oil spills.**
- **India has been one of Mauritius's biggest economic partners since 2005.** The overall value of commerce for FY 2023–24 was **USD 851.13 million**, with USD 778.03 million coming from India and USD 73.10 million from Mauritius. From USD 206.76 million in 2005–06 to USD 851.13 million in 2023–24, trade has increased over the past 18 years.
- On February 22, 2021, **Mauritius and India signed the Comprehensive Economic Cooperation and Partnership Agreement (CECPA).**
- **Indian Technical and Economic Cooperation (ITEC):** Mauritius receives **around 400 training slots annually for a variety of courses**, making it one of the biggest recipients of the Indian Technical and Economic Cooperation (ITEC) programme.

India–Mauritius relations are marked by deep civilizational bonds, shared democratic values, and strong economic and strategic cooperation.

With Mauritius being a gateway to Africa and a key player in the Indian Ocean, the relationship holds strategic importance for India's maritime outreach, SAGAR doctrine, and Global South leadership.

The recent elevation of ties to an **Enhanced Strategic Partnership** and the launch of the **MAHASAGAR Vision** will ensure that the relationship grows more **comprehensive, future-ready, and mutually beneficial** in the years to come.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. India’s foreign policy aims to strengthen ties with its neighbors and strategic partners. Discuss the importance of regional cooperation in this context of India-Mauritius relations. [150 words] [10 marks]

UN PEACEKEEPING

Why in News: India continues to be a key pillar of UN peacekeeping, with its **women peacekeepers playing an indispensable role**, according to **Jean-Pierre Lacroix**, the UN Under-Secretary-General for Peace Operations.

Recent Event in India

- On **February 24–25, 2024**, Jean-Pierre Lacroix visited **New Delhi** for a conference titled: **“Enhancing the Role of Women in Peacekeeping: A Global South Experience.”**
- The event, organized by India, brought together **women peacekeepers from 50+ countries** to discuss the changing nature of peacekeeping and the **vital role of women in building peace and security.**

Who are Peacekeepers?

UN Peacekeepers include **civilians, military personnel, and police officers** working together in conflict-affected areas.

Their duties have expanded beyond just maintaining ceasefires. Today, peacekeepers are involved in:

- Protecting civilians
- Disarming combatants
- Promoting human rights
- Supporting rule of law
- Facilitating fair elections
- Removing landmines
- Helping rebuild societies after conflict

International Day of UN Peacekeepers

- Observed every year on **29th May**
- Purpose:
 - **Honor fallen peacekeepers**
 - **Recognize the dedication, professionalism, and courage** of all men and women who have served in UN missions.

India’s Women Peacekeepers

India’s women peacekeepers have become an **essential part of UN missions**, especially in conflict-affected areas. Their contributions are both **practical and symbolic.**

Why They Matter?

- Build Trust:** Their presence helps connect with local women, enhancing trust and communication.
- Improve Safety:** Help in early warning systems, protection of civilians, and better humanitarian outreach.
- Inspire Communities:** Act as role models for local women and girls.
- Bridge Cultures:** Handle sensitive situations with empathy and cultural understanding.

Real Example – Abyei Mission

- Indian women peacekeepers changed patrol routes to **ensure safety for vulnerable groups**, especially **women and children.**



- They also offered **targeted support to marginalized communities.**

India's Contribution to UN Peacekeeping

- **Top Contributor:**
 - As of **September 2024**, India has **5,384 personnel** (including **153 women**) serving in **10 missions.**
- **Pioneer in Women Participation:**
 - In **2007**, India deployed the **first all-female Formed Police Unit (FPU)** to **Liberia.**
 - Currently, **20.45%** of India's military observers and staff officers are women.
- **Global Training Leader:**
 - India's **Centre for UN Peacekeeping (CUNPK)** in Delhi trains peacekeepers and sets **global standards** in pre-deployment and specialized courses.
 - Actively supports UN efforts in **countering misinformation, refining training,** and improving **accountability and leadership structures.**

India's Broader Impact

India's role in UN peacekeeping is not limited to sending troops. It also:

- Enhances **inclusion and leadership** in missions
- Promotes **strategic communication**
- Contributes to **policy reforms**
- Focuses on **civilians' protection and sustainable peacebuilding**

Way Forward

- **Need for Decisive Actions:** As conflicts grow more complex, attacks on peacekeepers have increased, making decisive action essential to protect those who serve global peace and security.
- **Use of Advanced Technology:** AI-driven systems, data analytics, and cyber tools can enhance intelligence gathering, improve mission performance, and strengthen protection in hostile environments.
- **Intelligence gathering through Local Engagement:** Stronger intelligence-sharing and deeper engagement with local communities can provide early warnings and reduce risks.
- **Need for more Women especially in Military Role:** UN peacekeeping chief called on UN Member States to increase efforts to nominate women candidates for senior uniformed leadership positions.

EXPECTED QUESTION FOR UPSC CSE

Descriptive question

Q. Discuss the role and contributions of women peacekeepers in enhancing the quality of UN peacekeeping missions, with a special focus on the

achievements of Indian women peacekeepers. Also suggest a way forward for strengthening overall UN peacekeeping operations. [15 Marks] [250 Words]

ACT EAST POLICY: BOOST FOR NORTHEAST INDIA

Why in News: The Vice President of India, during his visit to Arunachal Pradesh, emphasized the **transformation of India's "Look East" policy into "Act East."** He highlighted the **rapid development** of the Northeast region, particularly in **connectivity, power generation, and trade opportunities.**

Evolution of the Policy: From 'Look East' to 'Act East'

Look East Policy (1991) – Strengthening Ties with Southeast Asia

The **Look East Policy (LEP)** was launched in the **early 1990s** under the leadership of **Prime Minister P.V. Narasimha Rao.** It was aimed at **enhancing India's economic engagement** with **Southeast Asian nations** as part of the country's broader economic liberalization efforts.

Key Features of Look East Policy

Economic and Trade Engagement

- Diversified trade relations with ASEAN nations such as **Thailand, Singapore, and Malaysia.**
- **Boosted investments and market access** for Indian businesses.

Cultural and Strategic Cooperation

- Strengthened **historical ties** through **diplomatic and cultural exchanges.**

Regional Integration

- India joined **ASEAN as a Sectoral Dialogue Partner in 1992**, later elevated to **Full Dialogue Partner in 1996.**
- Focused on **regional economic frameworks**, including the **East Asia Summit (EAS).**

Act East Policy (2014) – A More Proactive Approach

In **2014**, Prime Minister **Narendra Modi** launched the **Act East Policy (AEP)** to replace **passive engagement** with **active participation** in regional affairs. The policy focuses on **political, economic, and security cooperation** with **Southeast Asia, East Asia, and the Indo-Pacific.**

Key Features of Act East Policy

Infrastructure Development in Northeast India

- Major projects like the **India-Myanmar-Thailand Trilateral Highway** and the **Kaladan Multimodal Transit Transport Project** are improving connectivity.
- Strengthening of **road, rail, and air links** between the **Northeast and ASEAN nations.**

Strategic and Defense Cooperation

- Increased defense and maritime partnerships with ASEAN, Japan, Australia, and the US.
- Strengthening India's presence in the Indo-Pacific to counter China's growing influence.

Economic and Trade Expansion

- India has signed Comprehensive Economic Partnership Agreements (CEPAs) with Southeast Asian countries to enhance bilateral trade.
- Increased investments in Northeast India to boost industrial growth and employment.

Challenges in Implementing the Act East Policy

Despite progress, several challenges hinder the full realization of Act East's potential:

1. Geographical and Infrastructural Barriers

- The difficult terrain of Northeast India makes infrastructure development slow and expensive.
- As of 2024, only 45% of key projects have been completed.
- Major delays in projects like the Silchar-Imphal Highway slow down regional connectivity.

2. Political Instability and Insurgency

- Ongoing insurgencies in states like Nagaland and Manipur disrupt development.
- In 2025, violence in Nagaland delayed the India-Myanmar-Thailand Trilateral Highway project.

3. China's Influence in Southeast Asia

- China's Belt and Road Initiative (BRI) in Myanmar—valued at over \$20 billion (as per a 2024 WEF report)—poses a direct challenge to India's connectivity projects like the Kaladan Multimodal Transit Transport Project.

4. Bureaucratic Delays

- Lengthy approval processes and slow implementation cause setbacks.
- The 2024 NEIDMC (Northeast India Development Monitoring Council) Report highlights two-year delays in several projects.

5. Limited Private Investment

- Due to political instability and security concerns, the Northeast region attracts less than 10% of national private investment (as per a 2025 FICCI report).

6. Environmental Concerns

- Unchecked infrastructure development threatens biodiversity in fragile ecosystems like Dibang Valley.
- The 2024 IPCC report warns of ecological damage in sensitive areas.

Solutions for Strengthening the Act East Policy

To overcome these challenges, India has launched several initiatives and projects:

1. Accelerated Infrastructure Development

- The 2024 Brahmaputra Express Waterway Project aims to improve trade and connectivity in Assam and Northeast India.
- Increased funding for highway and railway expansion to improve accessibility.

2. Ensuring Regional Stability

- The 2024 Northeast Peace & Development Initiative (NPDI) focuses on reducing insurgencies by 50% through inclusive governance and job creation.

3. Strengthening Trade & Diplomatic Ties

- India's 2024 CEPA (Comprehensive Economic Partnership Agreement) with Thailand and Indonesia aims to increase trade with ASEAN by 20% over the next five years.
- New bilateral trade agreements with Vietnam, Singapore, and the Philippines to strengthen economic ties.

4. Expanding Defense Partnerships

- The 2025 Indo-Pacific Defense Summit deepened India's security cooperation with Japan, Vietnam, and Australia to counterbalance China's growing influence.

5. Boosting Private Investment

- The 2025 Northeast Investment Promotion Scheme (NIPS) is expected to increase foreign investments by 15% in sectors like tourism, IT, and renewable energy.

6. Prioritizing Sustainable Development

- The 2024 Northeast Green Infrastructure Policy promotes eco-friendly infrastructure while protecting biodiversity.
- Balancing economic growth with environmental sustainability is key to long-term success.

Conclusion

India's Look East and Act East Policies have played a transformative role in strengthening India's ties with Southeast Asia while unlocking the economic and strategic potential of Northeast India.

- Progress has been made in connectivity, trade, and defense cooperation.
- However, challenges remain, including geographical constraints, security concerns, and China's growing influence.
- The way forward lies in accelerated infrastructure investment, stronger ASEAN partnerships, and sustainable development initiatives.

By actively engaging with Southeast Asia and prioritizing the development of the Northeast, India can position itself as a key player in the Indo-Pacific region.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. Discuss the significance of India's Act East Policy in enhancing economic, strategic, and cultural ties with Southeast Asia and the Indo-Pacific region. How does it address the developmental challenges of Northeast India? [150 words] [10 marks]

ROADMAP FOR AUSTRALIA'S ECONOMIC ENGAGEMENT WITH INDIA

Why in News: Australia has unveiled a comprehensive **economic roadmap** to strengthen and diversify trade and investment ties with India. The plan focuses on key growth sectors such as **clean energy, education, agribusiness, tourism, and science and technology**, aligning with the evolving needs and strengths of both economies.

Roadmap: Action Plan

- Growing and diversifying the Australia-India economic relationship
 - The **Australia-India Business Exchange (AIBX)** will accelerate business-to-business engagement and cooperation, with renewable energy as a priority sector.
 - Implementing and promoting the first free trade agreement, the **Australia-India Economic Cooperation and Trade Agreement (ECTA)**, will expand and **diversify two-way trade**.
 - A new **Australia-India Trade and Investment Accelerator Fund (AI-TIAF)** will support the implementation of ECTA.
- Accelerating efforts toward the Net Zero economy, including critical minerals
 - Delivering the **India-Australia Renewable Energy Partnership** will strengthen bilateral collaboration on Net Zero efforts.
 - The **India-Australia Minerals Scholar Network** forges partnerships between our research institutions on **green steel and critical minerals, including Net Zero technologies**.
- **Boosting education and skills partnership**
 - The **Maitri Scholarships and Fellowships Program** supports some of the best and brightest Indian students to study in Australia and will build ongoing exchanges between Australian and Indian think tanks to explore research into our shared future.
 - **Skills, qualifications and labour market mapping** will strengthen vocational training opportunities and expand skills capabilities to ensure that workers can take advantage of India's economic modernization.
- **Unlocking the potential in agriculture partnership**
 - Promoting Australia's agricultural products to **India's growing consumer class** through support for Australian providers and states and territories.
 - Boosting agricultural market access to India through negotiations on the next free trade agreement, CECA, and resolving technical market access issues to unlock significant potential in our economic partnership.
 - Strengthening **knowledge sharing and technology** cooperation to promote farm productivity through research and private sector collaborations.
- **Stepping up science, technology and space cooperation**
 - The **Australia-India Strategic and Technology Policy Initiative (SATPI)** will address shared Australia-India strategic and technology issues and interests, particularly in the Indo-Pacific region.
 - The **Australia-India Strategic Research Fund (AISRF)** has invested over \$100 million since 2006 to support research collaboration, and will continue to in wide-ranging priority areas such as agriculture, clean energy technologies and marine sciences.
- **Deepening the tourism, creative economy and sporting connections**
 - Encouraging additional direct flights and Indian companies' investment in **high-end Australian hotel developments** will help scale up tourism.
 - Hosting 'Australia Marketplace' events in India every second year will help build business relationships in the tourism sector.
 - The **Maitri Grants program** will support projects, events, exhibitions and professional exchanges in the visual and performing arts, literature, film and music sectors.
- **Delivering greater two-way investment**
 - **Export Finance Australia (EFA)** will enhance its efforts to deliver finance in the Indian market to support Australian exporters, infrastructure development and crowd in private investment.
 - The **Quad Climate Working Group and the Quad Clean Energy Supply Chain Diversification Program** will drive collaboration with India and other Quad partners to support the clean energy workforce and build resilient supply chains.

India-Australia Relations: Sectors of Significant Potential

- **Clean energy**
 - **A shared commitment to reach Net Zero.**
 - Well positioned to mutually support clean energy transition: India as a leading manufacturer of clean energy products and Australia's abundant renewable energy potential, natural endowments and skilled workforces.

- **Education & Skills**
 - India has one of the **youngest demographics** of the world's major economies – around two-thirds of all Indians are under 35.
 - **Australia is a tertiary education and skills partner of choice – Indian international students are Australia's largest cohort after students from China.**
 - Australian providers are now exploring offering both in-person and online courses in India.
- **Agribusiness**
 - Exports of Australian premium agricultural products to India have increased **59 per cent** since our first free trade agreement came into force.
 - Increased market liberalisation in India and seasonal complementarity mean we can support India's food security and help it meet demand from its growing consumer class.
- **Tourism**
 - Indian visitors contribute **over \$1.5 billion to Australia's economy** each year.
 - Significant potential for further growth exists as India's consumer class grows, flight links increase, and major events such as the Olympics create new opportunities.

Australia's roadmap for economic engagement with India represents a **strategic, forward-looking framework** to deepen bilateral ties across **critical and emerging sectors**. By focusing on shared priorities such as **clean energy, education, agribusiness, tourism, and technology**, both countries are well-positioned to:

- Leverage **complementary strengths**,
- Build **resilient supply chains**, and
- Drive **sustainable, inclusive growth** in the Indo-Pacific and beyond.

The roadmap also reinforces **Australia's Indo-Pacific pivot** and India's growing role as a **regional economic powerhouse and global partner**.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. How do sectors like clean energy, education, agribusiness, and tourism reflect the complementary economic strengths of India and Australia? Discuss how cooperation in these areas can promote mutual growth and address shared regional and global challenges. [150 words] [10 marks]

RAISINA DIALOGUE 2025

Why in News: The *Raisina Dialogue 2025*, India's premier conference on geopolitics and geo-economics, was recently held in **New Delhi**.

What is the Raisina Dialogue?

The Raisina Dialogue is **India's flagship multilateral conference** on international affairs. It brings together world leaders, policy experts, and strategic thinkers to discuss key global challenges.

Often compared to the **Munich Security Conference** (Germany) and the **Shangri-La Dialogue** (Singapore), it has become a major global platform for discussing political, economic, and security issues.

Organizers

- **Observer Research Foundation (ORF)** – A leading think tank based in Delhi.
- **Ministry of External Affairs (MEA)** – Government of India.

Why 'Raisina'?

The conference is named after **Raisina Hill**, the seat of India's central government, where important buildings like **Rashtrapati Bhavan** and the **Secretariat** are located.

Purpose and Significance

- **Addressing Global Challenges:** Focuses on solving critical international problems.
- **Open Dialogue:** Encourages honest discussions on geopolitics, economics, development, regional cooperation, and global security.
- **Policy Influence:** The ideas and recommendations discussed help shape future policies.
- **Promoting India's Global Role:** Showcases India as a key player in international diplomacy.
- **Inclusive and Diverse:** Participants from **100+ countries** ensure a wide range of views and experiences.

Structure and Format

- **Annual Event:** Held every year since 2016.
- **Multi-day Conference:** Usually lasts for **three days**.
- **Engaging Sessions:** Includes keynote speeches, panel discussions, workshops, and interactive events.
- **Thematic Pillars:** Discussions are grouped around specific themes focusing on global issues and opportunities.

Highlights of Raisina Dialogue 2025

- **10th Edition:** Celebrated a decade of the dialogue.
- **Dates:** Held from **March 17 to 19, 2025**.
- **Theme:** "**Kālachakra – People, Peace and Planet**" (Reflecting on human interconnectedness, peace, and environmental sustainability.)
- **Chief Guest:** **Christopher Luxon**, Prime Minister of **New Zealand**, delivered the keynote address.
- **Global Participation:**
 - Over **3,500 in-person** participants.
 - Delegates from around **125 countries**.
 - Millions followed online through digital platforms.

Key Themes Discussed (Thematic Pillars)

1. **Politics Interrupted:** Examined global instability and shifting power dynamics.
2. **Resolving the Green Trilemma:** Addressed climate change, energy needs, and sustainability.
3. **Digital Planet:** Debated the role of technology, AI, and data governance.
4. **Militant Mercantilism:** Explored trade wars, sanctions, and economic weaponization.
5. **The Tiger's Tale:** Discussed new approaches to development, especially in emerging economies.
6. **Commerce, Connectivity, Climate & Cybersecurity:** Covered global cooperation on trade, infrastructure, environment, and digital threats.

Major Takeaways from Raisina 2025

- **Weaponization of Trade:** Growing concerns over countries using **tariffs, sanctions, and financial tools** as weapons of foreign policy.
- **Indo-Pacific Security:** Focus on **China's assertiveness** in the Indian Ocean and the need for a peaceful and secure maritime region.
- **Digital Sovereignty:** India emphasized its **independent stance on data privacy, AI development, and digital trade regulations.**

The Raisina Dialogue has firmly established itself as a key event on the global geopolitical calendar. It offers a powerful platform for leaders and experts to engage in honest discussions on complex issues.

As its international recognition grows, the Dialogue reflects India's rising influence in shaping the future of global policy and diplomacy.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. Which of the following statements regarding the Raisina Dialogue is incorrect?
- (a) The Raisina Dialogue is an annual conference held in New Delhi, focusing on geopolitics and geoeconomics.
 - (b) The 10th edition of the Raisina Dialogue took place in March 2025, with the theme "Kālachakra – People, Peace and Planet."
 - (c) The Raisina Dialogue is primarily organized by the only Ministry of External Affairs (MEA), Government of India.
 - (d) The dialogue aims to provide a platform for discussions on global challenges and to promote India's role in international affairs.

(c) Answer

ARMENIA-AZERBAIJAN WAR

Why in News: Armenia and Azerbaijan have recently agreed to a peace treaty, marking a significant step toward ending nearly four decades of conflict over the disputed region of **Nagorno-Karabakh**.



Key Highlights of the Peace Treaty

- The peace deal comes after Azerbaijan presented proposals that Armenia has now accepted, removing key roadblocks to the finalisation of the treaty.
- The **two main sticking points** addressed in the treaty are:
 1. **Elimination of foreign military presence** at the shared border, particularly the presence of third-country troops.
 2. **Mutual commitment to non-aggression**, including the **withdrawal of legal claims** against each other in international courts.
- Additionally, **Azerbaijan has demanded changes in Armenia's constitution** to remove any references that question Azerbaijan's sovereignty or territorial integrity.
- This agreement is expected to pave the way for a more stable and peaceful South Caucasus region.

Nagorno-Karabakh Conflict: Historical Background

- The region of **Nagorno-Karabakh**, located in the Caucasus Mountains, has been at the heart of the Armenia-Azerbaijan conflict for decades.
- In **1813**, the territory was annexed by the Russian Empire. Later, in **1923**, the Soviet Union designated it as an autonomous oblast (province) within the **Azerbaijan SSR**, despite having an **ethnic Armenian majority**.
- After the **collapse of the Soviet Union in 1991**, both Armenia and Azerbaijan emerged as independent states. As Soviet authority diminished, long-standing ethnic and territorial disputes reignited.
- With Armenian support, ethnic Armenians in Nagorno-Karabakh declared independence and gained military control over the region and adjacent Azerbaijani territories by the early 1990s.
- A **ceasefire agreement in 1994** ended the first war, but the region remained tense with **frequent clashes and unresolved political issues.**

Renewed Conflict and 2023 Developments

- From 1994 to 2020, there was a fragile ceasefire, interrupted by **episodic skirmishes**, especially during the 2010s.
- In **2020**, a six-week war erupted, resulting in significant Azerbaijani territorial gains and a **Russia-brokered ceasefire**.
- In **September 2023**, Azerbaijan launched a **swift 24-hour military offensive**, regaining full control over Nagorno-Karabakh.
- The offensive led to the **mass exodus of nearly 120,000 ethnic Armenians** from the region to Armenia, effectively ending Armenian control in the enclave.

Significance of the Peace Treaty

- This peace agreement holds the potential to **formally end hostilities** and stabilise a region that has witnessed intense ethnic and geopolitical tensions for over 30 years.
- It also reflects changing dynamics in the region, with **Russia’s influence waning**, and increasing international interest in ensuring peace in the strategically important **South Caucasus**.
- If implemented successfully, the treaty could **normalize diplomatic relations**, reopen transport routes, and boost **economic cooperation** between the two nations.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Recently, the region Nagorno-Karabakh was seen in the news due to?

(a) Conflict between Armenia and Azerbaijan
 (b) Civil unrest in South Sudan
 (c) Dispute between Russia and Ukraine
 (d) None of the above

Answer: (a)

BALUCH LIBERATION ARMY (BLA)

Why in News: Recently, the Baloch Liberation Army (BLA) carried out one of its most significant attacks in nearly 25 years by targeting the Jaffar Express, highlighting the growing intensity of the Baloch insurgency against the Pakistani state.

About the Baloch Liberation Army (BLA):

- The BLA is an armed separatist group that primarily operates in **ethnic Baluch areas** of Pakistan, targeting security forces and civilians.
- It emerged in the early 2000s as part of the larger **Baluch ethnonationalist movement**, advocating for the independence of Baluchistan.
- The BLA has proven to be the most enduring group in the Baluch struggle, which spans over seven decades. It traces

its origins to militant traditions historically supported by powerful Baluch tribes like the **Marri, Bugti, and Mengal clans**.

- **With around 6,000 active fighters, the BLA operates mainly within Baluchistan and along the Afghanistan border.**
- Influenced by Marxist ideology during the Cold War, some of its past leaders received training in the Soviet Union. **While retaining its revolutionary roots, the BLA has adapted to include younger fighters.**
- The group was banned by Pakistan in 2006, and designated a global terrorist organisation by the United States in 2019.
- **Majeed Brigade:** A suicide squad unit within the BLA known for fidayeen-style attacks.
- **Baluch Students Organisation (BSO):** The student wing of the BLA, often involved in ideological mobilization and recruitment.

Reasons for the Baluch Insurgency:

- **Resource Exploitation:** Baluchistan is Pakistan’s largest province by area but is sparsely populated. Despite its vast reserves of oil, gas, copper, and gold, the province remains underdeveloped.
- **Economic Neglect:** Baluch insurgents argue that the central government exploits the province’s natural resources without providing fair returns to the local population.
- **Ethnic Marginalization:** Baluch leaders accuse the Punjabi-dominated establishment of sidelining Baluch voices and rights.
- **Historical Grievances:**
 - Post-Partition, Baluchistan remained independent until March 1948 through a treaty with Pakistan.
 - The Khan of Kalat, the dominant tribal leader, wished to stay independent but was pressured into signing the instrument of accession.
 - The desire for independence has persisted among segments of the Baluch population.
- **Allegations of Foreign Involvement:** Pakistan has repeatedly accused India of supporting Baluch insurgents—a claim India has categorically denied.

Impact of Baluch Insurgency on CPEC

- **Escalating Security Risks**
 - **Militant Activity and Insurgent Operations:** The surge in militant activity directly targets both Pakistani security forces and Chinese personnel involved in CPEC projects, undermining the corridor’s stability.
 - **Perpetual Threat Environment:** The persistent attacks, not just in Baluchistan but also spilling over into key economic hubs like Karachi, have compelled Pakistani authorities to allocate a significant portion of their already strained resources toward security.
- **Economic Consequences and Investment Implications**

- **Stalled Projects and Slowed Investment:** The Baloch insurgency has had a direct economic impact on CPEC by slowing down or halting major projects.
- **Rising Operational Costs:** In response to the insurgency, Pakistan has ramped up its security spending.
- **Geopolitical and Strategic Dilemmas**
 - **Strained Sino-Pak Relations:** The repeated security failures have forced Chinese officials to publicly assert that further investments will be contingent upon significant improvements in the security and political environment.
 - **Reassessment of Strategic Value:** The continuous unrest has led to a growing debate about the long-term strategic value of Pakistan as a partner in the Belt and Road Initiative (BRI).
- **Social and Political Ramifications**
 - **Local Discontent and Exclusion:** The local Baloch population, feeling sidelined and exploited, views Chinese projects as instruments of external domination. This sentiment not only intensifies the insurgency but also undermines any prospects for a stable, community-inclusive development process.
 - **Policy Incoherence and Tactical Impasse:** Within Pakistan, there is a stark divide in approaches to the insurgency. Some leaders call for escalated military action, while others advocate for a less aggressive, police-led response.

The Baloch insurgency poses a complex challenge for Pakistan's internal stability and its strategic ambitions, particularly the success of CPEC. Addressing long-standing grievances through political dialogue, economic inclusion, and respect for local autonomy is crucial for lasting peace in Balochistan.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding the Baloch Liberation Army (BLA):

1. It is a separatist group primarily advocating for the independence of Balochistan through political negotiation and dialogue with the Pakistani government.
2. It has been previously designated as a terror group by Pakistan, China, and USA.

Which of the statements above is/are correct?

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

Answer: (d)

Free Initiative by Chahal Academy



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RISK WEIGHTS OF BANK LOANS TO NBFCs

Why in News: Recently, the Reserve Bank of India (RBI) announced a significant move to reduce the risk weights on bank loans to Non-Banking Financial Companies (NBFCs) by 25 percentage points, based on their credit ratings.

Key Highlights of the Decision

- This move is aimed at **increasing the flow of credit** from banks to NBFCs.
- It comes at a time when **bank lending to NBFCs has slowed down drastically**, reaching a **four-year low**.
- The revised rules apply when the **risk weight based on external credit ratings of NBFCs is below 100%**.
- The goal is to **boost lending**, ensure **financial stability**, and **revitalise the NBFC sector**, which plays a key role in retail credit delivery.

What is "Risk Weight"?

- In banking, **risk weight** is a percentage used to calculate how much **capital a bank needs to keep aside** for its loans, based on how risky they are.
- **Higher risk weight = More capital required** → Makes loans costlier.
- **Lower risk weight = Less capital required** → Makes loans cheaper and easier to give.
- By reducing the risk weight, the RBI allows banks to lend

However, **they are not banks**. Key differences include:

Feature	Banks	NBFCs
Accept Demand Deposits	☑ Yes	✗ No
Issue Cheques	☑ Yes	✗ No
Part of Payment System	☑ Yes	✗ No
Deposit Insurance (DICGC)	☑ Yes	✗ No

NBFCs are regulated by both the RBI and the Ministry of Corporate Affairs.

Types of NBFCs include:

- **Deposit-taking and non-deposit-taking NBFCs**,
- **Systemically Important NBFCs (NBFC-NDSI)**,

more money **without needing extra capital**, encouraging them to lend more to NBFCs.

Why Was This Needed?

- **Recent RBI data** shows that **credit growth to NBFCs dropped to just 6.7% in 2024**, the lowest in four years.
- This was mainly due to:
 - **Tightened credit norms**, and
 - **Higher risk weights**, making loans to NBFCs more expensive for banks.
- As a result, banks became **cautious**, slowing their lending to NBFCs.
- Earlier, NBFCs had seen **strong loan growth**, but current economic pressures made funding more difficult.
- The reduction in risk weights is expected to **reverse this trend** by:
 - Making it **cheaper for NBFCs to borrow**, and
 - Allowing them to **lend more to the retail sector** (like housing, auto, personal loans etc.).

What are NBFCs?

NBFCs (Non-Banking Financial Companies) are financial institutions that:

- are registered under the **Companies Act, 1956**, and
- offer financial services like **loans, leasing, hire purchase, investments, and insurance**.

- NBFCs engaged in specific businesses (like microfinance, infrastructure finance, etc.)

Though they can't offer savings or current accounts, **NBFCs lend and invest like banks**, making them crucial for credit delivery, especially in underserved areas.

Impact of RBI's Decision

- **Capital Efficiency:** Banks will now need to keep **less capital** for loans to highly rated NBFCs, improving their capital adequacy ratios.
- **Boost to Lending:** NBFCs will get **cheaper funds**, enabling them to expand their loan books.
- **Retail Credit Push:** NBFCs often lend to **retail sectors** (housing, auto, education, etc.), so credit flow in the economy will improve.
- **Support for Economic Growth:** More lending means **increased consumption and investment**, helping the economy grow.

Conclusion

The RBI's move to lower the risk weights on loans to NBFCs is a **timely policy step**. It is expected to:

- **Lower borrowing costs** for NBFCs,
- **Improve their financial health**, and
- Help in **reviving credit flow** in the economy, particularly in the **retail and MSME sectors**.

This not only strengthens **financial stability** but also aids **inclusive economic growth** by empowering smaller lenders and borrowers across the country.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. How does an increase in the risk weight of a loan affect a bank's regulatory capital requirement?
- It decreases the capital requirement
 - It increases the capital requirement
 - It has no impact on the capital requirement
 - None of the above

Answer: (b)

Descriptive Question

- Q. Examine the role of risk weights in the banking sector and analyze how the reduction in risk weights for NBFC loans might contribute to financial stability. [150 words] [10 marks]

BILLION-DOLLAR FUND TO SUPPORT CREATORS' ECONOMY

Why in News: The **Indian government has announced a \$1 billion fund** to support and strengthen the **creator economy** in the country. This initiative aims to provide **access to capital, skill development, and integration with global markets** for digital content creators.

What is the Creator Economy?

The **creator economy** refers to a rapidly growing **digital ecosystem** where individuals—such as **influencers, artists, educators, entertainers, and writers**—create and share content online and **earn directly** from their audience.

Key Features

- Creators build **personal brands** and use platforms like **YouTube, Instagram, TikTok, Patreon, etc.** to **monetise their content**.
- They bypass traditional media companies or production houses and instead engage **directly with their followers**.
- This is a **decentralised, individual-driven economy** with low entry barriers, making it ideal for young entrepreneurs.

How Do Creators Earn Money?

Creators have multiple streams of income, such as:

Income Source	Description
Ad Revenue	Platforms like YouTube share ad revenue with creators based on views and engagement.
Brand Partnerships	Collaborations with companies to promote products through sponsored content or campaigns.
Direct Support	Platforms like Patreon allow fans to support creators with subscriptions or donations.
Merchandise & Products	Creators sell physical items (e.g., T-shirts, mugs) or digital goods (e-books, courses).
Freelance & Consulting	Creators monetize their skills via speaking gigs, workshops, or project consulting

Why is India Focusing on the Creator Economy?

India's push for the creator economy is **strategic and multifaceted**, driven by both **economic and cultural goals**.

Soft Power Diplomacy

- Indian creators and influencers are playing a role similar to Bollywood in promoting **India's culture and image globally**.

- Social media creators are now important for **branding and public diplomacy**, especially among the youth.

Job Creation

- The content creation industry has huge potential to create **self-employment and job opportunities** in diverse fields like:
 - Fashion
 - Food & Travel
 - Fitness & Finance
 - Gaming & Education

Promoting Indian Culture

- Creators can **showcase India’s traditional knowledge, arts, crafts, and heritage** to a global audience through digital platforms.

New Consumption Trends

- Short-form video apps and influencer marketing are booming, especially in **non-metro towns and rural India**, redefining content consumption.
- Brands in **FMCG, automobile, and tech** sectors are using digital creators for **targeted marketing**.

Decentralised Innovation

- Creativity is no longer limited to metros. Cities like **Guwahati, Indore, and Kochi** are becoming **creative hubs**, empowering regional voices.

Government initiatives to promote the creator economy in India

- **WAVES Bazaar:** The government has launched WAVES Bazaar in the **lead-up to the World Audio Visual & Entertainment Summit (WAVES)**. A **global e-marketplace**, WAVES Bazaar is a platform designed to **connect India’s vast creative talent pool with international markets to showcase their content, pitch projects, and build meaningful connections that transcend geographical boundaries**.
- **WAVES Awards:** Recognises excellence in creative fields with awards in **categories like Game of the Year, Film of the Year, and Advertising Campaign of the Year**.
- **Create in India challenge:** The challenge **encourages local content creation in diverse fields** by providing financial incentives and exposure to emerging creators.
- **Indian Institute of Creative Technology (IICT):** Recently, the Government of India proposed the creation of an institute **for training content creators, digital artists and creative entrepreneurs**. The institute will focus on AI, AR/VR, gaming, animation and digital storytelling.
- **National Content Creator Award:** It **recognises and awards top-performing digital creators in various domains**, and it aims to establish India as a global leader in the creator economy.

The creator economy is **not just a passing trend**—it represents **India’s digital entrepreneurial spirit**. With strong

government support through funding, training, and global exposure, India aims to:

- Empower **millions of young digital creators**
- Strengthen its **cultural footprint** on the world stage
- Drive **inclusive economic growth** through the creative sector

India’s billion-dollar push into the creator economy could shape a future where **creativity, innovation, and technology intersect** to unlock new opportunities across all levels of society.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Questions

- Q. Discuss the significance of the creator economy in India and examine the role of government initiatives in promoting the creator's economy. [150 words] [10 marks]

POVERTY ESTIMATION IN INDIA

Why in News: A recent study, based on household expenditure data from 2022–23 and 2023–24, suggests a dramatic decline in poverty and inequality in India:

- **Extreme poverty** in India is nearly *eliminated*.
- **Inequality** has seen a significant decline.

Key Highlights of the Report

- **Poverty Reduction:**
 - India’s poverty rate has fallen **from 52% in 2011-12 to just 15.1% in 2023-24**, based on the **World Bank’s \$3.65 (PPP) poverty line**.
 - At the lower extreme poverty line of **\$1.90 PPP**, the poverty rate is now **below 1%**.
- **Declining Inequality:**
 - The **Gini Coefficient**, a measure of income inequality, has dropped from **37.5 (2011-12) to 29.1 (2023-24)**.
- **Policy Recommendation:**
 - With extreme poverty nearly eliminated, the focus should now shift to **strengthening and expanding the middle class**.

Understanding Poverty

- **Definition:** Poverty refers to the **inability to meet basic material and non-material needs**, such as:
 - **Material:** Food, shelter, healthcare, education.
 - **Non-material:** Identity, dignity, and participation in society.
- **Indian Context:**
 - As per the **Planning Commission**, the **poverty line** is based on **minimum calorie intake**:

- ◆ 2400 calories/day in rural areas.
- ◆ 2100 calories/day in urban areas.

NITI Aayog's Findings (2023)

- **Report:** *Multidimensional Poverty in India since 2005-06*
- **24.82 crore people** exited multidimensional poverty between 2013-14 and 2022-23.
- The **poverty headcount ratio** declined:
 - At **10.66% annually** (2015-16 to 2019-21),
 - Compared to **7.69% annually** (2005-06 to 2015-16).
- India is **on track to achieve** its **Sustainable Development Goal (SDG)** of reducing poverty well before 2030.

Different committees constituted for poverty estimation in India

- **Planning Commission working group (1962):** Rs. 20 and Rs. 25 per capita per year for urban and rural areas, respectively.
- **Alagh Committee (1979):** Constructed a poverty line for rural and urban areas on the basis of nutritional requirements with 2400 and 2100 calories per day as well as Rs. 49.1 and Rs. 56.7 for rural and urban areas, respectively.
- **Lakdawala Committee (1993): Made the following suggestions:**
 - consumption expenditure should be calculated based on calorie consumption as earlier;
 - state-specific poverty lines should be constructed, and these should be updated using the Consumer Price Index of Industrial Workers (CPI-IW) in urban areas and Consumer Price Index of Agricultural Labour (CPI-AL) in rural areas; and
 - discontinuation of 'scaling' of poverty estimates based on National Accounts Statistics.
- **Tendulkar Committee (2009): It recommended four major changes:**
 - a shift away from calorie consumption-based poverty estimation;
 - a uniform poverty line basket (PLB) across rural and urban India;
 - altering the price adjustment process to address temporal and spatial price adjustment problems; and
 - including private health and education spending in the estimation of poverty.

In 2004-05, it was determined that the poverty line in rural India was Rs 446.68 per capita per month, whereas in urban areas it was Rs 578.80 per capita per month.

- **Rangarajan Committee (2012):** The report estimates the poverty line as a monthly per capita expenditure of **Rs. 1407** in urban areas and **Rs. 972** in rural areas.

Need for a New Poverty Line

- The study argues that India's **current poverty lines**, based on older measures, **no longer reflect economic realities**.
- It suggests adopting a new poverty benchmark, such as
 - **Relative Poverty Line Based on the 33rd Percentile of Consumption:** Instead of using a fixed poverty line, **use the spending level of the bottom 33rd percentile of the population to define the relative poverty line.**
 - **Relative Poverty Line Based on Income:** Adopting a relative poverty measure like Europe's, where poverty is defined as **60 per cent of median income.**
- Without a doubt, there are more accurate methods of estimating poverty than using HCES.
- First off, the **HCES statistics, which are voluntary or self-reported, are notoriously inaccurate.** In India, the wealthiest have a motive to avoid exclusion and taxation, while the impoverished have an incentive to lie or under report government assistance (imputation) in order to receive more of it.
- **Second, it's time to start gathering statistics on revenue.** To obtain a more comprehensive understanding of income levels and, consequently, poverty, this data may be enhanced with information from income tax returns (ITRs), digital transactions, property tax, EPFO, PLFS, MGNREGS, and other sources.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Arrange the following committees constituted for poverty estimation in India in the correct chronological order of their formation:

- | | |
|------------------------|-------------------------|
| 1. Tendulkar committee | 2. Alagh committee |
| 3. Lakdawala committee | 4. Rangarajan committee |

Options:

- | | |
|-------------|-------------|
| (a) 1-3-4-2 | (b) 2-3-1-4 |
| (c) 2-4-1-3 | (d) 3-2-1-4 |

(b) Answer

NAVRATNA STATUS FOR IRCTC AND IRFC

Why in News: The Central Government has **upgraded Indian Railway Catering and Tourism Corporation (IRCTC)** and **Indian Railway Finance Corporation (IRFC)** to **Navratna status**, making them the **25th and 26th Navratna CPSEs** in the country. This marks an important recognition of their financial strength and operational performance.

What is Ratna Status?

The **Ratna classification** is a recognition system used by the Indian government to **categorize CPSEs (Central Public Sector Enterprises)** based on their financial performance, strategic importance, and autonomy.

There are three categories under this classification:

1. **Maharatna** – Top-tier
2. **Navratna** – Mid-tier
3. **Miniratna** – Entry-level

What is Navratna Status?

The **Navratna status** is granted to high-performing CPSEs that already enjoy **Miniratna Category-I** status. It is given by the **Department of Public Enterprises (DPE)** under the **Ministry of Finance**.

Eligibility Criteria:

To be eligible for Navratna status, a CPSE must:

- Be a **Miniratna Category-I** company.
- Be classified as **Schedule 'A'** CPSE.
- Have received an **“Excellent” or “Very Good” MoU rating** for at least **three out of the last five years**.
- **Score at least 60 out of 100 based on performance in the following six indicators:**

Indicator	Weightage
Ratio of net profit to net worth	25%
Ratio of manpower cost to total cost of production or services	15%
Ratio of profit before depreciation, interest, and tax (PBDIT) to capital employed or return on capital employed	15%
Ratio of profit before interest and taxes (PBIT) to turnover	15%
Earnings per share	10%
Inter-sectoral performance of the company	20%

• Benefits of Navratna Status

- **Enhanced financial autonomy:** Invest up to ₹1,000 crore or 15% of net worth in projects without government approval.
- **Operational independence:** Form Joint Ventures, subsidiaries, and pursue mergers/acquisitions independently.
- **Global expansion:** Enter international markets, forge alliances, and reduce bureaucratic hurdles.

- **Competitive edge:** Make agile business decisions to rival private-sector firms.
- **Investor confidence:** Attract investments through perceived financial stability and governance.
- **Higher shareholder returns:** Deliver better profits via strategic investments and global ventures.
- **Streamlined governance:** Faster execution of projects with minimal bureaucratic delays.
- **Brand credibility:** Strengthen market reputation as a financially robust entity.

Maharatna Status: Top Tier Recognition

Criteria to become a Maharatna:

A CPSE must meet the following conditions:

- Must have **Navratna status**.
- Must be **listed on the Indian stock exchange** with minimum public shareholding as per SEBI norms.
- Must have:
 - **Average annual turnover** of more than ₹25,000 crore (last 3 years).
 - **Average annual net worth** of over ₹15,000 crore (last 3 years).
 - **Average annual net profit after tax** of over ₹5,000 crore (last 3 years).
- Must have a **significant global presence** or international operations.

Maharatna CPSEs enjoy even greater autonomy:

- Can make investments up to **₹5,000 crore or 15% of their net worth** without government approval.

Miniratna Status: The Foundation Tier

Miniratnas are divided into **Category-I** and **Category-II**, based on profitability and financial discipline.

Miniratna Category-I:

- Should have made **profit for the last 3 consecutive years**.
- Should have **pre-tax profit of ₹30 crore or more** in at least one of those three years.
- Must have a **positive net worth**.

Miniratna Category-II:

- Must have made **profit for the last 3 consecutive years**.
- Must maintain a **positive net worth**.

Additional Conditions:

- Should **not have defaulted** on loans or interest payments due to the government.
- Should **not rely on budgetary support** or government guarantees.

Major Government Initiatives to Boost Space Sector

1. **Space Vision 2047**
 - Establish the **Bharatiya Antariksh Station (BAS)** by 2035
 - Land an **Indian astronaut on the Moon** by 2040
 - Develop **Next-Generation Launch Vehicle (NGLV)** by 2032
2. **Indian Space Policy 2023**
 - Provides a **level playing field** for private players (Non-Government Entities - NGEs)
 - Clearly defines roles of ISRO, IN-SPACe, NSIL, and private sector
3. **₹1000 Crore Venture Capital Fund**
 - To promote investments in space-based startups
4. **Indian National Space Promotion and Authorization Centre (IN-SPACe)**
 - Serves as a **regulatory and promotional body** for private participation in space
5. **FDI Policy Reform**
 - Allows up to **100% FDI** in various segments of the space sector:
 - ◆ Up to 100% in components manufacturing
 - ◆ Up to 74% in satellite manufacturing & operations
 - ◆ Up to 49% in launch infrastructure & spaceports
6. **Indian Space Association (ISPA)**
 - Industry body to support private sector, startups, and academia in space tech development
7. **Atal Tinkering Labs – Space Challenge**
 - Promotes space education and awareness among students in STEM fields

Economic and Strategic Importance of India’s Space Sector

1. **Employment Generation**
 - **Direct Jobs:** Engineers, scientists, software developers, and project managers
 - **Indirect Jobs:** Logistics, manufacturing, data analytics, professional services
2. **Boost to Industrial Ecosystem**
 - **Space-based innovations support multiple industries such as:**
 - Telecom
 - IT & electronics
 - Aviation
 - Pharmaceuticals
 - Defense
3. **Agriculture & Precision Farming**
 - Satellite data helps in **weather forecasting, soil health monitoring, and crop yield estimation**

4. **Disaster Management**
 - Space-based remote sensing supports **early warning and relief planning** for floods, cyclones, droughts, etc.
5. **Navigation & Logistics**
 - Indian Regional Navigation Satellite System (IRNSS/ NavIC) supports **GPS alternatives** for logistics and defense
6. **Foreign Exchange Earnings**
 - Commercial launches for foreign clients via ISRO’s **PSLV missions** continue to generate forex revenue
7. **Rising Start-up Ecosystem**
 - India now has over **260+ space start-ups** (up from just 1 in 2014), including Agnikul Cosmos, Skyroot Aerospace, Pixxel, etc.
8. **Future Economic Frontiers**
 - **Space tourism, space mining, satellite servicing, and in-orbit manufacturing** represent new revenue streams for the future

Conclusion

India’s space sector is poised to play a *transformational role* in the nation’s economic, technological, and strategic future. With a clear policy vision, rising private sector participation, and ambitious goals, the Indian space economy is not just about rockets and satellites—it is about *powering inclusive growth, innovation, and national pride* as we move towards *Viksit Bharat @2047*.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. Discuss the role of India’s space sector in economic growth and national development. Highlight the government initiatives aimed at strengthening the space industry and fostering private sector participation. [250 words] [15 marks]

SPICE SECTOR

Why in News: Despite being the **world’s largest producer and exporter of spices**, India’s share in the **global seasoning market** remains **shockingly low at just 0.7%**, according to the **World Spice Organisation (WSO)**.

Key Highlights:

- In 2024, the **global seasoning market** was valued at around **\$14 billion**.
- India’s contribution stood at **just 0.7%**, far behind:
 - **China** – 12%
 - **United States** – 11%
- This is despite India producing the **largest quantity of spices globally** and being the **top exporter** of several key spices.

India's Spice Sector:

- **Domestic Consumption:**
 - A whopping **85% of spices grown in India** are consumed within the country.
- **Exports:**
 - India exports **1.5 million tonnes** of spices annually.
 - Total value of spice exports: **\$4.5 billion**.
 - India commands **25% of the global spice trade** (valued at \$20 billion).
- **Nature of Exports:**
 - **Only 48%** of India's spice exports are **value-added products** (e.g., spice blends, extracts, oils).
 - The rest are exported as **raw or whole spices**, limiting potential revenue.
- **Emerging Spice-Growing Regions:**
 - In addition to traditional spice hubs like **Kerala, Andhra Pradesh, Gujarat, and Rajasthan**, newer regions such as the **North Eastern states, Odisha, and Jharkhand** are becoming significant contributors.

Key Challenges Facing the Indian Spice Industry

1. **Low Share in the Global Seasoning Market:**
 - India excels in spice production but lags behind in **processed and branded seasoning products** like spice mixes, marinades, and condiments.
2. **Limited Value Addition:**
 - Only **48%** of spice exports are processed or value-added.
 - To achieve the **\$10 billion export target by 2030**, India must raise value-added exports to at least **70%**.
3. **High Production Costs:**
 - **Inefficient agricultural practices**, excessive pesticide use, and **outdated post-harvest processing** methods contribute to high costs and reduced global competitiveness.
4. **Stiff Global Competition:**
 - Countries like **Vietnam, Indonesia, Brazil, China, and several African nations** are rapidly expanding in the spice trade, offering value-added, cleaner, and branded products.

Government & Institutional Support

1. **Spices Board of India:**
 - Plays a central role in **research, export promotion, quality certification, and market development**.
2. **World Spice Organisation (WSO):**
 - Works with **Farmer Producer Organisations (FPOs)** to improve farming practices, sustainability, and traceability.

3. **Indian Council of Agricultural Research (ICAR):**
 - Develops **high-yield, climate-resilient spice varieties** to ensure sustainability and productivity.
4. **Integrated Pest Management Programs:**
 - Trains farmers in **eco-friendly, safe pesticide use** to meet international quality and safety standards.
5. **Key Focus Areas:**
 - Promoting **value addition and branding**.
 - Improving **quality standards and traceability**.
 - Exploring applications in **nutraceuticals, cosmetics, and pharmaceuticals** to diversify global market presence.

Conclusion

While India leads in spice production and raw exports, its share in the **value-added seasoning segment** remains disproportionately low. To leverage its natural advantage and meet ambitious export targets, India must focus on:

- Scaling value-added processing
- Improving quality and branding
- Reducing production costs
- Diversifying global market reach

This strategic shift will help India evolve from being just the "Spice Bowl of the World" to becoming a global leader in processed seasoning products.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements about the Spice Sector in India:

1. Southern states share the majority of the Spice production in India.
2. India is the largest producer and exporter of spices.
3. India dominates the Global Seasoning Market with over 25 percent share.

Which of the statements given above is/ are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Answer: (a) (2 only)

COTTON CROP

Why in News: Despite pressure on Indian cotton prices, **cotton imports are rising significantly**, sparking concern over domestic productivity and competitiveness.

Key Developments

- **Rising Imports:** India’s import of **raw and waste cotton** jumped sharply:
 - **December 2024:** \$142.89 million
 - **January 2025:** \$184.64 million Compared to:
 - **December 2023:** \$29.47 million
 - **January 2024:** \$19.62 million
- This indicates a **5 to 7 times increase in imports year-on-year**, prompting an urgent need to improve **domestic cotton productivity**.

Why are Cotton Imports Rising?

1. **Decline in Domestic Production:**
 - Cotton production in India is estimated to drop **10%** in 2024-25, down to **29.53 million bales**.
 - However, **domestic demand is expected to increase slightly** to 31.5 million bales.
2. **Global Price Advantage:**
 - **International cotton prices have fallen** to their lowest in 4 years.
 - China’s imposition of import duties on U.S. cotton has further pushed down global prices.
 - Cotton from Brazil, U.S., Australia, and African nations is **cheaper than Indian cotton**, making imports more attractive.
3. **Demand from the Textile Sector:**
 - There’s a growing **export demand for garments and home textiles**.
 - The rise of **“fast fashion”** has increased cotton consumption for mass-produced clothing.

PRELIMS SPECIAL

Basic Facts

- **Scientific Name:** *Gossypium*
- **Crop Type:** Tropical/Subtropical
- **Use:** Fiber for textiles; by-products used in oil, feed, and industrial products.

Varieties of Cotton

1. **Upland Cotton (*Gossypium hirsutum*):** Most widely cultivated (India, China, U.S.).
2. **Pima Cotton (*Gossypium barbadense*):** Long-staple, superior quality; grown in the U.S. (especially California and Arizona).

Climate Requirements

- **Temperature:** 21°C to 35°C
- **Rainfall/Irrigation:** Moderate (requires good water supply)
- **Frost-free period:** Minimum 180 days
- **Soil:** Well-drained, fertile soils

Harvesting & Processing

- Cotton bolls **split open** when mature.
- Harvesting is done **manually or mechanically**.
- **Cotton ginning** separates fibers from seeds.

Economic Importance

- India is among the **largest producers and consumers of cotton** globally.
- Cotton is a **major cash crop**, providing livelihood to **millions of farmers**.
- **Cotton-based industries** (textiles, garments) are crucial to India’s exports.

Environmental Concerns

- Cotton farming is **water-intensive** and **heavily reliant on pesticides**.
- There are growing efforts to:
 - Promote **organic cotton**
 - Encourage **drip irrigation**
 - Develop **drought and pest-resistant varieties**

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding cotton cultivation in India:

1. Minimum Support Price (MSP) for cotton is declared by both the Central and State Governments.
2. India is the only country that cultivates all four species of cultivated cotton.
3. Gujarat is the leading cotton-producing state in India.

Which of the statements given above are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None.

Answer: (b) 2 & 3 only

CAPITAL ACCOUNT CONVERTIBILITY

Why in News: Recently, **Aroind Panagariya**, Chairman of the **16th Finance Commission**, suggested that **India should delay full capital account convertibility** until the country achieves a **per capita income of \$8,000 to \$10,000**. He made this observation during the **49th Civil Accounts Day celebrations**, cautioning that premature adoption of full convertibility could reduce the government and **RBI’s control over exchange rate management**.

What is Capital Account Convertibility?

- **Capital Account Convertibility (CAC)** refers to the freedom to convert local financial assets into foreign financial assets and vice versa at market-determined exchange rates, without any restrictions.
- In simple terms, it means that **money can move freely across borders** for purposes such as investments, loans, or asset purchases.

Types of Currency Convertibility:

1. **Current Account Convertibility:** It deals with the freedom to conduct foreign exchange transactions related to trade in goods and services (imports/exports).
2. **Capital Account Convertibility:** Deals with the movement of capital for investment purposes. This includes foreign direct investment (FDI), portfolio investment, and loans.

The State of the Indian Rupee

- **Until the early 1990s** (pre-reform period), anyone using rupees who wanted to transact in a foreign currency would need permission from the Reserve Bank of India (RBI), regardless of the purpose. **These transactions included things like:** Foreign travel, foreign studies, Purchasing imported goods, receiving foreign currencies (such as with exports) and exchanging them for cash.
- **Post Liberalisation:** In 1992, liberal economic reforms were introduced that impacted the way forex transactions were conducted. **Exporters and importers could exchange foreign currencies for the trade of unbanned goods and services.** There was easy access to forex for studying or traveling abroad, and, depending on the industry, there were fewer restrictions on foreign business and investments.
- **Present Status:** As of 2025, the Indian rupee is a **partially convertible currency**. This means that although there is a lot of freedom to exchange local and foreign currency at market rates, a few important restrictions remain for higher amounts, and these still need approval.
 - Additionally, the INR is **not a completely free-floating currency** left to market dynamics. Regulators will occasionally act to keep the exchange rates within permissible limits.

Role of Tarapore Committees

Tarapore Committee I (1997)

- Headed by **S.S. Tarapore**, constituted by the RBI.
- Recommended a **three-phase roadmap** to implement CAC by **1999–2000**.
- However, the plan was **halted due to the 1997 East Asian Financial Crisis**, which exposed the risks of premature liberalisation.

Tarapore Committee II (2006)

- Revisited the idea and proposed a **five-year roadmap (three phases)** to achieve CAC by 2011.
- This, too, was deferred due to concerns over macroeconomic stability.

Preconditions for Full Capital Account Convertibility (As per Tarapore Committee)

1. **Fiscal Consolidation**
 - Reduce fiscal deficit to around **3–3.5% of GDP**.
 - Maintain stable macroeconomic fundamentals.
2. **Monetary Policy Stability**
 - Bring inflation to **low and globally acceptable levels**.
 - Interest rates must reflect **inflation differentials** and not be artificially set.
3. **Strong Banking System**
 - Enhance the health of public and private sector banks.
 - Implement regulatory reforms and risk management systems.
4. **Adequate Foreign Exchange Reserves**
 - Ensure enough forex reserves to handle external shocks.
 - Maintain confidence in the ability to defend the rupee if needed.

Why India Is Cautious About Full Convertibility

- **Volatile global financial environment**
- Concerns over **capital flight during crises**
- **Underdeveloped domestic financial system** in some areas
- Need to **prioritise macroeconomic stability and institutional readiness**

While full capital account convertibility could enhance India's integration with the global economy, it must be pursued cautiously and gradually. Experts like Arvind Panagariya rightly suggest that India should first achieve higher per capita income, ensure stronger macroeconomic fundamentals, and build institutional capacity before fully opening the capital account. This will ensure that the move is sustainable, beneficial, and resilient in the face of global uncertainties.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. Consider the following statements regarding Currency Convertibility in India:
1. The Indian rupee is a completely free-floating currency with no regulatory intervention.
 2. India has already achieved the fiscal deficit target recommended by the Tarapore Committee as a precondition for full capital account convertibility.

Which of the statements given above is/are correct?

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

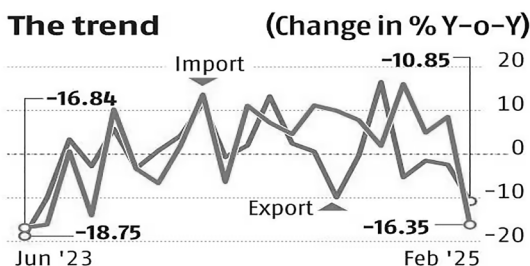
Answer: (d)

INDIA'S TRADE DEFICIT

Why in News: India's goods trade deficit dropped to a 42-month low in February 2025, primarily due to reduced imports of gold, silver, and crude oil, according to the Ministry of Commerce and Industry.

Key Highlights:

- **Goods Trade Deficit:**
 - **February 2025:** \$14.05 billion – the lowest since August 2021.
 - **January 2025:** \$22.9 billion.
 - **February 2024:** \$19.5 billion.
- **Gold and Silver Imports:**
 - Totalled \$2.7 billion in February 2025 — the lowest since June 2024.
- **Crude Oil & Petroleum Imports:**
 - Reached their lowest level since July 2023, at \$11.81 billion.
- **Trade Deficit Trend:**
 - For the first 10 months of FY25, the average monthly trade deficit was above \$23 billion.
 - A significant reduction in February is now projected to lead to a current account surplus of around \$5 billion in Q4 FY25 (approx. 0.5% of GDP).
- **Services Trade Performance (February 2025):**



- **Exports:** \$35.03 billion
- **Imports:** \$16.55 billion
- In comparison, February 2024 saw services exports of \$28.33 billion and imports of \$15.23 billion.

Implications of a Lower Trade Deficit:

- **Mixed Signal:**
 - Ideally, a falling trade deficit due to rising exports is a **positive sign**.
 - However, a **simultaneous fall in both imports and exports** could indicate **sluggish domestic and global demand**.
- **Trade Surplus:**
 - India reported a **rare \$4.5 billion overall trade surplus** (goods + services) — first such instance since May 2021.
- **Current Account Outlook:**
 - India may register a **\$20 billion current account surplus** for Q4 FY25.
 - **Full-year CAD** (Current Account Deficit) could decline to **0.5%–0.7% of GDP**, compared to earlier projections of **1%–1.2%**.
- **Cautionary Note:**
 - The **unusually low trade deficit** could also signal a **slowdown in domestic economic activity**, particularly due to falling imports of essential commodities like crude and gold.

What is a Trade Deficit?

A trade deficit occurs when a country imports more goods and services than it exports.

- It results in a **negative trade balance**.
- Can be observed in both **merchandise (goods)** and **services trade**.
- **Economic impact** of a prolonged trade deficit:
 - Depreciation of local currency
 - Pressure on foreign exchange reserves
 - Adverse effects on domestic industries and employment
 - Increased external borrowing

Measures to Reduce the Trade Deficit:

1. **Make in India Initiative:**
 - Encouraging local manufacturing to substitute imports, especially in electronics, machinery, and defence.
2. **Boosting Exports:**
 - Signing **bilateral and regional trade agreements**
 - Providing **subsidies and incentives**
 - Enhancing global competitiveness in sectors like **IT, pharmaceuticals, and textiles**

3. Diversifying Export Destinations:

- Expanding trade with **Africa, Latin America, and Southeast Asia** to reduce over-reliance on traditional markets.

4. Promoting Foreign Direct Investment (FDI):

- Encouraging FDI to support local industries, transfer technology, and **reduce import dependency**.

5. Improving Infrastructure:

- Modernising **ports, logistics, and transport networks** to lower trade costs and enhance export efficiency.

6. Transition to Renewable Energy:

- Reducing dependence on crude oil imports by investing in **solar, wind, and bioenergy**.

Conclusion

The recent drop in India's trade deficit presents a *mixed economic picture*. While it reduces pressure on the *current account and foreign exchange reserves*, the fall in imports may signal *weakened domestic demand*. Going forward, *balancing trade, diversifying exports, and strengthening domestic production* will be key to maintaining *sustainable economic growth* in an uncertain global environment.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements:

1. For the last 12 months India's exports are rising consistently.
2. For the last 12 months India's exports have been declining consistently.

Which of the statements given above is/are correct?

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

Answer: (d)

Descriptive Question

Q. A trade deficit can have both positive and negative implications for a country's economy. Discuss the factors contributing to India's trade deficit and suggest measures to address it. [250 words] [15 marks]

INDIA'S AGRICULTURE TRADE

Why in News: India's agriculture trade surplus is shrinking due to increased imports of farm produce.

Trends in Agriculture Trade

- **Exports:** India's agriculture exports have risen 6.5%, from \$35.2 billion in April-December 2023 to \$37.5 billion in April-December 2024.

- It is more than the 1.9% overall increase in the country's merchandise exports for this period.

- **Imports:** India's total goods imports during April-December 2024 were 7.4% up over April-December 2023. For the same period, imports of farm produce rose 18.7% (from \$24.6 billion to \$29.3 billion).

- **Trade Surplus:** The agricultural trade surplus has reduced from \$10.6 billion in April-December 2023-24 to \$8.2 billion for April-December 2024-25.

Trends in Trade Surplus

- Trade surplus peaked at \$27.7 billion in 2013-14.
- It shrank to \$8.1 billion by 2016-17.
- It rose to \$20.2 billion in 2020-21, before falling to \$16 billion in 2023-24.

India's Agriculture Export

- India's agricultural trade surplus is largely driven by agricultural exports.

- Agricultural exports dipped from \$43.3 billion in 2013-14 to \$35.6 billion in 2019-20, even as imports climbed from \$15.5 billion to \$21.9 billion.

- **Reason:** Crash in international commodity prices.

- The UN Food and Agriculture Organization's (FAO) food price index (base period: 2014-16=100) plunged from an average of 119.1 to 96.4 points between 2013-14 and 2019-20.

- Low world prices made India's agricultural exports less cost-competitive.

Revival

- The supply disruptions post the Covid-19 pandemic and the Russian invasion of Ukraine led to a global price recovery.

- As the benchmark FAO index soared to an average of 133.1 in 2021-22 and 140.6 points in 2022-23, India's agri exports surged to \$50.2 billion and \$53.2 billion in these respective years.

Drivers of Exports

- **Marine Products:** The No. 1 export commodity from India, marine products, has registered a drop from \$7.8 billion in 2021-22 and \$8.1 billion in 2022-23 to \$7.4 billion in 2023-24.

- India's marine exports of which frozen shrimp accounts for roughly two-thirds, are mainly to the US (34.5% share in 2023-24), China (19.6%), and the European Union (14%).

- **Sugar:** Sugar has also taken a hit, with exports more than halving from \$5.8 billion in 2022-23 to \$2.8 billion in 2023-24.

- Sugar and **Wheat** have suffered from government restrictions following concerns over domestic availability and food inflation.

- **Rice:** Exports of rice have continued to boom.
 - Non-Basmati: Various curbs have been gradually lifted.
 - ◆ The value of non-basmati shipments is poised to be close to its \$6.1-6.4 billion highs of 2021-22 and 2022-23.
- **Coffee:** Drought in Brazil and typhoon activity in Vietnam have given a boost to coffee exports from India.
- **Tobacco:** Crop failures in Brazil and Zimbabwe have benefited Indian tobacco exporters.

Drivers of Imports

- India’s agricultural imports are dominated by two commodities: Edible oils and pulses.
- **Pulses:** Imports of pulses had come down considerably, from \$3.9 billion in 2015-16 and \$4.2 billion in 2016-17 to an average of \$1.7 billion for the five years ending 2022-23, on the back of increased domestic production.
- **Edible Oils:** Import during 2024-25 is expected to be the highest after 2021-22 (\$19 billion) and 2022-23 (\$20.8 billion). The Ukraine war has driven up the global prices.
- **Spices:** India is both an exporter and an importer.
 - In 2023-24, India’s imports of pepper (34,028 tonnes) and cardamom (9,084 tonnes) exceeded its corresponding exports of 17,890 tonnes and 7,449 tonnes.
- **Cotton:** Indian cotton exports collapsed from \$4.3 billion, \$3.7 billion and \$3.6 billion in 2011-12, 2012-13 and 2013-14, respectively, to \$781.4 million in 2022-23 and \$1.1 billion in 2023-24.
 - During April-December 2024, India’s cotton exports were, at \$575.7 million, not only 8.1% lower than for the same period of 2023, but its imports of \$918.7 million were up 84.2%. Thus, from an exporter, India became a net importer of cotton.

Way Forward: Policy Takeaways

- **Avoid Sudden Export Restrictions**
 - Replace overnight export bans (e.g., wheat, onions) with phased measures like temporary tariffs or quotas.
 - Provide advance notice (e.g. 3–6 months) for policy changes to allow stakeholders to adjust.
- **Adopt Rules-Based Trade Mechanisms**
 - Introduce transparent criteria (e.g. price triggers, production thresholds) for imposing export/import curbs.
 - Use tariffs instead of outright bans to balance consumer and producer interests.
- **Stakeholder Consultation:** Involve farmer groups, traders, and industry bodies in policy formulation to ensure balanced outcomes.
- **Price Stabilization Mechanisms**

- Implement risk-mitigation tools (e.g. futures markets, price insurance) to protect farmers from volatility.
- Subsidize essential commodities for low-income consumers instead of blanket export bans.
- **Targeted Subsidies:** Direct income transfers or food vouchers for vulnerable households to offset price spikes (e.g. Rs 30/month extra for onions).
- **Rationalize Import Duties:** Reintroduce moderate tariffs on pulses and oilseeds (e.g. chickpea, palm oil) to protect domestic farmers and reduce import dependency.
- **Incentivize Pulses and Oilseed Cultivation**
 - Link minimum support prices (MSPs) to water-efficient crops like pulses, ensuring procurement parity with rice/wheat.
 - Offer subsidies for seeds, irrigation, and post-harvest infrastructure for diversification.
- **Promote Domestic Processing:** Invest in value-added infrastructure (e.g. de-oiled rice bran processing) to reduce waste and boost export potential.
- **Build Sustainable Export Markets:** Negotiate long-term trade agreements with key importers (e.g. Gulf nations, ASEAN) for staples like rice and buffalo meat.
- **Quality and Standards Compliance:** Upgrade testing labs and certification systems to meet global phytosanitary norms.
- **Diversify Export Basket:** Promote value-added products (e.g. organic spices, processed fruits) over raw commodities.
- **Modernize Supply Chains:** Develop climate-resilient storage, cold chains, and logistics to reduce post-harvest losses.
- **R&D Investment:** Fund research for high-yielding, drought-resistant varieties of water-efficient crops.

Conclusion

India’s shrinking agricultural trade surplus, driven by surging imports and volatile exports, underscores the need for balanced trade policies. Strategic measures like phased export curbs, import duty rationalization, and investing in domestic value chains can stabilize trade dynamics. Ensuring farmer incentives while addressing domestic inflation concerns is crucial for sustaining long-term growth and global competitiveness in agriculture.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. Analyze the key factors behind the decline in India’s agricultural trade surplus despite rising exports. How can the government balance the dual objectives of ensuring domestic food security and maintaining competitiveness in global agricultural markets? [250 words] [15 marks]

RISING KISAN CREDIT CARD BAD LOANS

Why in News: In a worrying sign for the agriculture sector, *bad loans under the Kisan Credit Card (KCC) scheme have surged by 42% over the past four years* in scheduled commercial banks (excluding Regional Rural Banks). This reflects rising stress in rural credit and farm incomes.

Current Trends in Agricultural NPAs:

- According to **RBI data**, Non-Performing Assets (NPAs) under KCC stood at:
 - ₹68,547 crore in March 2021
 - ₹84,637 crore in FY2022
 - ₹90,832 crore in FY2023
 - ₹93,370 crore in FY2024
 - ₹97,543 crore by December 2024
- In FY2025 (so far):
 - Q1: ₹95,616 crore
 - Q2: ₹96,918 crore

Note: This consistent rise indicates a deepening repayment crisis among farmers.

Causes for the rise in agricultural NPA

- **Climate change:** Weather-related damages to crops affect the ability of farmers to repay loans on time.
- **Lack of awareness** among farmers about repayment timelines.
- **Lack of crop insurance:** Inadequate or no crop insurance affects farmers' loan repayment capabilities in case of crop failure.
- **Political issues:** Expectations of farm loan waivers ahead of any state election often distort the repayment behaviour of farmers in hope of some relief from the government.
- **Farmer's suicide:** Farmers' suicides further deter lenders from taking aggressive recovery steps in case of defaults.
- **Small amount:** Defaults are higher in the KCC segment, where the amount borrowed is much lower compared to other agricultural loans, and so, **repayment becomes the last priority for a farmer.**
- **Weak loan recovery mechanism** for banks.

Impact

- **Profitability:** As NPAs increase, institutions must allocate more resources as provisions to mitigate potential losses from these delinquent loans, thereby **reducing overall profits.**
- **Asset (Credit) Contraction:** The banks' capacity to lend more has been weakened by the rise in non-performing assets, which has resulted in lower interest revenue.
- **Liability Management:** Banks may decide to raise interest rates on advances while lowering deposit

interest rates due to significant non-performing assets. further strain on the government to recapitalize PSBs.

- **Shareholder Confidence:** The bank's operations and profitability are probably going to suffer as a result of the increase in non-performing assets. Because of this, shareholders might not get a market return on their investment, and the value of their money might decrease.
- **Public Confidence:** High NPA levels have a substantial negative influence on the banking sector's reputation since they **erode public trust in the stability and dependability of the institution.**

Way Forward: Strengthening the KCC Ecosystem

1. Improved Recovery Mechanisms:

- **Train and incentivise recovery staff**, integrate with local administration for community-led recovery through **Gram Sabhas** and **Farmer Meets**.

2. Technology-Driven Monitoring:

- Use **MIS (Management Information Systems)** to track loan status, generate automated demand notices, and flag early signs of distress.

3. Risk-Based Lending Practices:

- Regularly assess a borrower's **repayment capacity**, creditworthiness, and farm productivity before loan renewal or disbursement.

4. Encourage Contract Farming:

- Link farmers to agri-businesses to ensure **income predictability** and reduce risks of distress sales.

5. Crop Insurance & Weather Index Cover:

- Expand and improve insurance schemes to provide **realistic and timely compensation** for crop losses.

6. Financial Literacy Campaigns:

- Regular campaigns in rural areas to improve awareness of **loan terms, interest benefits for prompt repayment, and penalties for default.**

7. Diversify Agricultural Credit Portfolios:

- Lend across **diverse crops, regions, and farm sizes** to reduce sectoral risk and regional concentration of defaults.

8. Reforms in Public Sector Banks:

- Streamline lending practices, introduce **credit scoring systems**, and **digitise KCC operations** for transparency and efficiency.

About the Kisan Credit Card (KCC) Scheme:

- **Launched:** 1998
- **Administered by:** Ministry of Agriculture and Farmers' Welfare
- **Purpose:** To provide **timely, hassle-free, and affordable credit** to farmers for crop cultivation and allied activities.

Key Features:

- **Validity:** 5 years
- **Loan Amount:** Up to ₹2 lakh **collateral-free** for small/marginal farmers
- **Interest Subsidy:**
 - **7% interest rate** for short-term loans up to ₹5 lakh
 - **3% subvention** for prompt repayment → effective interest rate becomes 4%
- **Access Modes:** Debit cards, ATMs, business correspondents, etc.
- **Part of:** Priority Sector Lending (PSL)

Note: In the **Union Budget for 2025-26**, the government announced an increase in the loan limit under the Modified Interest Subvention Scheme (MISS) for KCC from ₹3 lakh to ₹5 lakh.

The Kisan Credit Card scheme has significantly improved credit access in rural India, but the sharp rise in bad loans is a signal of underlying stress in the agricultural economy. A coordinated response involving banks, the government, and the farming community is needed to safeguard the viability of rural credit, ensure better recovery, and maintain trust in the system.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding the Kisan Credit Card Scheme:

1. It is administered under the Ministry of Finance.
2. It provided agricultural credits up to 3 lakh rupees.
3. KCC loans come under the priority sector lending (PSL) book of banks.

How many of the statements given above is / are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (a) 3 only

Descriptive Question

Q. The rising Non-Performing Assets (NPAs) in the Kisan Credit Card (KCC) scheme highlight deeper structural issues in India’s agricultural credit system. Discuss the key reasons behind the increasing NPAs in agricultural loans and suggest measures to improve credit discipline and recovery. [250 words] [15 marks]

INDIA'S BIOECONOMY

Why in News: The recently released *India Bioeconomy Report 2024* has estimated the value of India’s bioeconomy at over **\$165 billion**, contributing more than **4.2% to the country’s GDP**.

What is Bioeconomy?

Bioeconomy refers to the **use of renewable biological resources** such as crops, animals, and microorganisms to produce food, energy, and industrial goods. It emphasizes sustainability, innovation, and the circular economy.

- **Key drivers:** Biotechnology, gene editing, bioprinting, and digital tools.
- **Goal:** Sustainable economic growth while addressing environmental and societal challenges.

Status of Bioeconomy in India

- **2023 Bioeconomy Value:** \$150.97 billion
- **Contribution to GDP:** 4.25% of India’s GDP (~\$3.55 trillion)
- **2024 Estimate:** \$165+ billion

Major Sub-sectors of India’s Bioeconomy

1. BioPharma

- **Share:** 35.65% | Value: \$53.8 billion
- **Focus Areas:** Pharmaceuticals, medical devices, diagnostics, biologics
- **Highlights:** India is emerging as a global hub for affordable and quality biopharmaceuticals

2. BioAgri

- **Share:** 8.24% | Value: \$12.44 billion
- **Focus Areas:** Agricultural biotechnology, genetically modified crops (e.g., Bt cotton), precision agriculture

3. BioIndustrial

- **Share:** Nearly 50% | Value: \$72.6 billion
- **Focus Areas:** Biofuels, green chemicals, bioplastics, enzymes
- **Significance:** Forms the backbone of India’s green transition

4. BioResearch & BioIT (BioServices)

- **Value:** \$12.1 billion
- **Includes:** Contract research, clinical trials, bioinformatics, biotech software, education
- **Significance:** India’s growing role as a global R&D and innovation hub

Key Pillars Driving India’s Bioeconomy

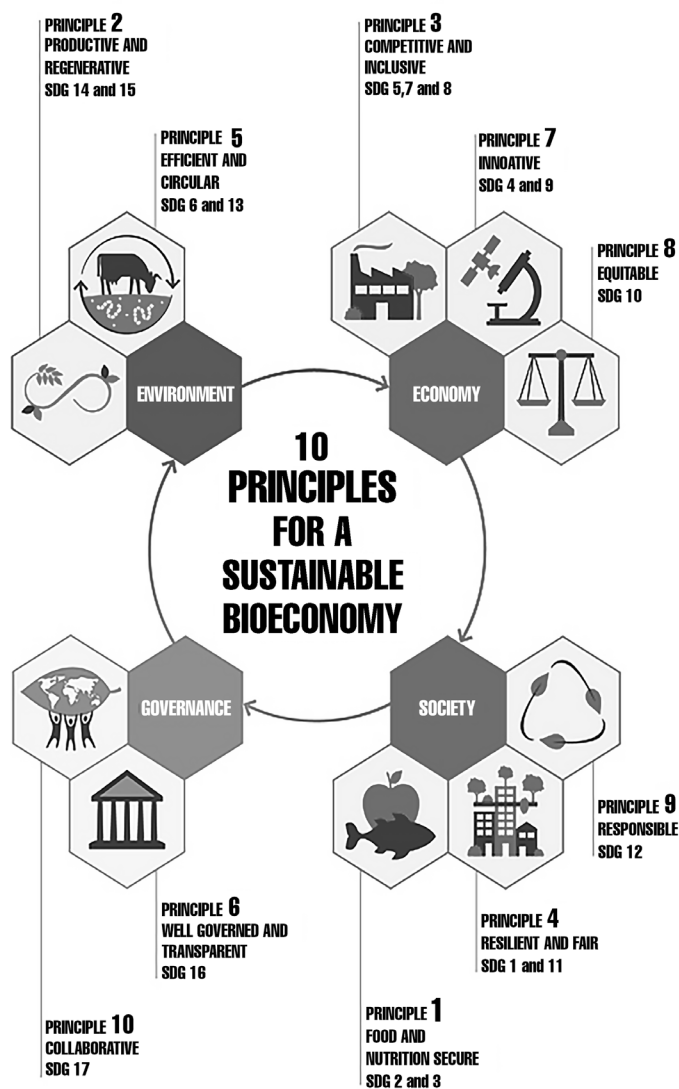
- **Capacity Building:** Human resource development and world-class infrastructure
- **Innovation Ecosystem:** Collaboration among research institutions, startups, and industries

- **Product Commercialization:** Industry-academia synergy for market-ready products
- **Balanced Research:** Blend of basic science and applied R&D

Challenges for India's Bioeconomy

- **Infrastructure and Scaling Limitations**
 - **Inadequate R&D Facilities:** Limited access to advanced research infrastructure, digital labs, and testing centers, especially for MSMEs.
 - **BioIndustrial Bottlenecks:** Feedstock shortages (e.g. sugarcane, maize) hinder ethanol production capacity expansion.
 - **Biomanufacturing Gaps:** Lack of pilot-scale facilities to bridge research and commercial production.
- **Policy and Regulatory Hurdles**
 - **Complex Regulations:** Varying state-level policies for alcohol production and biotech approvals create operational delays.
 - **Intellectual Property (IP) Challenges:** Slow commercialization of public-funded research due to rigid licensing frameworks.
 - **Fragmented Governance:** Coordination gaps between ministries (e.g. agriculture, energy, health) for cross-sectoral bioeconomy goals.
- **Funding and Investment Volatility**
 - **MSME Financing Barriers:** Limited access to venture capital and high-risk funding for early-stage biotech startups.
 - **Over-reliance on Government Schemes:** Insufficient private-sector participation in R&D and infrastructure projects.
- **Sustainability and Resource Constraints**
 - **Feedstock Competition:** Biofuel production competes with food security, risking agricultural balance.
 - **Climate Vulnerabilities:** Erratic weather patterns (e.g., droughts, pests) threaten crop yields for BioIndustrial raw materials.
 - **Waste Utilization Gaps:** Underdeveloped technologies for converting biomass/waste into biofuels and bioplastics.
- **Skill and Workforce Deficits**
 - **Talent Shortage:** Limited skilled workforce in synthetic biology, bioinformatics, and AI-driven biomanufacturing.
 - **Regional Disparities:** Concentration of biotech hubs in a few states (e.g., Karnataka, Maharashtra) limits pan-India growth.
- **Market and Global Competition**
 - **Export Barriers:** Stricter global standards for biosimilars and medical devices hinder international market penetration.

- **Dependence on Imports:** High reliance on foreign equipment and APIs despite domestic production growth.



Way Forward

- **Strengthen Policy Frameworks**
 - **Harmonize Regulations:** Create a single-window clearance system for biotech approvals.
 - **Enhance IP Commercialization:** Simplify licensing processes and incentivize industry-academia partnerships.
 - **Expand BioE3 Policy Implementation:** Prioritize biomanufacturing hubs and Bio-AI integration.
- **Boost Infrastructure and Innovation**
 - **Invest in Biofoundries:** Develop “plug-and-play” biomanufacturing facilities for rapid scaling.
 - **Upgrade Rural Infrastructure:** Establish decentralized bioincubators in tier-II/III cities.

- **Promote Circular Economy:** Fund R&D for waste-to-bioenergy technologies and sustainable feedstocks.
- **Mobilize Funding and Private Participation**
 - **Revive Venture Capital:** Introduce tax incentives for biotech investors and expand BIRAC’s SEED/LEAP funds.
 - **Leverage FDI:** Simplify FDI norms for brownfield pharma projects and MedTech manufacturing.
- **Enhance Workforce and Collaboration**
 - **Skill Development Programs:** Launch specialized courses in synthetic biology and bioinformatics.
 - **Global Partnerships:** Collaborate with institutions like the WHO and NSF for technology transfer.

Government Initiatives and Key Programmes

- **BioE3 Policy (Biotechnology for Economy, Environment, and Employment)**
 - The policy aims to transform India into a global biotech powerhouse by fostering high-performance biomanufacturing and addressing key pillars of the economy, environment, and employment.
 - The BioE3 Policy introduces key initiatives such as advanced biomanufacturing facilities, bio-foundry clusters, and bio-AI hubs to support bio-based product development and commercialization.
- **National Biopharma Mission**
 - It is a government-approved initiative led by the **Department of Biotechnology (DBT) and implemented by BIRAC.**
 - It aims to boost India’s capabilities in biopharmaceuticals, vaccines, biosimilars, medical devices, and diagnostics by fostering collaboration between industry and academia.
- **Bio-agriculture**
 - **Climate-Smart Crops:** A drought-tolerant, high-yielding chickpea variety SAATVIK (NC 9) has been approved for cultivation.

- **Genome-Edited Rice:** Loss-of-function mutations in yield-limiting genes have led to improved rice lines like DEP1-edited MTU-1010, showing higher yields.
- **Genotyping Arrays:** India’s first 90K SNP arrays—IndRA for rice and IndCA for chickpea—enable DNA fingerprinting and variety identification.
- **Amaranth Resources:** A genomic database, NIRS techniques, and a 64K SNP chip aid nutritional screening and development of anti-obesity amaranth varieties.
- **Biocontrol:** A nano-formulation from Myrothecium verrucaria offers eco-friendly control of powdery mildew in tomato and grape.
- **Kisan-Kavach:** An anti-pesticide protective suit enhances farmer safety from toxic exposure.
- **Biotech-KISAN (Biotech-Krishi Innovation Science Application Network)**
 - It is a scientist-farmer partnership programme launched to empower farmers, especially women and those in rural and tribal areas, through agricultural innovation and scientific interventions.
 - It follows a hub-and-spoke model and is active across 115 Aspirational Districts in India.

Conclusion

India’s bioeconomy is entering a transformative phase, driven by innovation, sustainability, and inclusive development. With strategic investments, policy coherence, and global collaborations, India is poised to emerge as a global biotech powerhouse, redefining industrial and environmental paradigms.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. What is bioeconomy? Discuss the factors driving the bioeconomy in India. What are the challenges for India’s bioeconomy sector? [250 words] [15 marks]

OCEAN CURRENTS

Why in News: Scientists have raised concerns over the potential **slowing down** of the **world's strongest ocean current**—the **Antarctic Circumpolar Current (ACC)**—due to **climate change**. This phenomenon could have **serious consequences** for the **Earth's climate system**, including **rising sea levels, ocean warming, and disruptions to marine ecosystems**.

Key Findings from the Research

A study published by the **University of Melbourne** in its **environmental research papers** has revealed that:

- The **Antarctic Circumpolar Current (ACC)** is **slowing down** due to the **impact of climate change**.
- Under a **high carbon emissions scenario**, the ACC could **slow down by approximately 20% by 2050**.
- This slowdown could have **far-reaching effects** on the **global climate, ocean currents, and marine life**.

About the Antarctic Circumpolar Current (ACC)

The **Antarctic Circumpolar Current (ACC)** is the **strongest and only current** that flows **uninterrupted** around the entire **globe**.

1. Characteristics of the ACC:

- **Flow Direction:** The ACC flows **clockwise (west to east)** around **Antarctica** when viewed from the **South Pole**.
- **Alternative Name:** It is also known as the **West Wind Drift**.
- **Connecting the Oceans:** The ACC acts as a **link** between the **Atlantic, Pacific, and Indian Oceans**, allowing the exchange of **heat, nutrients, and marine species**.

2. Importance of the ACC:

Regulates Global Climate:

- The ACC plays a **critical role** in **global ocean circulation** by redistributing **heat and nutrients**.
- It acts as a **thermal barrier**, preventing **warmer waters** from reaching **Antarctica**, thus regulating **polar ice melting**.

Carbon Sink Function:

- The ACC enhances the ocean's ability to **absorb heat and carbon dioxide (CO₂)** from the atmosphere, helping to **mitigate global warming**.

Supports Marine Life:

- The ACC creates the **Antarctic Convergence Zone**, where **cold Antarctic waters** meet **warmer subantarctic waters**.
- This convergence leads to **upwelling of nutrients**, sustaining high levels of **phytoplankton, krill, fish, penguins, whales, seals, and seabirds** such as **albatrosses**.

Impacts of the Slowing Down of the ACC

1. Rise in Invasive Species

- The weakening of the ACC could allow **non-native species** (such as **Southern bull kelp, shrimp, and mollusks**) to **invade Antarctic ecosystems**.
- This could disrupt **marine food chains**, threatening **native species** like **penguins, seals, and whales**.

2. Increased Climate Vulnerability in Antarctica

- The ACC serves as a **barrier** preventing **warm waters** from reaching **Antarctica**.
- A slowdown would allow **warmer ocean currents** to **melt Antarctic ice** faster, leading to:

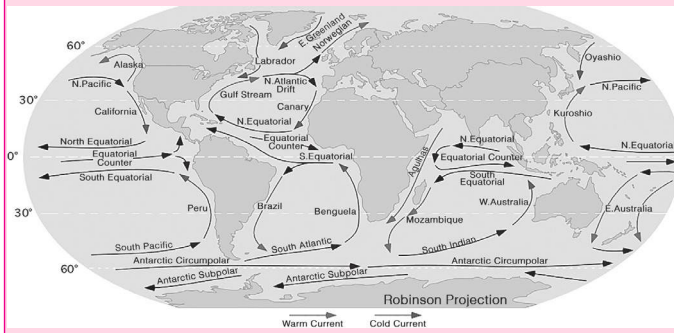
- **Accelerated sea level rise**
- **Greater climate variability**
- **Stronger and more frequent climate extremes**
- **Reduced ocean capacity to absorb CO₂**, intensifying **global warming**.

3. Changes in Ocean Salinity & Circulation

- The melting **Antarctic ice sheets** dump vast amounts of **freshwater** into the ocean, **reducing salinity**.
- This disrupts the formation of **Antarctic Bottom Water (ABW)**, a **deep ocean current** responsible for maintaining **global ocean circulation**.
- A weakening of the ABW could slow down the **global conveyor belt of ocean currents**, affecting:
 - **Weather patterns worldwide**
 - **Monsoon systems in India and Africa**
 - **Marine life dependent on deep-ocean currents**

PRELIMS SPECIAL

Understanding Ocean Currents



What are Ocean Currents?

- Ocean currents are large-scale water movements within the world's oceans.
- They influence climate zones, weather patterns, and marine ecosystems.

What Drives Ocean Currents?

The movement of ocean currents is primarily influenced by:

- Wind patterns
- Earth's rotation (Coriolis Effect)
- Temperature differences in the ocean
- Salinity variations
- Shape of ocean basins

Types of Ocean Currents:

1. Surface Currents (Warm & Cold Currents)

- Surface currents flow in the upper layer of the ocean, driven by winds.
- They help distribute heat across the planet.

Warm Ocean Currents: Carry warm water from the tropics to higher latitudes.

- Example: Gulf Stream (North Atlantic Ocean), Kuroshio Current (Pacific Ocean).

Cold Ocean Currents: Transport cold water from polar regions toward the equator.

- Example: Peru (Humboldt) Current, California Current, Canary Current.

2. Deep Ocean Currents (Thermohaline Circulation)

- Also called the "global conveyor belt", these currents move cold, dense water at greater depths.
- They play a crucial role in regulating global climate.

Conclusion

The slowing down of the Antarctic Circumpolar Current (ACC) due to climate change is a major environmental concern. It could:

- ✓ Accelerate ice melting in Antarctica
- ✓ Disrupt marine ecosystems
- ✓ Increase global warming
- ✓ Alter Ocean circulation patterns worldwide

To mitigate these risks, reducing global carbon emissions and protecting the Antarctic ecosystem are urgent priorities.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements about Ocean Currents:

1. Agulhas is a cold current encircling the South Atlantic Ocean.
2. Antarctic Circumpolar Current (ACC) is an ocean current that flows anti-clockwise around Antarctica.
3. Oyashio and California currents are cold currents flowing in the North Pacific Ocean.

How many of the above statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (a) 3 only

NATIONAL BOARD FOR WILDLIFE (NBWL)

Why in News: Prime Minister Narendra Modi chaired the 7th meeting of the National Board for Wildlife (NBWL) at Gir National Park, Gujarat, on World Wildlife Day (March 3).

Recently, Prime Minister Narendra Modi chaired the 7th meeting of the National Board for Wildlife (NBWL) at Gir National Park, Gujarat, on World Wildlife Day.

Key Highlights and Announcements:

Riverine Dolphin Estimation Report

- For the first time, India released a comprehensive report estimating the population of riverine dolphins.
- Population recorded: 6,327 dolphins across 28 rivers in 8 states.
- Focus on conservation of the Gangetic dolphin, India's National Aquatic Animal.

National Referral Centre for Wildlife

- Foundation stone laid at Junagadh, Gujarat.
- Aim: To strengthen wildlife healthcare, disease surveillance, and forensic investigations.
- Key focus on zoonotic diseases—those that spread from animals to humans.

Asiatic Lion Census (2025)

- The 16th population estimation of the Asiatic lion will be conducted in 2025.
- Reflects the ongoing efforts under Project Lion to ensure long-term conservation of the species.

NATIONAL REFERRAL CENTRE FOR WILDLIFE FOR PROJECT LION

Why in News: The Union Government has approved ₹2,927.71 crore for Project Lion, which includes the establishment of a National Referral Centre for Wildlife (NRC-W) in Gujarat. This major initiative aims to strengthen disease surveillance and conservation of Asiatic lions, a species unique to India.

National Referral Centre for Wildlife (NRC-W)

Administrative Control

- **Ministry:** Ministry of Environment, Forest and Climate Change (MoEFCC)
- **Nodal Agency:** Central Zoo Authority (CZA)

Objective

To enhance India's capacity to **detect, monitor, and manage diseases in wild animals**, particularly those that pose a **zoonotic threat**—i.e., diseases that can be transmitted from animals to humans.

Key Pillars of NRC-W

1. **Surveillance:** Nationwide disease tracking in wildlife populations.
2. **Response:** Swift action during outbreaks and emergencies.
3. **Prevention:** Research and protocols to avoid outbreaks.

4. **Preparedness:** Training and equipping professionals for timely interventions.

Functions of the NRC-W

- National-level **wildlife disease surveillance program**
- Establishment of **diagnostic labs and early-warning systems**
- **Capacity building** through training wildlife veterinarians and researchers
- Assisting in **policy-making** for wildlife health and zoonotic disease mitigation
- Collaboration with **state forest departments, zoos, and research institutions**

Project Lion

- On August 15, 2020, Prime Minister Narendra Modi introduced Project Lion, which **prioritizes technology-driven conservation, human-lion conflict reduction, and community engagement**.
- To keep an eye on Gir's wildlife, Project Lion also **builds a state-of-the-art monitoring facility and veterinary clinic in Sasan**.
- With 674 lions spread among 53 talukas in 9 districts, which span almost 30,000 sq km in Gujarat, **the 10-year initiative seeks to protect the welfare of Asiatic lions**.

Asiatic Lion

Attribute	Details
Scientific Name	<i>Panthera leo persica</i>
Habitat	Primarily found in the Gir Forest (Junagadh, Gujarat); includes thorny scrublands, dry deciduous forests, and teak woodlands
Behavior	Smaller prides (2-5 members); hunt individually or in small groups due to lesser prey availability
IUCN Red List	Vulnerable
CITES	Appendix I (Highest protection)
Wildlife Protection Act, 1972	Schedule I (Highest legal protection in India)

Comparison between Asiatic Lion and African Lion

Feature	Asiatic Lion	African lion
Size	350 to 450 lbs	330 to 550 lbs
Length	5.5ft to 8.2 ft	Up to 11 ft
Habitat	Gir Forest National Park, India	Sub-Saharan Africa

Preferred terrain	Dry deciduous forest, savanna grasslands	Open Savannas, grasslands
Hunting style	Smaller prey, individual or prey hunting	Larger prey, coordinated pride hunting
Mane	Sparse, darker, shorter, ears more visible	Fuller, longer, denser, ranges from tawny to black
Skin folds	Visible longitudinal skin folds (Primordial pouch)	Smooth belly
Head shape	Narrower skull, bifurcated infraorbital foramina	Broader skull, no bifurcated foramina

Conclusion

The launch of the *National Referral Centre for Wildlife* under *Project Lion* is a timely step towards *securing the future of Asiatic lions*, the pride of Gujarat and India. Through integrated disease surveillance, habitat management, and community engagement, India is working towards a model of *sustainable and science-based wildlife conservation*.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding Asiatic Lions:

1. Asiatic lions are listed as 'Vulnerable' on the IUCN Red List of Threatened Species.
2. The mane of an Asiatic lion is shorter and less developed compared to that of the African lion.
3. Asiatic lions are now found only in the wild within the Gir Forest region of India.

How many of the above statements are incorrect?

- (a) Only one (b) Only two
 (c) All three (d) None

Answer: (d)

GHARIAL CONSERVATION AMIDST RISING THREATS

Why in News: Madhya Pradesh has emerged as a frontrunner in **gharial conservation**, with significant progress observed in the **National Chambal Sanctuary**, despite persistent threats such as illegal sand mining and habitat loss.

Key Details

- A 2023 report by the **Madhya Pradesh Forest Department** showed a **30% increase in gharial numbers** over the past decade.
- **Illegal sand mining in Chambal** was highlighted in a **2022 Wildlife Institute of India (WII) report** as a key threat to gharials.
- **WWF India Report (2021):** Stated that **80% of gharial deaths** in Chambal were due to **habitat loss and human activities**.

About Gharials (*Gavialis gangeticus*)

Feature	Description
Habitat	Native to the river systems of India, Nepal, and Bangladesh.
Key Trait	Long, slender snout with interlocking teeth – ideal for catching fish.
Population Decline	Dropped from 5,000+ in the 1940s to <200 in the 1970s due to habitat loss, poaching, and depleted fish stocks.
Conservation Status	- IUCN: Critically Endangered - CITES: Appendix I - Wildlife Protection Act, 1972: Schedule I (highest protection)

About the Chambal River Ecosystem

- One of the **cleanest rivers in India**, flowing 960 km across **Madhya Pradesh, Rajasthan, and Uttar Pradesh**.
- The **National Chambal Sanctuary (NCS)** was established in **1978**, covering **5,400 sq. km** across the three states.
- **Ecological Significance:**
 - Last stronghold for **gharial population** in India.
 - Home to **Gangetic dolphins, turtles, and 320+ bird species**.
 - As per a **2020 WII survey**, over **1,600 gharials** were found in Chambal — making it a critical habitat.

Conservation Efforts by the Government of India

1. Project Crocodile (1975)

- A flagship conservation initiative for India's three crocodilian species: **gharial**, **mugger**, and **saltwater crocodile**.
- Focuses on:
 - Captive breeding
 - Habitat restoration
 - Reintroduction of species into the wild

2. Wildlife Protection Act, 1972

- Provides legal protection to endangered species.
- Establishes **protected areas**, regulates **hunting and trade**, and categorizes species under Schedules.
- **Gharials are protected under Schedule I** – which offers maximum protection.

3. National Chambal Sanctuary

- Established exclusively for conservation of the **gharial**, **red-crowned roof turtle**, and **Gangetic dolphin**.
- A model for **multi-state riverine conservation efforts**.

4. Conservation Breeding Centres

- Facilities focused on **ex-situ conservation**, captive breeding, and **rehabilitation of gharials**.
- Aim to maintain **genetic diversity** and strengthen wild populations.

Ongoing Challenges

- **Illegal Sand Mining:** Destroys nesting sites and alters river morphology.
- **Climate Change:** Alters water flow and temperature, impacting breeding.
- **Habitat Fragmentation:** Human encroachment, infrastructure development, and pollution degrade riverine ecosystems.

Way Forward

- **Adopt a scientific, ecosystem-based conservation model.**
- **Foster inter-state collaboration** for integrated river basin management.
- **Engage local communities** in conservation and livelihood alternatives.
- **Strict enforcement** of mining and pollution control laws in protected areas.

Conclusion

Madhya Pradesh's success in gharial conservation is a testament to **long-term commitment, community involvement, and ecological planning**. However, sustaining this progress requires **continued efforts to curb habitat degradation and strengthen multi-state cooperation**.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. With reference to Gharial conservation in India, consider the following statements:

1. Project Crocodile (1975) was launched to conserve all three native crocodilian species in India.
2. Gharials are strictly freshwater species and cannot survive in saline or estuarine environments.
3. They are listed under Schedule I of the Wildlife Protection Act, 1972, providing them the highest level of legal protection.

Which of the statements given above are correct?

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

Answer: (d)

WIND POWER

Why in News: According to **CRISIL Ratings**, India's **wind power capacity** is expected to reach **63 GW by FY27**, marking a significant jump from current levels and reflecting growing momentum in the renewable energy sector.

Key Highlights

- As of **31 December 2024**, India's **total installed wind power capacity** stood at **48.16 GW**, making it the **fourth largest** in the world.
- CRISIL projects that **annual capacity addition** will average **7.1 GW in FY26 and FY27**, more than double the **3.4 GW** added annually in FY24 and FY25.
- The relatively low additions in recent years were due to **limited success in wind capacity auctions**.
- **Gujarat** leads the country in installed wind capacity, followed by **Tamil Nadu** — together accounting for **around 50%** of India's total wind installations.

Challenges for Wind power in India

- **Infrastructure Limitations**
 - **Grid Integration:** The grid capacity is insufficient to accommodate large-scale wind energy generation, which generally leads to grid instability.
 - **Transmission Network:** Adequate transmission infrastructure to transport wind power from remote locations to load centers is still a lacking thing.
 - **Power Evacuation:** For power evacuation, there is a series of approvals and permissions to go through because of the complex infrastructure, and risk of hindering project development. Resulting in the timeline of the project getting delayed.

- **Economic Factors**
 - **Minimum Project Size:** The minimum project size requirement is quite high, which is challenging for smaller developers to enter the market.
 - **Investment Costs:** The capital expenditures for wind energy projects are pretty high; that includes turbine procurement, installation, and grid connection fees.
 - **Financial Risks:** Government policies in this sector have been uncertain historically. The fluctuating tariffs, and potential revenue losses due to grid constraints can pose financial risks to investors.
- **Technical Challenges**
 - **Installation and Commissioning:** The installation process is very complex in nature and has potential technical challenges during the commissioning of wind farms.
 - **Transportation:** Given the challenges in transporting large wind turbine components to remote project sites, you can guess how difficult it could be.
 - **Maintenance and Operations:** Ensuring the efficient maintenance and operations of wind farms are taking place regularly. This process includes blade inspections, gearbox repairs, and generator maintenance.
- **Land Acquisition**
 - **Land Acquisition:** The acquisition of suitable land for wind farms is very challenging in itself, especially in densely populated areas or protected zones.

in turbine efficiency have led to improved energy capture and reduced costs. The combination of renewable energies like wind energy with solar energy holds great potential to revolutionize the Indian market by 2026.

- **Growing Energy Demand:** India is a rapidly growing economy, and the increase in industrialization is driving a spike in electricity demand. The government’s focus on rural electrification holds opportunities for wind energy to meet the energy needs of rural communities.
- **Global Market Integration:** India has the potential to participate in the global wind energy market and it is dominating the market having the fourth-highest installed capacity to generate wind energy. The export of wind energy technology and expertise to other countries can be a revenue generation model in the coming years.

Way Forward

- **Grid Modernisation:** Expand and upgrade grid infrastructure to accommodate more wind power and ensure reliable evacuation.
- **Policy Stability:** A consistent and transparent regulatory framework can boost investor confidence.
- **Boost to Offshore Wind:** Tap into India’s long coastline through offshore wind projects, unlocking vast energy potential.
- **Land Pooling Models:** Involve local communities in land acquisition through benefit-sharing schemes.
- **Promote Hybrid Projects:** Integrate wind and solar systems to ensure round-the-clock power generation.

Opportunities in India’s wind energy market

- **Technological Advancements:** Continued advancements

PRELIMS SPECIAL

Government Initiatives to Promote Wind Energy

Initiative	Details
Generation-Based Incentive (GBI)	Incentives are given to wind developers based on actual energy generated to make projects more financially viable.
Accelerated Depreciation (AD)	Allows faster depreciation of assets, providing tax benefits to wind developers.
Renewable Purchase Obligation (RPO)	Mandates power distribution companies to buy a fixed percentage of electricity from renewable sources.
Offshore Wind Energy Policy	Provides a policy framework for developing offshore wind farms in India's Exclusive Economic Zone (EEZ).

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements about Wind Energy in India:

1. India has the Second largest installed wind power capacity in the world.
2. Tamil Nadu followed by Gujarat produces the highest amount of wind energy in India.

Which of the statements above is/are correct?

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

GREEN WASTE PROCESSING PLANT

Why in News: India has inaugurated its **first green waste processing plant** under a **Public-Private Partnership (PPP) model** as part of the **Swachh Bharat Mission–Urban (SBM-U)**.

- **Location:** Bicholi Hapsi, Indore
- **Area:** Spread over 55,000 sq. ft. of land.

Key Highlights

- **City of Indore:** Crowned as **India’s cleanest city for seven consecutive years** under the Swachh Survekshan.
- **Green Waste-to-Energy:** Converts organic garden waste such as **wood, leaves, and branches** into **wood pellets** — a sustainable alternative to coal.
- **Economic Model:** The **Indore Municipal Corporation (IMC)** earns **₹3,000 per tonne** in royalty from the facility for supplying green waste.
- **Daily Waste Load:**
 - Regular Generation: ~30 tonnes/day
 - Seasonal Surge (autumn): Up to 60–70 tonnes/day

Understanding Green Waste Processing

Green waste refers to **biodegradable organic waste** from gardens, parks, and public spaces. Proper management of green waste is essential for reducing the environmental impact of landfills, conserving energy, and improving air and soil quality.

Key Processes Involved:

1. **Collection & Segregation**
 - Green waste is separated at the source (e.g., from households, parks) to avoid contamination and ensure effective processing.

2. **Composting**

- Organic waste is decomposed to produce **nutrient-rich compost** for use in agriculture, horticulture, and landscaping.
- Benefits: Reduces methane emissions from landfills and boosts **soil fertility**.

3. **Waste-to-Energy Conversion**

- Biomass is used to generate **biogas** or **electricity**, contributing to **renewable energy production**.

4. **Mulching**

- Green waste is shredded into mulch and used in urban forestry and landscaping to **retain soil moisture**, suppress weeds, and prevent erosion.

5. **Air Quality Improvement**

- By reducing **open burning** of leaves and branches, green waste processing significantly curbs **air pollution**.

Key Green Waste Initiatives in India

- **Swachh Bharat Mission-Urban (SBM-U):** Promotes composting and local waste-to-energy plants to manage green waste. **Example:** Cities like Pune have set up decentralized composting units.
- **National Mission on Sustainable Habitat (NMSH):** Encourages sustainable waste management practices, including green waste recycling. **Goal:** Reduce urban emissions through green waste treatment.
- **Solid Waste Management Rules, 2016:** Mandates segregation and composting of biodegradable waste. **Fact:** Segregation at source and local composting units are now compulsory.
- **Atal Mission for Rejuvenation and Urban Transformation (AMRUT):** Supports infrastructure for green waste processing in urban areas. **Target:** Set up facilities for green space management and waste processing.
- **Waste to Wealth Mission (under PM-STIAC):** Focuses on converting waste, including green waste, into energy or bio-products. **Innovation:** Develop technologies to turn green waste into compost or energy.

Conclusion

The establishment of India’s **first PPP-based Green Waste Processing Plant** in Indore marks a **milestone in urban sustainability**. It demonstrates how innovative governance models, when combined with strong citizen participation and technology, can turn waste into wealth. As urban waste volumes rise, cities across India can look to **Indore’s model** as a blueprint for effective, eco-friendly waste management solutions.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. Discuss the role of government initiatives in managing green waste in urban areas of India. Evaluate their effectiveness in promoting sustainability and reducing environmental pollution. [250 words] [15 marks]

MADHAV NATIONAL PARK AND TIGER RESERVE

Why in News: The Union Environment Minister recently

announced that **Madhav National Park**, located in Madhya Pradesh, has officially been declared the **58th Tiger Reserve** in India. This strengthens India's ongoing commitment to **tiger conservation and biodiversity protection**.

About Madhav National Park

Aspect	Details
Location	Near Shivpuri town, in the Upper Vindhyan Hills of Madhya Pradesh.
Total Area	1,751 sq. km, divided into: <ul style="list-style-type: none"> Core Zone: 375 sq. km Buffer Zone: 1,276 sq. km
Previous Name	Formerly called Shivpuri National Park
Renaming	Renamed in 1958 after Madho Rao Scindia, the Maharaja of Gwalior (Scindia dynasty)
Ecological Zone	Part of the Khathiar-Gir dry deciduous forest ecoregion
Terrain	Features forested hills, flat grasslands, and areas surrounding a reservoir
Rainfall	Receives an average annual rainfall of around 816 mm
State Ranking	Becomes the 9th Tiger Reserve in Madhya Pradesh, reaffirming the state's title as the "Tiger State of India"

Ecological Significance

- The park is rich in **biodiversity**, housing a variety of **flora and fauna**, and serves as a vital wildlife corridor.
- The diverse landscape supports not just tigers but also **leopards, deer, wild boars**, and several species of birds, reptiles, and small mammals.
- Its conversion into a **tiger reserve** will ensure stricter protection and holistic habitat management, encouraging the natural repopulation of tigers.

Criteria for Declaring Critical Tiger/Wildlife Habitats

As per the **Wildlife (Protection) Act, 1972** (amended in 2006) and the **Forest Rights Act, 2006**, the following principles guide the **delineation of critical habitats**:

Minimum Inviolate Area:

- A minimum of **800–1,000 sq. km** of **inviolate space** is required for sustaining **viable tiger populations**.
- Based on factors such as **tiger biology, territorial range, and population viability analysis**.

Critical Wildlife Habitat (CWH):

- Identified not just for tigers but also for **umbrella species** like:
 - Endemic species
 - Top carnivores
 - Mega-herbivores
 - Indicator species

➤ Endangered and migratory wildlife

- Demarcation is based on **species-area curves** unique to each **biogeographical zone** (classified by the Wildlife Institute of India).

Wildlife Corridors:

- Corridors linking National Parks, Sanctuaries, or Reserved Forests are also assessed under these criteria to ensure genetic connectivity and wildlife movement.

How Are Tiger Reserves Officially Notified?

Tiger Reserves are **notified by the State Governments** under **Section 38V** of the **Wildlife (Protection) Act, 1972**, on the recommendation of the **National Tiger Conservation Authority (NTCA)**.

Step-by-Step Notification Process:

- Proposal Submission:** The **State Government** submits a proposal for creating a tiger reserve.
- Preliminary Scrutiny:** The NTCA conducts an initial review and provides **in-principle approval**.
- Detailed Proposal:** The state submits a **comprehensive proposal**, including maps, boundaries, core-buffer zones, and conservation strategy.
- Final Recommendation:** The NTCA, after due diligence, **recommends the reserve** to the State Government.
- Official Notification:** The **State Government** officially **notifies the area** as a **Tiger Reserve**.

Conclusion

The declaration of *Madhav National Park* as the *58th Tiger Reserve* not only highlights India’s unwavering focus on tiger conservation but also strengthens the ecological fabric of central India. It showcases a balanced approach

to *biodiversity preservation, eco-tourism, and community participation* in conservation efforts.

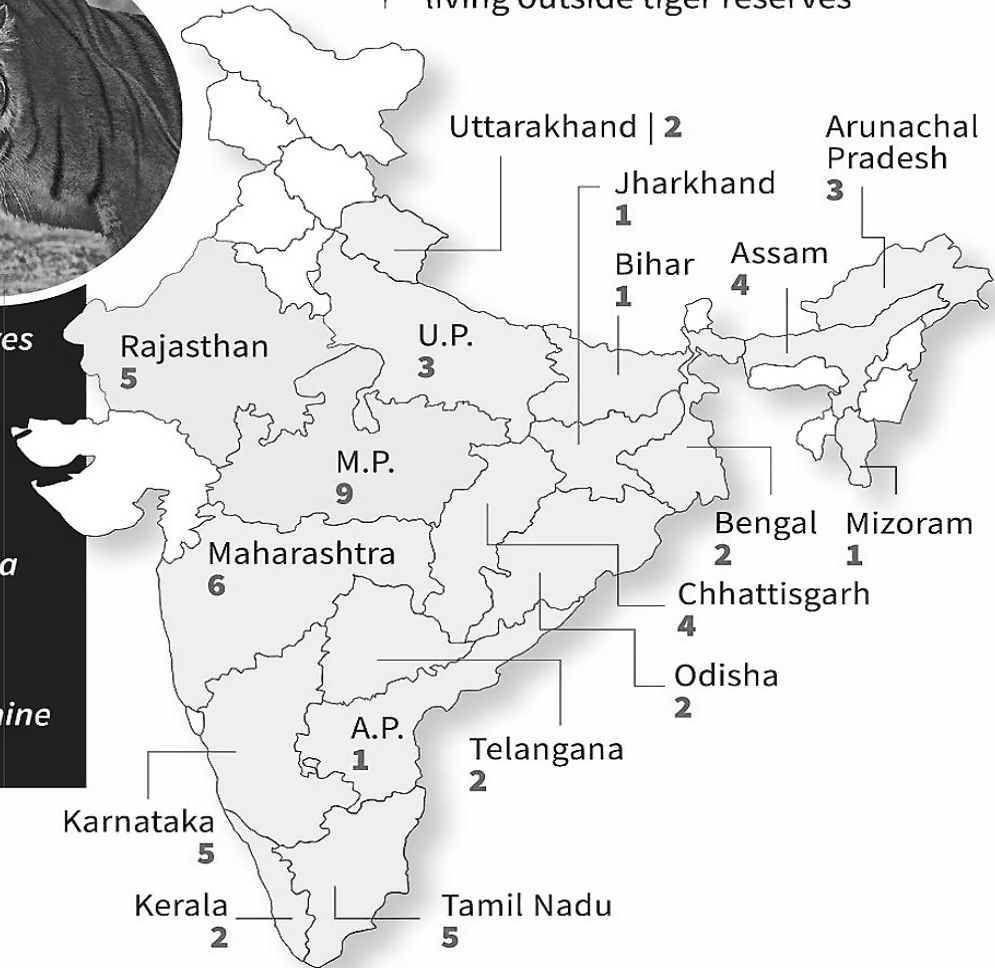
With this move, India takes a significant step forward toward achieving its targets under the *Global Tiger Recovery Programme* and the broader vision of *environmental sustainability*.

Homes for the big cat

As of the 2023 tiger census, India is estimated to have 3,682 tigers. About 30% of them are considered to be living outside tiger reserves



Tiger reserves are spread across the length and breadth of India, with Madhya Pradesh having the highest number of nine reserves



EMISSION INTENSITY

Why in News: The Government of India is preparing to announce **emission intensity targets for nine key industrial sectors**, a move critical for the rollout of **India’s national Carbon Credit Trading Scheme (CCTS)**. This marks a pivotal step in India’s journey towards a low-carbon economy.

What is Emission Intensity?

- **Emission Intensity** refers to the **amount of greenhouse gas (GHG) emissions produced per unit of activity**, such as per tonne of product or per unit of GDP.
- In simple terms, it reflects **how clean or polluting a process or sector is**, relative to its output.

Carbon Emission Intensity

- Specifically measures the **carbon dioxide equivalent (CO₂e)** emitted **per unit of economic output**.
- Useful for comparing the **emissions efficiency** of industries or countries at different scales.

Why Emission Intensity Matters for Indian Industry

Regulatory Compliance:

- Under the Carbon Credit Trading Scheme (CCTS), **nine industrial sectors** must meet sector-specific emission intensity targets:

1. Iron and Steel
2. Aluminium
3. Chlor-alkali
4. Cement
5. Fertilizers
6. Pulp and Paper
7. Petrochemicals
8. Petroleum Refineries
9. Textiles

Climate Commitments:

- Emission intensity reduction is key to fulfilling India's **Paris Agreement pledge** of reducing **GHG emissions intensity of GDP by 45% from 2005 levels by 2030**.

Economic Incentives:

- **Carbon Credit Trading:** Companies that emit less than their allocated limits can **sell surplus credits**. (*1 credit = 1 tonne of CO₂ emission avoided*)
- Revenue generation through participation in **domestic and global carbon markets**.

Technological Innovation:

- Encourages adoption of **cleaner, energy-efficient technologies**, such as:
 - Heat recovery systems
 - Waste-to-energy units
 - Low-emission fuels and renewable energy

Global Competitiveness:

- Helps Indian industries **align with international climate standards**, improving access to **green export markets** and enhancing investor confidence.

Challenges

- **Delayed Target Finalization:** Emission intensity targets for industries yet to be specified, delaying carbon market operations.
- **SME Compliance:** Small and medium enterprises (SMEs) lack resources for rapid technological upgrades.
- **Cost and Technology Barriers:** High upfront costs for efficiency improvements (e.g., retrofitting plants).
- **Monitoring and Verification:** Ensuring accurate measurement, reporting, and verification (MRV) of emissions.
- **Balancing Growth and Emissions:** Managing industrial growth while reducing emissions intensity in a developing economy.

Way Forward

- **Policy Implementation:** Finalize emission intensity targets soon and operationalize carbon trading by October 2026.

- **Phased Compliance:** Gradual targets: 40% reduction by 2027, remaining by 2030 to ease SME transition.
- **Voluntary Carbon Markets:** Promote voluntary offsets (e.g. afforestation projects) to complement compliance markets.
- **Support for SMEs:** Financial incentives, subsidies, or technical assistance for green technology adoption.
- **Robust MRV Framework:** Establish transparent systems to track emissions and prevent fraud.
- **Global Alignment:** Align Indian carbon markets with international standards to enable cross-border credit trading.
- **Stakeholder Collaboration:** Continued consultations with industries to set realistic targets and address concerns.

India's Commitment to the Paris Agreement

- As part of its first **Nationally Determined Contributions (NDCs)**, India pledged to reduce the greenhouse gas (GHG) emission intensity of its economy by 33-35% by 2030 from 2005 levels.
- In August 2022, the Indian government revised its NDCs, raising its ambition to a 45% reduction in GHG emission intensity by 2030 from 2005 levels.

Carbon Pricing Instruments and State of Global Carbon Market

- Globally, carbon pricing instruments are essential tools in the fight against climate change. These instruments can be categorized into two main types: compliance mechanisms and voluntary mechanisms.
- **Compliance mechanisms**, such as Emissions Trading Systems (ETS), are typically implemented and managed by governments.
 - They set a cap on emissions and allow entities to trade emission allowances to meet their targets.
- **Voluntary mechanisms** are often managed by independent standards or non-governmental organizations and enable entities to voluntarily offset their emissions by purchasing carbon credits from projects that reduce or remove GHG emissions.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

- Q. Discuss the significance of emission Intensity for India's industrial sector. What are the challenges faced by the industries in reducing their emission intensity? [150 words] [10 marks]

PARTICULATE MATTER (PM)

Why in News: A recent study published in the journal **Nature Communications** has explored the **sources, composition, and health risks of PM2.5 pollution in northern India**, with a focus on the **Indo-Gangetic Plain**—one of the world's most polluted regions.

About the Study

- The study analyzed **PM2.5 samples** from five key locations across **urban, rural, suburban, roadside, and industrial peripheries** in Delhi and Kanpur.
- A unique aspect was its focus on the **oxidative potential** of PM2.5—an indicator of how harmful the particles are

to **human health**, especially in causing **inflammation and oxidative stress** in lung cells.

- **Key Finding:** The study concludes that reducing **local inefficient combustion practices**—such as biomass burning and unregulated fuel use—could significantly **lower the health burden** from PM2.5 in northern India.

What is Particulate Matter (PM)?

Particulate Matter (PM) refers to microscopic solid or liquid particles suspended in the air. The most health-damaging particles are :

Type	Size	Source Example
PM10	≤10 micrometers	Dust, pollen, mold
PM2.5	≤2.5 micrometers	Vehicle exhaust, biomass burning, industrial emissions

- **PM2.5 is especially dangerous because it can penetrate deep into the lungs and even enter the bloodstream, causing a wide range of health problems.**

Sources of PM 2.5 in India

Major Sources of PM2.5 in India

Urban Areas

- **Vehicular Emissions:**
 - Dominated by **hydrocarbon-like organic aerosols (HOA)** from car and truck exhaust.
 - These emissions remain **relatively constant** throughout the year.
- **Residential Fuel Use:**
 - **Ammonium chloride** and other pollutants arise from the **burning of cow dung, wood, and diesel generators**, especially in the **winter season**.
 - **Cold-season emissions** of **primary organic aerosols (COA)** from heating and cooking can spike **10 times higher** than in summer.
- **Oxygenated Organic Aerosols (OOA):**
 - Formed from **mixed urban sources**, including cooking and exhaust.
 - Present year-round with **relatively stable concentrations**.

Rural, Peri-Urban, and Industrial Areas

- **Biomass Burning:**
 - Leads to the formation of **ammonium sulfate, ammonium nitrate, and organic aerosols**.
 - Largely driven by **agricultural residue burning and industrial processes**.

- **Cold-Season OOA:**
 - Generated outside cities but carried into them via **regional atmospheric transport**.
 - Major contributor during the **winter haze** episodes.

Inefficient Combustion Across All Areas

- **Incomplete burning** of materials like **crop residue, cow dung, and coal** results in **reactive organic aerosols**, which:
 - Increase the **oxidative potential** of PM2.5.
 - Make the particles more harmful to human health.

Impact of PM2.5 on Health and Environment

Health Hazards

- **Deep lung penetration:** PM2.5 can reach **alveoli** (tiny air sacs in the lungs) and **enter the bloodstream**.
- **Linked to multiple diseases**, including:
 - **Premature death** in people with heart or lung issues.
 - **Non-fatal heart attacks** and **irregular heartbeat**.
 - **Worsening of asthma** and **bronchitis**.
 - **Reduced lung function**, especially in children and the elderly.
 - **Increased respiratory symptoms**, such as coughing, throat irritation, and difficulty breathing.

Environmental Impact

- **Reduced Visibility:** PM2.5 is a primary component of **urban smog and haze**, impairing visibility.

- **Damage to Buildings and Monuments:** Fine particles **corrode and stain surfaces**, especially on historical structures made of marble or sandstone (e.g., Taj Mahal).
- **Soil and Water Contamination:** PM can travel long distances and **settle on land and water bodies**, altering their chemical composition and harming ecosystems.

WHO Air Quality Guideline (AQG)		
Pollutant (µg/m ₃)	Averaging Time	AQG
PM 2.5	Annual	5
	24-hour	15
PM 10	Annual	15
	24-hour	45
O ₃	Peak Season	60
	8-hour	100
NO ₂	Annual	10
	24-hour	25
SO ₂	24-hour	40
CO	24-hour	4

The study underlines a **critical message**—that the fight against air pollution in India requires not only **regulating big industries** but also **targeting local, everyday sources of combustion**, especially during the winter months.

Reducing PM_{2.5} emissions is essential not just for meeting **clean air standards**, but also for saving **millions of lives** and protecting India's rich cultural and ecological heritage.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. What are the major sources of atmospheric particulate matter (PM) in India? Discuss the detrimental effects of PM on human health and the environment. [150 words] [10 marks]

GANGETIC DOLPHIN

Why in News: India has completed its **first-ever comprehensive survey of river dolphins (2021–2023)**, conducted by the **Wildlife Institute of India (WII)** under the **Union Ministry of Environment, Forest and Climate Change**. This pioneering effort provides detailed insights into the **population and distribution of the Gangetic and Indus River dolphins** across the country's major freshwater ecosystems.

Key Highlights from the Survey

- **Population Estimates:** The survey estimated an average of 6,324 Gangetic dolphins, with a range between 5,977 and 6,688. It also identified three Indus River dolphins, all located in the Beas River in Punjab.
- **Geographical Distribution:** The Gangetic dolphins were **predominantly found in Uttar Pradesh (2,397 individuals) and Bihar (2,220)**. Other significant populations were observed in West Bengal (815), Assam (635), Jharkhand (162), Rajasthan (95), Madhya Pradesh (95), and Punjab (3).
- **Survey Coverage:** The study encompassed **7,109 km of the Ganga and its tributaries**, 1,297 km of the **Brahmaputra and its tributaries**, and 101 km of the **Beas River**, collectively covering 8,406 km across eight states.
- **Habitat Hotspots and Coldspots:** The research identified areas with high dolphin densities, such as the **Chausa-Manihar stretch along the Ganga**, which had an encounter rate of 2.20 dolphins per km. In contrast, stretches like **Narora to Kanpur were noted as 'coldspots' with very low dolphin presence**.
- **Methodology:** Given the elusive nature of river dolphins, the survey employed a **combination of visual and acoustic methods**, including the use of **hydrophones** to detect dolphin **echolocation** clicks, enhancing the accuracy of population estimates.

About River Dolphins in India

Habitat:

- Inhabit **freshwater rivers only**, particularly in the **Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu River systems**.
- Distributed across **India, Nepal, and Bangladesh**.

Common Names:

- *Blind Dolphin, Ganges Dolphin, Susu, Hihu, Side-swimming Dolphin, South Asian River Dolphin*

Scientific Name:

- *Platanista gangetica*

National Significance:

- Declared **India's National Aquatic Animal** in 2009.
- Serves as a **symbol of healthy river ecosystems**.

🚩 Conservation Status and Legal Protection

Classification Body	Status
IUCN Red List	Endangered
CITES	Appendix I (strictest level of trade protection)
Wildlife Protection Act, 1972 (India)	Schedule I (highest level of protection)

Conservation Concerns

- **Habitat Fragmentation:** Dams, barrages, and embankments hinder dolphin movement and breeding.
- **Pollution:** Industrial waste, sewage, and plastic reduce water quality and prey availability.
- **Fishing Threats:** Accidental entanglement in fishing nets (bycatch) is a major cause of death.
- **Climate Change:** Altered river flows and water levels disrupt dolphin habitats.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. With reference to the Gangetic River Dolphin (*Platanista gangetica*), consider the following statements:

1. It is exclusively found in freshwater habitats of the Ganges-Brahmaputra River systems across India, Nepal, and Bangladesh.
2. The Gangetic Dolphin uses echolocation as its primary mode of navigation due to being nearly blind.
3. It is listed under Appendix II of the Convention on International Trade in Endangered Species (CITES).
4. The Government of India has designated the Gangetic Dolphin as an indicator species for the health of marine ecosystems.

Which of the above statements is/are correct?

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

(a) Answer

INDIAN GREY WOLF

Why in News: Once widespread across the Indian subcontinent, **Indian grey wolves** are now restricted to **fragmented habitats** in only a few states. Recent studies have raised concerns over their survival due to increasing **hybridisation with domestic dogs**, and have also brought attention to their **unique evolutionary importance**.



Key Highlights from Recent Research

- **Hybridisation Threat:** Scientific studies have found widespread **genetic mixing between Indian grey wolves and domestic dogs**. This hybridisation is threatening the genetic purity and long-term survival of wild wolf populations in India.
- **Ancient Lineages:** Recent genetic research confirms that the **Indian grey wolf** and the **Tibetan wolf** represent **some of the oldest surviving wolf lineages in the world**.
 - These lineages have **evolved separately** for thousands of years.
 - This makes **South Asia a key region for global wolf evolution**.
- **Conservation Recommendation:** Experts argue that due to their **distinct genetic identity**, the **Indian and Tibetan wolves should be recognised as separate species**, rather than being grouped with all other grey wolves (*Canis lupus*). This recognition would ensure **stronger conservation protection** and prioritisation.

About the Indian Grey Wolf

Attribute	Details
Scientific Name	<i>Canis lupus pallipes</i>
IUCN Status	Endangered
Family	Canidae
Distribution Range	Southwest Asia to the Indian subcontinent

Description

- The Indian grey wolf is smaller and more slender compared to the Eurasian grey wolf.
- It has shorter fur and lacks dense underfur, an adaptation to the warmer climate of South Asia.
- It is generally light brown to greyish in color, helping it camouflage in grasslands and scrublands.

Habitat and Distribution in India

- The Indian grey wolf is found in **dry grasslands, open scrub forests, and semi-arid regions** across the following states:
 - Gujarat
 - Rajasthan
 - Haryana
 - Uttar Pradesh
 - Madhya Pradesh
 - Jharkhand
 - Maharashtra
 - Karnataka
 - Kerala
 - Andhra Pradesh
- **Mahuadanr Wolf Sanctuary**, located in **Latehar district of Jharkhand**, is India's **only dedicated sanctuary** for the Indian wolf. It plays a critical role in the conservation of this rare subspecies.

Conservation Challenges

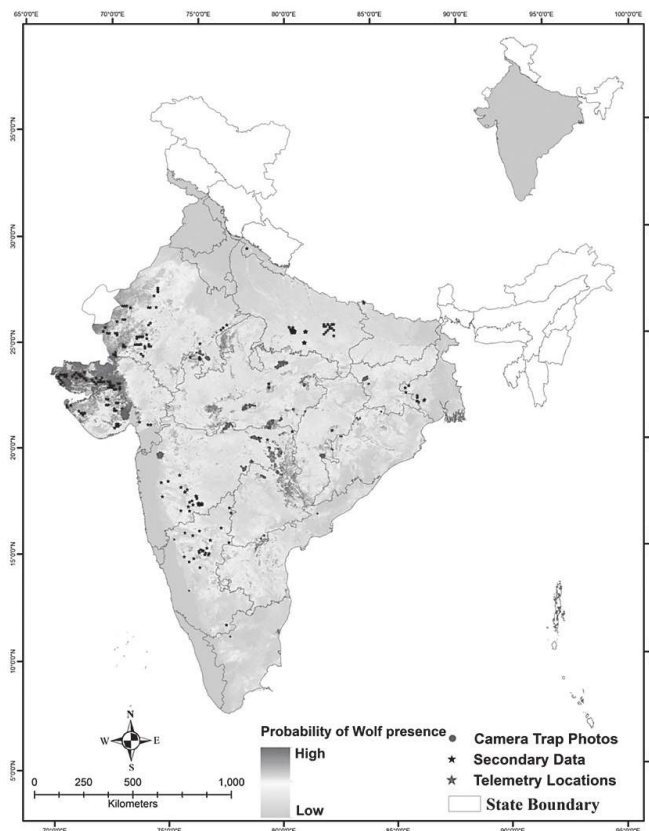
- **Habitat Loss:** Rapid urbanisation, agricultural expansion, and land-use change are shrinking the natural habitat of wolves.
- **Human-Wildlife Conflict:** Wolves sometimes prey on livestock, leading to retaliatory killings by local communities.
- **Lack of Legal Recognition:** Their unique evolutionary status is **not yet reflected in current conservation policies**.

Conclusion

The **Indian grey wolf**, one of the oldest wolf lineages in the world, is **under threat from hybridisation, habitat loss, and poor conservation recognition**. Given their evolutionary importance, there's an urgent need to:

- **Recognise them as distinct species,**
- **Strengthen legal protection, and**
- **Invest in scientific monitoring and habitat conservation.**

These steps are vital to **preserve India's ecological heritage** and ensure that these iconic predators don't vanish from the wild.



EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements about the Indian Grey Wolf:

1. The Indian wolf is a subspecies of grey wolf that ranges from Southwest Asia to the Indian subcontinent.
2. The IUCN status of Indian Grey Wolf is Least Concern.
3. They are found mainly around foothills of Himalayas

How many of the above statements are correct?

- (a) Only One
- (b) Only Two
- (c) All three
- (d) None of them.

Answer: (a) (1 only)

SPECIAL NCD SCREENING DRIVE

Why in News: The Union Health Ministry has recently launched the **Intensified Special NCD Screening Drive** to ensure **100% screening coverage** of individuals aged **30 years and above** for major non-communicable diseases (NCDs).

Key Highlights of the NCD Screening Campaign

What are NCDs?

Non-Communicable Diseases (NCDs) are medical conditions that are **not caused by infectious agents**. These are typically **chronic, long-duration illnesses** that progress slowly. NCDs arise due to a combination of **behavioral, genetic, physiological, and environmental factors**.

Objective of the Drive

The campaign aims to **screen all individuals aged 30 years and above** for common and high-burden NCDs, including:

- Diabetes
- Hypertension (High Blood Pressure)
- Cancers of the Mouth, Breast, and Cervix

Timeline

The campaign is being conducted from **February 20 to March 31, 2025**.

Implementation Strategy

- **National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD):** The initiative is part of this programme and will be implemented across **Ayushman Arogya Mandirs (AAMs)** and other government healthcare facilities across India.
- **Door-to-Door Outreach:** Trained frontline health workers such as **ASHAs, ANMs**, and others will carry out **home visits** to ensure maximum coverage and community participation.
- **Medical Supplies and Infrastructure:** All participating healthcare facilities will be equipped with:
 - Glucometers
 - Blood Pressure Monitors
 - Essential Medicines
- **Real-Time Monitoring through NP-NCD Portal:** Data related to screening, treatment, and follow-up will be uploaded daily to ensure **accountability, transparency, and effective tracking**.

- **Daily Progress Review:** States and Union Territories (UTs) will provide **daily progress reports** to the Health Ministry by **6 PM**, allowing for continuous review and support.
- **Multi-Level Coordination:** Nodal officers will be appointed at every level – **facility, block, district, and state** – to ensure smooth implementation and problem-solving.

Goals and Expected Outcomes

- **100% Coverage of Target Population:** Early identification of NCDs through mass screening.
- **Improved Linkage to Treatment and Care:** Timely follow-up and standardized treatment for diagnosed individuals.
- **Reduced Healthcare Burden:** Lower long-term healthcare costs and complications related to untreated NCDs.
- **Improved Health Outcomes:** Enhancing overall life expectancy and quality of life for the population.

Non-Communicable Diseases (NCDs) and India

Current Status

- NCDs are responsible for **41 million deaths globally every year** (71% of all deaths), including **14 million premature deaths** between ages 30 and 70.
- If left unchecked, **WHO** projects that global NCD-related deaths may rise to **55 million annually by 2030**.

Situation in India

- **Nearly 5.8 million Indians** die annually due to NCDs such as **cancer, cardiovascular diseases, diabetes, stroke, and chronic respiratory diseases**.
- This means that **1 in 4 Indians** is at risk of dying from an NCD **before reaching 70 years of age**.
- NCDs now account for **around 60% of total deaths in India**, making them the **leading cause of mortality**.

Shifting Disease Burden

- According to the **“India: Health of the Nation’s States” report (MoHFW, 2016):**
 - Deaths due to NCDs rose from **37% in 1990 to 61% in 2016**.
 - Their share in the overall **Disease Burden (DALYs)** increased from **30% in 1990 to 55% in 2016**.
 - This reflects a **clear epidemiological transition** from communicable to non-communicable diseases in India.

Key Risk Factors

The major behavioral and lifestyle risk factors contributing to NCDs include:

- **Tobacco use** (including smoking, second-hand smoke, and smokeless forms)
- **Unhealthy diets** (low in fruits, vegetables, and whole grains; high in salt and saturated fats)
- **Physical inactivity**
- **Harmful use of alcohol**

These factors lead to conditions such as:

- Obesity
- Hypertension
- Diabetes
- High cholesterol and lipid levels

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding Special Non-Communicable Disease (NCD) Screening Drive of Government of India:

1. It aims to ensure 100% coverage of all individuals 30 years and above.
2. It covers diseases like Tuberculosis, Malaria and Dengue.

Which of the statements given above is/are correct?

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

Answer: (a)

ANTIMICROBIAL RESISTANCE AND ARTIFICIAL INTELLIGENCE

Why in News: A team of researchers has developed a new AI-powered tool called AMRSense that leverages routine hospital data to generate **early and accurate insights on antimicrobial resistance (AMR)**. This tool operates at the **hospital, national, and global levels**, marking a significant advancement in the fight against AMR.

Key Details: About Anti-Microbial Resistance

What is AMR?

Antimicrobial Resistance (AMR) occurs when **bacteria, viruses, fungi, or parasites evolve** and stop responding to the drugs used to treat them. This makes infections **harder to treat**, increases the risk of disease spread, prolongs illness, and raises the likelihood of death.

- Reasons for Increasing AMR

- **Antibiotic pollution:** Excessive use of antimicrobial drugs can lead to the creation of resistant or extremely resistant superbugs, which can circulate in hospitals, through drinking water, or sewers.
- AMR is the result of the evolution of microbes in a situation where there is a misuse or overuse of antibiotics.
- **Individuals:** Many Indians have a tendency to pop an antibiotic for a fever, without even checking if the fever is caused by a bacterium.
- **Doctors:** Doctors (General physicians) have a tendency to prescribe broad-spectrum antibiotics which work against a wide range of infections, but these are also the ones that are more likely to lead to resistance.
- **Diagnostics:** Poor diagnostic facilities lead to doctors prescribing broad-spectrum antibiotics over specific antibiotics for the infection.
- **Pharma companies:** Dumping of wastewater and waste from antibiotic manufacturing facilities into the environment.
- AMR: A cause of concern
 - AMR **undermines the effectiveness of antibiotics**.
 - AMR leads to the creation of **superbugs** (strains of bacteria that have become resistant to every known antibiotic).
 - **Common pathogens** are becoming more and more resistant to antibiotics.
 - Growing antibiotic resistance means that simple infections would become difficult to treat.
 - AMR is a problem for all countries at all income levels. It creates a need for more **expensive and intensive care** and affects the productivity of patients or their caregivers through prolonged hospital stays.

Role of Artificial Intelligence (AI) in Combating Anti-Microbial Resistance (AMR)

- **AI in Clinical Diagnostics:** AI is transforming how bacterial infections are detected and managed, which is vital for effective AMR control.
 - **Streamlined Diagnostic Workflows:** AI algorithms accelerate data analysis from various diagnostic tests, reducing turnaround time compared to traditional culture-based methods.
 - **Integration with Electronic Health Records (EHRs):** AI models learn from patient data to support real-time decision-making and improve early detection of infections.
 - **Outcome Improvement:** Timely predictions facilitate rapid antibiotic administration, significantly reducing mortality risk.
 - **Automated Data Interpretation:** Techniques such as convolutional neural networks (CNNs) applied

to mass spectrometry (e.g. MALDI-TOF MS) enable faster pathogen identification and resistance profiling.

- **Reduced Diagnostic Delays:** AI helps overcome the limitations of traditional methods (e.g. slow culture techniques), leading to more targeted therapy.
- **AI in AMR Surveillance:** AI supports comprehensive surveillance efforts by analyzing vast amounts of genomic and epidemiological data.
 - **Genomic and Phenotypic Data:** AI models integrate whole-genome sequencing data, antibiotic susceptibility testing results, and chemical bioactivity screens to monitor resistance trends.
 - **One Health Approach:** Surveillance is extended to clinical, agricultural, and environmental settings (e.g. wastewater), offering a holistic view of AMR dissemination.
 - **Identifying Novel Resistance Mechanisms:** Machine learning algorithms can generalize to novel sequence spaces, detecting new antibiotic resistance genes (ARGs) beyond known reference databases.
 - **Optimized Feature Selection:** Techniques such as random forests and linear regression help select the most relevant genetic markers, improving the predictive accuracy of AMR models.
 - **Informed Decision-Making:** Enhanced surveillance through AI allows public health authorities to implement focused interventions and containment strategies based on real-time data.
- **AI in Antibiotic Discovery:** AI-driven methodologies are revolutionizing the discovery of new antibiotics by overcoming traditional bottlenecks in the drug development pipeline.
 - **Efficient Compound Screening:** AI models virtually screen millions of compounds to identify potential antibiotic candidates, drastically reducing the need for costly high-throughput screening.
 - **Integration of Multi-Modal Data:** AI tools combine chemical screening data with biological activity profiles to prioritize compounds that can overcome existing resistance mechanisms.
 - **Repurposing Existing Drugs:** AI also aids in identifying and repurposing existing drugs, providing faster routes to effective treatments against resistant pathogens.
 - **Generative Models:** Techniques such as variational autoencoders (VAEs), generative adversarial networks (GANs), and diffusion models enable the design of novel molecules with desired antibacterial properties.
 - **Synthetic Tractability:** Platforms like SyntheMol employ algorithms (e.g. Monte Carlo Tree Search) to generate compounds that are not only active but also synthesizable, addressing a major limitation of traditional discovery approaches.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements:

Statement I: Antimicrobial resistance can lead to treatment failure even when using previously effective antibiotics.

Statement II: This occurs because the misuse of antibiotics promotes the selection of resistant microbial strains.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement I and Statement II are correct, and Statement II correctly explains Statement I.
- (b) Both Statement I and Statement II are correct, but Statement II does not explain Statement I.
- (c) Statement I is correct, but Statement II is incorrect.
- (d) Statement I is incorrect, but Statement II is correct.

Answer: (a)

SPHEREx MISSION

Why in News: NASA has launched the **SPHEREx space telescope**, a \$488 million mission, to help scientists understand how galaxies form and how the universe has evolved over time.

What is SPHEREx?

- **Full Name:** *Spectro-Photometer for the History of the Universe, Epoch of Reionization, and Ices Explorer*
- **Type:** Space Observatory
- **Launch Date:** March 11, 2025
- **Mission Duration:** 2 years
- **Cost:** \$488 million

Main Goals of the Mission

1. Map the Entire Sky

- SPHEREx will perform an **all-sky spectral survey** (like a 3D map) every **six months**.
- It will look at both **optical** and **near-infrared** light to see deeper into space than ever before.

2. Explore the Origins of the Universe

- It will study **over 450 million galaxies**—some so far away that their light took **10 billion years** to reach Earth.
- It aims to understand a key event in the early universe

called **cosmic inflation**—a period shortly after the Big Bang when the universe expanded faster than light.

3. Search for Life-Essential Molecules

- Within our **Milky Way galaxy**, SPHEREx will search for **water and organic molecules** (which are building blocks of life).
- These will be found in:
 - **Stellar nurseries** (where stars are born)

- **Protoplanetary disks** (dust rings around young stars where planets might form)

How Will SPHEREx Work?

- It will **scan the sky in 102 color bands**, creating the **most colorful and detailed map of the universe ever made**.
- Uses technologies adapted from **Earth observation satellites and spacecraft**.

Why is SPHEREx Important?

Key Benefit	What It Means
Study galaxy evolution	Helps scientists understand how galaxies formed over billions of years
Search for life-friendly conditions	Looks for water and organic molecules where new planets are forming
Supports future missions	Identifies potential targets for more detailed study by the James Webb Space Telescope and other future space missions
Explains early universe mysteries	Measures cosmic inflation—the mysterious ultra-fast expansion of the universe just after the Big Bang

Conclusion

SPHEREx is a groundbreaking mission that will unlock secrets of the universe’s birth, help trace the building blocks of life, and create the most detailed sky map to date. It’s a giant step forward in our quest to understand where we come from and what lies beyond the stars.

Key Statistics on R&D in India

- GERD rose from ₹60,196.75 crore (2010–11) to ₹1,27,380.96 crore (2020–21).
- Per capita R&D spending rose from PPP\$ 29.2 (2007–08) to PPP\$ 42.0 (2020–21).
- India contributed **3.1% of the world’s R&D spending** (UNESCO Science Report, 2021).
- Funding sources (2020–21):
 - Central Government: 43.7%
 - State Governments: 6.7%
 - Higher Education: 8.8%
 - Public Sector Industry: 4.4%
 - **Private Sector Industry: 36.4%**
- Private sector spends 1.46% of sales on R&D vs. just 0.30% by public sector R&D units.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Which of the following has developed the SPHEREx telescope to better understand the formation of the Universe?

- (a) Indian Space Research Organization (ISRO)
- (b) European Space Agency (ESA)
- (c) National Aeronautics and Space Administration (NASA)
- (d) Japan Aerospace Exploration Agency (JAXA)

Answer: (c)

SCIENTIFIC RESEARCH AND DEVELOPMENT IN INDIA

Why in News: India’s **Gross Expenditure on R&D (GERD)** has **more than doubled in the last decade**—from ₹60,196 crore in 2013–14 to ₹1,27,381 crore. This growth is **shaping India’s future economy through innovation in areas like Artificial Intelligence, Biotechnology, and Quantum Computing**.

Key Challenges in India’s R&D Landscape

1. Low Investment

- India spends much less on R&D compared to countries like the USA and China.
- Private sector contribution is still limited.

2. Neglect of University Research

- Top institutes (like IITs) get most funding; regular universities lack infrastructure and support.
- Government reforms to promote excellence in universities are inadequate.

3. Access and Quality in Higher Education

- Quality education is limited to elite institutions.
- Many students cannot access STEM (science, tech, engineering, math) education due to high costs.

4. Economic Inequality

- Income disparity limits access to science education and jobs.
- Talented individuals often migrate abroad (brain drain).

5. Weak Industry Innovation

- Many industries (e.g., pharma) focus on mass production, not innovation.
- Poor collaboration between academia and industry.

Way Forward

A. Increase Investment in Science & Technology

- Raise R&D spending to **at least 2% of GDP**.
- Encourage private sector through **tax incentives and R&D-friendly policies**.
- Develop **innovation hubs**, incubators, and global partnerships.

B. Promote Basic Science Research

- Allocate fixed funds to fields like physics, chemistry, and biology.
- Support interdisciplinary work (e.g., combining biology with data science).
- Run public campaigns to build interest in science (e.g., citizen science projects).
- Invite Indian-origin scientists abroad to contribute back.

C. Revamp STEM Education

- Make learning practical and problem-solving-based (less rote memorization).
- Expand *Atal Tinkering Labs* in schools.
- Train teachers in modern STEM pedagogy.
- Create internships and startup mentorship in schools and colleges.

D. Foster Collaborative Governance

- Form a **National Science Advisory Council** with experts from all sectors.
- Simplify research approvals, grant disbursements, and patent processes.
- Launch **"Science for Society"** projects to solve real-life local problems.

Government Initiatives by the Department of Science and Technology (DST)

Human Resource Development

- **INSPIRE**: Attract young students toward science careers.
- **INSPIRE-MANAK**: For school children (ages 10–15) to foster innovation.

- **WISE-KIRAN**: To support women's participation in science and engineering.

Research & Development Programmes

- Nano Science Mission
- Cognitive Science Research Initiative (CSRI)
- National Geospatial Programme

Innovation and Tech Development

- **NSTEDB**: Promotes science-based entrepreneurship.
- **Technology Missions**: Focus on clean water, clean energy, etc.
- **Technology Development & Transfer**: To convert research into products.
- **Technical Research Centres (TRCs)**: Provide scientific-commercial support.

Science for Society

- **SEED Programme**: Brings science to help marginalized communities.
- **NCSTC**: Communicates science to the public through media and programs.

National Missions

- National Quantum Mission (NQM)
- National Supercomputing Mission (NSM)
- Cyber Physical Systems Mission (NM-ICPS)
- **Climate Missions** under NAPCC:
 - Sustaining Himalayan Ecosystem (NMSHE)
 - Strategic Knowledge on Climate Change (NMSKCC)

Institutional Capacity Building

- **FIST**: Supports equipment and infrastructure in universities.
- **PURSE**: Helps universities build a research ecosystem.
- **SAIF**: Provides access to high-end scientific instruments.
- **SATHI**: Shared facilities for academia, startups, and industries.
- **STUTI**: Training programs for using scientific tools and techniques.
- **SUPREME**: Supports maintenance and upgradation of research equipment.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

- Q. Analyze the structural and systemic challenges hindering scientific research and development in India. Critically evaluate the efficacy of initiatives undertaken by the government to address these challenges. [250 words] [15 marks]

CAR-T CELL THERAPY

Why in News: India's first **CAR-T cell therapy** trial results were recently published in the prestigious medical journal **The Lancet**. The therapy showed promising results, with nearly **73% of patients responding positively** to the treatment.

Key Highlights

- This is the **first Indian CAR-T cell therapy clinical trial** to be published in an international medical journal.
- The **cost** of this therapy is **just 1/20th** of the cost of globally licensed CAR-T therapies, yet the **effectiveness is comparable**.
- **Success Rate:**
 - 73% response rate among patients.
 - Patients with **acute lymphoblastic leukemia** survived an average of **6 months without disease progression**.
 - Patients with **lymphoma** survived an average of **4 months without progression**.
- The therapy is especially important for **patients who have not responded to previous cancer treatments**.

Side Effects Observed

Though effective, the therapy is not without risks. Some serious side effects were recorded during the trial:

- **Hemophagocytic lymphohistiocytosis (HLH)** – seen in 12% of patients.
 - A severe immune reaction where immune cells get hyper-activated, causing inflammation and potential organ damage.
- **Other side effects included:**
 - **Anaemia** – 61% of patients
 - **Thrombocytopenia** (low platelets, risk of bleeding) – 65%
 - **Neutropenia** (low white blood cells) – 96%
 - **Febrile neutropenia** (neutropenia with fever) – 47%

Note: These patients were already very ill and had exhausted other treatment options.

What is CAR-T Cell Therapy?

CAR-T cell therapy is a **revolutionary form of immunotherapy** that uses the body's own immune system to **identify and destroy cancer cells**, especially in certain types of blood cancer.

How It Works – Step by Step:

1. **T-Cell Collection:** The patient's **T-cells** (a type of white blood cell that fights infections) are collected from their blood.
2. **Genetic Modification:** These T-cells are **genetically modified in a lab** to create **chimeric antigen receptors (CARs)** on their surface. These receptors help the T-cells recognize and attach to cancer cells.
3. **Multiplication:** The modified T-cells are then **multiplied** in large numbers in the lab.
4. **Infusion into Patient:** The new **CAR-T cells** are infused back into the patient's body.

5. **Attack on Cancer:** These modified cells can now effectively **hunt down and destroy cancer cells** that would normally evade detection.

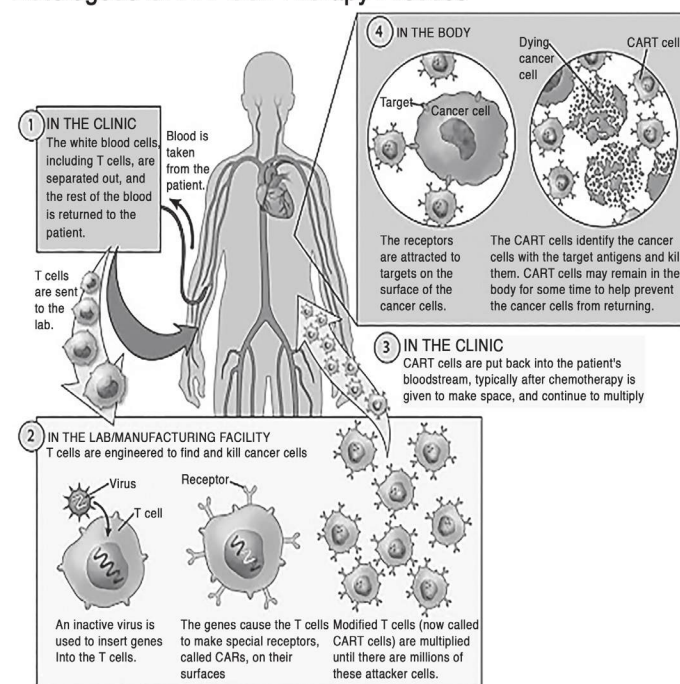
Why This is a Big Deal

- **Made-in-India** therapy reduces dependency on expensive international treatments.
- Drastically **cuts the cost** of treatment, making it **more accessible** for Indian patients.
- Establishes India's **research and innovation capability** in advanced cancer care.
- Offers hope to **patients with advanced cancers** who have run out of other options.

Conclusion

India's CAR-T cell therapy is a **milestone in cancer treatment**, combining **advanced science with affordability**. While side effects are significant, the high success rate and cost-effectiveness offer new hope for thousands of patients battling blood cancers.

Autologous CAR T-Cell Therapy Process



EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. Recently, CAR-T cell therapy was seen in the news; it is related to?
- (a) Cancer (b) Bt. Brinjal
(c) Diabetes (d) None of the above

Answer: (a)

HANTAVIRUS

Why in News: Recently, the wife of famous Hollywood actor **Gene Hackman** passed away due to a **rare illness called Hantavirus Pulmonary Syndrome (HPS)**, bringing attention to this little-known but deadly disease.

How Does Hantavirus Spread?

The U.S. CDC explains the main ways humans get infected:

Mode of Transmission	How it Happens
Aerosolization	Virus particles become airborne when rodent urine, droppings, or nests are disturbed, and are then inhaled
Touching face	After handling contaminated materials, if you touch your eyes, nose, or mouth
Open wounds	Virus enters through cuts or broken skin
Rodent bites	Very rare, but possible
Human-to-human	Extremely rare; only a few known cases worldwide

Symptoms of Hantavirus Infection

Stage 1: Prodromal Phase (1 to 8 weeks after exposure)

- Fever and chills
- Muscle pain (especially in thighs, hips, and back)
- Fatigue and headache
- Nausea, vomiting, and abdominal pain

Stage 2: Severe Phase – Hantavirus Pulmonary Syndrome (HPS)

- Sudden **shortness of breath**
- **Coughing and chest tightness** (as lungs fill with fluid)
- Rapid progression to **respiratory failure or heart failure**
- Can be fatal without urgent medical care

Is there a cure?

- **No specific antiviral drug or vaccine exists yet.**
- Treatment focuses on **supportive care:**
 - **Oxygen therapy** to help with breathing
 - **Mechanical ventilation** in severe cases
- **Early diagnosis** is crucial. Seek medical help if you develop **flu-like symptoms after rodent exposure.**

What is Hantavirus?

- **Hantaviruses** are a group of viruses **carried by certain rodents** like:
 - Deer mice
 - White-footed mice
 - Rice rats
 - Cotton rats

Way Forward

- **Prevention** remains the most effective way to combat hantavirus.
- Keeping homes and workplaces rodent-free by sealing entry points, safely disposing of food and garbage, and wearing protective gear when cleaning areas with rodent activity can significantly reduce the risk.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding Hantavirus:

1. Hantaviruses are a group of viruses primarily carried by rodents.
2. Hantavirus infections generally do not spread from person to person.

Which of the statements given above is/are correct?

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

Answer: (c)

MYCELIUM BRICKS

Why in News: As part of efforts to fight climate change, the construction industry is exploring **eco-friendly materials** like **mycelium bricks** to reduce carbon emissions and promote sustainability.

Mycelium Bricks

- These are bricks made from mycelium combined with agricultural waste (like husk, sawdust) and fungal spores.
 - Mycelium is the vegetative root structure of fungi.
- These are formed by growing a fibrous network that solidifies into a lightweight, biodegradable material.

What are Mycelium Bricks?

- **Mycelium** is the **root-like structure of fungi** that grows beneath the soil.
- **Mycelium bricks** are made by combining:
 - **Mycelium spores**
 - **Agricultural waste** (like sawdust, husk)
- The mixture grows into a **fibrous, solid form** that becomes a **lightweight and biodegradable brick**.

Characteristics of Mycelium Bricks

- **Composition:** Made from organic waste (husk, sawdust) and fungal spores.
- **Biodegradable:** Decompose naturally, reducing landfill waste.
- **Fire-resistant:** Naturally resistant to flames.
- **Thermal Insulation:** Effective heat insulators, reducing energy needs for heating/cooling.
- **Lightweight:** Easier to transport and handle than traditional bricks.
- **High strength-to-weight ratio** but lower load-bearing capacity than concrete or fired bricks.
- **Short lifespan:** Biodegrade within a few years.

Significance of Mycelium Bricks

- **Environmental Benefits**
 - **Carbon Footprint Reduction:** Fired clay bricks emit ~300 million tonnes of CO₂ annually. Mycelium bricks use low-energy production.
 - **Waste Utilization:** Repurposes agricultural waste into construction materials.
- **Application**
 - **Construction:** Interior panelling, insulation
 - **Other Uses:** Liquid filters, sports equipment, printed circuit boards.

Challenges

- **Structural Limitations**
 - Cannot bear heavy loads long-term (strength 100x lower than concrete).

- Degrades under prolonged heat/moisture exposure.
- **Durability Issues:** Susceptible to moisture, termites, and fungal decay (especially in tropical climates like India).
- **Production Barriers**
 - High costs due to lack of infrastructure.
 - It cannot be mass-produced yet.

Way Forward

- **Awareness Campaigns** to promote sustainable building practices
- **Research & Development** to make bricks stronger and moisture-resistant
- **Government Support** through:
 - Subsidies
 - Green building certifications
 - Eco-friendly construction policies

Conclusion

Mycelium bricks represent an **exciting step toward green construction**, combining waste management, sustainability, and innovation. While not yet ready to replace traditional bricks entirely, they show great promise for a cleaner, greener future—especially for **interior use, temporary structures, or decorative applications**.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Which of the following best describes Mycelium?

- Vegetative root structure of fungi.
- Reproductive structure that produces spores.
- The visible, above-ground fruiting body of the fungus.
- The protective outer layer covering fungal cells.

Answer: (a)

STARLINK SATELLITE INTERNET

Why in News: After **Airtel**, telecom giant **Jio** has also signed a deal with **SpaceX** to bring **Starlink satellite internet** to India.

Jio-SpaceX Partnership

- **Objective:** To **extend high-speed satellite internet** to even the most remote and rural parts of India.
- **How it works:**
 - **Jio's strength:** World's largest mobile network by **data traffic and user base**.

- **SpaceX's strength:** Global leader in **low-Earth orbit (LEO) satellite internet** through Starlink.
- The partnership aims to **combine Jio's reach** and **Starlink's tech** to offer **reliable broadband across India**.

Airtel-Starlink Agreement

- Airtel is also in talks with Starlink to provide **satellite-based internet services**.
- Under this deal:
 - Airtel may **sell Starlink devices** through its **retail outlets**.
 - The two will work together to bring **fast internet to rural schools, healthcare centres, and remote villages**, helping bridge India's **digital divide**.

What is Satellite Internet?

- **Satellite internet** provides internet access through **communication satellites** orbiting Earth.
- If it offers **high-speed connections**, it's called **satellite broadband**.

Two Types of Satellite Internet:

- Geostationary satellites** (older tech):
 - Stay fixed over one spot on Earth.
 - Provide good coverage but with **high latency** (delay).
- Low-Earth Orbit (LEO) satellites** (new tech):
 - Move closer to Earth.
 - Offer **low-latency, high-speed internet** (like what Starlink offers).
 - Better suited for **real-time applications** like video calls, online gaming, etc.

Why is This Important for India?

- Many **remote and rural areas** in India still lack good internet.
- **Satellite internet can reach places where fiber cables can't go** — like mountains, deserts, forests, or isolated villages.
- It helps in:
 - Improving **education** (online learning in rural schools)
 - Strengthening **healthcare** (telemedicine in remote areas)
 - Supporting **businesses and startups** in far-flung areas

Name of Country	Active Satellite Internet Projects
<ul style="list-style-type: none"> • USA 	<ul style="list-style-type: none"> • EchoStar • HughesNet • Starlink • Project Kuiper
<ul style="list-style-type: none"> • E.U. 	<ul style="list-style-type: none"> • IRIS

<ul style="list-style-type: none"> • China 	<ul style="list-style-type: none"> • ChinaSat
<ul style="list-style-type: none"> • India 	<ul style="list-style-type: none"> • Oneweb • JioSpaceFiber • Kuiper

Significance of Satellite Internet

- Wider Availability**
 - Can provide internet even in **remote mountains, deserts, or villages** where no cables or towers exist.
 - Makes **internet truly global**.
- Faster & Cost-Effective**
 - Modern satellite internet can be **10 to 35 times faster** than old dial-up connections.
 - It's becoming **cheaper than laying fiber-optic cables**, especially in hard-to-reach areas.
- Eco-Friendly Installation**
 - No need to dig up land or build tall towers.
 - Less damage to nature and landscape.

Challenges / Disadvantages

- Latency (Delay)**
 - Data takes time to travel to space and back.
 - Even a **split-second delay** can affect **video calls, gaming, or live interactions**.
- Weather Dependent**
 - Rain, storms, and strong winds can **weaken or break the signal**.
 - Unreliable during extreme weather.
- Obstructions**
 - A **clear view of the sky** is essential.
 - Trees, buildings, or hills can **block the signal**.
- Monopoly Risks**
 - Currently dominated by **big tech giants** like Elon Musk (Starlink), Google, and Facebook.
 - Risk of **monopolistic practices and data control**.

Way Forward

- **Strict Regulations:**
 - Satellite internet providers must follow **clear government rules** to prevent **monopoly** and ensure **user privacy**.
- **Sustainable Growth:**
 - The aim should be to **improve quality of life**, not just profit.
 - Use of thousands of satellites must be **environmentally safe** and **scientifically monitored**.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

- Q. Satellite internet can be a revolutionary technology for increasing the penetration of the Internet worldwide. Explain the advantages and disadvantages associated with satellite internet communication. [250 words] [15 marks]

GM CROPS

Why in News: Scientists at **CSIR-National Botanical Research Institute (NBRI), Lucknow** have developed the **world's first GM Cotton** variety that is **completely resistant to the Pink Bollworm (PBW)**—a major cotton pest.

What's New?

- The new **GM Cotton** variety shows:
 - **High resistance to Pink Bollworm**
 - Protection against other pests like:
 - ◆ Cotton leafworm
 - ◆ Fall armyworm

What is Bt Cotton?

- **Bt cotton** is a genetically modified version of cotton that contains genes from a **soil bacterium called Bacillus thuringiensis (Bt)**.
- These genes produce **insect-killing proteins (toxins)**, which protect the cotton plant from pests.

What Pests Does It Control?

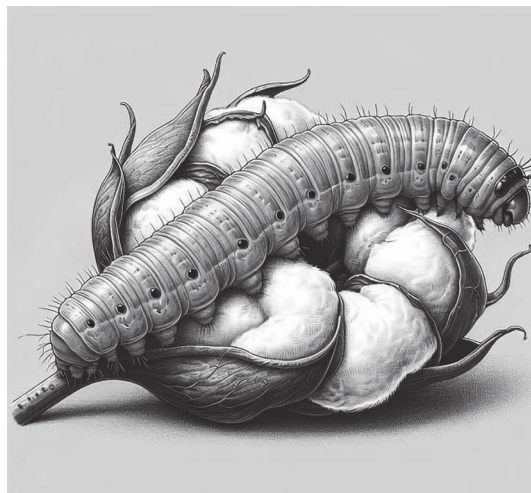
- The **first generation of Bt Cotton (Bollgard-I)** produced a toxin called **Cry1Ac**, which is effective against:
 - **Tobacco budworm**
 - **Pink Bollworm** (initially)

Issues with Bt Cotton in India

- **Not 100% effective anymore:**
 - Bt Cotton was introduced in India in **2002 (Bollgard I & II)**, developed in partnership with **Monsanto**.
 - Over time, **Pink Bollworm has developed resistance**, especially in parts of Gujarat.
 - Monsanto itself admitted that **Bollgard cotton has become ineffective** in these areas.
- **Environmental Impacts:**
 - Bt crops **reduce the use of broad insecticides**, which is good for the environment.
 - But there are **concerns about impacts on non-target insects** (like beneficial arthropods).
 - Over time, there's also a **rise in toxin levels in the soil**, as the GM plants continuously emit toxins.

About the Pink Bollworm

- Scientific Name: **Pectinophora gossypiella**
- Appearance: **Small, thin grey moth** with fringed wings.
- Known in India as **Gulabi Sundi**.
- Now **resistant to first-gen Bt Cotton (Cry1Ac)** in many regions.



PRELIMS SPECIAL

GM Crops in India – The Current Scenario

- **Only GM cotton** is **commercially grown** in India right now.
- **GM Brinjal** was approved in 2010, but the government put it on **indefinite hold**.
- In 2017, **GM Mustard** was cleared for trials but faced delays due to additional testing.
- On **18 October 2022**, the **GEAC** (Genetic Engineering Appraisal Committee) approved **environmental release** of GM Mustard hybrid **DMH-11**, allowing seed production and testing — one step before full cultivation.

Regulation of GM Crops in India

- **GEAC (under MoEFCC)** is the key regulator.
- Approval process includes **biosafety testing, environmental clearance, and public consultations**.
- Final decisions often involve political, environmental, and social considerations.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. Consider the following statements regarding Genetically Modified (GM) crops in India:
1. No edible GM crop has been approved for commercial cultivation in India.
 2. The Genetic Engineering Appraisal Committee (GEAC), under the Ministry of Agriculture, is the final authority for approving GM crops in India.

Which of the above statements is/are correct?

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

Answer: (a)

FIRST DETAILED MAP OF THE MOON'S SOUTH POLE AREA

Why in News: Astronomers have recently released the **first-ever detailed geological map** of the Moon's **south polar region**, created using data from **Chandrayaan-3**.

Key Details

- **Research Team:** A group of scientists from **ISRO's Laboratory for Electro-Optics Systems (Bengaluru)**, **Physical Research Laboratory (Ahmedabad)**, and **Punjab University (Chandigarh)** used data from the **Pragyan rover**, which was part of the **Vikram lander's** nine-day mission.
- **Objective:** The mission analyzed the **chemical makeup** of the **regolith**—the loose rocks and dust on the lunar surface.

This map is expected to offer new insights into the **Moon's formation and evolution**.

Principal Discoveries by Chandrayaan-3

1. **Primordial Magma:** The Moon has an underground **ocean of molten rock** (primordial magma), confirmed by the **Pragyan rover**. This molten lava isn't limited to just the equator or mid-latitude regions, but spreads across the entire Moon.
2. **Common Geochemistry:** Both Earth and the Moon share similar **terrestrial and geochemistries**. They contain common isotopes, suggesting that both formed from the same cloud of molten material.
3. **Origin of the Moon:** Around **4.5 billion years ago**, Earth collided with a giant planet-sized rock, similar to Mars. The debris from this collision eventually cooled to form the Moon, pulled into Earth's gravity as it solidified.
4. **Craters on the Moon:** Unlike Earth, where atmospheric conditions erode craters, the **Moon's dry, airless environment** preserves craters for millions of years. This makes the Moon a valuable place for studying ancient geological history.

Significance of the South Pole

1. **Presence of Water Ice:** The Moon's **south pole** is believed to have **water ice**, a critical resource for future missions. Water can be used for **oxygen, fuel, cooling systems**, and even **drinking water** for astronauts.

2. **Geological History:** The **Chandrayaan map** provides valuable insights into the Moon's **surface composition**, the **ages of craters**, and its **geological evolution**. One example is the **Aitken Basin**, a significant crater near the south pole.
3. **Key Minerals:** The Moon is believed to hold valuable minerals:
 - **Helium-3:** An estimated **1 million tonnes** of helium-3, which could potentially fuel **nuclear fusion reactors** without producing hazardous waste.
 - **Rare Earth Metals:** Minerals like **scandium** and **yttrium** are also abundant, with wide industrial applications.
4. **Human Settlements:** The **South Pole's unique conditions**—permanent sunlight on certain peaks and continuous darkness in craters—make it an ideal location for **solar power generation** and potential **human settlements**. The areas in constant darkness could offer protection from harsh environmental conditions.

Conclusion

The map of the Moon's south pole, produced by **Chandrayaan-3**, opens new doors for understanding the **Moon's past**, its **resources**, and the potential for **human exploration**. With **water ice**, key **minerals**, and **stable geological conditions**, the south pole may become a central focus for future missions.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding Aitken Basin site:

1. It is one of the largest and oldest impact basins on Mars.
2. It has active volcanic eruptions.

Which of the statements given above is/are incorrect?

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

Answer: (c)

WHITE HYDROGEN

Why in News: France has discovered a **massive reserve of natural (white) hydrogen** in the **Moselle region**, estimated at **46 million tons** and valued at around **\$92 billion**.

What is White Hydrogen?

- **White hydrogen** is **naturally occurring pure hydrogen** found underground.

- It is formed by **geochemical reactions** between **minerals and water** in the Earth’s crust, especially in hard rock formations.
- Unlike oil or gas, **hydrogen molecules are very small and light**, so they can sometimes escape easily through rocks, making exploration tricky

Where is White Hydrogen Found?

- **Mali (Africa):** In 2012, a well leaked near-pure hydrogen—one of the first major discoveries.
- **Europe:** Significant natural hydrogen reserves have also been found in **France** and **Spain**.

Why is White Hydrogen Important?

- **Zero Emissions:** It forms naturally, so **no carbon emissions** are involved in its creation.
- **Cheaper than Green Hydrogen:** White hydrogen may **cost less** than hydrogen made by artificial processes.
- **Self-Replenishing:** It continuously forms underground, unlike fossil fuels that take millions of years.

Challenges in Using White Hydrogen

- **Hard to Find:** White hydrogen forms only in specific geological settings, making **exploration difficult**.
- **Extraction Issues:** Current **technology is limited** for large-scale commercial use.
- **Environmental Concerns:** Natural leaks could pose **safety or environmental risks** if not handled properly.
- **Lack of Clear Regulations:** There’s still uncertainty about how to **manage and regulate** this resource globally.

Hydrogen Colour Spectrum: Different Types of Hydrogen

Type	How It's Made	Emissions Level
White	Naturally occurs underground	Zero emissions
Green	Electrolysis using renewable energy (solar, wind)	Zero emissions
Blue	From natural gas + Carbon Capture & Storage (CCS)	Low emissions
Grey	From natural gas without capturing CO ₂	High emissions
Pink/Purple	Electrolysis using nuclear energy	Low to zero emission
Yellow	Electrolysis using solar power	Zero emissions
Black/Brown	Made by burning coal (bituminous or lignite)	Very high emissions

White hydrogen could become a **breakthrough clean energy source**, offering a **naturally renewable and zero-emission** alternative to fossil fuels. However, for it to reach its full potential, **technological improvements, better exploration tools, and clear regulations** are needed. With growing global interest and discoveries like the one in France, white hydrogen might soon play a major role in the **future of sustainable energy**.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Which of the following types of hydrogen is produced using renewable energy sources for electrolysis, resulting in the lowest carbon emissions?

- (a) Grey Hydrogen (b) Blue Hydrogen
 (c) Green Hydrogen (d) Pink Hydrogen

(c) Answer

VIKRAM AND KALPANA

Why in News: ISRO, in collaboration with the **Semiconductor Laboratory (SCL), Chandigarh**, has developed two **high-speed, 32-bit microprocessors** named **Vikram 3201** and **Kalpana 3201**, specially designed for India’s space missions.



What Are These Microprocessors?

Microprocessors are the **“brains” of electronic systems**, including satellites and launch vehicles. They process data and control operations. The new processors are **fully Indian-made** and meant for **harsh space environments**.

About Vikram 3201

- **India’s First Fully Indigenous 32-bit Microprocessor** for space use.
- Designed to function in the **harsh conditions of launch vehicles**.
- **32-bit processing power** allows faster data handling, better memory management (up to 4 GB), and efficient performance.
- **Improved version** of Vikram 1601 (a 16-bit chip used in ISRO’s launch vehicles since 2009).
- Supports complex calculations (floating-point operations) and programming in **high-level languages** like Ada.
- Fabricated at SCL’s **180nm CMOS fabrication unit**, supporting the **Make in India** initiative.

About Kalpana 3201

- A **32-bit SPARC V8 RISC** microprocessor, based on **IEEE 1754** Instruction Set.
- Works well with **open-source software tools** and tested with actual flight software.

- Focuses on **simple, fast, and power-efficient instructions**, making it **highly versatile** for different space applications.

Why This Development Matters

1. Improved Reliability

- **Vikram 3201 was tested in space** on the **PSLV-C60 mission**, proving its readiness for future use in launch vehicles and satellites.

2. Self-Reliance in Space Electronics

- These processors reduce India’s dependency on foreign microchips, a huge step toward **technological sovereignty**.

3. Smaller, Smarter Systems

- Along with these chips, ISRO and SCL have developed:
 - **A Reconfigurable Data Acquisition System**
 - **A Multi-Channel Low Drop-Out Regulator IC** These support the **miniaturization of avionics**—helping to make launch systems lighter, faster, and more power-efficient.

Conclusion

The **Vikram and Kalpana microprocessors** are not just chips—they are **symbols of India’s growing power in space technology**. They strengthen our ability to design and control missions independently, make launch vehicles more efficient, and push India further toward being a **global leader in space innovation**.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Vikram and Kalpana recently seen in news are related to:

(a) Chandrayan -3 Mission

(b) New Startups
 (c) New HYV variety of seeds
 (d) High-speed microprocessors for space missions

(d) :ANSWER

SUNITA WILLIAMS’S UNSCHEDULED LONG SPACE STAY

Why in News: American astronaut **Sunita Williams** and fellow astronaut **Butch Wilmore** recently returned to Earth after completing **the longest-ever unscheduled stay in space**.

What Happened?

- In **June 2024**, the two astronauts travelled to the **International Space Station (ISS)** using **Boeing’s Starliner** spacecraft.
- They were originally scheduled to **return in one week**.
- However, **technical issues** with the **Starliner** made it **unsafe for return**, so they had to stay longer on the ISS.
- Although the **Starliner safely returned to Earth** (without crew) in **September 2024**, Williams and Wilmore had to wait for another ride back.
- Eventually, they **returned to Earth** with two other astronauts using a **SpaceX Dragon spacecraft**.

Longest Unscheduled Space Stay

- Sunita Williams and Butch Wilmore stayed for **286 days—over 9 months**.
- Though unplanned, their stay adds **valuable data** for future long-duration missions.

Other Long Space Stays

Astronaut	Duration in Space	Details
Valeri Polyakov (Russia)	438 days	Longest continuous stay (Mir station)
Oleg Kononenko (Russia)	1,111 days (total)	Longest overall time in space
Peggy Whitson (USA)	675 days (total)	Longest time in space by a woman

- The ISS has been continuously occupied by astronauts since **November 2000**.
- Typically, astronauts stay for **a few weeks to months**, conducting experiments.

Why This Stay Matters?

Though unplanned, this mission has **scientific advantages**:

Human Health Research

- NASA is studying how the human body reacts to **long stays in space**.
- **Extended space stays can:**
 - Reduce **muscle strength and bone density**
 - Affect **brain fluid circulation**
 - Raise the risk of **heart disease**
 - Cause **mental health challenges**

Planning for Future Missions

- Future projects, like **NASA's Moon base**, will need people to stay in space for long periods.
- This experience helps space agencies prepare for **emergencies**, backup options, and better training for astronauts.

About the International Space Station (ISS)

- The **ISS** orbits about **240 miles (400 km)** above Earth.
- It is a **spacecraft, science lab, observatory**, and a **home** for astronauts.
- Built in **1998** by a coalition of **15 countries** including the US, Russia, and Japan.
- Often called "**Man's Greatest Achievement**", it's a model of international cooperation.
- It travels at **28,000 km/hour**, orbiting Earth **16 times a day**.
- Can hold **10–12 astronauts** during crew change, though it normally has fewer people.

India's Future in Space: Bharatiya Antriksh Station

- India plans to launch its own space station by **2035**.
- Named **Bharatiya Antriksh Station**, it will orbit **400 km above Earth** and weigh **around 20 tonnes**.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following pairs:

Space Agency	Spacecraft
1. Boeing	Dragon
2. SpaceX	Starliner

Which of the above given pairs is/are correct?

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

Answer: (d)

EFFECT OF SPACE TRAVEL ON ASTRONAUT HEALTH

Why in News: NASA astronauts Sunita Williams and Butch Wilmore have returned to Earth after being stranded at the International Space Station (ISS) for more than 8 months, raising concerns over their health.

Hazards of Human Space Flight: Astronauts encounter five hazards as they journey through space.

1. **Space Radiation:** Invisible to the human eye, space radiation is not only stealthy but considered one of the most hazardous aspects of spaceflight.
2. **Isolation and Confinement:** Behavioral responses occur among groups of people far from Earth who are isolated and confined in a small space over a long period of time.
3. **Distance from Earth:** Instructions, new supplies, medical care, and more become increasingly challenging to receive from Earth as astronauts venture deeper into space.
4. **Gravity Fields:** Astronauts' entire bodies – muscles, bones, inner ear, and organs – must adjust to the new gravities encountered on the space station or their spacecraft, as well as on the Moon, Mars, and Earth once they return home.
5. **Hostile/Closed Environments:** Maintaining a safe ecosystem inside a spacecraft presents unique challenges, from ensuring optimal temperatures, pressures, and lighting, to reducing noise, monitoring microbial communities, and tracking immune responses.

Impact of Spaceflight on the Human Body

- **Muscles and Bones**
 - **Muscle Atrophy**
 - ◆ Loss of 20% muscle mass in 2 weeks; up to 30% over 3–6 months.
 - ◆ It affects posture-supporting muscles like the back, neck, calves, and quadriceps.
 - ◆ Resistance exercises on the ISS (2.5 hours/day) are insufficient to fully counteract muscle loss.
 - **Bone Demineralization**
 - ◆ 1–2% bone mass loss monthly and up to 10% over 6 months (vs. 0.5–1% annual loss on Earth).
 - ◆ Increased fracture risk and prolonged healing.
 - ◆ Recovery to pre-flight bone density may take up to 4 years.
 - **Spinal Changes:** Spine elongation in microgravity causes back pain and higher risk of slipped discs post-return.
- **Weight Loss:** Weight loss due to altered diet, limited food variety, and metabolic changes.
- **Eyesight**


- **Fluid Redistribution:** Blood/fluid accumulation in the head leads to optic nerve edema, vision impairment (e.g. decreased sharpness).
- **Radiation Exposure:** Cosmic rays cause retinal flashes and potential long-term eye damage.
- **Neural Shuffling**
 - **Brain Structure**
 - ◆ Swelling of the brain ventricles may take 3 years to normalize.
 - ◆ Altered neural connectivity in motor and vestibular regions, affecting balance and spatial orientation.
 - **Cognitive Performance:** Temporary declines in speed/accuracy post-landing.
- **Friendly bacteria / Microbiome:** Gut bacteria diversity shifts due to diet, recycled water, radiation, and social interactions. This impacts digestion, inflammation, and immune function.
- **Skin:** Increased sensitivity and rashes post-mission, possibly due to reduced stimulation.
- **Genes**
 - **Telomeres:** Lengthen during spaceflight but shorten rapidly post-return, increasing long-term aging risks.
 - **DNA Damage:** Caused by cosmic radiation; linked to telomere changes and potential health risks.
 - **Gene Expression:** Altered activity in genes related to DNA repair, bone formation, and immune response (mostly reversible within 6 months).
 - **Gender Differences:** Men show greater immune system disruption (e.g. interleukin proteins) and slower recovery post-mission.
- **Immune System**
 - Reduced white blood cell counts correlated with radiation exposure.
 - Increased inflammation markers (e.g. fibrinogen) in male astronauts.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question


Q. What are the potential adverse effects on the physical, physiological and mental health of space travellers? [150 words] [10 marks]


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INDIAN ARMY'S AIR DEFENCE MODERNIZATION

Why in News: Going indigenous to modernise its Corps of Air Defence, the Indian Army may soon conduct trials for select defence weapons systems and equipment, including Counter Unmanned Aerial Systems (CUAS), gun systems with smart ammunition and missiles of different ranges.

Air Defence Modernization Drive

- Inducting **fragmentation ammunition** for existing air defence guns (1,300 in service).
- Accelerating procurement of new systems like **QRSAM** and **Akash-NG**.
- Countering drone threats through **smart ammunition**, laser/microwave weapons, and decentralized command structures.

Quick Reaction Surface-to-Air Missile (QRSAM)

- **Range:** 30 km
- **Production Timeline**
 - The contract is expected in the next 3-4 months.
 - First Prototype Model (FoPM) within 12 months post-contract.
 - Full production in 18 months (wheeled and tracked configurations).
- **Significance:** QSRAM is a priority requirement for tactical air defence.

Akash SAM Systems

- **Deployment**
 - 3 regiments of Akash SAM are already operational.
 - 2 regiments of next-gen Akash-NG contracted.
- **Upgrades:** FoPM with enhanced capabilities undergoing high-altitude trials in next 45 days.

Fragmentation Ammunition for Legacy Guns

- **Priority:** Equip L-70 and Zu-23 air defence guns with 30mm air burst ammunition.
- **Benefits:** Increased effectiveness against drones and loiter munitions.
- **Status:** Tender already floated and trials expected soon.

Successor Gun Program and Smart Ammunition

- **Plan:** To replace L-70 and Zu-23 with 220 new guns and smart ammunition.

- **Trials** will commence in July 2025 and the contract to be signed by May-June 2026.
- The focus is on indigenous development.
- **Smart Ammunition:** Programmable rounds with 17x higher kill probability vs. traditional explosives. Reduces logistical burden.

Counter-Drone Technologies & Strategies

- **Emerging Threats**
 - Proliferation of drones, loiter munitions, and smart swarms.
 - Difficulty in quantifying and qualifying threats (unpredictable quality/quantity).
- **Solutions**
 - **Laser/Microwave Weapons:** In advanced procurement stages.
 - **Air Defence Guns:** Revived utility against drones with fragmentation ammo.
 - **Decentralized Command Posts:** Critical for rapid response (lesson from Ukraine).

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. Fragmentation ammunition is primarily designed to
- Disperse high-velocity fragments upon detonation, causing widespread damage.
 - Penetrate armored targets using concentrated kinetic energy.
 - Release chemical agents upon impact to incapacitate targets.
 - Ignite fires or incendiary effects in the vicinity.

Answer: (a)

EXERCISE-DHARMA GUARDIAN

Why in News: The Indian Army contingent departed for the 6th edition of the India- Japan Joint Military Exercise DHARMA GUARDIAN.

• **Significance**

- Its acquisition will significantly enhance the operational preparedness of the Indian Air Force.
- The programme is a major step towards achieving **self-reliance** in defence manufacturing by reducing dependency on Foreign Origin Equipment Manufacturers besides acting as a catalyst for the development of defence industrial ecosystem in the country.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. What is the primary purpose of India’s indigenously developed Ashwini Radar?

(a) Weather monitoring and prediction
 (b) Maritime surveillance and coastal security
 (c) Detection of low-flying aerial targets
 (d) Tracking satellites and space debris

Answer: (c)

CENTRAL INDUSTRIAL SECURITY FORCE

Why in News: Recently, Director-General Rajwinder Singh Bhatti of the Central Industrial Security Force (CISF) held that the **CISF is set to recruit between 15,000 and 20,000 personnel annually over the coming years** to increase its capacity to cover more facilities.

Central Industrial Security Force

- The Central Industrial Security Force came into existence in 1969 **under the Central Industrial Security Force Act, 1968.**
- It was created to provide integrated security cover to certain sensitive public sector undertakings with a strength of only three battalions.
- Since then, the force has expanded to become a top multiskilled organisation, currently **employing over 188,000 people.**
- Currently, **359 institutions around the nation** are covered by the CISF in terms of security.
- 115 of the aforementioned businesses are served by the CISF’s **own Fire Wing.**
- India’s most important infrastructure sites, such as **nuclear stations, space institutions, airports, seaports, power plants, etc.,** are covered by the CISF security umbrella.
- Important government structures, famous historical sites, the Delhi Metro, the Parliament House Complex, and the Central Jails of Jammu and Kashmir are also safeguarded by the CISF.
- Important protectees are additionally protected around the clock by the CISF’s **dedicated VIP Security vertical.**
- The CISF’s mandate was expanded to include security **coverage for private business locations** following the November 2008 Mumbai terror attack.
- In addition, the CISF **offers private organisations security consulting services,** which are highly sought after.
- Being the **only Central Armed Police Force that interacts with the public on a regular basis**—at airports, the Delhi Metro, and famous landmarks—the CISF is acutely aware of the need to strike a balance between security protocols and a humane attitude.

Difference	Military	CAPF
Primary duties	Protecting external borders of the country from terrorism and aggression of other countries	Ensuring internal security from threats like insurgency, left wing extremism etc.
Ministry	Ministry of Defence	Ministry of Home Affairs
Key branches	Indian Army, Indian Air force, Indian Navy	Assam Rifles, Border Security Force, Central Industrial Security Force, Central Reserve Police Force, Indo-Tibetan Border Police, Shasatra
Chief	4 Star Officer of Equivalent Rank of General of Army	Director General of Police from the Indian Police Service

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Consider the following key establishments

1. Parliament of India 2. Delhi Metro
 3. Mumbai Airport

How many of the above key establishments come under security coverage of the Central Industrial Security Force?

(a) Only one (b) Only two
 (c) All three (d) None

Answer: (c)

BODO PEACE ACCORD

Why in News: Union Home Minister highlighted the significance of the Bodo peace accord at 57th Annual Conference of All Bodo Students Union (ABSU) in Kokrajhar, Assam.

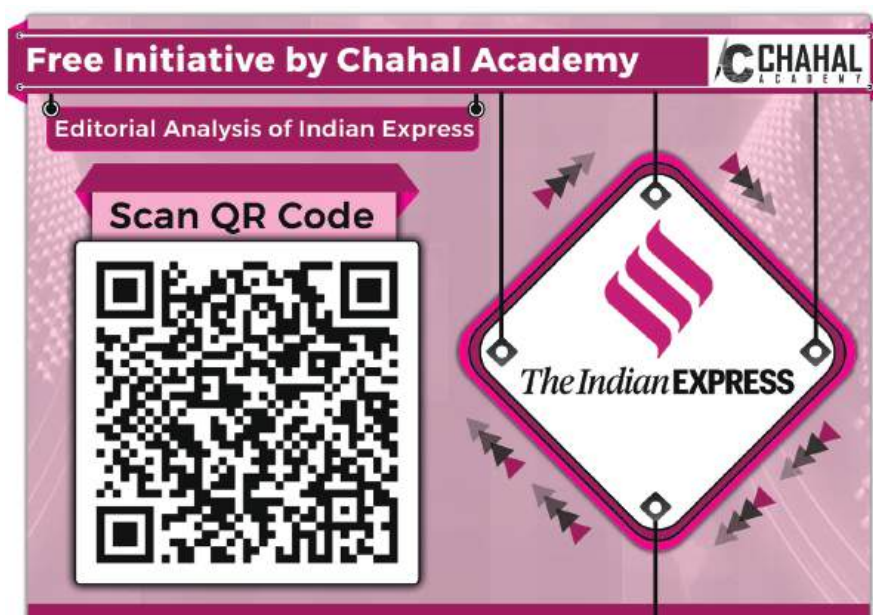
Bodo Peace Accord

- A **Memorandum of Settlement (MoS)** was signed between the Government of India, the Government of Assam and representatives of Bodo Groups on 27.01.2020 to end the decades-old Bodo crisis.
- This was the Third Bodo accord
- Purpose of MoS
 - To increase the scope and power of the Bodoland Territorial Council and to streamline its functioning;
 - To resolve issues related to Bodo people residing outside Bodoland Territorial Area Districts (BTAD);
 - To promote and protect Bodo's social, cultural, linguistic and ethnic identities;
 - To provide legislative protection for the land rights of tribals;
 - To ensure the quick development of tribal areas
- MoS also provided for establishing a Bodo-Kachari Welfare Council as per existing procedure, notifying Bodo language as an associate official language in the State and to set up a separate directorate for Bodo medium schools.
- Provision of a special Development package of Rs.1500 crores to undertake specific projects for the development of Bodo areas.
- **Status:** Most of the clauses of MoS have been implemented which include surrender of 1615 cadres along with arms and ammunition, setting up of Bodo Kachari Welfare Council; establishment of a separate Directorate of

Bodo Medium Schools; creation of a separate Welfare of Bodoland Department to deal with matters relating to councils under the Sixth Schedule of the Constitution including Bodo Territorial Council (BTC), etc.

Bodo Movement

- The Bodos are among Assam's earliest inhabitants, belonging to the Mongoloid group.
- They are historically concentrated in the Brahmaputra Valley and parts of Northeast India, Nepal, Bhutan, and Bangladesh.
- **Colonial Rule**
 - British annexed the Bodo territories post-1826 Treaty of Yandaboo.
 - Doctrine of Lapse (1832) and treaties (e.g. Chinchula, 1864) dismantled the Bodo kingdoms.
- **Post Independence: Key Organizations & Events**
 - **All Bodo Students' Union (ABSU):** Formed in 1967 to spearhead linguistic and cultural revival.
 - **Plains Tribal Council of Assam (PTCA):** Advocated "Udayachal" (Union Territory) in 1973.
 - Violent Phase
 - ◆ NDFB (National Democratic Front of Bodoland): Demanded sovereignty (1986).
 - ◆ BLT (Bodo Liberation Tigers): Sought statehood within India (1996).
 - **Previous Peace Accords**
 - ◆ 1993 Bodo Accord: Created the Bodoland Autonomous Council (BAC). Failed due to boundary disputes.
 - ◆ 2003 BTC Accord: Established the Bodoland Territorial Council (BTC) under the Sixth Schedule, granting limited self-governance.



OBESITY

Why in News: Addressing the 119th Episode of Mann Ki Baat, the Prime Minister has urged people to reduce oil consumption by 10% and fight obesity.

About Obesity

- According to the World Health Organization (WHO), obesity is defined as an abnormal or excessive fat accumulation that presents a risk to health.
- The commonly used metric to classify obesity is Body Mass Index (BMI), where a BMI of 25 or above is considered overweight, and a BMI of 30 or above is classified as obese.
- In India, a person is considered overweight if their Body Mass Index (BMI) is between 23.0 and 24.9 kg/m², and obese if their BMI is 25 kg/m² or higher. Morbid obesity occurs when a person's BMI is 35 or more.

Obesity Statistics

- **Global**
 - The prevalence of overweight and obesity has been rising steadily among both adults and children worldwide.
 - Between 1990 and 2022, the percentage of children and adolescents (aged 5–19 years) with obesity increased fourfold, from 2% to 8%.
 - During the same period, the proportion of adults (aged 18 and older) with obesity more than doubled, rising from 7% to 16%.
- **India**
 - As per the National Family Health Survey (NFHS)-5 (2019-21), overall, 24% of Indian women and 23% of Indian men are overweight or obese
 - As per the NFHS-5, (2019-2021) in the category of ages 15-49 years, 6.4 % of women and 4.0 % of men are obese.
 - There has also been an increase in the percentage of children under 5 years who are overweight (weight-for-height) from 2.1 percent in NFHS-4 (2015-16) to 3.4 percent in NFHS-5 (2019-21) at All-India level.

Factors Driving the Rise of Obesity In India

- **High-Calorie, Low-Nutrient Diets:** Increased consumption of refined carbohydrates and saturated fats.

- **Easy Access to Processed Foods:** Widespread availability of packaged, ready-to-eat meals.
- **Use of Genetically Modified Crops:** Altered food composition impacting metabolism and weight gain.
- **Physical Inactivity:** Declining engagement in sports, exercise, and outdoor activities.
- **Growing Culture of Eating Out:** Frequent dining at restaurants where food is often cooked in unhealthy oils.
- **Sedentary Lifestyles:** Long hours of sitting, excessive screen time, and minimal movement in daily routines.

Government Interventions for Controlling Obesity

- **Ministry of Health and Family Welfare (MoHFW) - Strengthening Public Health Responses**
 - National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD)
 - ◆ In India, non-communicable diseases (NCDs) cause 63% of all deaths.
 - ◆ Non-communicable diseases (NCDs) such as cardiovascular diseases, cancers, diabetes, and chronic respiratory diseases are largely driven by modifiable lifestyle factors, including tobacco use, unhealthy diets, physical inactivity, and alcohol consumption.
 - ◆ The Department of Health and Family Welfare under the National Programme for Prevention and Control of Non-Communicable Diseases (NCDs) (NP-NCD) through the National Health Mission (NHM), aims to promote health through behaviour change by engaging communities, civil society, media, and development partners.
- **Ministry of AYUSH: Promoting Traditional & Holistic Wellness Practices**
 - **Specialized Ayurvedic Care:** The All India Institute of Ayurveda (AIIA) in New Delhi offers specialized treatments for obesity and related lifestyle disorders. These treatments combine Panchakarma therapies, Ayurvedic medications, personalized dietary guidelines, and yoga therapy.
 - **Research and Evidence Generation:** The Central Council for Research in Ayurvedic Sciences (CCRAS) conducts research to validate the safety and efficacy of Ayurvedic interventions for lifestyle disorders, including obesity.
 - **Ayurswasthya Yojana:** This Central Sector Scheme,

Should Cancer be a Notifiable Disease?

Making cancer a **notifiable disease** could offer the following benefits:

- **Comprehensive Data Collection:** Mandatory reporting would enhance data accuracy, helping authorities map cancer’s prevalence and patterns. *ICMR projects India will see 15.7 lakh new cancer cases annually by 2025.*
- **Targeted Public Health Policies:** Improved data would allow the government to better allocate resources and design tailored programs for high-risk regions. *Example: Accurate data could help focus on cancer prevention in northeastern states, where cancer incidence is high.*
- **Early Detection and Treatment:** Notification can promote early diagnosis, improving access to treatment and outcomes. *Early detection can increase survival rates by 70-80%, according to the WHO.*
- **Improved Research and Planning:** burden would lead to better research and policy formulation. *Example: The Cancer Genome Atlas Project can benefit from enhanced data collection for research.*
- **Reduction of Regional Disparities:** Mandatory reporting would ensure equitable cancer care across regions, especially in underserved areas. *Example: States like Bihar and Uttar Pradesh lag in cancer diagnosis infrastructure, which targeted efforts could address.*

Conclusion

Making cancer a notifiable disease would significantly improve data accuracy, enable early diagnosis, and help in crafting effective policies for cancer prevention and treatment across India. Though non-communicable, cancer poses a major public health challenge, and mandatory reporting would provide the foundation for a more organized and effective response to the growing cancer burden.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements about the National Cancer Registry Programme (NCRP):

1. NCRP was established under the Ministry of Health and Family Welfare in 1982.
2. NCRP collects data on cancer trends, types, and demographics from population-based registries.
3. The NCRP currently functions through mandatory reporting of cancer cases across India.

Which of the statements given above is/are correct?

(a) 1 and 2 only (b) 2 only

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

Answer: (a)

GENDER GAP IN JUDICIARY

Why in News: Despite an increase in the number of Female Lawyers and Judges in lower courts , there remains a significant gap in the number of female judges in higher courts compared to male counterparts.

Key Details

- **Present Status of Women Judges:**
 - The share of women judges in the High Courts is only **14.27%** (109 out of 764).
 - In eight High Courts, the number of women judges is limited to just one.
 - The High Courts of **Uttarakhand, Meghalaya, and Tripura have no woman judge.**
 - The Allahabad High Court, which is the largest High Court in the country with 79 judges at present, has only three women judges (2%).
 - Women judges are also appointed later than men. The average age of appointment of men is 51.8 years, but for women it is 53 years. Thus, women judges do not reach positions of seniority.
 - Out of 25 High Courts, **only the Gujarat High Court has a woman Chief Justice.**
 - **In Supreme Court:**
 - ◆ The numbers for the Supreme Court are much worse, with **only two women judges serving at present** — Justice B.V. Nagarathna and Justice Bela Trivedi.
 - ◆ With Justice Bela Trivedi due to retire in June 2025, the top Court will be left with just one woman judge.
 - ◆ The last woman judge appointed to the Supreme Court was in 2021. Since then, 28 judges have been appointed to the Supreme Court, and not a single of them is a woman.
- **Reasons for Inertia towards appointing Female Judges**
 - **Notion of lack of Eligibility:** It is said that there are not enough eligible women candidates, not enough women with seniority, or that women do not want to become judges. All of this is merely top dressing, when the underlying factor is one of deep inequality.
 - **Systemic Inequality:** One of the main causes for the exclusion of women from the higher judiciary is deep-rooted and systemic inequality, where women are seen as inferior within the legal profession.
 - **Higher Scrutiny:** Women lawyers nominated for judgeship face heightened scrutiny. Far from compromising on merit, women are almost always required to prove merit more than men.
 - **Bias in Collegium :**
 - ◆ We also have the collegium system of appointments, which is **opaque and non-transparent.**

- ◆ The **Collegiums almost always consist of men** and little or no effort is taken to get names of meritorious women lawyers for elevation.
- ◆ Even when names of women are recommended by the Collegium, women are disproportionately not confirmed by the government.
- ◆ Since 2020, **nine women's names were recommended** by the collegium for appointment to the High Courts, but were not confirmed.
- **Need for Gender Diversity in Judiciary**
 - **Increase Legitimacy of Courts:** Having an equal number of women on the Bench will enhance the legitimacy of courts and give a signal that our judiciary is inclusive and representative of the people whose lives they affect.
 - **Improving Judicial Review and Adjudication:** The presence of women judges brings a broader perspective to the judicial process. Different life experiences lead to a richer understanding of the cases at hand, particularly those involving gender-specific issues.
 - **Creating Gender-Neutral Judicial Spaces:** The goal of the judiciary is to be a neutral arbiter of justice. However, unconscious biases can influence decisions. A greater number of women in the judiciary can help counteract these biases, moving towards truly gender-neutral legal spaces.
 - **Empowering Women through Legal Decisions:** Women judges play a pivotal role in empowering women through their rulings. Their decisions can set precedents that promote gender equality, influencing not just the legal domain but society at large.
 - **Addressing Social Biases Against Women:** Despite progress, societal biases against women persist. Women in the judiciary can play a crucial role in addressing and mitigating these biases, ensuring that justice is not coloured by outdated stereotypes
 - **Promoting Gender Equality in Society:** The judiciary doesn't operate in a vacuum. Its composition and the decisions it makes have a profound impact on society. Women judges, through their presence and judgments, can be instrumental in advancing the cause of gender equality across the country.
- **Way Forward**
 - **Setting Transparent process for Appointment:** The Collegium could frame a transparent process and provide clear criteria for appointment. There must be clear criteria based on the highest standards of excellence and integrity, and a specified time frame during which the recommendations be made.
 - **Inclusive Appointments:**
 - ◆ Diversity and merit are not contradictory; rather, in a pluralistic society such as ours, diversity makes the judiciary more representative.

- ◆ Gender diversity also needs to be taken into account to ensure that at least one-third of our higher judiciary, if not half, is composed of women.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. "A Gender Inclusive Judiciary is essential for a Gender Inclusive society". In light of the statement, Comment on impediments for Judiciary in becoming more Gender Inclusive. [150 words] [10 marks]

WOMEN EMPOWERMENT

Why in News: SC's Strong Stand: Supreme Court , recently remarked that **women do not need sympathy but empowerment through law enforcement.**

Women Empowerment in India: Key Data Figures

- **Economic Participation:** Female Labour Force Participation Rate (LFPR) rose from 37.0% in 2022-23 to 41.7% in 2023-24, indicating improvement but still low.
- **Political Participation:** Women's representation in the Lok Sabha increased from 5% in the first session to 15% in the current one, a steady rise but still limited.
- **Social Participation:** Despite progress in education, many women (44.5%) cite childcare and homemaking as barriers to entering the workforce, showing participation challenges persist.

Constitutional and Legal Provisions for Women's Empowerment

Article 14	Ensures equality before the law.
Article 15	Prohibits discrimination based on sex.
Article 16	Guarantees equal opportunity in public employment.
Article 39(d)	Mandates equal pay for equal work.
Article 42	Directs the State to ensure just and humane work conditions and maternity relief.

Legal Provisions:

- The Protection of Women from Domestic Violence Act, 2005: Offers protection against domestic violence.
- The Sexual Harassment of Women at Workplace Act, 2013: Addresses workplace sexual harassment.
- The Dowry Prohibition Act, 1961: Bans the giving or receiving of dowry.
- The Maternity Benefit Act, 1961: Provides maternity benefits and regulates women's employment before and after childbirth.

Despite these provisions, women in India encounter multifaceted challenges

Economic Challenges:

- Gender Pay Gap: Women earn 18% less than men for the same work.
- Low Labour Force Participation: Female LFPR is only 29.4%, among the lowest globally.
- Unpaid Work Burden: Women spend 9.8 times more hours than men on unpaid care work.

Political Challenges:

- Underrepresentation: Women hold only 15% of seats in the Lok Sabha and 10% in state legislatures.
- Societal Barriers: Cultural norms and party biases restrict their electoral opportunities.

Social Challenges:

- Gender-Based Violence: India reported over 400,000 crimes against women in 2022, with low conviction rates.
- Education Gap: High dropout rates among girls, especially in rural areas, due to early marriage, safety concerns, and financial constraints.

Legal and Institutional Challenges:

- Underreporting of Crimes: Fear of societal stigma and lack of awareness prevent women from reporting harassment and violence.
- Weak Law Enforcement: Cases like workplace harassment often go unaddressed due to delays in justice and lack of institutional support.

Digital & Technological Barriers:

- Digital Divide: Women constitute only 30% of internet users in rural India, limiting access to education, work, and digital banking.
- 57% of women face online harassment, discouraging active female participation in digital platforms.

Way Forward

- **Legal and Institutional Support:**
 - **Fast-Track Courts (OSC):** Provide legal, medical, and psychological aid to victims.
 - **Community Policing:** Women-led police desks and initiatives like Kerala’s Pink Patrol for safer public spaces.
- **Economic Empowerment:**
 - **Equal Pay Audits:** Implement annual gender pay reporting for companies.
 - **Skill Development:** Focus on digital and AI training for women.
 - **Microfinance Support:** Interest-free loans for women-led businesses (e.g., Mudra Yojana).
- **Political Participation:**
 - **50% Reservation:** For women in urban local bodies and state legislatures.

- **Party Reforms:** Incentivize political parties to field 30% women candidates.
- **Social and Educational Reforms:**
 - **Universal Childcare & Parental Leave:** Expand creches and paternity leave.
 - **Digital Literacy:** Free programs in rural areas (e.g., Internet Saathi).
 - **Cyber Safety:** Stronger laws and cyber cells to combat online harassment.

Conclusion

Empowering women is vital for national progress. For example, **Rwanda’s** 61% female parliamentary representation has led to stronger governance and economic growth. Similarly, boosting women’s participation in India could drive inclusive development

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. “Discuss the key challenges faced in achieving women empowerment in India and suggest solutions to overcome them.” [150 words] [10 marks]

SLUMS IN INDIA

Why in News: The Bombay High Court began a first-of-its-kind review of a legislation, i.e. Maharashtra Slum Areas (Improvement, Clearance and Redevelopment) Act, 1971.

Maharashtra Slum Areas (Improvement, Clearance and Redevelopment) Act, 1971

- The law empowers the Maharashtra government to declare an area as a “slum area” and, if needed, acquire it.
- A statutory body, the Slum Rehabilitation Authority (SRA), is created to oversee the rehabilitation, which can entrust any agency or developer to redevelop the designated area.

Slums

- In India, the definition of slums is brought out by the Census and the NSSO and also every State in India has a unique definition of slums in keeping with the distinctive socio-economic characteristics of the region, its terrain and slum housing conditions.
- **Definition of Slums as per Census 2011**
 - All notified areas in a town or city notified as ‘Slum’ by State, UT Administration or Local Government, Housing and Slum Boards, etc., under any Statute including a ‘Slum Act’ are considered as Notified Slum. ii.
 - All areas recognized as ‘Slum’ by State/Local Government, UT Administration, Housing and Slum Boards etc., which may have not been formally

notified as slum under any statute are categorized as Recognized Slum. iii.

- A compact area of at least 300 populations or about 60-70 households of poorly built congested tenements, in unhygienic environment usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities in the State/UT are categorized as Identified Slums.

- **Attributes of Slums**

- **Lack of basic services:** Lack of access to improved sanitation facilities and improved water sources is the most important feature, sometimes supplemented by absence of waste collection systems, electricity supply, surfaced roads and footpaths, street lighting and rainwater drainage.
- Substandard housing or illegal and inadequate building structures
- Overcrowding and high density
- **Unhealthy living conditions and hazardous locations:** Unhealthy living conditions are the result of a lack of basic services, with visible, open sewers, lack of pathways, uncontrolled dumping of waste, polluted environments, etc.
- Insecure tenure; irregular or informal settlements
- **Poverty and social exclusion:** It is not seen as an inherent characteristic of slums, but as a cause (and, to a large extent, a consequence) of slum conditions.

Reasons for the Growth of Slums in India

- **Rapid Urbanisation**

- Explosive growth in the urban population due to migration from rural areas.
- Expansion of city boundaries without corresponding infrastructure development.
- Emergence of new towns and cities with inadequate planning.

- **Inadequate Affordable Housing**

- High competition for land in urban areas is driving up property prices.
- Limited availability of formal housing for low-income groups.
- A shortage of affordable housing options is leading the urban poor to opt for informal settlements.

- **Economic Factors and Rural Distress**

- Rural poverty and lack of livelihood opportunities push migrants to cities.
- Perception of cities as hubs for economic opportunity despite the high cost of living.
- Unbalanced regional development, where urban centres outpace rural development.

Issues Arising Due to the Neglect of Slum Development

- **Poor Living Conditions**

- Overcrowding and substandard housing structures.

- Inadequate access to basic services such as clean water, sanitation, and drainage.
- Lack of secure tenure leads to vulnerability and constant fear of eviction.

- **Health and Social Challenges**

- Unsanitary environments contribute to higher incidences of diseases.
- Inadequate access to healthcare, education, and recreational facilities.
- Social exclusion and stigmatization of slum residents.

- **Infrastructural Deficits**

- Insufficient municipal services due to fiscal constraints and complex governance.
- Lack of proper roads, street lighting, and waste management systems.
- Environmental hazards include exposure to pollution and unsafe living conditions.

Challenges in Slum Rehabilitation

- **Financial Constraints and Funding Gaps**

- Limited resources are available for large-scale slum redevelopment projects.
- Inadequate allocation of funds compared to the scale of the slum population.
- Dependence on multiple funding sources can delay project implementation.

- **Insecure Tenure and Legal Issues**

- Complexities arise from informal land tenure and a lack of legal documentation.
- Conflicts between statutory regulations and on-the-ground realities.
- Difficulty in acquiring land for redevelopment without displacing residents.

- **Coordination and Implementation Challenges**

- Multi-agency coordination issues between central, state, and local governments.
- Lack of transparency and participation of slum dwellers in decision-making.
- Resistance to relocation and challenges in designing culturally appropriate rehabilitation models.

- **Technical and Planning Limitations**

- Inadequate urban planning and insufficient data on slum demographics.
- Challenges in providing basic infrastructure alongside housing.
- Need for innovative approaches that balance redevelopment with minimal displacement.

Way Forward

- **Integrated Urban Planning**
 - Develop comprehensive urban policies that integrate slum development with city planning.

- Encourage in situ slum redevelopment using land as a resource.
- Strengthen data collection to inform evidence-based policymaking.
- **Enhancing Affordable Housing**
 - Increase investment in affordable housing projects for the urban poor.
 - Leverage public-private partnerships to finance and implement housing schemes.
 - Promote beneficiary-led housing initiatives under schemes such as Pradhan Mantri Awas Yojana (Housing for All).
- **Community Participation and Empowerment**
 - Involve slum dwellers in planning and execution to ensure their needs are met.
 - Establish local bodies and committees for participatory decision-making.
 - Provide skill development and financial inclusion programs to uplift residents.
- **Policy and Institutional Reforms**
 - Simplify legal procedures to formalize tenure and secure property rights.
 - Enhance coordination among central, state, and local governments.
 - Ensure the timely implementation of slum improvement and rehabilitation programs.
- **Infrastructure and Basic Services**
 - Prioritize the development of essential services such as water, sanitation, and transportation.
 - Implement sustainable urban infrastructure projects to improve living conditions.
 - Address environmental and health challenges by integrating urban planning with public health initiatives.

Conclusion

Addressing India’s slum challenge requires a holistic approach combining legal reforms, inclusive urban planning, and community empowerment. Strengthening tenure security, enhancing affordable housing, and prioritizing infrastructure in slum rehabilitation policies can uplift living standards. Collaborative efforts between governments, civil society, and residents are vital to ensure sustainable, equitable urban development and bridge the gap between rapid urbanization and inclusive growth.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. How can the government ensure sustainable and equitable urban development by overcoming the challenges faced in slum rehabilitation? Elaborate. [250 words] [15 marks]

LINGUISTIC DIVERSITY IN INDIA

Context: The Prime Minister’s recent emphasis on the unifying nature of India’s shared linguistic heritage, in response to divisive tendencies, underscores the complex and crucial role of language in the nation’s socio-political fabric. This issue is particularly relevant in the context of ongoing debates surrounding language policy, the implementation of the National Education Policy (NEP) 2020, and the preservation of endangered languages.

The Linguistic Landscape of India

India is characterized by an extraordinary degree of linguistic diversity, presenting both opportunities and challenges for governance, education, and social cohesion.

- **Magnitude of Diversity:**
 - Census 2011: Recorded over 19,500 languages/ dialects spoken in India.
 - 121 languages spoken by more than 10,000 individuals. This highlights the presence of both major languages with large speaker populations and a multitude of smaller languages spoken by distinct communities.
- **Endangered Languages:**
 - **UNESCO Atlas of the World’s Languages in Danger:** Classifies 197 Indian languages as endangered, indicating a significant threat to the survival of a substantial portion of India’s linguistic heritage.
 - **Language Vitality Report (UNESCO):** Emphasizes the risk to global linguistic diversity posed by factors such as globalization, which can lead to the marginalization and decline of less dominant languages.
- The People’s Linguistic Survey of India (PLSI) 2013: Estimated approximately 780 languages in existence, with around 250 languages having become extinct in the last 50 years. This paints a concerning picture of rapid language loss.
- **Official Language Committee (2022):** The committee’s recommendation to increase the use of Hindi in central government offices raises concerns about potential implications for linguistic minorities and the principle of linguistic pluralism. This recommendation needs to be analyzed in the context of constitutional safeguards and the need for inclusive language policies.

Constitutional and Legal Framework

The Indian Constitution provides a framework for the protection of linguistic diversity, while various laws and policies aim to promote and safeguard linguistic rights.

- **Constitutional Provisions:**
 - **Article 29 (Protection of Interests of Minorities):** Guarantees the right of any section of citizens to conserve their distinct language, script, or culture. This is a fundamental right that underpins the protection of linguistic identity.
 - **Article 30 (Right of Minorities to Establish and Administer Educational Institutions):** Grants linguistic minorities the right to establish and manage their own educational institutions, enabling them to impart education in their mother tongue and preserve their linguistic heritage.
 - **Official Language Provisions (Articles 343-351):** While establishing Hindi as the official language of the Union, these articles also recognize the importance of other languages and provide for their use in official purposes at the state level. Article 350 mandates the provision of facilities for instruction in the mother tongue at the primary stage of education for children belonging to linguistic minority groups.
 - **Eighth Schedule:** Recognizes 22 languages as scheduled languages, granting them official recognition and status. This recognition has implications for government support, educational policies, and cultural promotion.
- **Legal Provisions and Acts:**
 - **Official Languages Act, 1963:** Provides for the continued use of English alongside Hindi in official communication and outlines the language policy of the Union government.
 - **Right to Education (RTE) Act, 2009:** Mandates free and compulsory education for children aged 6-14 years, and its provisions can be interpreted to support the use of the mother tongue as a medium of instruction, particularly at the primary level.
 - **National Commission for Minorities Act, 1992:** Establishes the National Commission for Minorities, which is mandated to protect the interests of linguistic minorities, among others.

Government Policies and Initiatives

The government has implemented various policies and initiatives to address the challenges and opportunities presented by India's linguistic diversity.

- **Three-Language Formula (1968):** A policy aimed at promoting multilingualism by advocating for the teaching of Hindi, English, and a regional language in schools. Its implementation has been uneven and has often been a subject of debate.

- **National Translation Mission:** Seeks to facilitate the translation of knowledge texts into various Indian languages, promoting linguistic accessibility and intellectual exchange.
- **Linguistic Survey of India (2010 - ongoing):** A comprehensive survey aimed at documenting the linguistic diversity of India, providing valuable data for research, policy formulation, and language preservation efforts.
- **Bharat Bhasha Vibhag:** A proposed department focused on the promotion and preservation of Indian languages.
- **NEP 2020:** Emphasizes the use of the mother tongue/local language as the medium of instruction until Grade 5, and preferably up to Grade 8 and beyond. This represents a significant shift in language policy and has the potential to promote multilingualism and improve learning outcomes.

International Case Study: New Zealand - Revival of the Maori Language

New Zealand's successful efforts to revive the Maori language offer valuable lessons for India. The "Language Nests" program, which provides immersion education for Maori children, has played a crucial role in increasing the number of Maori speakers. The granting of official language status to Maori and government investment in media, education, and official use of the language have further contributed to its revitalization. The increase in Maori speakers from 12% in the 1980s to 21% in 2021 demonstrates the effectiveness of sustained and comprehensive language revitalization efforts.

Analysis and Way Forward

- **Significance of Linguistic Diversity:** India's linguistic diversity is a unique cultural asset that enriches its society and contributes to its pluralistic identity. However, it also presents challenges related to national integration, education, and governance.
- **Challenges:**
 - **Language endangerment:** The rapid decline in the number of speakers of many Indian languages poses a threat to cultural heritage and traditional knowledge.
 - **Uneven implementation of language policies:** The Three-Language Formula and other policies have faced challenges in implementation, leading to disparities in access to multilingual education.
 - **Balancing national unity and linguistic rights:** Striking a balance between promoting a common language for national integration and protecting the linguistic rights of minority groups is a complex and ongoing challenge.
 - **Resource constraints:** Providing quality education in a multitude of languages requires significant resources, including trained teachers, textbooks, and learning materials.

WHEN HUMANS STARTED USING TOOLS

Why in News: According to research published in the journal Nature, our ancient ancestors were using bone tools at least 1.5 million years ago, which is around a million years earlier than previously believed.

Key Details

- The **oldest stone tools that have been discovered date back 3.3 million years.**
- According to **modern experts**, our ape-like ancestors may have been utilising sticks and stones on a daily basis for millions of years before the earliest tools were discovered.
- This indicates that **tool technology** is not a characteristic that is exclusive to humans, as was long thought, and that it existed **before the genus Homo emerged.**
- **Goodall and Marzke's works** cast doubt on what academics now call "human exceptionalism", or the notion that humans are unique and better than all other animals.
- The theory that tool-use and toolmaking are **uniquely human traits stuck around for so long because of our belief that we are special, despite ample evidence around us suggesting otherwise.**
- For instance, the study of other primates has shown that a number of hand morphologies — not just that of humans — are capable of highly dexterous behaviours.
- The **latest evidence**, based on the analysis of living primates, suggests that even the **last common ancestor of all great apes, some 13 million years ago, had precision dexterity and used tools.**

Stone Age

marks the earliest phase of human development, extending up to around 8000 BC, and is divided into three distinct phases based on stone tool technology and other changes.

1. **Lower Palaeolithic Age (Up to 100,000 BC)**
 - Initial phase of the Old Stone Age.
 - Characterised by **primitive stone tools.**
 - Early human species like Homo erectus and possibly Neanderthals existed.
 - Using a hand axe, cleavers are made from large pebbles.
 - **Key sites:** Chhota Nagpur Plateau, Kurnool, and parts of Andhra Pradesh.

2. **Middle Palaeolithic Age (100,000 BC – 40,000 BC)**
 - Advancements in stone tool technology observed.
 - Continued presence of Homo erectus and emergence of early Homo sapiens.
 - Archaeological finds show **increasing tool complexity and evolving cultures.**
3. **Upper Palaeolithic Age (40,000 BC – 10,000 BC)**
 - **More refined stone tools** such as blades, specialized hunting tools along with bone tools.
 - Dominance of Homo sapiens.
 - Tools and sites reflect complex social behavior and adaptation.

Mesolithic Era

- The **transition phase between the Palaeolithic and Neolithic ages**, roughly beginning around 9,600 BCE, coincided with the end of the last Ice Age.
- Marks a **shift from hunter-gatherer lifestyle to early agriculture.**
- **Microliths** (small, sharp stone tools) are the hallmark tools of this period.
- The era ends at different times across regions, based on the advent of agriculture.

Neolithic Age (New Stone Age)

- **Began around 6000 BC**, representing the final phase of the Stone Age.
- Marked by **settled agriculture and domestication of animals like cattle, sheep, and goats.**
- Use of **polished stone tools and microlithic blades.**
- Development of tools such as axes, adzes, chisels, and celts.
- **Main crops:** Ragi, horse gram, cotton, rice, wheat, and barley.
- Settlements often near lakes, with continued reliance on hunting and fishing.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. Microliths are found in which phase of the stone age in human history?
- (a) Neolithic age (b) Mesolithic age
(c) Palaeolithic age (d) None of the above

(b) Answer

LEPAKSHI TEMPLE

Why in News: Historian urges government to take steps to get Lepakshi temple included in UNESCO heritage list.

Sri Veerabhadra Temple, Lepakshi

- The Sri Veerabhadra Swamy temple and the Monolithic Bull (Nandi) at Lepakshi in Anantapur district (Andhra Pradesh) are known for the Vijayanagara sculpture and painting art tradition.
- It is added to the UNESCO World Heritage tentative list.
- Sri Veerabhadra temple, also known as Lepakshi Temple is located in Lepakshi Village, named after a main shrine dedicated to Veerabhadra (the fiery incarnation of Lord Shiva).
- From the inscriptions engraved on the prakara walls of the temple, the village is alternatively called as Lepaksha, Lepakshi and Lepakshipura.
- **Legend:** The significance of the place dates back to the Indian epic Ramayana. It is believed that the bird Jatayu, wounded by the king of Lanka, Ravana, fell here after a battle against the king who was carrying away Sita, the wife of Rama, the king of Ayodhya.
- **Development**
 - The development of the temple complex can be classified under three broad phases, ranging from 1100 to 1800 CE based on its architectural advancements.
 - The **first phase** falls between 1100-1350 CE, during which important architectural features such as pillars, pilasters, and niches developed, which contains features of Late Chola, Pandya, and Hoyasala styles and of early Vijayanagara Period also.
 - In the **next period**, major building activity took place from 1350 - 1600 CE representing the period of matured Vijayanagara architecture.
 - During the Vijayanagara period, Lepakshi temple went through gradual development in the reign of king Achyutaraya (1529-42 CE) and bears witness to Vijayanagara period at an important stage of its evolution.
 - The **last period** falls in between 1600 to 1800 CE during which no significant structure has come except for some minor shrines.
- **Components of the temple complex**
 - The temple complex along with its concentric enclosure walls or prakarais situated on a low granite tortoise shaped hill known as Kurmasaila.
 - The structures were built at three different levels or contours of the hill; each group was enclosed by three prakaras. i.e inner, middle and the outer prakara built during three different phases.
- The temple is built in **trikutastyle**, initially with two shrines - Veerabhadra and Papanaseswara sharing a common platform and a pillared maha-mandapa.

- The third shrine was added on west of the same platform, which together forms a part of inner prakara, dedicated to Raghunatha.

UNESCO's Tentative List

- Countries submit their Tentative Lists, properties which they consider to be cultural and/or natural heritage of outstanding universal value and therefore suitable for inscription on the World Heritage List.
- UNESCO encourages countries to re-examine and re-submit their Tentative List at least every ten years.
- Nominations to the World Heritage List are not considered unless the nominated property has already been included on the State Party's (country's) Tentative List.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following sites:

1. Garo Hills Conservation Area (GHCA)
2. Keibul Lamjao Conservation Area
3. Satpura Tiger Reserve
4. Temples of Kanchipuram

Which of the above sites are included in the UNESCO Tentative list?

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

Answer: (d)

GODAVARI PUSHKARALU

Why in News: The Andhra Pradesh government is planning to celebrate Godavari Pushkaralu in 2027 on a par with the Maha Kumbh Mela.

About Godavari Pushkaralu/Pushkaram

- Godavari Pushkaram is a Hindu tradition associated with the worship of the River Godavari.
- **Pushkaram** is a festival of rivers, 12 important ones in the country, occurring once in 12 years for each river.
- Pushkaram is similar to the Kumbh Mela, performed alongside rivers elsewhere in the country and taking a holy dip is the main ritual of the festival.
- The river for each year's festival is based on the position of Jupiter in the Zodiac, the pushkaram lasting for a period as long as the planet remains there.
- The last Godavari Pushkaralu was held in 2015. It was the Maha Pushkaram, as it occurs once in 144 years, corresponding with the 12th recurrence of the 12-year cycle.

- The river **Godavari originates** at the Tryambakeshwar temple in **Nashik** and flows in quite a few places in Andhra Pradesh and Telangana, which are called Divyakshetrams.
- The 12-day event takes place in eleven cities of Telangana and Andhra Pradesh: Nirmal, Basara, Dharmapuri, Kaleswaram, Bhadrachalam, Pattiseema, Kovvuru, Rajahmundry, Davaleshwaram, Narsapuram, Antarvedi.



EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. The Godavari Pushkaralu tradition is celebrated in the state of ...

- (a) Andhra Pradesh (b) Telangana
- (c) Maharashtra (d) Both (a) and (b)

Answer: (d)

MARATHA MILITARY LANDSCAPES OF INDIA

Why in News: Recently, the Maharashtra Minister for Cultural Affairs led a delegation to go to Paris to get **UNESCO World Heritage status for Chhatrapati Shivaji Maharaj’s forts**.

Key Details

- Twelve forts built by Chhatrapati Shivaji Maharaj have been **recommended by the State for UNESCO recognition under the theme “Maratha Military Landscape of India”**.
- It seeks to **raise awareness of Chhatrapati Shivaji Maharaj’s forts on a worldwide scale** and emphasise the value of Maharashtra’s cultural legacy.

- More chances for conservation and the growth of tourism would arise if these forts were included on the UNESCO World Heritage List.
- Salher Fort, Shivneri Fort, Lohgad, Khanderi Fort, Raigad, Rajgad, Pratapgad, Suvarnadurg, Panhala Fort, Vijay Durg, Sindhudurg, and Gingee Fort in Maharashtra are the twelve constituent sections of this nomination.
- These elements, which are **dispersed over various physiographic and geographical areas**, highlight the Marathas’ strategic military might.
- The remarkable fortification and military system that the Maratha rulers envisioned is reflected in the Maratha Military Landscapes of India, which emerged between the 17th and 19th centuries.
- The integration of the landscape, terrain, and physiographic features **unique to the Sahyadri mountain ranges, the Konkan Coast, the Deccan Plateau, and the Eastern Ghats** in the Indian Peninsula resulted in this remarkable network of forts, which vary in hierarchies, scales, and typological features.
- Only **12 of Maharashtra’s more than 390 forts** have been chosen for the Maratha Military Landscapes of India.
- **Salher, Shivneri, Lohgad, Raigad, Rajgad, and Gingee are hill forts** in India’s Maratha military landscapes;

- Despite witnessing the rise and fall of many kingdoms in Delhi, **Amir Khusrau was treated with dignity and respect by each of the succeeding dynasties.**
- **Tut-i Hind (Parrot of India)** was the title bestowed to him in appreciation of his academic accomplishments, wisdom, and moral rectitude.
- He also **wrote ghazals** along with concentrating on his literary accomplishments as a court poet.
- He couldn't survive long without his guide; thus, **he passed away in October 1325.**
- Amir Khusrau's tomb was close to Hazrat Nizamuddin Auliya's final resting place.

Literary works

- **'Khaza'in ul-Futuh' (The Treasures of Victory)** – Chronicled **Alauddin Khilji's administration.**
- **'Nuh Sipih' (Nine Skies)** – 9 chapters on the reign of **Mubarak Shah** as well as a detailed description of India's environment, culture, flora and wildlife.
- **'Tughlaq Namah'** – To honour the reign of **Ghiyath al-Din Tughluq** and other Tughlaq king's.

Death

- In later years, he travelled to Bengal with Tughlaq and remained there for a while before returning to Delhi after learning of the untimely passing of his spiritual mentor, Hazrat Nizamuddin Auliya.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding Amir Khusrau:

1. He was bestowed with the title of Tut-i-hind (Parrot of India).
2. He wrote Tughlaq nama.
3. He was an ardent follower of Hazrat Nizamuddin Auliya.

How many of the statements given above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Answer: (c)

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GOVERNMENT SCHEMES

PRADHAN MANTRI SHRAM YOGI MAANDHAN (PMSYM) YOJANA

Why in News: Pradhan Mantri Shram Yogi Maandhan (PMSYM) Yojana is in the news due to a 37% budget increase, low enrollment concerns, planned integration with the e-Shram portal, and reaching 45 lakh beneficiaries as of March 2025.

About PMSYM

- **Launch Date:** 1st February, 2019
- **Implementing Agency:** Ministry of Labour and Employment, with the Life Insurance Corporation of India (LIC) acting as the Pension Fund Manager.
- **Enrollment Process:** Eligible workers can enroll through Common Service Centres (CSC) across India. The process requires Aadhaar Card and savings bank account details.

Key Features of the Scheme

- **Minimum Assured Pension**
 - Provides a **monthly pension of ₹3,000** after the age of **60 years**.
- **Contribution-Based Scheme**
 - Workers have to contribute a **nominal monthly amount** (₹55 to ₹200) till they reach 60 years.
 - The **Government of India matches the contribution** of the subscriber.
- **Eligibility Criteria**

Should be an **unorganized sector worker** (such as street vendors, rickshaw pullers, agricultural laborers, construction workers, domestic workers, etc.).

- Age between **18 to 40 years**.
- Monthly income **should not exceed ₹15,000**.
- Should **not be covered under EPFO, NPS, or ESIC**.
- Should **not be an income tax payer**.
- **Family Benefits**
 - If the subscriber **dies before 60 years**, the spouse can either **continue the scheme** or **withdraw the contribution with interest**.
 - After the subscriber's **death post-retirement**, the spouse receives **50% of the pension as a family pension**.

• **Simple Registration Process**

- Registration can be done through **Common Service Centers (CSC)** across India.
- Requires **Aadhaar Card and Bank Account details**.

• **Exit Provisions**

- If the subscriber **exits before 10 years**, the contribution is refunded with savings bank interest.
- If the subscriber **exits after 10 years but before 60 years**, the contribution is refunded along with interest earned on the fund.

Why is PMSYM Important

- Provides **financial independence to unorganized workers** in their old age.
- Helps in **reducing poverty** among elderly workers.
- Encourages **long-term savings and social security** for informal sector employees.

Conclusion

This scheme is a **big step towards social security** for India's unorganized workforce, ensuring that they lead a **dignified life post-retirement**.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding the Pradhan Mantri Shram Yogi Maandhan (PMSYM) Yojana:

- It is a voluntary and contributory pension scheme aimed at workers in the unorganized sector.
- The Government of India contributes 50% of the total amount, while the remaining 50% is contributed by the subscriber.
- The scheme is applicable to all workers, including those covered under EPFO, NPS, and ESIC.
- Upon the death of the subscriber, the full pension is transferred to the spouse.

Which of the above statements is/are correct?

- 1 and 2 only
- 1 and 3 only
- 2 and 4 only
- 1 only

(a) Answer

FORMATION AND PROMOTION OF 10,000 FPOs SCHEME

Why in News: Recently, the 10,000th FPO has been registered under the 'Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs) Scheme.

About the Scheme

- **Responsible Ministry:** Ministry of Agriculture and Farmers Welfare.
- **Launch date:** 29th February, 2020.
- **Budgetary outlay:** ₹6,865 crore till 2027-28.
- **Handholding support:** For handholding support for a period of five years for each new FPO formed.
- **Financial assistance:** Rs. 18 lakhs to each FPO under the scheme towards management costs for 3 years.
- **Matching equity grant:** Up to Rs. 2,000 per farmer member of FPO with a limit of Rs. 15.00 lakh per FPO.
- **Credit guarantee facility:** Up to Rs. 2 crore of project loan per FPO.
- **Credit Guarantee Fund:** For providing credit guarantee cover to financial institutions for extending loans to FPOs.
- **ONDC platform:** To sell their goods online to customers nationwide, over 5,000 of the 8,000 registered Farmer Producer Organisations (FPOs) have enrolled on the Open Network for Digital Commerce (ONDC) portal.
- **MoU to convert 10,000 FPOs into CSCs:** Between CSC SPV (Common Services Centres Special Purpose Vehicle) and the Ministry of Agriculture & Farmers Welfare to convert FPOs registered under the 'Formation & Promotion of 10,000 FPOs scheme' into CSCs and help them to deliver citizen-centric services.

Significance of the Scheme

- Facilitate the development of **vibrant and sustainable income-oriented farming**.
- **Better liquidity and market linkages** for farmers produce
- Assist FPOs in **developing their agricultural entrepreneurial abilities** by providing them with efficient capacity building.
- **Access to extension services, contemporary technology, cooperative training on GAP**, and guaranteeing the traceability of agricultural products.
- **Access to institutional credit against stock**, without collateral.
- **Greater bargaining power for farmers** and greater quality orientation in production and processing activities.
- It is possible to **prevent or control adverse price swings and distressed sales**.

- **Ease in communication for dissemination of information about prices** and volumes in different locations and other farming-related advisories.
- **Bulk transportation and aggregation lower marketing expenses.**
- Building scale through aggregation of commodities lends the advantage of **economies of scale** and attracts traders, processors, and retailers to the farm gate.
- Facilities for cooperative storage and value addition can **reduce post-harvest losses**.
- By purchasing all required inputs in large quantities at wholesale prices, **manufacturing or cultivation costs can be decreased**.

Farmer Producer Organisation (FPO)

- Farmer Producer Organisation (FPO) is a generic name, which refers to a farmer-producers' organization formed for the purpose of leveraging collectives through economies of scale in the production and marketing of agricultural and allied sectors.
- **Ownership:** The ownership of FPOs lies with the member farmers.
- **Legislative framework:** Part IXA of the Companies Act or Co-operative Societies Act of concerned states.
- **Examples:** Chetna Organic Agriculture, Indian Organic Farmers Producers Company Ltd, Baliraja Krishak.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding the Formation and Promotion of 10,000 Farmer Producer Organizations (FPOs) Scheme:

1. It was launched in the budget 2025-26.
2. It provides handholding support for a period of five years to each new FPO formed.
3. It aims to register 10,000 Farmer Producer Organization (FPOs) every year.

Which of the statements given above is/are correct?

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

(b) :Answer

RASHTRIYA GOKUL MISSION

Why in News: The Union Cabinet recently approved the revised Rashtriya Gokul Mission (RGM) with a significant budget enhancement for the fiscal years 2024-25 and 2025-26. This move strengthens India's focus on protecting and improving indigenous breeds and enhancing dairy production.

Key Details

- Total allocation: ₹3400 crore
- Focus on promoting indigenous breeds and dairy development
- Subsidies and financial aid for livestock farmers

About Rashtriya Gokul Mission

Launched in 2014, the Rashtriya Gokul Mission aims to preserve and promote indigenous cattle breeds by setting up **Gokul Grams** (indigenous breed rearing centers), strengthening AI (Artificial Insemination) services, and genetic upgradation programs.

Achievements

- Increased milk production by 63.55%.
- Boosted productivity by 26.34%.
- More than 23.82 lakhs inseminations conducted.

Revised Gokul Mission

The revised mission will have a sharper focus on ensuring financial security for farmers through enhanced productivity, genetic improvement of cattle, and higher incomes.

Key Features

- **Financial Support for Farmers:** The revised mission offers a **35% subsidy** for establishing **Heifer Rearing Centres**, ensuring affordable care and development of high-quality livestock.
- **Interest Subvention:** A **3% interest subvention** is provided to farmers who purchase IVF heifers, encouraging the adoption of modern breeding techniques.
- **Indigenous Breed Focus:** The mission emphasizes preserving and enhancing the genetic quality of **indigenous cattle breeds** through **genetic upgradation programs**.
- **Infrastructure Development:** Investment in **modern breeding infrastructure** like AI services and IVF centers.
- **Farmer Empowerment:** The goal is to **increase farmer incomes** by boosting milk yield and productivity through advanced cattle management.

Conclusion

The revised Rashtriya Gokul Mission is a pivotal step in securing India's dairy and livestock sectors, promising both productivity gains and farmer welfare.

EXPECTED QUESTIONS FOR UPSC CSE

Prelims MCQ

- Q. Which of the following is NOT a feature of the revised Rashtriya Gokul Mission?
- 35% subsidy for Heifer Rearing Centres
 - 3% interest subvention on purchase of IVF heifers
 - Import of foreign cattle breeds for dairy production
 - Preservation and promotion of indigenous cattle breeds

(c) Answer

BHIM - UPI

Why in News: The Cabinet recently approved an incentive scheme to promote low-value BHIM-UPI Person to Merchant (P2M) transactions, with the aim to strengthen digital payments in India.

Key Details

- The Cabinet has approved an incentive scheme to promote low-value BHIM-UPI transactions for Person-to-Merchant (P2M) payments.
- The scheme, with an outlay of ₹1,500 crore for FY 2024-25, focuses on incentivizing digital transactions under ₹2,000 to encourage small merchants to adopt digital payments.
- This initiative aims to expand financial inclusion, improve digital payment infrastructure in rural areas, and boost UPI usage across the country.

About BHIM

BHIM (Bharat Interface for Money) is a government-led UPI-based mobile payment platform developed by NPCI to promote financial inclusion and simplify digital transactions.

Features of the Scheme

- **Transaction Limit:** The scheme incentivizes UPI transactions below ₹2,000, specifically targeting small and micro-merchants.
- **Merchant Adoption:** The scheme promotes wider digital payment acceptance among small merchants, enabling them to transition from cash-based transactions to digital payments.
- **Rural and Semi-Urban Focus:** Special emphasis on extending the benefits of digital payments to rural areas and tier-3 cities to increase digital penetration.
- **Increased Digital Literacy:** The scheme is expected to boost digital literacy among merchants, especially in underserved communities, by encouraging the adoption of UPI.

- **Financial Inclusion:** The program aids in connecting the unbanked and underbanked population to digital payment platforms, contributing to the overall goal of financial inclusion.
- **Incentive Structure:** A 0.15% incentive will be provided to merchants for transactions up to ₹2,000, encouraging small businesses to accept digital payments.

EXPECTED QUESTION FOR UPSC CSE

Prelims Question

Q. Which of the following correctly describes the features of the incentive scheme for BHIM-UPI transactions?

1. Focus on low-value transactions under ₹2,000.
2. Aims to boost digital payments primarily in metro cities.
3. Incentives are given to merchants for accepting digital payments.

Which of the above statements is/are correct

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

Answer: (a)

JAIPUR DECLARATION AND CITIES COALITION FOR CIRCULARITY

Why in News: India launched the Cities Coalition for Circularity (C-3), a multi-nation alliance for city-to-city collaboration, knowledge-sharing, and private sector partnerships for sustainable urban development.

Key Details: Jaipur Declaration

- The 12th Regional 3R (Reduce, Reuse, Recycle) and Circular Economy Forum was held in Jaipur.
- The Jaipur Declaration was adopted at the forum.

Key Features

- **Non-binding Commitment:** It is a collaborative, non-political framework for Asia-Pacific nations.
- **Focus Areas:**
 - ◆ Resource efficiency and circular economy integration.
 - ◆ Climate resilience and low-carbon urban development.
 - ◆ Strengthening regional cooperation for waste management and innovation.

➤ **Strategic Goals:**

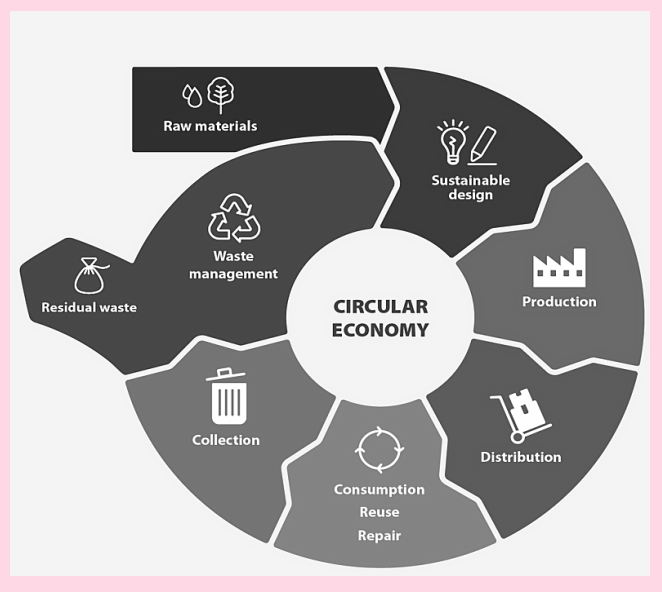
- ◆ To align with global sustainability targets, including the UN SDGs and the Paris Agreement.
- ◆ To promote public-private partnerships and technology-driven solutions.

About Cities Coalition for Circularity (C-3)

- As part of the Jaipur declaration, a collaborative knowledge platform as a global alliance, C-3 (Cities Coalition for Circularity), was agreed upon.
- **Structure:** It is a multi-national alliance with a proposed working group to finalize operational frameworks.
- **Purpose**
 - Enable city-to-city partnerships for knowledge-sharing, technology transfer, and private-sector engagement.
 - Accelerate circular economy adoption through localized solutions.
- **Focus Area**
 - Waste-to-resource innovations (e.g. Bio-CNG, plastic/e-waste recycling).
 - Integration of traditional practices with modern technology. (e.g, Rajasthan’s rainwater harvesting)

Circular Economy

- The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended.
- In practice, it implies reducing waste to a minimum.
- When a product reaches the end of its life, its materials are kept within the economy wherever possible, thanks to recycling. These can be productively used again and again, thereby creating further value.



EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Which of the following statements best describes the primary goal of a circular economy?

- Minimizing waste and making the most of available resources through reuse, repair, and recycling.
- Focusing on the growth in production without considering environmental impacts.
- Prioritizing single-use products for consumer convenience and hygiene.
- Focusing primarily on efficient waste disposal methods like landfilling and incineration.

Answer: (a)

PASHU AUSHADHI INITIATIVE

Why in News: The Government of India has introduced the **Pashu Aushadhi** initiative to enhance livestock health by providing affordable, high-quality generic veterinary medicines. Modeled after the successful **Pradhan Mantri Bharatiya Janaushadhi Kendras (PMBJK)**,

Key Aspects of the Pashu Aushadhi Initiative

- Affordable Veterinary Medicines:** Modeled after **Jan Aushadhi**, providing **low-cost, generic veterinary drugs** to reduce healthcare costs for livestock owners.
- Establishment of Pashu Aushadhi Kendras: Dedicated centers** will be set up to dispense veterinary medicines, ensuring easy access to **high-quality treatments** for livestock.
- Livestock Health and Disease Control Programme (LHDCP):** Integrated into LHDCP with **₹3,880 crore allocation**, and **₹75 crore** earmarked for the Pashu Aushadhi component.
- Targeting Livestock Diseases:** Focus on diseases like **Foot and Mouth Disease (FMD), Brucellosis, PPR, and Lumpy Skin Disease**, which cause major productivity losses.
- Leveraging Existing Infrastructure:** The initiative will **utilize existing Jan Aushadhi networks** for efficient distribution and wider reach of veterinary medicines.
- Support for Farmers:** Aimed at **improving livestock health and boosting productivity**, benefiting the **economic well-being** of farmers by lowering treatment costs.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. With reference to the Pashu Aushadhi initiative, consider the following statements:

- The Pashu Aushadhi Kendras are established to provide subsidized, branded veterinary medicines to farmers for improving livestock productivity.
- The initiative is a component of the revised Livestock Health and Disease Control Programme (LHDCP) and receives a dedicated budgetary allocation for the provision of generic veterinary medicines.

Which of the above statements is/are Not correct?

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

Answer: (a)

SWAVALAMBINI

Why in News: Shri Jayant Chaudhary launched Swavalambini, a Women Entrepreneurship Programme.

Key Details

- The Ministry of Skill Development and Entrepreneurship (MSDE), in collaboration with NITI Aayog**, launched Swavalambini— a Women Entrepreneurship Programme at Chaudhary Charan Singh University, Meerut, taking a significant step towards strengthening women entrepreneurship in India.

About Swavalambini

- It is an initiative to empower young women with the skills and confidence needed to establish their own businesses.
- Aim of the Scheme:** Swavalambini aims to establish a structured and stage-wise entrepreneurial journey for young women.
- Key Components:** The programme will take participants through various stages, including awareness-building, skill development, mentorship, and funding support.
- Setting Benchmark:** By promoting and recognising promising women-led ventures, the initiative seeks to set a benchmark for the future of women entrepreneurship in India.
- Stages of the Training:**
 - The programme introduces a structured, **multi-stage training approach** to help young women transition from ideation to successful enterprise creation.

- It begins with an **Entrepreneurship Awareness Programme (EAP)**, a two-day workshop designed to introduce around 600 female students to fundamental entrepreneurial concepts, market opportunities, and essential business skills.
 - This is followed by the **Women Entrepreneurship Development Programme (EDP)**, a 40-hour training initiative for 300 selected students.
 - The EDP covers critical aspects of business development, finance access, market linkages, compliance, and legal support.
- The initiative will offer funding, mentorship, and industry partnerships to nurture cutting-edge solutions.
 - Through S2I2, the maritime sector will witness a new wave of RISE — Research, Innovation, Startups, and Entrepreneurship — driving economic growth and unlocking transformative technological advancements.
 - It aims to create an ecosystem of innovation and entrepreneurship in the port and maritime sector in India. It seeks to bring in new ideas, energy and youth to address the challenges of the sector.
 - With cooperation between MoS institutions, academic and training institutions, research institutes and CEMS, NTCPWC, CICMT, other Govt. departments and private sector, it will provide financial, institutional, infrastructure, mentorship and new market access to startups to create a Maritime Innovation Hub.

Positive Implications of the Scheme

- By advocating an ecosystem that nurtures women entrepreneurs, Swavalambini is poised to create a significant impact in North India and beyond.
- The initiative aspires to see at least 10% of the EDP-trained participants establish successful enterprises, contributing to the larger vision of a self-reliant, women-led entrepreneurial landscape in India.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. Swavalambini scheme recently seen in news is related to
- (a) Reducing MMR and IMR
 - (b) AI training to Women entrepreneurs
 - (c) Women Entrepreneurship Programme
 - (d) Teaching Organic Farming to Women farmers

Answer: (c)

SAGARMALA


Why in News: Sagarmala Start-up Innovation Initiative (S2I2) was launched at the 4th National Sagarmala Apex Committee (NSAC) meet, to Foster Innovation & Entrepreneurship in the Maritime Sector.

About Sagarmala Start Up Innovation Initiative (S2I2)

- It is a forward-looking program aimed at accelerating innovation and entrepreneurship in the maritime sector.
 - S2I2 aims at empowering startups working in areas such as green shipping, smart ports, maritime logistics, shipbuilding technology, and sustainable coastal development.
- Main aspects associated with Sagarmala:
 - Reduce logistics cost for EXIM and domestic trade with minimal infrastructure investment.
 - Enhanced domestic waterways (inland and coastal) in the multi-modal transport.
 - Lower logistics costs of bulk commodities by locating industries close to the coast.
 - Create jobs and develop skills in the ports and maritime sector.
 - The overall set of projects are divided into 5 pillars and 24 categories.




- **Way Forward:** With the current edition of Sagarmala, set to be completed over the next couple of years, the government will soon launch its second edition with a budgetary corpus of Rs 40,000 crore, with a special focus on shipbuilding, repair, and recycling.




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INDIA @2047: TRANSFORMING INDIA INTO A TECH-DRIVEN ECONOMY REPORT

Why in News: Recently, Nasscom and Bain & Company jointly published a report, India@2047: Transforming India into a Tech-Driven Economy.

Key highlights of the Report

- With a predicted **GDP of \$23–\$35 trillion**, India is expected to become a high-income nation thanks to consistent 8%–10% yearly growth by 2047.
 - By 2047, **manufacturing** will account for 32% of India's GDP, with the **services** sector expected to account for 60%.
 - **Key growth levelers:** The **electronics, energy, chemicals, automotive, and services industries** would serve as key growth levers.
 - **Agriculture sector:** **Precision farming, digitalisation, automated farming and harvesting**, and other agricultural innovations will increase output and maximise resource utilisation.
 - **Manufacturing sector:** **Hyper-automation, 3D and 4D additive manufacturing, quantum-driven supply chains, and circular manufacturing** will all contribute to the expansion of manufacturing and allow for more sustainable and effective production.
 - **Service sector:** **Adoption of AI/ML and generative AI, quantum computing, and brain-computer interfaces** will drive the services industry ahead, significantly improving automation, decision-making, and consumer experiences.
- ### Key Recommendations
- **Employment Creation:** Achieving the 2047 goal may require **creating high-value jobs and raising female labour participation to 40% to 50%**. As 200 million people are expected to join the workforce.
 - **Electronics:** **Touchless manufacturing, biodegradable parts, and AI-enabled chip design** might increase efficiency and cut down on electrical waste. These developments might establish India as a worldwide leader with a 25% share in electronics manufacturing,

increase domestic output, lessen reliance on imports, and generate around 20 million jobs.

- **Energy:** While decentralised solutions like **microgrids might improve accessibility, smart grids could** aid in optimising energy delivery. **Advanced nuclear and green hydrogen technologies** have the potential to **diversify energy sources, promote carbon-neutral processes**, and establish India as a leader in renewable energy.
- **Chemicals:** **Digital twins and AI-driven molecular design** will boost R&D productivity and spur innovation. Aiming for about 10% of global value chains, especially in speciality chemicals, **bio-based production and green practices**, may improve sustainability and export competitiveness.
- **Automotive:** **Advanced electric vehicle (EV) batteries, networked software, and autonomous technologies** are probably going to be the main drivers of electrification. **Investing in vehicle-to-everything (V2X) connectivity and EV manufacturing clusters** might make India a global centre for smart transportation solutions.
- **Services:** The **Internet of Things (IoT), blockchain, and artificial intelligence (AI)** have the potential to revolutionise sectors including retail, healthcare, and finance.
- **Public-private partnership:** Collaboration between the public and commercial sectors might spur innovation in **vital fields like artificial intelligence and renewable energy**.
- **Funding:** **Raising R&D spending as a proportion of GDP** may encourage homegrown innovation and lessen India's reliance on international supply chains.
- **External trade:** **Export diversification into developing countries like Africa and Latin America** and the strengthening of India's place in global value chains through **Free Trade Agreements (FTAs)** may lessen dependency on established trading partners.

By coordinating sectoral expansion with sustainability and inclusion, India may achieve its goal of having an economy worth between \$23 and \$35 trillion by 2047. This change has the potential to improve India's reputation abroad, raise the standard of living for its citizens, and position the country as a leader in social, technical, and economic spheres.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. The India @2047: Transforming India into a Tech-Driven Economy report was published by?

- (a) World Economic Forum
- (b) World Bank
- (c) International Monetary Fund
- (d) None of the Above

Answer: (d)

SBI REPORT ON INDIA'S TRADE RESILIENCE AMID US TARIFF UNCERTAINTY

Why in News: The State Bank of India (SBI) in a special report said that India would stand to gain in an increasingly uncertain world of tariffs.

Key Highlights of the Report

- **Impact of Reciprocal Tariffs on India**
 - **Minimal Export Disruption:** Indian exports to the US may decline by 3–3.5% post-tariffs, but losses are expected to be offset by:
 - ◆ Diversification of export baskets (manufacturing and services).
 - ◆ Value addition in products and exploration of alternative markets.
 - ◆ New trade routes (e.g., Europe to the US via the Middle East).
 - **Aluminum & Steel Tariffs:** India runs a marginal trade deficit with the US - \$13 million in aluminum goods and \$406 million in steel goods.
- **India's Strategic Trade Measures**
 - **Export Diversification & Supply Chain Redesign**
 - ◆ Expanding export goals across manufacturing and services.
 - ◆ Leveraging alternative markets and supply chain routes (e.g. Middle East corridors).
 - **Free Trade Agreements (FTAs)**
 - ◆ India signed multiple FTAs, including with Mauritius, UAE, Australia - covering tariff reductions, services, digital trade, and intellectual property.
 - ◆ Ongoing Negotiations with UK, Canada, EU – targeting services, digital trade, and sustainable development.
 - **Digital Trade:** Projected to contribute \$1 trillion

to India's GDP by 2025 through digital economy expansion.

• **Future Opportunities & Projections**

- ◆ **Geopolitical Shifts:** US-China trade tensions and supply chain realignments create openings for India.
- ◆ **Tech & Innovation:** A potential 'Deep Seek' moment could challenge US tech dominance, offering India avenues to leverage digital trade.
- ◆ **Growth Projections:** Structural reforms and private-sector crowding-in could elevate India's long-term GDP potential.

Free Trade Agreement (FTA)

- FTA is an agreement between the country(s) or regional blocks to reduce or eliminate trade barriers, though mutual negotiations with a view to enhancing trade.
- It can be comprehensive to include goods, services, investment, intellectual property, competition, government procurement and other areas.
- Trade agreements could be bilateral, plurilateral or multilateral.
 - Bilateral trade agreements occur when two countries agree to unshackle trade restrictions to expand business opportunities.
 - Plurilateral agreements occur between a large number of countries, either in the regional context or otherwise.
 - Multilateral trade agreements is generally referred to for WTO negotiations since it covers a large number of countries and sets global trade rules.

India's FTA

- India has signed 14 free trade agreements (FTAs) and 6 preferential trade agreements (PTA).
- FTA is comprehensive across a number of areas and has deeper commitments while a PTA is confined to trade in goods and seeks only a tariff elimination in terms of a margin of preference (MOP).
- The coverage of a PTA on goods is also limited compared to an FTA.
- **Examples:**
 - Indo-Sri Lanka Free Trade Agreement (ISLFTA)
 - South Asian Free Trade Area (SAFTA)
 - India - Bhutan Agreement on Trade, Commerce and Transit
 - India Thailand Early Harvest Scheme (EHS)
 - India-Singapore Comprehensive Economic Cooperation Agreement (CECA)
 - ASEAN-India Free Trade Area (AIFTA)
 - India-Korea Comprehensive Economic Partnership Agreement (IKCEPA)
 - India-Japan Comprehensive Economic Partnership Agreement (IJCEPA)

- India-Malaysia Comprehensive Economic Cooperation Agreement (IMCECA)
- India- Mauritius Comprehensive Economic Cooperation and Partnership Agreement (IMCECPA)
- India-Nepal Treaty of Trade
- India UAE Comprehensive Economic Partnership Agreement (CEPA)
- India-Australia Economic Cooperation and Trade Agreement ECTA)
- India EFTA Trade and Economic Partnership Agreement (TEPA)

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding Free Trade Agreements (FTAs) and Preferential Trade Agreements (PTAs):

1. FTA is comprehensive across a number of areas and has deeper commitments.
2. PTA is confined to trade in goods and seeks only a tariff elimination in terms of a margin of preference (MOP).
3. The coverage of a PTA on goods is also limited compared to an FTA.

How many of the above statements are correct?

- (a) Only one (b) Only two
 (c) All three (d) None

Answer: (c)

INDIA: SECOND-LARGEST ARMS IMPORTER

Why in News: India has emerged as the second-largest arms importer globally after Ukraine, as per the **SIPRI report 2024**. Despite efforts towards indigenization, India continues to rely heavily on arms imports to meet its defense needs.

Highlights from the Report

- **India's Dependency on Imports:** India ranks second globally for arms imports, following Ukraine. Russia remains India's top arms supplier despite diversification attempts.
- **Major Import Sources:** 31% of India's imports came from **Russia**, followed by **France** (29%) and the **U.S.** (11%).

- **Shift in Supplier Dynamics:** Russia remains India's largest supplier, but its share has declined due to diversification to countries like **France** and **Israel**.
- **Ukraine Conflict Impact:** The ongoing conflict in Ukraine has significantly affected global arms transfers, with Ukraine emerging as the largest importer.
- **Rising Military Modernization:** India continues to import sophisticated systems such as **Rafale** fighter jets and **S-400 missile systems** to modernize its defense forces.
- **Global Context:** India ranks **fifth** globally in defense expenditure but relies on imports for cutting-edge technology.

India's Initiatives to Reduce Arms Imports

- **Aatmanirbhar Bharat Abhiyan:** Aimed at achieving self-reliance in defense manufacturing.
- **Make in India:** Promotes domestic manufacturing and export of defense equipment.
- **Defence Procurement Procedure (DPP):** Prioritizes procurement from indigenous sources.
- **Innovations for Defence Excellence (iDEX):** Encourages innovation in defense production by startups and MSMEs.
- **DRDO Projects:** Development of indigenous systems like **Tejas**, **INSAS**, **Akash**, and **Arjun MBT**.
- **Strategic Partnership Model:** Promotes collaboration between the private sector and foreign manufacturers.

Conclusion

While India has made significant strides toward defense indigenization, it still depends on imports for critical defense needs. Strengthening domestic production capabilities through robust policies and public-private partnerships is essential for reducing this reliance.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Consider the following statements regarding India's defense imports:

1. India is the largest arms importer globally.
2. Russia is India's largest arms supplier.
3. India has implemented the Strategic Partnership Model to enhance private sector participation in defense production.

Which of the above statements are correct?

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

Answer: (b)

A WORLD OF DEBT REPORT 2024

Why in News: According to **A World of Debt Report 2024** by the UN Trade and Development, global public debt has reached a record high of \$97 trillion in 2023.

Issues Highlighted in the Report

- **Rising Global Public Debt**
 - **Record Debt Levels:** Global public debt reached \$97 trillion in 2023, a \$5.6 trillion increase from 2022. Developing countries' debt grew twice as fast as developed nations.
 - **Regional Disparities**
 - ◆ Africa's median public debt-to-GDP ratio rose to 61.9% in 2023, with 46% of African countries exceeding 60% debt-to-GDP.
 - ◆ Asia and Latin America saw debt stocks rise but debt-to-GDP ratios decline due to inflation and GDP growth.
 - **Unequal Burden:** Developing countries account for 30% of global debt (up from 16% in 2010), with Asia (75%), Latin America (17%), and Africa (7%) bearing unequal shares.
- **High Cost and Risks of External Debt**
 - **Expensive Borrowing:** Developing countries pay 2–12 times higher interest rates than developed nations (e.g., Africa's bond yields are 9.8x Germany's).
 - **Reliance on Private Creditors:** 61% of external debt in developing countries is owed to private creditors, making restructuring complex and costly.
 - **Currency and Market Risks:** Currency devaluations and volatile investor behavior exacerbate repayment challenges.
- **Impact on Public Services and Development**
 - **Diverted Resources:** 54 developing countries (38% of total) allocated ≥10% of government revenues to interest payments in 2023, doubling since 2010.
 - **Climate Action Undermined:** Developing countries spend 2.4% of GDP on interest vs. 2.1% on climate investments.
- **Ineffective International Financial Architecture**
 - **Lack of Crisis Support:** Debt restructuring processes are slow, with post-2020 cases taking longer than past decades.
 - **Exclusionary Governance:** Developing countries lack meaningful participation in global financial decision-making.
 - **Inadequate Liquidity Tools:** Limited access to contingency finance forces countries into debt as a last resort.
- **Decline in Effective Development Assistance**
 - **Shrinking Aid:** Official Development Assistance (ODA) fell to \$164 billion in 2022, with loans rising to 34% of total aid (vs. 28% in 2012).
- **Neglected Debt Relief:** Resources for debt relief dropped from \$4.1 billion in 2012 to \$300 million in 2022.

Way Forward

- **Reform the International Financial Architecture**
 - **Inclusive Governance:** Enhance developing countries' participation in global financial institutions.
 - **Effective Debt Workout Mechanisms**
 - ◆ Strengthen the G20 Common Framework with automatic debt service suspension clauses.
 - ◆ Accelerate debt restructuring timelines through improved creditor coordination.
- **Reduce Debt Costs and Risks**
 - **Lower Borrowing Costs:** Expand access to concessional financing and multilateral lending.
 - **Debt Transparency:** Standardize reporting and risk assessments to prevent unsustainable borrowing.
- **Expand Contingency Finance**
 - Strengthen Special Drawing Rights (SDRs) allocations.
 - Suspend IMF surcharges and increase emergency financing quotas.
- **Scale Up Sustainable Financing**
 - **Fulfill Climate Commitments:** Deliver the \$100 billion/year climate finance pledge and align investments with Paris Agreement targets.
 - **Transform Multilateral Development Banks (MDBs):** Scale up affordable long-term financing for SDGs.
- **Improve Development Assistance**
 - **Shift from Loans to Grants:** Prioritize grants in ODA to reduce debt accumulation.
 - **Boost Debt Relief:** Allocate resources for swaps, restructuring, and relief programs.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Which of the following organizations published A World of Debt Report 2024?

- (a) World Bank
- (b) International Monetary Fund
- (c) United Nations Trade and Development
- (d) World Economic Forum

(c) Answer

NATIONAL HOUSING BANK REPORT

Why in News: The National Housing Bank (NHB) has published its annual report, “Trends and Progress of Housing in India 2024,” offering a comprehensive analysis of the current state and future outlook of the housing sector in India.

Key Highlights of the Report

1. Growth in Housing Loans:

- As of September 30, 2024, individual housing loans outstanding reached ₹33.53 lakh crore, marking a 14% year-on-year growth.

2. Segment-wise Loan Distribution:

- Economically Weaker Sections (EWS) and Low-Income Groups (LIG) accounted for 39% of outstanding individual housing loans.
- Middle-Income Groups (MIG) held a 44% share.
- High-Income Groups (HIG) comprised 17% of the total.

3. Housing Price Index:

- The NHB-RESIDEX recorded a year-on-year increase of 6.8% for the quarter ending September 2024, up from 4.9% in the previous year.

4. Government Initiatives:

- The report covers major government programs such as:
 - ◆ **Pradhan Mantri Awas Yojana-Gramin (PMAY-G):** Focuses on affordable rural housing.
 - ◆ **Pradhan Mantri Awas Yojana-Urban (PMAY-U):** Supports low-cost housing projects in urban areas.
 - ◆ **Urban Infrastructure Development Fund (UIDF):** Aims to enhance infrastructure financing for affordable housing.
 - ◆ **Affordable Rental Housing Complexes (ARHCs):** Provides housing solutions for migrant workers and the urban poor.

Challenges in the Housing Sector

1. Regional Disparities in Credit Flow:

- Southern, Western, and Northern states received the majority of housing finance disbursements (35.02%, 30.14%, and 28.73% respectively), while Eastern and Northeastern states lagged behind with shares of 6.1% and 0.68%. This imbalance limits housing accessibility in underdeveloped regions

2. Limited Reach of Housing Finance Companies (HFCs):

- HFCs play a crucial role in providing flexible loan options but have a limited presence in rural and underdeveloped areas, restricting their ability to bridge the housing finance gap.

3. Low Adoption of Green Buildings:

- Only 5% of buildings in India are classified as ‘green.’ Challenges include higher initial construction costs, lack of incentives for developers, and limited awareness of sustainability benefits.

Way Forward

1. Addressing Regional Disparities:

- Implement targeted policies to enhance credit flow in underdeveloped regions, ensuring equitable access to housing finance across all states.

2. Expanding HFC Outreach:

- Encourage HFCs to extend their branch networks into rural areas, leveraging technology to provide efficient services and bridge the housing finance gap.

3. Promoting Green Buildings:

- Introduce incentives for eco-friendly construction, standardize green certification processes, and raise awareness about the long-term benefits of sustainable housing.

4. Leveraging Technology:

- Utilize advancements such as Artificial Intelligence (AI), data analytics, 3D printing, and digitization of land records to streamline construction processes and improve transparency in the housing sector.

Conclusion

Challenges like regional disparities, limited HFC reach, and low adoption of green buildings persist. Addressing these issues through targeted policies and technological integration is essential for sustainable and inclusive growth in India’s housing sector.

About NHB (National Housing Bank)

- **Established:** 1988, under the National Housing Bank Act, 1987.
- **Objective:** To regulate, promote, and develop the housing finance market in India.
- **Ownership:** 100% owned by the Government of India.
- **Regulation:** Supervises Housing Finance Companies (HFCs), with RBI as the primary regulator.
- **Functions:** Enhances financial inclusion by improving access to housing loans for middle and low-income groups.
- **Headquarters:** New Delhi.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

- Q. Which government initiative is *not* covered in the ‘Trends and Progress of Housing in India 2024’ report?
- (a) Pradhan Mantri Awas Yojana-Gramin (PMAY-G)

- (b) Pradhan Mantri Awas Yojana-Urban (PMAY-U)
- (c) Urban Infrastructure Development Fund (UIDF)
- (d) Smart Cities Mission

(d) Answer

PARLIAMENTARY PANEL URGES INCREASED AGRICULTURE SPENDING AND MINISTRY RENAMING

Why in News: A parliamentary panel, chaired by Charanjit Singh Channi, recommended that the Union Agriculture Ministry be renamed to reflect the role of farm labourers and urged for increased spending on agriculture.

Key Details

- The panel highlighted the declining budget allocation to agriculture in recent years and called for reversing this trend to support over **50% of India's population** that relies on agriculture.

Key Highlights of the Report

- **Decline in Agriculture Funding:** The panel noted a continuous decline in the Ministry's share of the Central Plan outlay, dropping from 3.53% in 2021-22 to 2.51% in 2025-26.
- **Renaming the Ministry:** The report suggested renaming the Ministry of Agriculture to "Department of Agriculture, Farmers, and Farm Labourers Welfare" to reflect the significant contributions of farm labourers in the sector, especially those from marginalized communities.
- **Wage Commission for Farm Labourers:** It recommended setting up a "National Commission for Minimum Living Wages for Farm Labourers" to address wage disparities and improve the living conditions of these workers.
- **Compulsory Crop Insurance Scheme:** The panel proposed a free and compulsory crop insurance scheme for small farmers with holdings of up to two hectares. This insurance would provide a safety net against crop losses and reduce their dependence on informal high-interest loans.
- **MSP for Organic Crops:** It also recommended expanding the Minimum Support Price (MSP) framework to include organic crops, with MSPs for organic produce set higher than conventional crops to compensate for lower yields during the transition to organic farming.

Important Recommendations

- **Increase Agriculture Spending:** Urged the government to halt the decline in agriculture funding and allocate a higher percentage of the Central Plan outlay to support the sector.

- **Renaming of Ministry:** Renaming the Ministry would help recognize the role of farm labourers in agricultural policies and schemes.
- **Compulsory Crop Insurance:** Introduce a free and compulsory crop insurance plan for smallholder farmers, modeled after Pradhan Mantri Jan Arogya Yojana, to provide financial stability against crop losses.
- **MSP for Organic Produce:** Extend MSP to organic farming, with higher rates than conventional crops, to encourage farmers to transition to organic agriculture.
- **Wage Support for Labourers:** Establish a national commission for determining minimum living wages for farm labourers, addressing disparities and improving living standards.

Conclusion

The parliamentary panel's report calls for urgent reforms, increased agricultural spending, and stronger support for marginalized farm labourers and smallholder farmers. These recommendations, if implemented, could transform agricultural productivity, secure livelihoods, and enhance India's food security.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Which of the following recommendations was made by the parliamentary panel on agriculture?

1. Increase budgetary allocations to agriculture.
2. Set up a National Commission for Farm Labourers' Minimum Wages.
3. Introduce compulsory crop insurance for farmers with landholdings up to two hectares.
4. Expand MSP to include organic crops.

How many of the above statements is/are incorrect?

- (a) One only
- (b) Two only
- (c) All four
- (d) None

(d) Answer

PERFORMANCE OF STATE ROAD TRANSPORT UNDERTAKINGS (SRTUS) REPORT: MINISTRY OF ROAD TRANSPORT

Key highlights of the Report

- **Financial losses:** The MoRTH's 2024-25 annual report reveals a **68% increase in net loss to Rs. 30,191.93 crore for 58 SRTUs in FY22**, despite regaining momentum post-Covid-19.

- In FY21, 58 SRTUs reported a loss of over Rs 29,000 crore due to the pandemic.
- **Election freebies:** States like Delhi, Karnataka, Telangana, and Tamil Nadu are offering free bus rides to women, but losses could increase for SRTUs unless state government subsidies or upfront budgetary support are provided.
- **Low fleet utilisation:** In FY22, the average fleet utilization was 72.29%, with 1,06,293 buses operational. Similarly, in FY21, FY20, and FY19, fleet utilization rates were 62.54, 87.56, and 88.6 per cent, respectively.
- **The occupancy ratio:** The occupancy ratio of government buses has decreased significantly from 74.03% in FY20 to 68.49% in FY22, contributing to low revenue for SRTUs.
- **Accessibility for PwDs:** The data from 61 STUs shows that out of a total 97,165 inter-city buses and 48,325 buses for urban operations, only 356 and 10,517 buses, respectively, have been made “fully accessible”. The number of accessible buses (without wheelchair accessibility) for inter-city and urban operations are 24,860 and 15,308, respectively.
- **Competition:** The increased competition from private bus operators and other modes of transportation impacted SRTUs’ revenues.
- **Ticket fares:** The SRTUs not being able to increase the fare on par with the hike in fuel prices and reduction in occupancy ratio of the buses are other reasons behind their losses.
- **Operational expenses:** The SRTUs are also facing increasing operational expenses such as hikes in fuel, maintenance, and staff salaries. The combined staff strength of the 58 reporting SRTUs was 6,45,954 and the staff-to-bus ratio was 4.39 in FY22.
- In school, well over 31 million displaced students encounter linguistic obstacles.
- As a result of colonialism, local inhabitants were forced to learn languages, which hindered usage of local languages in school and led to educational inequalities.
- In the second category, immigration enhances linguistic variety by introducing new languages to classrooms in wealthier nations, but it also presents difficulties for teaching and evaluation.

Report recommendations

- **Introducing multilingual education policies and practices** to countries in an effort to build educational systems that are advantageous to all students.
- **Context-specific techniques** should be given priority in educational language policy, and **language transitions need to be facilitated by curriculum modifications and grade-appropriate teaching and learning resources.**
- “In countries with significant immigrant populations, policies should support the development and implementation of **effective bridging language programmes, qualified teachers, and support inclusive learning environments** that cater to the diverse linguistic needs of all.”

Multilingual education (MLE)

- Only 351 languages are taught as languages of instruction worldwide, although 336 more are taught as topics.
- MLE is acknowledged as a tried-and-true method for fostering more inclusive educational institutions and as a driving force behind sustainable growth.
- **Increasing the results of education:** MLE promotes the development of fundamental reading skills, fosters socio-emotional growth, facilitates the acquisition of other languages, and improves performance in other disciplines, such as science and maths, by promoting literacy in learners’ mother tongues.
- **Improving access and inclusion:** By encouraging the participation of marginalised learners, MLE may significantly increase access to education, as there are 251 million children out of school worldwide.
- **Children’s socialisation and learning** can be aided by MLE, which also helps them successfully control and communicate their emotions.
- **Fostering social cohesion and inclusion:** By appreciating the language and cultural uniqueness of every student, MLE promotes an inclusive school atmosphere. This inclusiveness reduces the possibility of exclusion due to language or ethnic differences and fosters a sense of belonging.
- **Maintaining Cultural Diversity:** MLE is essential for promoting cultural variety, protecting minority and Indigenous languages, and creating inclusive, harmonious communities.

LANGUAGES MATTER: GLOBAL GUIDANCE ON MULTILINGUAL EDUCATION REPORT

Why in News: Recently, UNESCO’s Global Education Monitoring (GEM) team published the report ‘Languages matter: Global guidance on multilingual education’.

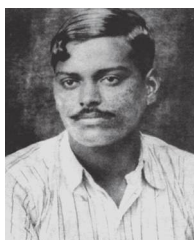
Highlights of the report

- UNESCO’s Global Education Monitoring (GEM) team estimates that about 40% of the world’s population lacks access to education in a language they can comprehend or speak.
- In certain low- and middle-income nations, this percentage increases to 90%.
- Issues such as community resistance, a lack of resources in home languages, and a teacher’s restricted ability to speak their native tongues affect students’ ability to access education in their mother tongue.

PERSONALITIES IN NEWS

CHANDRASHEKHAR AZAD

Why in News: The nation remembered and paid rich tributes to the legendary freedom fighter Chandrashekhar Azad on his 89th death anniversary. Union Home Minister called him the 'golden chapter' of India's freedom struggle against British rule.



About Chandrashekhar Azad

- Chandrashekhar Azad was born on July 23, 1906, in Alirajpur (now in Madhya Pradesh).
- Azad's revolutionary spirit ignited during the **Non-Cooperation Movement** (1920–21) in Banaras, where he actively opposed the sale of foreign goods.
- He was arrested at the age of 15, and his bold courtroom defiance became legendary, earning him the title of **Azad**.
- **Armed Resistance:** Disillusioned by Gandhi's suspension of the Non-Cooperation Movement, Azad pivoted to armed resistance.
- **Hindustan Socialist Republican Association (HSRA)**
 - He was unanimously recognized as HSRA's Commander-in-Chief.
 - Key Operations masterminded by Azad:
 - ◆ **Avenging Lala Lajpat Rai's Death:** Azad orchestrated the assassination of British officer J.P. Saunders in December 1928, retaliating against the brutal lathi charge that killed Rai.
 - ◆ **Central Assembly Bombing (1929):** He inspired Bhagat Singh and Batukeshwar Dutt to detonate non-lethal bombs in the Legislative Assembly, using the trial as a platform to propagate revolutionary ideals.
 - ◆ **Attempt to Blow Up the Viceroy's Train (1929):** This daring act underscored his relentless efforts to destabilize British authority.
- **Martyrdom:** Betrayed by an associate, Azad was cornered by British police in Allahabad's Alfred Park on February 27, 1931. Refusing surrender, he engaged in a fierce gunfight, using his final bullet to martyr himself, upholding his vow to never be captured.

Important Aspects of Azad's Life

- His ability to evade capture and remain a "free" man till his death.
- He was an iconic figure who rose above his caste or religious identity.
- A clear vision of what he was doing and what he wanted a free India to be.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Which of the following freedom fighters was the first Commander-in-Chief of the Hindustan Socialist Republican Association (HSRA)?

- (a) Ram Prasad Bismil (b) Bhagat Singh
(c) Ashfaqulla Khan (d) Chandrashekhar Azad

(d) Answer

VEER SAVARKAR

Why in News: The Prime Minister has paid tributes to Veer Savarkar on his death anniversary (punya tithi).



About Veer Savarkar

- Vinayak Damodar Savarkar was born in 1883 in Nashik, Maharashtra.
- Traveled to England in 1906 to study law at Grey's Inn, London.
- **Abhinav Bharat:** Founded the revolutionary organization Abhinav Bharat (Young India Society) while in London, inspired by Italian nationalist Giuseppe Mazzini.
- **Anti-Colonial Actions**
 - Orchestrated the assassination of British official Curzon Wylie (1909) through associate Madanlal Dhingra.
 - Smuggled firearms and bomb-making manuals from Russian nihilists to India to fuel armed resistance.
- **Literary Contributions**
 - Authored **The First War of Indian Independence**

(1909), reinterpreting the 1857 revolt as a unified Hindu-Muslim struggle against British rule.

- Penned a **biography of Giuseppe Mazzini**, inspiring Indian youth with revolutionary ideals.
- Wrote **Essentials of Hindutva (1923)**, defining Hindutva as a cultural and political identity for Hindus, distinct from territorial nationalism.
- **Social Reforms**
 - Advocated inter-dining and temple entry for Dalits to combat caste divisions.
 - Promoted shuddhi (reconversion to Hinduism) to counter religious conversions.

Seven Shackles of the Society: Veer Savarkar condemned these “seven swadeshi fetters” as they were dividing society.

- First, the rigid caste system, which, according to Savarkar, “deserves to be thrown into the dustbins of history”.
- The second reform Veer Savarkar wanted was to popularize Vedic literature to everyone, not only to a particular caste. He called Vedic literature civilizational knowledge for the entire human race and India’s unique gift to mankind.
- The third was to break away from caste-based vocational rigidity and encourage persons to pursue any vocation of their choice based on aptitude and ability. In the absence of motivation of competition, or lack of aptitude, Savarkar believed, “merely following what one’s father did, will make one both complacent and unproductive.”
- Fourth, Savarkar believed in global mobility and the need for Indians to venture out into foreign lands so as to “bring back the best of the world and carry the fragrance of India and her culture to every corner of the globe.”
- Fifth, Savarkar wanted to break away from the taboo on inter-caste dining. He had said, “Religion is in the heart, the soul, the spirit; not the stomach!”
- The sixth was the promotion of inter-caste marriage
- The seventh aspect, Veer Savarkar underscored, was the need to develop a scientific temper.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. Who named the 1857 rebellion as the first war of independence?

- (a) Mahatma Gandhi (b) Jawaharlal Nehru
- (c) Dr. BR Ambedkar (d) Veer Savarkar

Answer: (d)

MORARJI DESAI

Why in News: Lok Sabha Speaker and Members of Parliament paid floral tributes to former PM Morarji Desai on his birth anniversary in the Parliament.

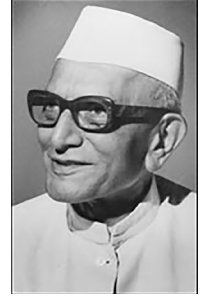
About Morarji Desai

• **Pre-Independence**

➤ **Civil Service:** Joined Bombay Provincial Civil Services in 1918 as Deputy Collector. Resigned in 1930 to join the freedom struggle.

➤ **Role in Freedom Movement**

- ◆ Active participant under Mahatma Gandhi’s leadership.
- ◆ Detained for nearly three years during the Quit India Movement (1942).
- ◆ Served as Secretary of the Gujarat Provincial Congress Committee (1931) and elected to the All India Congress Committee (AICC).



• **Post Independence**

➤ **As Chief Minister of Bombay (1952–1956)**

- ◆ Pioneered laws on monogamy and divorce (1947).
- ◆ Repealed the Criminal Tribes Act in Bombay, ending discriminatory practices against certain communities.

➤ **As Finance Minister (1958–1963)**

- ◆ Minimized deficit financing and prioritized external aid without compromising national interests.
- ◆ Mobilized resources for defense and development during the Second Five-Year Plan.

➤ **As Prime Minister (1977–1979)**

- ◆ Advocated fair economic collaboration with foreign entities, stressing rural development.
- ◆ Implemented fixed tenure for the Cabinet Secretary to ensure administrative stability.
- ◆ Promoted anti-colonialism and supported liberation movements in Asia and Africa.

➤ Chaired the **Administrative Reforms Commission (1966–1967)**, advocating impartiality and efficiency in civil services.

➤ **Authored books:** Discourses on the Gita, The Story of My Life, and A Book on Nature Cure.

➤ Served as Chancellor of Gujarat Vidyapeeth.

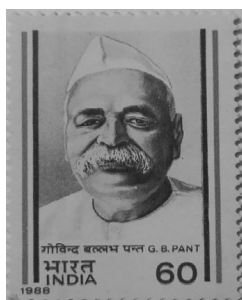
• **Awards and Honors**

- Bharat Ratna (1991) - India’s highest civilian award.
- Nishan-e-Pakistan (1990) - Pakistan’s highest civilian honor.

GB PANT

Early Life

- On September 10, 1887, Govind Ballabh Pant was born in Almora, Uttarakhand.
- He attended the annual Congress session in Benaras in 1905 after being motivated as a student by the fight against the partition of Bengal.
- In 1909, Pant became a lawyer in the Allahabad High Court.



Role in India's Independence Movement

- Pant became actively involved in Congress politics after founding the Kumaon Parishad in 1916 and securing a seat on the All-India Congress Committee.
- In 1923, Pant was elected on a Swaraj Party ticket to the United Provinces Legislative Council.
- In 1926, he was named President of the United Province Provincial Congress Committee, and in 1946, he joined the National Working Committee.
- His tenure as Prime Minister of the United Province began in 1937 and lasted till 1939, when all Congress ministries resigned in protest at India's forced involvement in the Second World War.
- Pant took part in the Salt March and the Quit India Movement.
- In 1930, he was one of several leaders preemptively arrested in 1930 for planning the Civil Disobedience Movement and then again in 1933, 1940, and 1942.

Contributions after independence

- Pant served as Uttar Pradesh's first chief minister and served in that capacity till 1955.
- In the Nehru Cabinet, he then served as home minister from 1955 till his passing in 1961.
- The Bharat Ratna, India's highest civilian accolade, was bestowed upon him in 1957.

NATIONAL SCIENCE DAY

Why in News: Recently, National Science Day 2025, celebrated on February 28, garnered significant attention due to its theme: "Empowering Indian Youth for Global Leadership in Science & Innovation for Viksit Bharat."

Key Details

- It is to honour C.V. Raman's discovery of the Raman Effect (1928).
- He won the Nobel Prize in Physics (1930) for this discovery.

C.V. Raman – A Great Indian Scientist

Born on 7th November 1888 in Tamil Nadu.

First Indian Director of IISc, Bengaluru.

Established Raman Research Institute (1948).

Awarded Bharat Ratna (1954).



Key Contributions

Raman Effect (1928): Discovered how light scatters and changes its wavelength when passing through a transparent medium.

- Molecular Diffraction of Light: Studied how light interacts with molecules and materials.
- Acoustics of Musical Instruments: Researched how sound waves behave in Indian instruments like the tabla and veena.
- Crystal Physics: Studied the structure and properties of crystals.
- Optics & Scattering: Explored the behavior of light in liquids, solids, and gases.

What is the Raman Effect?

When light passes through a transparent material, a small part of it scatters in a way that changes its wavelength and frequency. This phenomenon is called the Raman Effect.

- The discovery of the Raman Effect proved that light can interact with matter at a molecular level, revolutionizing spectroscopy (a key tool in chemistry and physics).
- This principle is now widely used in medicine, material science, forensic science, and space research.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

Q. With reference to the Raman Effect, consider the following statements:

- The Raman Effect describes the change in wavelength of light when it is scattered by a medium.
- C.V. Raman discovered this effect while studying the scattering of X-rays in liquids.
- The Raman Effect is widely used in spectroscopy, which helps in the study of molecular composition.
- C.V. Raman was awarded the Nobel Prize in Physics in 1928 for this discovery.

Which of the above statements is/are correct?

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

Answer: (a)

BIJU PATNAIK

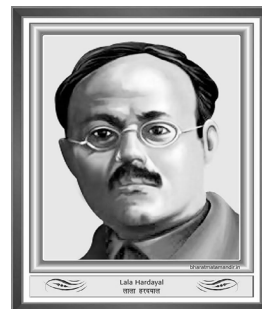
Why in News: Recently, Prime Minister Shri Narendra Modi remembered the former Odisha Chief Minister Shri Biju Patnaik on his birth anniversary on 5th March.

Biju Patnaik



- Biju Patnaik, a prominent Indian nationalist and pilot, was born into a family of freedom fighters and activists on 5th March, 1916.
- Growing up in Cuttack, he was **drawn to Gandhi's ideas during the Non-Cooperation Movement**.
- After completing his education in science at Ravenshaw College, Patnaik became a **ranking pilot for the Royal Air Force** and **helped the underground movement led by revolutionaries like Aruna Asaf Ali, Jayprakash Narayan, and Ram Manohar Lohia**.
- Patnaik's support for the underground movement was significant, as he mobilised fellow pilots and inspired them to fight for their own freedom. **He was arrested in 1943 for anti-British activities during the Quit India Movement** and spent two years in jail.
- Despite his illness, Patnaik continued to think of ways to overthrow the British, starting a textile mill and printing fake currency to end British rule.
- At the age of 30, Patnaik was elected to the **Odisha Legislative Assembly in 1946**.
- At the **Asian Relations Conference in New Delhi, India agreed to support Indonesia's freedom struggle against the Dutch**. Despite the Dutch threat, Patnaik, who owned an aircraft, devised a scheme to airlift Indonesian leaders to Delhi. To attend Jawaharlal Nehru's Asian Relations Conference in Delhi, Patnaik successfully flew Vice-President Dr Muhammad Hatta and Indonesian Prime Minister Sultan Sjahrir. In recognition of his bravery, Biju Patnaik received the Bhoomi Putra medal and honorary citizenship of Indonesia. Additionally, Biju Patnaik received the **highest national honour in Indonesia, the Bintang Jasa Utama, in 1996**.
- **Biju Patnaik remained involved in national politics** after India gained its independence and collaborated closely with Nehru to unite Indian territories. As the Chief Minister of Odisha (formerly Orissa), Patnaik is seen as **one of the architects of contemporary Odisha**. He advocated for **industrialisation, the advancement of the poor, and the achievement of the Gandhian goal of self-sufficiency**. **Known** for his tenacity, commitment to the nation, and devotion to the populace, he was a capable administrator and leader whose courage and conviction never wavered throughout his life. He also made contributions to the liberation movement.

LALA HARDAYAL



- The sixth child of a Kayastha Mathur family in **Delhi**, Lala Hardayal was born on October 14, 1884, to Bholi Rani and district court reader Gauri Dayal Mathur.
- **Karl Marx, Mikhail Bakunin, the Russian anarchist, and Mazzini, the famous Italian revolutionary leader, were among his other early inspirations**, along with the principles of the **Arya Samaj**.
- He subsequently earned his **Sanskrit degree from St Stephen's** and completed his postgraduate studies in the same field at Punjab University. He was a gifted student who received two scholarships from Oxford in 1905 to pursue further Sanskrit studies.
- **His exploration of anarchist concepts began in 1907 when he wrote to The Indian Sociologist, stating that "our object is not to reform government, but to reform it away, leaving, if necessary, only nominal traces of its existence."** He was placed under police monitoring as a result of the letter.
- He threw up the coveted Oxford scholarships later that year, declaring, **"To hell with the ICS,"** and went to India in 1908 to live a life of asceticism.
- However, he began penning critical pieces in India's top newspapers as well.
- When the British administration chose to restrict his writing, Lala Lajpat Rai suggested that he migrate overseas.
- He **promoted the insurgent ideas of the Ghadar Party and assisted in organising the Gadar movement in the United States**. He also urged Indians living abroad to join the liberation cause by mobilising them.
- The British government, sensing difficulties, pressured the American government to take him into custody. As a result, he moved to Germany, then Sweden and England, before returning to the United States, where **he died on March 4, 1943**.
- In addition to **"Thoughts in Education"**, he also wrote **"Social Conquest of Hindu Race", "Forty-Four Months in Germany and Turkey", "Hints for Self-Culture", and "Bodhisattva Doctrines"**.

EXPECTED QUESTION FOR UPSC CSE

Prelims MCQ

The booklet 'Social Conquest of Hindu Race' was written by?

- (a) Lala Lajpat Rai (b) Lala Hardayal

(c) Bipin Chandra Pal (d) None of the Above

Answer: (b)

NANAJI DESHMUKH

Why in News: The Union Home Minister addressed the Remembrance Day ceremony on the 15th death anniversary of Bharat Ratna, Nanaji Deshmukh in Madhya Pradesh.

About Nanaji Deshmukh

- Nanaji Deshmukh was a social activist who worked in the fields of education, health, and rural self-reliance.
- He was honoured with the **Bharat Ratna** for social work in 2019.
- He became inspired by Lokamanya Tilak and his nationalist ideology, and was in close association with leaders such as Dr. Keshav Baliram Hedgewar and Deen Dayal Upadhyaya.
- **Political Contribution**
 - Nanaji Deshmukh was given the charge of Bharatiya Jan Sangh in Uttar Pradesh as General Secretary.
 - Deshmukh's groundwork was a great help in strengthening Bhartiya Jan Sangha (BJS) at the grass roots.
 - By 1957 BJS had established its units at each and every district in Uttar Pradesh and credit for this goes to



Nanaji who had extensively travelled all over the state and put in a lot of hard work.

- Nanaji Deshmukh was elected in 1977 from Balrampur Lok Sabha constituency of Uttar Pradesh. He was offered a cabinet portfolio which he declined.
- He was nominated to Rajya Sabha in the year 1999 in recognition of his services to the nation.
- Nanaji Deshmukh also actively participated in Bhoodan Movement started by Vinoba Bhave. He spent two months with Vinoba, and was greatly inspired by the success and appeal of the movement.
- Later, when Jayaprakash Narayan gave the call for "Total Revolution", Nanaji responded by giving total support to this movement.
- **Social Contribution**
 - In 1980, when he turned 60, he opted out of politics, devoting himself completely to social and constructive work, living in ashrams and keeping a low profile.
 - He did pioneer work towards anti-poverty and minimum needs programme.
 - Other areas of his work were **agriculture and cottage industry, rural health and education.**
 - Nanaji assumed the chairmanship of the Deendayal Research Institute (DRI) which he had founded in 1972 to validate the philosophy of Integral Humanism propounded by Pandit Deendayal Upadhyaya.
 - Nanaji propounded a model for the development of rural areas on the basis of Integral Humanism.
 - He was also instrumental in carrying out social restructuring programme in over 500 villages of both Uttar Pradesh and Madhya Pradesh.

Free Initiative by Chahal Academy **CCHAHAL**
ACADEMY

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The Indian EXPRESS

ARTICLES FROM YOJANA (MARCH 2025)

FISCAL FEDERALISM IN INDIA: THE ROLE OF UNION BUDGET 2025-26

Introduction

Fiscal federalism refers to the financial relationship between different levels of government in a federal system. It involves the allocation of financial resources and responsibilities between the Union and State governments, ensuring that resources are distributed equitably and efficiently. The term was coined by German economist Richard Musgrave and plays a crucial role in India's economic governance.

The Union Budget 2025-26 underscores the significance of fiscal federalism in realizing the vision of "Viksit Bharat" (Developed India). The budget lays down a roadmap for economic growth through enhanced devolution of financial resources, capital investment assistance, grants-in-aid, and borrowing provisions for states.

Fiscal Federalism in India: Constitutional Framework

The Indian Constitution clearly defines the financial roles and responsibilities of the Union and State governments through:

(i) Seventh Schedule:

- Union List – Subjects on which only the Centre can legislate and levy taxes (e.g., defense, foreign affairs, income tax).
- State List – Subjects on which States have exclusive powers (e.g., police, public health, agriculture).
- Concurrent List – Both the Centre and States can legislate, but in case of conflict, central laws prevail (e.g., education, environmental protection).

(ii) Finance Commission (Article 280):

- Determines how taxes collected by the Union are shared with the States.
- The 14th Finance Commission increased States' share of central taxes from 32% to 42% (later reduced to 41% by the 15th Finance Commission due to J&K reorganization).

(iii) Revenue Distribution Mechanisms:

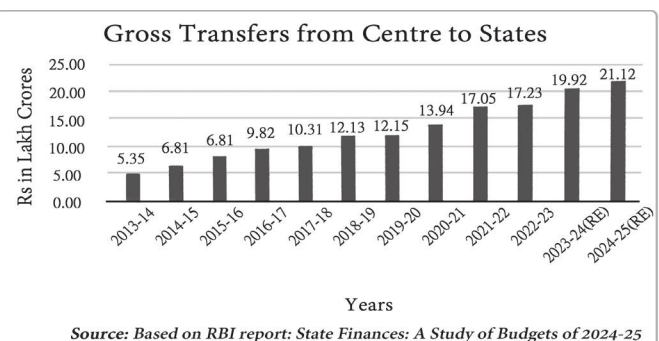
- Tax devolution (direct transfer of tax revenue to states).
- Grants-in-aid (for specific purposes like disaster relief, social sector schemes).
- Loans and borrowings (to help States finance development projects).

Constitutional Provisions pertaining to Fiscal Federalism in India

- **Article 270:** Deals with taxes levied and distributed between the Union and States.
- **Article 275:** Deals with grants from Union to States.
- **Article 279A:** Provides for Constitution of GST Council. The GST Council is responsible for providing recommendations to the Union and the State governments on matters related to Goods and Services Tax (GST).
- **Article 280:** Deals with the constitution of Finance Commission every 5 years to recommend the distribution of tax proceeds between the Union and States, grants to States, and measures to augment State and local government funds.
- **Article 282:** Mentions that the Union and States can make grants for any specific purpose, even if it is not within the scope of laws that Parliament/State Legislature can enact. It allows flexibility in funding various projects regardless of legislative authority.
- **Article 293:** Gives States the executive power to borrow money within the limits that the State legislature sets subject to consent of the Government of India in certain cases.

Strengthening Fiscal Federalism: A Decade of Progress

Over the past decade, India has witnessed a substantial rise in the financial transfers from the Centre to the States, ensuring that States have the resources to drive development.



Key Trends in Fiscal Federalism (2013-2025):

Year	Gross Transfers from Centre to States (Rs. Lakh Crore)
2013-14	5.35
2024-25	21.12
2025-26	25.59

This fourfold increase reflects the Union Government’s commitment to cooperative federalism and balanced regional development.



Central Govt Expenditure



Budget Estimates for 2025-26 (in ₹ crore)

Total: **50,65,345**

Interest	12,76,338
Transport	5,48,649
Defence	4,91,732
Major Subsidies	3,83,407
Pension	2,76,618
Rural Development	2,66,817
Home Affairs (including UTs)	2,33,211
Tax Administration	1,86,632
Agriculture and Allied Activities	1,71,437
Education	1,28,650
Health	98,311
Urban Development	96,777
IT and Telecom	95,298
Energy	81,174
Commerce and Industry	65,553
Finance	62,924
Social Welfare	60,052
Scientific Departments	55,679
External Affairs	20,517
Development of North East	5,915
Others	4,82,653




Union Budget 2025-26: The Four-Pillar Model of Fiscal Federalism

The Union Budget 2025-26 builds on a four-pillar model to strengthen fiscal federalism and empower States:

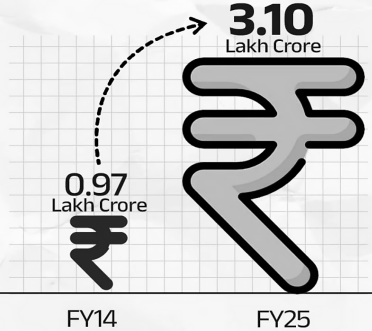

(i) Higher Devolution of Central Taxes and Duties

- Tax devolution is based on the Finance Commission’s recommendations under Article 280.
- The 14th Finance Commission increased the share of States from 31% to 42%, and the 15th Finance Commission retained 41%.
- Budget 2025-26 increases the total transfer of taxes and duties to Rs. 14.22 lakh crore, a 14.01% increase from the previous year (Rs. 12.47 lakh crore in 2024-25).




200%+ Rise In WOMEN’S WELFARE BUDGET

Budget for Welfare And Empowerment Of Women

(ii) Special Assistance to States for Capital Investment


- Capital expenditure enhances economic productivity and long-term growth.
- Budget 2025-26 allocates Rs. 1.5 lakh crore under the Special Assistance Scheme.
- Key benefits of this scheme:
 - 50-year interest-free loans to States.
 - Untied funds, allowing flexibility in capital investment.
 - Incentives for urban planning, land record modernization, farmers’ registry, and vehicle scrappage programs.



Big Boost for Small Modular Reactors

₹20,000 Crore
Allocated for
R&D in Union Budget 2025-26

Target of designing & operationalizing at least **5** indigenously developed SMRs by 2033



(iii) Increased Grant-in-Aid for Centrally Sponsored Schemes (CSS)

The Centre provides grants-in-aid for schemes that require joint implementation by States. The Union Budget 2025-26 allocates Rs. 5.41 lakh crore for such schemes.

Key Initiatives under CSS:

(i) Agriculture Sector:-

- PM Dhan-Dhaanya Krishi Yojana: Focuses on 100 agricultural districts, enhancing productivity and irrigation.
- Atma Nirbharta in Pulses: A six-year mission to boost domestic pulse production.
- Comprehensive Vegetables & Fruits Program: Strengthening production, supply chains, and processing.
- Mission for Cotton Productivity: Promotes high-yielding cotton varieties for textile growth.

(ii) Rural Development:-

- Rural Prosperity & Resilience Program: Aims to reduce rural underemployment through skill development.
- Jal Jeevan Mission Extension (until 2028): Ensures 100% rural tap water connections under Jan Bhagidari.

(iii) Urban Development:-

- PM SVANidhi: Enhanced support for 68 lakh street vendors through micro-financing.
- Urban Challenge Fund (Rs. 1 Lakh Crore): Supports urban redevelopment, sanitation, and infrastructure.
- Social Security for Gig Workers: 1 crore workers to be registered on e-Shram portal with healthcare under PM Jan Arogya Yojana.

(iv) Education Sector:-

- 50,000 Atal Tinkering Labs in government schools to promote innovation.
- Broadband connectivity for all secondary schools under BharatNet.
- Centre of Excellence in AI for Education (Rs. 500 crore allocation).

(v) Strengthening State Finances through Enhanced Borrowing

- Additional borrowing limit of 0.5% of Gross State Domestic Product (GSDP) for States.
- Unlocks Rs. 2 lakh crore in funding for State governments.
- Linked to power sector reforms, ensuring DISCOMS' financial sustainability.

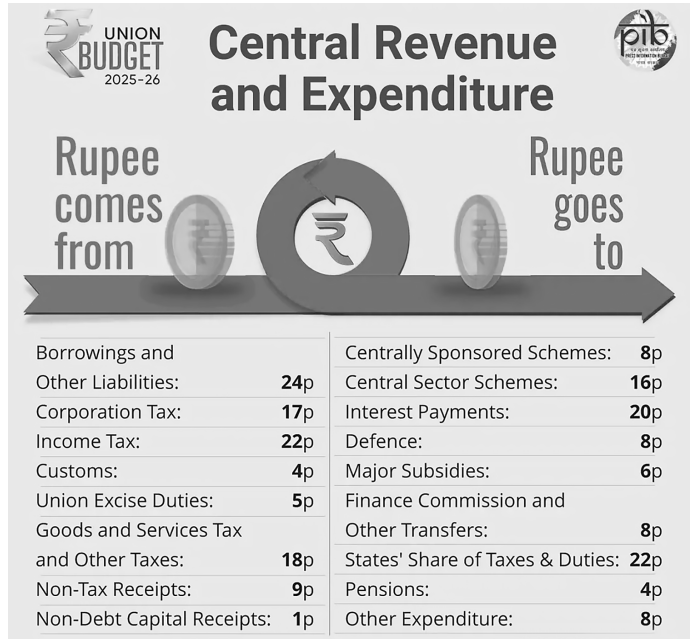
Boosting Growth Through Central-Sector Schemes

The budget also emphasizes Centre-led strategic investments in key sectors, with allocations increasing from Rs. 63,614 crore (2024-25) to Rs. 76,758 crore (2025-26).

Key Initiatives:

- **Technology & Innovation:** Rs. 20,000 crore fund for private-sector R&D.
- Deep Tech Fund of Funds to support next-gen startups.

- **Regional Connectivity Scheme (RCS) – Udaan 2.0:** Adds 120 new airports, benefiting 4 crore passengers over 10 years.
- **Maritime Development Fund:** Boosts shipbuilding and port infrastructure for economic expansion.



Conclusion

The Union Budget 2025-26 reinforces fiscal federalism as the foundation of India's development model. By significantly increasing tax devolution, capital assistance, grants-in-aid, and borrowing capacity for States, the budget strengthens cooperative and competitive federalism.

The Four-Pillar Model ensures that States have the financial autonomy to implement region-specific policies while maintaining fiscal discipline. With an ambitious vision of "Viksit Bharat", the Union Government aims to build a strong, self-reliant, and inclusive economy, where both the Centre and States work in harmony towards equitable growth.

ROADMAP FOR VIKSIT BHARAT@2047

Introduction

The Viksit Bharat@2047 vision outlines India's path toward becoming a developed nation by its centenary of independence. This vision is driven by economic resilience, innovation, sustainability, and inclusivity. The 1991 economic reforms laid the foundation for India's rapid growth by dismantling protectionist policies and integrating the nation into global markets. However, the world economy is undergoing a structural shift due to protectionism, geopolitical tensions, and supply chain realignments. India must recalibrate its economic strategies to sustain high growth, generate employment, and build a robust industrial and technological ecosystem while addressing challenges like climate change and energy transition.

Key Pillars for Viksit Bharat@2047

Achieving the Viksit Bharat vision requires a self-reliant growth model focusing on four key priorities:

- (i) Broad-based deregulation
- (ii) Building a robust manufacturing base
- (iii) A sustainable and pragmatic energy transition
- (iv) A tripartite compact between the government, private sector, and academia

These priorities will enable India to capitalize on its strengths and navigate challenges in a shifting global order.

Pillar 1: Deregulation for Growth

(i) Importance of Deregulation

- **1991 Reforms Impact:** The removal of the License Raj and trade liberalization led to rapid economic growth.
- **Recent Deregulation Efforts:** Since 2014, the government has undertaken extensive regulatory simplifications:
 - Rationalized 20,000+ compliances and simplified 300+ laws.
 - **GST & Insolvency and Bankruptcy Code (IBC):** Streamlined tax structure and corporate restructuring.
 - **Real Estate Regulation Act (RERA):** Cleaned up real estate markets.
 - **India Stack (UID-UPI-DBT):** Improved digital governance and reduced inefficiencies.

(ii) The Need for Continuous Deregulation

- **Economic Survey 2024-25 Insights:**
 - SMEs lose 50% of industrial plot space due to rigid building codes.
 - Rigid labor laws prevent flexible working hours, hurting businesses.
 - Education sector bottlenecks (UGC & AICTE regulations) hinder dynamic curriculum adaptation.

Way Forward

- **State-Level Deregulation:** States with higher ease of doing business scores have shown higher industrial activity.
- **Reforming Investment Policies:-**
 - Simplified Income Tax Act and investor-friendly bilateral treaties.
 - High-Level Committee for Regulatory Reforms to assess non-financial regulations.
- **Global Competitiveness:** Regulatory flexibility will attract foreign investments, strengthen domestic industries, and ensure job creation.

UNION BUDGET 2025-26
MINISTRY OF FINANCE

Foreign Direct Investment (FDI)

Reforming and Developing Financial Sector

- **FDI limit** for insurance sector to be raised from **74% to 100%**
- **Forum for regulatory coordination and development of pension products** to be set up
- **Revamped Central KYC Registry** to be rolled out in 2025, to simplify KYC process

Pillar 2: Manufacturing as a Force Multiplier

(i) Historical Significance of Manufacturing

- **Global Lessons:**
 - Industrial Revolution (UK, 19th century) Created large-scale employment.
 - East Asian Miracle (1970s-2000s) Countries like China and South Korea used manufacturing to lift millions out of poverty.
- **China's Manufacturing Dominance:**
 - 2000: 6% share in global manufacturing.
 - 2024: 45% share, surpassing the US and its allies.

(ii) India's Manufacturing Strategy

- **Employment Creation:** India needs to create 8 million non-farm jobs annually until 2036.
- **Key Manufacturing Drivers:-**
- **Production-Linked Incentive (PLI) Schemes:**
 - **White Goods:** Developed a self-sufficient air conditioner value chain.
 - **Telecom Sector:** 60% import substitution achieved.
 - **Green Energy Manufacturing:** Solar, battery storage, EVs.
- **MSME Strengthening:**
 - Trade Receivables Discounting System (TReDS) facilitated ₹1.38 lakh crore in financing.
 - **Mutual Credit Guarantee Scheme:** 60% credit guarantee for MSMEs purchasing machinery.

(iii) Balancing Labor & Technology-Intensive Growth

- **Labor-Intensive Growth:** Essential for mass employment.
- **Technology-Intensive Growth:** Necessary for long-term productivity.
- **Outcome:** A balanced approach will maximize India's demographic dividend while ensuring global competitiveness.

Pillar 3: Energy Transition for Economic Stability

(i) Global Energy Transition Challenges

- **Western Nations' Missteps:**
 - Over-reliance on renewable energy subsidies led to rising energy costs and deindustrialization.
 - Europe's energy crisis exposed the risks of premature fossil fuel phase-outs.

INFRA GOT +10000 AURA THIS BUDGET!

Jal Jeevan Mission: 100% water supply coverage by 2028!

UDAN Scheme Expansion connecting 120 new destinations & 4 crore passengers in 10 years!

₹1 lakh crore Urban Challenge Fund to redevelop cities as growth hubs focusing on water & sanitation



IMPACT

Stronger public infrastructure, better healthcare, and increased global investments!

(ii) India's Unique Energy Needs

- **Energy Security & Growth:** India's industrialization needs cost-effective and abundant energy.
- **Current Energy Transition Goals:-**
 - Net-zero by 2070 with phased decarbonization.
 - **Nuclear Energy Expansion:** Targeting 100 GW capacity by 2047.
 - **Renewables Expansion:** Solar, wind, and green hydrogen focus.

• Government Initiatives:

- Private sector participation in nuclear energy.
- Amendments to nuclear laws for foreign technology partnerships.
- LiFE (Lifestyle for Environment) movement promoting sustainable consumption.

(iii) Ensuring a Pragmatic Transition

- **Avoiding Hasty Fossil Fuel Phase-Out:** Gradual shift to renewables without disrupting energy security.
- **Investment in Green Infrastructure:** Scaling up energy-efficient public transport and circular economy models.

Pillar 4: A Tripartite Compact for Innovation & Growth

(i) Importance of Government-Industry-Academia Collaboration

A sustainable growth model requires a strong partnership between the government, private sector, and academia to drive:

- **Policy Innovation:** Regulatory agility and business-friendly policies.
- **Skill Development:** Industry-oriented educational reforms.
- **R&D Investments:** Technology and AI-driven industrial expansion.

(ii) Global Models & India's Pathway

- **South Korea's Innovation Ecosystem:** Close government-industry ties in tech development.
- **Germany's Vocational Training Model:** Strong emphasis on industry-driven education.
- **India's Approach:**
 - Startup India & Atal Innovation Mission fostering entrepreneurship.
 - Strengthening National Research Foundation (NRF) to boost R&D.
 - Collaborative university-industry research projects.

Conclusion

India's roadmap to Viksit Bharat@2047 is based on economic resilience, manufacturing strength, strategic energy transition, and innovation-led growth. The country must reinvent its economic strategies, strengthen domestic industries, and adapt to global transformations. The four-pronged approach—deregulation, manufacturing expansion, pragmatic energy policies, and tripartite collaboration—will ensure India's transition into a developed, self-reliant, and globally competitive economy.


ARTICLES FROM KURUKSHETRA (MARCH 2025)


INITIATIVES TO BOOST RURAL ECONOMY WHILE INCREASING INCOME AND CONSUMPTION

Introduction


India, being a predominantly consumption-based economy, requires continuous efforts to stimulate demand, investment, and rural economic growth. In the Union Budget 2025-26, several initiatives have been proposed to enhance rural income, improve agricultural productivity, and strengthen rural infrastructure, all while maintaining fiscal balance. This article explores the various measures introduced in the budget to boost the rural economy, increase income, and stimulate consumption.


BEST BANKING CLASS





UNION BUDGET
2025-26





Making it Easier for MSMEs to get Loans

Credit guarantee cover for MSMEs to be significantly enhanced

- For Micro and Small Enterprises: from ₹5 crore to ₹10 crore, additional credit of ₹1.5 lakh crore in next 5 years
- For Startups: from ₹10 crore to ₹20 crore, guarantee fee down to 1% for loans in 27 focus sectors

Customized Credit Cards for Micro Enterprises registered on the Udyam Portal to be introduced

- With ₹5 lakh limit
- 10 lakh cards to be issued in the first year

1. Current Economic Scenario and Need for Growth

(i) Fiscal Targets and Growth Projection

- **Revenue Generation Targets:**
 - The government aims to collect ₹42.70 lakh crore in revenue for FY 2025-26, which is 11% higher than the ₹38.53 lakh crore target for FY 2024-25.

- **Direct tax collection target:** ₹25.20 lakh crore (↑ 14.4%).
- **Indirect tax collection target:** ₹17.50 lakh crore (↑ 10.4%).
- **GDP Growth Projections:**
 - **First Advance Estimate (2024-25):** 6.4% GDP growth.
 - **RBI Projection (2024-25):** 6.6% growth.
 - **Projected GDP Growth (2025-26):** 6.7%.

(ii) Challenges Affecting Growth

- **Global Factors:**
 - Tariff changes, protectionist policies, and US Federal Reserve interest rates affecting global markets.
- **Domestic Factors:**
 - Declining GDP growth (5.4% in Q2 2024-25).
 - Need to boost consumption, investment, and exports.

Budget Initiatives to Strengthen the Rural Economy

(i) Agriculture and Rural Development Investments

- **Total Allocation for Farmers:** ₹2.66 lakh crore (↑ ₹1,000 crore from last year).
- **Fertilizer Subsidy:** ₹1.67 lakh crore (↑ ₹3,000 crore).
- **Agriculture Development Scheme:** ₹8,500 crore (↑ ₹947 crore).
- **Animal Husbandry and Dairy:** ₹1,050 crore (↑ from ₹369 crore).

(ii) Increasing Farmers' Income

(a) Kisan Credit Card (KCC) Loan Limit Enhancement

- Loan limit increased from ₹3 lakh to ₹5 lakh.
- **Interest subsidy:**
 - 2% general subsidy.
 - 3% additional subsidy for timely repayment (effective interest rate 4%).

- **Beneficiaries:** 7.75 crore farmers.

Sustainable Harnessing of Fisheries
To unlock the untapped potential of the marine sector

- Enabling framework for sustainable harnessing of fisheries from Indian Exclusive Economic Zone and High Seas
- Special focus on the Andaman & Nicobar and Lakshadweep Islands

(b) Pradhan Mantri Dhan-Dhanya Krishi Yojana

- Focus on 100 low-yield districts.
- Financial aid for irrigation, storage, and improved seeds.
- Estimated beneficiaries: 1.7 crore farmers.

(c) Five-Year Missions for Agricultural Growth

- Cotton Technology Mission
 - Promotes long-fiber cotton varieties.
 - Aims to improve cotton quality and processing.
- Pulses Self-Reliance Mission
 - Focus on pigeon peas, black lentils, and other pulses.
 - 100% procurement assurance for farmers by NAFED & NCCF.

Fisheries and Self-Reliance in Agriculture:-

(i) Special Economic Zones (SEZs) for Fisheries

- India's seafood industry is valued at ₹60,000 crore.
- SEZs for fisheries to boost aquaculture and employment (benefiting 2.8 crore fishermen).

(ii) Self-Sufficiency in Urea Production

- New urea plant in Namrup, Assam (12.7 lakh metric tons/year capacity).
- Reduction in import dependence.

Tax Reforms to Improve Ease of Doing Business

- ▶ Scheme to be introduced for determining arm's length price if international transaction for a block period of three years
- ▶ Scope of safe harbour rules to be expanded, to reduce litigation and provide certainty in international taxation
- ▶ Tax exemption to be provided on withdrawals made from National Savings Scheme by individuals on or after 29th August 2024

Boosting Rural Employment and Consumption

(i) Women's Economic Empowerment

- **Term Loans for SC/ST Women Entrepreneurs:** ₹2 crore loan limit for 5 lakh women entrepreneurs.
- **Saksham Anganwadi and Poshan 2.0 Mission:** ₹21,960 crore (↑ ₹1,889 crore).
- **Mission Vatsalya:** ₹1,500 crore for women's welfare programs.

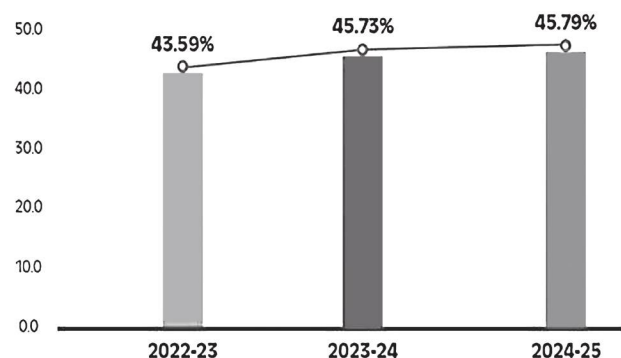
(ii) Support for Small Businesses and Street Vendors

- PM SVANidhi Yojana Expansion
 - Higher loan limits for street vendors.
 - Encouraging financial inclusion and formalization of businesses.

(iii) Infrastructure and Logistics Development

- **Conversion of 1.5 lakh rural post offices into logistics hubs.**
- Cost-effective rural supply chain solutions for MSMEs and farmers.
- ₹1.5 lakh crore interest-free loans to states for infrastructure.

Share of Export of MSME related products in All India Export



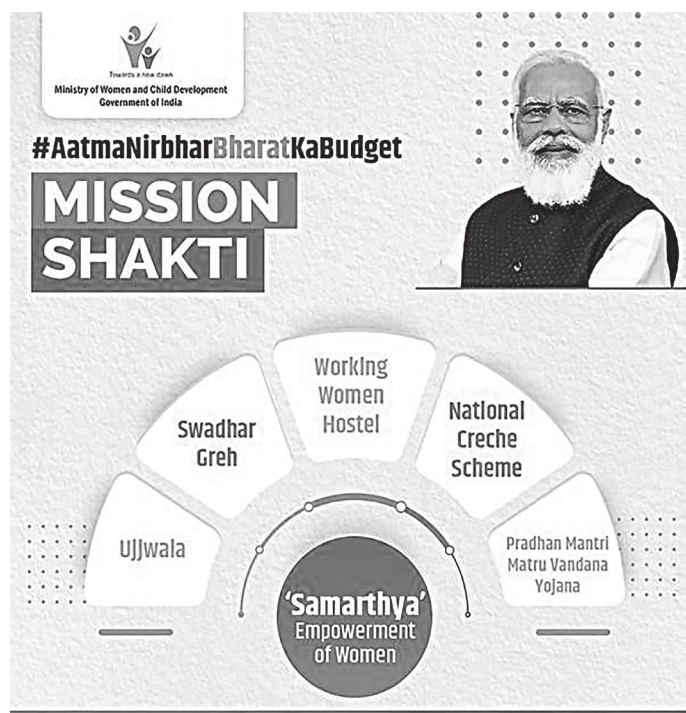
Industrial and MSME Growth for Rural Development

(i) MSME Sector Reforms

- Revised MSME Classification:

Category	Previous Investment Limit	New Investment Limit	Previous Turnover Limit	New Turnover Limit
Micro	₹1 crore	₹2.5 crore	₹5 crore	₹10 crore
Small	₹10 crore	₹25 crore	₹50 crore	₹100 crore
Medium	₹50 crore	₹125 crore	₹250 crore	₹500 crore

- Credit Guarantee Cover: ₹10 crore (previously ₹5 crore).
- 10 lakh credit cards for micro enterprises.



(ii) National Manufacturing Mission

- Focus on:**
 - Ease of Doing Business.
 - Workforce skill development.
 - Technology-driven quality products.
- MSME Contribution to Exports:**
 - 45% of total exports.
 - 36% contribution to manufacturing.
 - Employment to 7.5 crore people.

(iii) ₹10,000 Crore Startup Fund

- Support for innovation, entrepreneurship, and easy credit access.
- Boosting domestic and global presence of Indian startups.

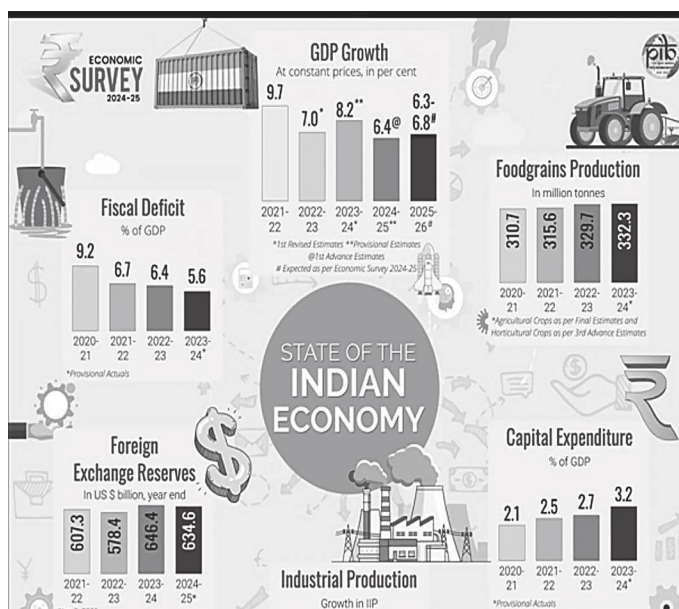
Conclusion

The Union Budget 2025-26 has taken bold steps to accelerate rural economic growth, increase farmers' income, and enhance rural employment opportunities. With higher agricultural investments, MSME reforms, and a strong focus on women empowerment, the government is addressing key economic challenges while fostering sustainable development. If successfully implemented, these initiatives can drive inclusive growth and strengthen India's position as a global economic powerhouse by 2047.

UNION BUDGET 2025-26: DEVELOPMENT DIMENSIONS

The Union Budget 2025-26 is a crucial step in India's economic roadmap, particularly in driving rural development, infrastructure, employment generation, and social welfare. The budget aligns with the long-term vision of Viksit Bharat@2047 by prioritizing investments in key sectors like agriculture, rural economy, skill development, MSMEs, and infrastructure.

Economic Context: Insights from the Economic Survey 2024-25



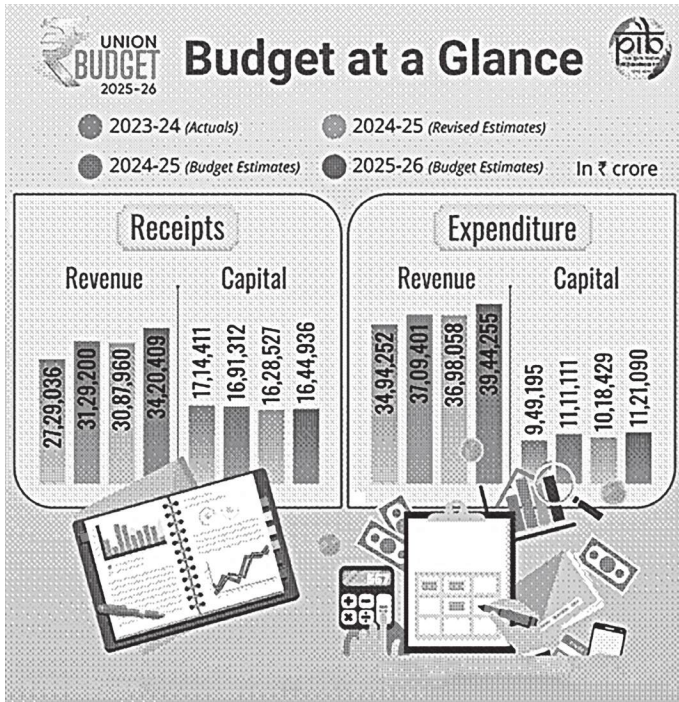
The Economic Survey 2024-25, tabled in Parliament on 31 January 2025, highlighted India's resilient economic growth amidst global challenges. The survey noted:

- Slowdown in global manufacturing due to supply chain disruptions and weak demand from Europe and Asia.
- India's competitive advantage in managing demand and supply mechanisms effectively.
- Revival in rural demand and agricultural productivity, aided by food inflation control and macro-economic stability.

Citizen’s Pre-Budget Expectations:

- Increased income and employment opportunities.
- Stronger infrastructure development.
- Higher allocation to social welfare and business-friendly policies.

Budget Highlights: Allocation and Development Push



Key Financial Figures: The budget aims at accelerating economic growth, enhancing infrastructure, and promoting social welfare.

- Total Expenditure: ₹50.65 lakh crore (vs ₹47.16 lakh crore in 2024-25).
- Effective Capital Expenditure: ₹15.48 lakh crore (vs ₹10.18 lakh crore in 2024-25).
- Higher Allocation to Priority Sectors: Agriculture, MSMEs, rural employment, infrastructure.

Vision for Viksit Bharat@2047

- A developed and self-reliant India with economic prosperity.
- Focus on innovation, technology, environmental sustainability, and governance.
- Major push for rural development with an allocation of ₹1.87 lakh crore to the Department of Rural Development (+5.75% from 2024-25).

Sector-Wise Analysis

Prime Minister Dhan-Dhannya Krishi Yojana
Developing Agri Districts Programme

Scheme to cover 100 districts with low productivity, moderate crop intensity and below-average credit parameters

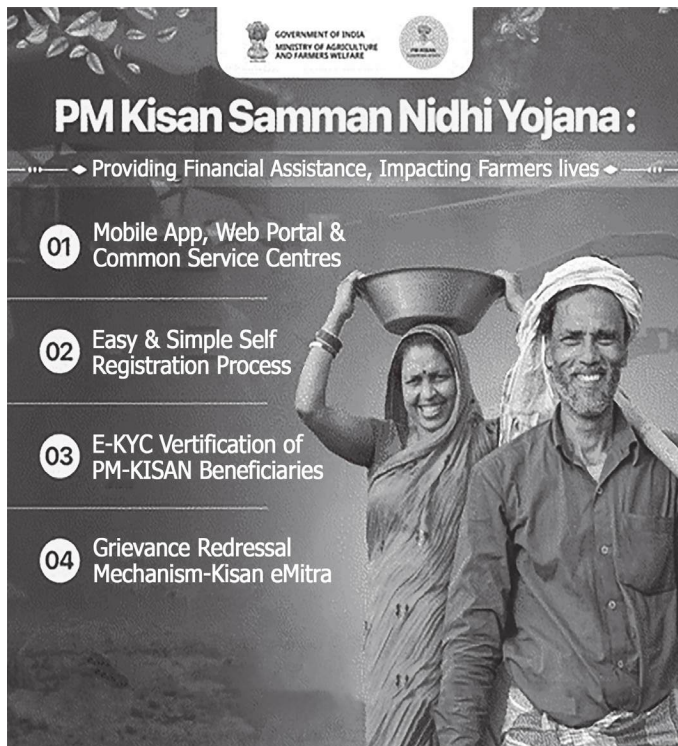
- To enhance agricultural productivity
- To adopt crop diversification and sustainable agriculture practices
- To augment post-harvest storage at Panchayat and Block levels
- Improve irrigation facilities
- Improve credit availability

(i) Agriculture and Farmers’ Welfare

- Prime Minister’s Dhan-Dhaanya Krishi Yojana: Launched in 100 districts to integrate existing agriculture schemes.
- **Key Focus Areas:**
 - Sustainable agricultural practices (organic farming, agroforestry).
 - Improved irrigation and water management through PM Krishi Sinchai Yojana (PMKSY) (₹8,260 crore).
 - Higher investment in post-harvest infrastructure (cold storage, logistics).
 - Strengthening of PM-Kisan Samman Nidhi.
- **Fertilizer Subsidy Shift:**
 - Urea subsidy reduction in favor of nutrition-based subsidies.
 - Emphasis on biofertilizers and precision farming to reduce soil degradation.

(ii) Food Processing Industries

- PM Formalization of Micro-Food Processing Enterprises (PMFME) saw a 4.8% hike in allocation.
- **Focus on:**
 - Technology upgradation & modern processing units.
 - Improved product quality & business scalability.



PM Kisan Samman Nidhi Yojana :
 Providing Financial Assistance, Impacting Farmers lives

- 01 Mobile App, Web Portal & Common Service Centres
- 02 Easy & Simple Self Registration Process
- 03 E-KYC Verification of PM-KISAN Beneficiaries
- 04 Grievance Redressal Mechanism-Kisan eMitra



NATIONAL FISHERIES DIGITAL PLATFORM
 A platform to formalize the fisheries sector

PLEASE VISIT
NFDP
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TO REGISTER AND AVAIL THE BENEFITS UNDER
PM-MKSSY

(iii) Rural Employment: MGNREGA & NRLM

- MGNREGA Allocation: ₹86,000 crore (same as 2024-25).
- Deendayal Antyodaya Yojana – NRLM (DAY-NRLM):
 - 26.3% increase in allocation (₹19,005 crore from ₹15,047 crore).
 - Focus on women empowerment, skill development & entrepreneurship.
- **Challenges & Improvements:**
 - Need for better planning, execution, and asset quality improvement.
 - Village entrepreneurship programs to encourage self-employment.

(iv) Rural Housing & Connectivity

- PM Awas Yojana – Gramin (PMAY-G): ₹54,832 crore (+0.6% from 2024-25).
 - Focus on affordable rural housing for SCs, STs, and women-headed families.
- Pradhan Mantri Gram Sadak Yojana (PMGSY): Rs. 19,000 crore.
 - Accelerated rural road infrastructure to enhance connectivity, trade, and employment opportunities.

(v) Dairy & Fisheries Development

- Dairy Sector Priorities: Boost milk production & rural dairy farming.
- Investment in cold storage and cooperative models (e.g., AMUL).
- PM Matsya Sampada Yojana (PMMSY): 5.7% increase in allocation.
- Focus on modern aquaculture, cold storage, and fishermen's welfare.

(vi) Skill Development & Education

- **Samagra Shiksha:** ₹41,250 crore allocation for primary & secondary education.
 - Emphasis on digital learning, teacher training & inclusive education.
- **PM Vishwakarma Yojana:**
 - Empowering rural artisans & craftsmen.
 - Focus on modern tools, financial aid & market integration.

(vii) MSMEs and Rural Enterprises

- **Revised MSME Definition:** Expands eligibility for government support.
- **Benefits:**
 - Easier access to finance, technology, and markets.
 - Growth in agribusiness, food processing, handicrafts.

Reduction in rural-to-urban migration by creating local employment.

UNION BUDGET 2025-26

Scheme to Make India A Global Toys Hub

To create high-quality toys representing the 'Made in India' brand

- To focus on development of clusters, skills, and a manufacturing ecosystem that will create high-quality, unique, innovative, and sustainable toys

opportunities in MSMEs, rural enterprises, and technical education.

- **Social Inclusivity:** Increased support for SCs, STs, women, and marginalized communities.

Challenges & Way Forward

Challenges	Proposed Solutions
Need for better rural employment implementation	Strengthen monitoring, planning & execution of MGNREGA & NRLM
Fertilizer subsidy rationalization may impact farmers	Promote biofertilizers & sustainable farming
Urban-rural disparity in infrastructure	Increased investment in connectivity & logistics
Skill-job mismatch	Industry-aligned skill training programs

Development Impact & Future Prospects

- **Economic Growth Acceleration:** Higher investment in infrastructure, agriculture, and employment.
- **Strengthening Rural Economy:** Enhanced agri-productivity, dairy, and fisheries development.
- **Job Creation & Skill Development:** Improved

Conclusion

The Union Budget 2025-26 presents a holistic approach to economic and rural development, aligning with the long-term vision of Viksit Bharat@2047. With higher allocations in agriculture, employment, infrastructure, MSMEs, and education, the budget aims to accelerate economic growth, generate employment, and enhance social welfare. The challenge, however, lies in efficient implementation and ensuring that budgetary provisions translate into tangible benefits for the people.

Free Initiative by Chahal Academy

Editorial Analysis of Indian Express

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The Indian EXPRESS

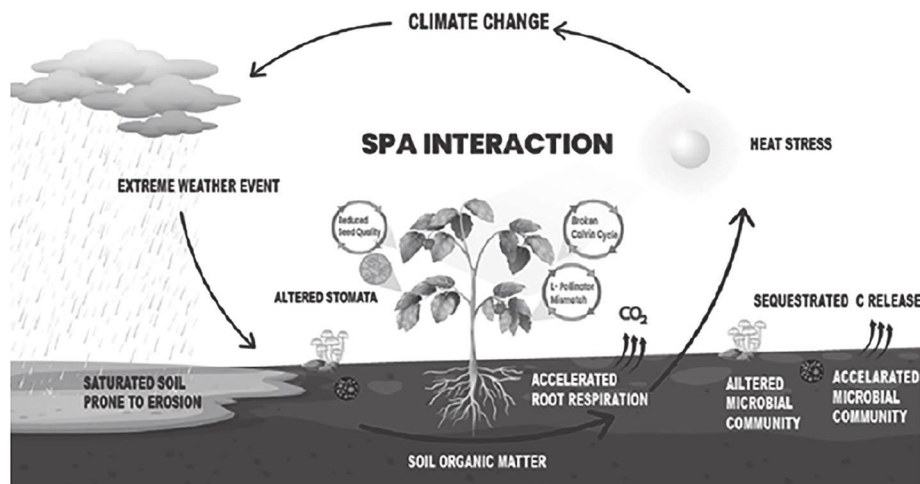
ARTICLES FROM DOWN TO EARTH (MARCH 2025)

CLIMATE CHANGE TO LEAD TO HIGHER SOIL EROSION AND SALINITY

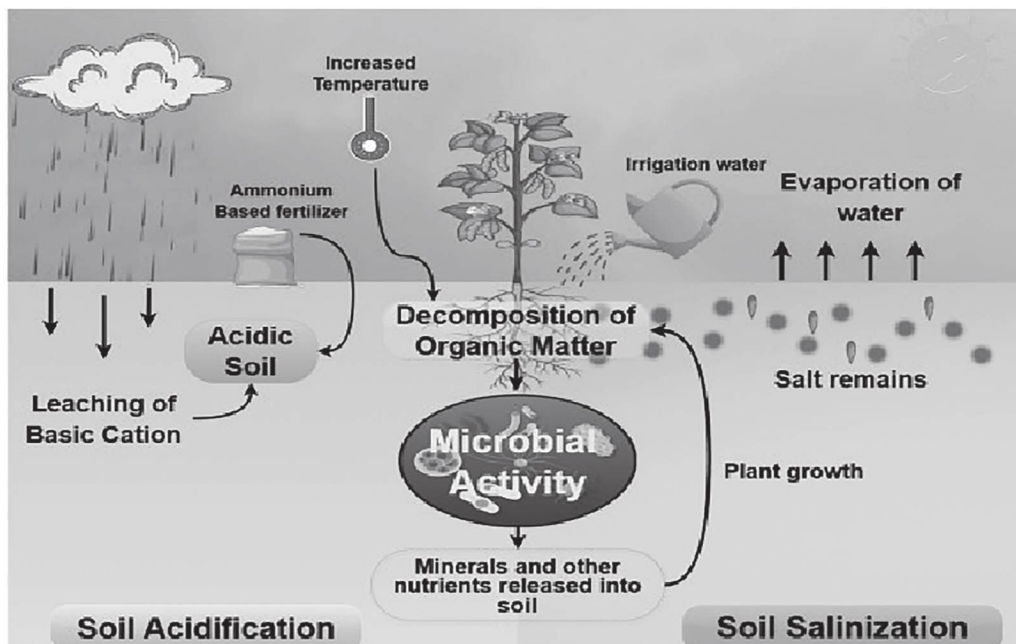
Introduction: According to the Agriculture Minister, both Kharif and Rabi rainfall are expected to increase in the coming years due to climate change, leading to higher rates of soil erosion.

Predictions for Future

- Kharif rainfall is expected to rise by 4.9-10.1 per cent and 5.5-18.9 percent by 2050 and 2080, respectively,
- Rabi rainfall is anticipated to increase by 12-17 per cent and 13-26 per cent by 2050 and 2080, respectively.
- This rise in rainfall could lead to soil erosion of 10 tonnes per hectare per year from croplands by 2050.
- The area affected by salinity is also expected to grow from 6.7 million hectares to 11 million hectares by 2030.



Impact of Climate Change on Soil



- **Weakens Ecosystems:** Climate change disrupts soil-plant-atmosphere (SPA) interactions, weakening ecosystems.
- **Effects plant growth:** Extreme weather alters soil structure, nutrient cycling, and plant growth dynamics.
- **Interlinkage between Soil and Vegetation:** Feedback loops connect soil, vegetation, and environmental factors in the SPA.
- **Nutrition Limitation:** Higher CO₂ boosts photosynthesis but causes nutrient limit and phenological shift.
- **Impact on Cash crops:** Cash and staple crops are greatly affected by climate change and extreme weather.

Way Forward

- **Soil Conservation Measures:** Encouraging Contour farming, Cover cropping, and agroforestry can help in minimizing erosion.
- **Inclusion of Salt-Tolerant Crop Varieties:** Develop and deploy crops that can withstand increasing soil salinity conditions.
- **Water Management Practices:** Promote rainwater harvesting and micro-irrigation systems to manage rainfall variability.
- **Climate-Resilient Agriculture:** Integrate climate modelling and advisory services to help farmers adapt their practices.

EXPECTED QUESTION FOR UPSC CSE

Descriptive Question

Q. How can Climate Change impact the nature of Soil and aggravate Soil Erosion. Mention ways to reduce its Impact. [10 marks,150 words]

INDIA'S COASTAL CRISIS

Context: India's 7,500-kilometre coastline — rich in biodiversity and home to millions of fishers — is under increasing threat from an outlawed fishing practice that continues with impunity: Light fishing.

About Light Fishing

- Light fishing involves the use of lights attached to structures above water or suspended underwater to attract fish to specific areas and facilitate harvesting.
- This method has been one of the most advanced and successful means employed in some types of fisheries in the world today.
- It is a form of optical bait used to attract and concentrate fish to a spot.
- Many commercial, traditional and recreational fishermen are seen putting on the light on board in the night to attract the fish around their boats.

Concerns regarding Light Fishing in India

- **Weak Law Enforcement:**
 - Banned in India's Exclusive Economic Zone (EEZ) since 2017, yet enforcement remains inconsistent.
 - In states like Maharashtra, Tamil Nadu and Andhra Pradesh, light fishing is not totally banned in territorial waters and where rules do exist, enforcement is weak.
- **Ecological Consequences:** Studies warn of severe ecological consequences — a 2016 paper in the *Fisheries Journal* included overfishing, juvenile stock depletion and coral reef degradation as impacts of this technique.
- **Social Fallout:** Small-scale, traditional fishers using hand-cast nets and country boats find themselves at a stark disadvantage compared to mechanised vessels equipped with powerful lights.
- **Fragmented Framework:** India's fragmented framework with national EEZ restrictions coupled with varied state-level rules — is insufficient.

Way Forward

- **Need for Uniform Ban :** A fully enforced nationwide ban would level the playing field and protect our fish stock.
- **Need for Uniform Policy :** A uniform policy would also align with United Nations-mandated Sustainable Development Goal 14, which focuses on ocean conservation and equitable access to marine resources.

ARTICLES FROM EPW (MARCH 2025)

SAVINGS AND INVESTMENT CONSTRAINTS REMAIN UNRESOLVED

Context: Recent savings and investment numbers brought out by the National Statistics Office for 2023–24.

Overview of Savings and Investment Trends

- **Gross Savings Rate:** Stagnant at 30.7% of GDP (2023–24), 3.9 percentage points below the 2011–12 peak of 34.6%.
- **Gross Capital Formation (Investments):** Dipped to 31.4% of GDP in 2023–24, 7.5 percentage points lower than the 2011–12 peak of 39%.
- **Global Comparison**
 - India's savings and investment rates lag behind those of other middle-income countries.
 - Global savings have stagnated at around 26% of GDP (2011–2023), while investments rose to 27.5% of GDP.

Breakdown of Savings: Sub-Segments of Gross Savings

- **Household Savings**
 - Sharp decline of 5.5 percentage points to 18.1% of GDP (2023–24 vs. 2011–12).
 - Accounts for more than 50% of total savings. The decline is too large to offset gains elsewhere.
- **Public Corporations:** Fell by 0.9 percentage points to 2.9% of GDP.
- **Private Corporations:** Improved marginally by 1 percentage point to 10.7% of GDP.
- **Government Savings:** Remained negative despite minor improvements.

Breakdown of Investments: Sub-Segments of Gross Capital Formation

- **Household Investments:** Fell by 3.1 percentage points to 12.8% of GDP, driven by reduced physical asset savings.
- **Public Corporate Investments:** Declined marginally to 3.9% of GDP.
- **Private Corporate Investments:** Dropped by 2 percentage points to 11.2% of GDP.
- **General Government Investments:** The only segment where the investment rate has improved. The rates increased by less than a percentage point to 4% of the GDP by 2023–24.

Sectoral Analysis of Investment Trends

- **Agriculture Sector:** The investment rate fell by around one-sixth to 2.6% of the GDP between 2011–12 and 2023–24.
- **Industrial Sector**
 - The slowdown in investments in the industrial sector was the worst, with rates declining by more than a quarter to 10.1% of the GDP by 2023–24
 - The dip in investment in industry varied sharply across its four segments.
 - ◆ **Manufacturing & Mining:** Fell by approximately 33% to 5% and 0.4% of GDP, respectively.
 - ◆ **Electricity:** Halved to 2% of GDP.
 - ◆ **Construction:** Stable at 2.6% of GDP.
- **Services Sector**
 - **Overall:** Minimal decline of 0.3 percentage points to 18.8% of GDP.
 - The trends were disparate across different segments of the services sector, with four out of six segments registering an improvement while the other two faltered.
 - ◆ **Public Administration & Defence:** Rose to 2.6% of GDP (up by 50%).
 - ◆ **Transport/Storage/Communication:** Increased to 4% of GDP (up by 33%).
 - ◆ **Real Estate & Professional Services:** Fell by approximately 33% to 6.7% of GDP.
 - ◆ **Financial Services:** Dropped to 0.3% of GDP.

Key Challenges & Implications

- **Structural Issues:** Decline persists despite tax cuts, indicating deeper supply-demand imbalances (e.g. low income/consumption).
- **Household Sector Strain:** Sharp erosion of household savings/investments highlights financial stress.
- **Industrial Decline:** Electricity and manufacturing sectors require urgent policy intervention.
- **Global Competitiveness:** Widening gap with other middle-income countries risks long-term economic growth.

Way Forward

- **Reviving Household Savings**
 - **Financial Incentives:** Introduce tax-free savings schemes (e.g. expanded PPF, fixed deposits) for low- and middle-income groups.

- **Income Growth:** Focus on job creation in labor-intensive sectors (e.g. textiles, tourism). Implement minimum wage revisions and skill development programs.
- **Financial Literacy:** Launch nationwide campaigns to promote disciplined saving and investment habits.
- **Boosting Industrial and Infrastructure Investments**
 - **Manufacturing:** Extend Production-Linked Incentive (PLI) schemes to SMEs and reduce compliance burdens.
 - **Electricity:** Accelerate renewable energy projects (solar, wind) with subsidies and public-private partnerships (PPPs).
 - **Infrastructure Development:** Prioritize high-impact projects (e.g. logistics corridors, smart cities) to attract private capital. Streamline land acquisition and environmental clearances for faster execution.
- **Enhancing Agricultural Productivity**
 - **Technology Adoption**
 - ◆ Promote drip irrigation, precision farming, and climate-resilient crops.
 - ◆ Expand Kisan Credit Card schemes with lower interest rates for small farmers.
 - **Risk Mitigation:** Strengthen crop insurance coverage (e.g. PMFBY) and establish price stabilization funds.
- **Reinvigorating the Services Sector**
 - Real Estate and Financial Services
 - ◆ Stabilize housing demand via affordable housing incentives and relaxed GST rates.
 - ◆ Strengthen regulatory frameworks for NBFCs to restore investor confidence.
 - **Emerging Sectors:** Incentivize IT, tourism, and healthcare services through export promotions and FDI relaxations.

Conclusion: India's savings and investment stagnation reflects systemic challenges, particularly in household finances and industrial productivity. Targeted reforms to boost incomes, incentivize corporate investments, and revive critical sectors like manufacturing and energy are essential to reversing the trend.

TOOTHLESS AND POWERLESS GUIDELINES AGAINST DISCRIMINATION

Context: The University Grants Commission (UGC) released the Draft UGC (Promotion of Equity in Higher Education Institutions) Regulations, 2025 (draft regulations) in the public domain to seek feedback from stakeholders.

Background

- Incidents Prompting Regulatory Review

- Rohith Vemula's suicide (2016) and Payal Tadv's death (2019) highlighted systemic caste-based discrimination in Higher Education Institutions (HEIs)
- 122 student suicides reported in top HEIs (2014–2021), including 24 SC, 41 OBC, 3 ST, and 3 minority students.
- **Public Demand:** There were calls for the Rohith Act to criminalize caste-based discrimination and establish institutional safeguards.

Key Changes in the 2025 Draft Regulations

- **Narrowed Definition of Discrimination**
 - **2012 Regulations:** Broadly defined discrimination as distinctions based on caste, creed, religion, ethnicity, gender, disabilities, etc.
 - **2025 Draft:** It limits caste-based discrimination to SC/ST communities only, excluding OBCs and contradicts the intersectional nature of discrimination (e.g. Vemula's contested caste identity).
- **Institutional Mechanisms**
 - **Equal Opportunity Centre (EOC):** Mandated in every HEI to address discrimination
 - ◆ To be headed by the institutional head (ex officio chairperson).
 - ◆ Members nominated by the institutional head, including student representatives selected via academic merit or sports excellence.
 - ◆ Raises concerns about impartiality, especially in cases involving the institutional head.
- **Penalization of False Complaints**
 - Disciplinary action against complainants filing false complaints.
 - **Criticism:** This creates a chilling effect, thereby deterring marginalized groups from reporting discrimination.

Criticisms and Concerns Associated with Draft Regulations

- **Exclusionary Framework**
 - OBCs and minority communities are excluded from the definition of caste-based discrimination.
 - Legal loopholes allow institutions to dismiss cases (e.g. Vemula's caste being retroactively classified as OBC).
- **Structural Bias in Grievance Redressal**
 - Equity Committees lack independence due to the institutional head's influence.
 - Nomination-based student representation undermines inclusivity.
- **Focus on Perception Over Substance**
 - The draft prioritizes eliminating the perception of discrimination, rather than addressing systemic inequality.

- It contrasts with 2012 regulations, which emphasized human dignity and broad anti-discrimination principles.
- **Legal and Ethical Shortcomings**
 - The draft fails to align with constitutional guarantees of equality and dignity.
 - It treats discrimination as an aberration instead of a structural issue.

Implications

- **Perpetuation of Inequality:** Narrow definitions and biased committees risk reinforcing social exclusion.
- **Erosion of Trust:** Marginalized groups may lose faith in institutional mechanisms.
- **Regulatory Inefficacy:** Draft regulations lack enforcement teeth, rendering them symbolic rather than transformative.

Way Forward

- **Broaden the Scope of Anti-Discrimination Measures by expanding definitions**
 - Revise the definition of caste-based discrimination to explicitly include OBCs, minorities, and other marginalized groups.
 - Adopt an intersectional approach to address overlapping identities (e.g. caste, gender, religion).
- **Reform Grievance Redressal Mechanisms**
 - Restructure Equity Committees
 - ◆ **Ensure independence:** Replace institutional heads with elected or external impartial chairs (e.g. retired judges, civil society representatives).
 - ◆ **Diversify Membership:** Include elected student representatives from marginalized communities, faculty, and external experts.

- Transparency in Process
 - ◆ Mandate public disclosure of committee decisions and annual reports on discrimination cases.
 - ◆ Establish timelines for resolving complaints to prevent delays.
- **Balancing Accountability and Protection for Complainants**
 - **Safeguard Against Retaliation:** Prohibit penalization of complainants unless false complaints are proven through rigorous, impartial investigations.
 - Introduce penalties for institutions that fail to act on genuine complaints.
 - **Support Systems:** Provide legal aid and psychosocial support to complainants during proceedings.
- **Address Systemic Inequality**
 - **Mandatory Training and Awareness:** Conduct workshops on caste sensitivity, anti-discrimination laws, and inclusive practices for faculty, staff, and students. Integrate equity and diversity modules into curricula.
 - **Institutional Audits:** Conduct annual audits to assess caste-based disparities in admissions, grading, and campus life.

Conclusion: The 2025 draft regulations reflect a regressive shift from the 2012 framework, prioritizing bureaucratic optics over substantive equity. By narrowing definitions, centralizing institutional power, and penalizing complainants, the UGC risks entrenching systemic discrimination rather than dismantling it. The draft's contradictions highlight a fundamental misunderstanding of discrimination as a structural issue, undermining its potential to safeguard marginalized students' rights.

QUICK REVISION

IMPORTANT DAYS IN MARCH 2025

Date	Day	Significance / Remark / Detail
1 March	Zero Discrimination Day	<ul style="list-style-type: none"> To celebrate the right of everyone to live a full and productive life and live it with dignity. Theme 2025: We stand together
1 March	World Seagrass Day	<ul style="list-style-type: none"> In May 2022, the UN General Assembly declared 1 March as World Seagrass Day. Seagrasses are marine flowering plants that are found in shallow waters in many parts of the world, from the tropics to the Arctic circle. They form extensive underwater meadows, creating complex, highly productive and biologically rich habitats.
3 March	World Wildlife Day	<ul style="list-style-type: none"> On 20 December 2013 at the 68th Session of the United Nations General Assembly (UNGA), March 3 was declared United Nations World Wildlife Day (WWD). This day holds significance as the day that the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was signed in 1973. Theme 2025: Wildlife Conservation Finance: Investing in People and Planet
4-10 March	National Safety Week	<ul style="list-style-type: none"> 4 March - National Safety Day National Safety Week in India is dedicated to raising awareness about safety in all spheres of life. It starts on March 4, recognized as National Safety Day, and runs until March 10. Theme 2025: Safety and Well-being crucial for Viksit Bharat
5 March	International Day for Disarmament and Non-Proliferation Awareness	<ul style="list-style-type: none"> The International Day for Disarmament and Non-Proliferation Awareness seeks to promote better awareness and understanding of disarmament issues among the public, especially young people.
8 March	International Women's Day	<ul style="list-style-type: none"> Theme 2025: For ALL Women and Girls: Rights. Equality. Empowerment.
10 March	International Day of Women Judges	<ul style="list-style-type: none"> While equality in the judiciary has been historically uneven, steps are being taken to remedy this as evidenced by the declaration by the United Nations General Assembly of 10 March as the International Day of Women Judges.
12 March	Dandi March Day	<ul style="list-style-type: none"> 12th March was the date on which the original Dandi March, which was an act of non-violent civil disobedience in colonial India led by Mahatma Gandhi. The march spanned 240 miles (390 km), from Sabarmati Ashram to Dandi, which was called Navsari at that time (now in the state of Gujarat)

15 March	World Consumer Rights Day	<ul style="list-style-type: none"> World Consumer Rights Day, observed annually on March 15, serves as an essential reminder of the need to uphold consumer rights and protection. The day is an opportunity to promote the basic rights of all consumers and encourage those rights to be respected and protected. World Consumer Rights Day was first observed in 1983. This date was chosen to commemorate President John F. Kennedy's address to the US Congress on March 15, 1962, where he became the first world leader to formally recognize consumer rights. Theme 2025: A Just Transition to Sustainable Lifestyles
15 March	International Day to Combat Islamophobia	<ul style="list-style-type: none"> Islamophobia is a fear, prejudice and hatred of Muslims that leads to provocation, hostility and intolerance by means of threatening, harassment, abuse, incitement and intimidation of Muslims and non-Muslims, both in the online and offline world.
16 March	National Vaccination Day	<ul style="list-style-type: none"> National Vaccination Day is celebrated every year on March 16th to commemorate the successful launch of the Pulse Polio Immunization Programme in India.
20 March	International Day of Happiness	<ul style="list-style-type: none"> UN General Assembly proclaimed 20 March the International Day of Happiness, recognising the relevance of happiness and well-being as universal goals and aspirations in the lives of human beings around the world and the importance of their recognition in public policy objectives.
21 March	World Day for Glaciers	<ul style="list-style-type: none"> Glaciers are essential to Earth's ecosystem, acting as critical freshwater reservoirs and indicators of the planet's health. They provide water for millions of people, regulate sea levels, and support biodiversity.
21 March	International Day for the Elimination of Racial Discrimination	<ul style="list-style-type: none"> Theme 2025: 60th anniversary of the International Convention on the Elimination of All Forms Racial of Discrimination (ICERD) On December 21, 1965, the United Nations General Assembly adopted the International Convention on the Elimination of All Forms of Racial Discrimination (ICERD). The International Day for the Elimination of Racial Discrimination is observed annually on the day the police in Sharpeville, South Africa, opened fire and killed 69 people at a peaceful demonstration against apartheid "pass laws" in 1960.
21 March	International Day of Forests	<ul style="list-style-type: none"> Theme 2025: Forests and Food Forests, pillars of global food security and nutrition, are the livelihoods of millions of families. They provide essential foods such as fruits, seeds, roots and wild meat, fundamental resources for indigenous and rural communities.
21 March	World Poetry Day	<ul style="list-style-type: none"> Held every year on 21 March, World Poetry Day celebrates one of humanity's most treasured forms of cultural and linguistic expression and identity. UNESCO first adopted 21 March as World Poetry Day during its 30th General Conference in Paris in 1999, with the aim of supporting linguistic diversity through poetic expression and increasing the opportunity for endangered languages to be heard.

21 March	International Nowruz Day	<ul style="list-style-type: none"> • With roots extending back over 3,000 years to the era of Zoroastrianism, Nowruz heralds the arrival of spring and is celebrated on the day of the vernal equinox, usually March 20 or 21. • Nowruz, also spelled Novruz, Navruz, Nooruz, Nevruz, or Nauryz, meaning “new day” in Persian, is far more than just the start of a new year—it is an ancient celebration of life, rebirth, and the triumph of light over darkness.
21 March	World Down Syndrome Day	<ul style="list-style-type: none"> • Down syndrome occurs when an individual has an extra partial (or whole) copy of chromosome 21. • In December 2011, the General Assembly declared 21 March as World Down Syndrome Day.
21 March	World Puppetry Day	<ul style="list-style-type: none"> • To celebrate the art form and revel in its universality; to cross all political cultural and ethnic barriers and bring people together.
22 March	World Water Day	<ul style="list-style-type: none"> • Theme 2025: Glacier preservation
23 March	World Meteorological Day	<ul style="list-style-type: none"> • Every 23 March, the World Meteorological Organization commemorates the coming into force of the Convention establishing the World Meteorological Organization on 23 March 1950. • Theme 2025: Closing the early warning gap together
23 March	Shaheed Diwas	<ul style="list-style-type: none"> • Shaheed Diwas, or Martyrs’ Day, is a tribute to the bravery and devotion of India’s freedom fighters who laid down their lives for the nation’s independence. • On March 23, 1931, three revolutionary freedom fighters, Bhagat Singh, Sukhdev and Rajguru, all in their early twenties, were hanged in the Lahore jail. • The three were sentenced to death by the British colonial rulers.
24 March	World Tuberculosis Day	<ul style="list-style-type: none"> • Each year we commemorate World TB Day to raise public awareness about the devastating health, social and economic consequences of tuberculosis (TB) and to step up efforts to end the global TB epidemic. • The date marks the day in 1882 when Dr. Robert Koch announced that he had discovered the bacterium that causes TB, which opened the way towards diagnosing and curing this disease.
24 March	International Day for the Right to the Truth Concerning Gross Human Rights Violations and for the Dignity of Victims	<ul style="list-style-type: none"> • Each year, on 24 March, the International Day for the Right to the Truth Concerning Gross Human Rights Violations and for the Dignity of Victims is observed. • This annual observance pays tribute to the memory of Monsignor Óscar Arnulfo Romero, who was murdered on 24 March 1980. • Monsignor Romero was actively engaged in denouncing violations of the human rights of the most vulnerable individuals in El Salvador.
25 March	International Day of Remembrance of the Victims of Slavery and the Transatlantic Slave Trade	<ul style="list-style-type: none"> • In 2006, the United Nations General Assembly recognized that “the slave trade and slavery are among the worst violations of human rights in the history of humanity, bearing in mind particularly their scale and duration” and designated 25 March 2007 as the International Day for the Commemoration of the Two-hundredth Anniversary of the Abolition of the Transatlantic Slave Trade. • The International Day of Remembrance of the Victims of Slavery and the Transatlantic Slave Trade is a time for reflection. But it is also a time for education.

25 March	International Day of Solidarity with Detained and Missing Staff Members	<ul style="list-style-type: none"> The International Day of Solidarity with Detained and Missing Staff Members is marked each year on the anniversary of the abduction of Alec Collett, a former journalist who was working for the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA) when he was abducted by armed gunman in 1985. His body was finally found in Lebanon's Bekaa Valley in 2009.
27 March	World Theatre Day	<ul style="list-style-type: none"> It is an annual celebration that highlights the importance of theatres as a form of entertainment throughout history. In modern times, it has emerged as more than that.
30 March	International Day of Zero Waste	<ul style="list-style-type: none"> Theme 2025: Towards zero waste in fashion and textiles On 14 December 2022, the United Nations General Assembly adopted a resolution at its seventy-seventh session to proclaim 30 March as International Day of Zero Waste, to be observed annually. The United Nations Environment Programme (UNEP) and the United Nations Human Settlements Programme (UN-Habitat) jointly facilitate the observance of the International Day of Zero Waste.

IMPORTANT EVENTS/SUMMITS/CONFERENCES IN MARCH 2025

	Event/Summit/Conference	Details
1.	WAVES India: A Bird's Eye View Challenge	<ul style="list-style-type: none"> It is an initiative under the Create in India challenges, aimed at showcasing the beauty and diversity of India through aerial cinematography. Organised by: Broadcast Engineering Consultants India Limited (BECIL) in collaboration with the Ministry of Information and Broadcasting.
2.	Mobile World Congress (MWC) 2025	<ul style="list-style-type: none"> Union Minister for Communications, Jyotiraditya M. Scindia, represented India at the prestigious Mobile World Congress (MWC) 2025 in Barcelona, Spain. Theme: Converge, Connect, Create
3.	World Sustainable Development Summit (WSDS) 2025	<ul style="list-style-type: none"> Union Minister for Environment, Forest, and Climate Change Bhupender Yadav inaugurated the World Sustainable Development Summit (WSDS) 2025 in New Delhi. The event, organized by The Energy and Resources Institute (TERI), focused on strengthening global partnerships for accelerating sustainable development and climate solutions.
4.	GRIDCON 2025	<ul style="list-style-type: none"> Union Minister of Power and Housing & Urban Affairs, Manohar Lal, inaugurated GRIDCON 2025 – The International Conference cum Exhibition. The event was held at IICC, Yashobhoomi, Dwarka, New Delhi. It was organized by the Power Grid Corporation of India Limited (POWERGRID), under the patronage of the Ministry of Power and in association with CIGRE India.
5.	Water Sustainability Conference 2025	<ul style="list-style-type: none"> It was hosted by the Bureau of Water Use Efficiency (BWUE) under the National Water Mission (NWM), Ministry of Jal Shakti, in collaboration with The Energy and Resources Institute (TERI).
6.	No Money for Terror (NMFT) Conference	<ul style="list-style-type: none"> The 4th 'No Money for Terror' (NMFT) Conference was held in Munich, highlighting global efforts to combat terror financing. India, a key participant since 2018, reiterated its commitment to strengthening international cooperation in fighting terrorism.

7.	69th Session of United Nations Commission on the Status of Women (UNCSW)	<ul style="list-style-type: none"> • Union Minister for Women and Child Development, Annpurna Devi, actively participated in the 69th Session of the United Nations Commission on the Status of Women (UNCSW) held at the UN Headquarters in New York. • The session focused on gender equality and women’s empowerment, with India reaffirming its commitment to holistic development, inclusive policies, and international cooperation for women’s rights.
8.	Raisina Dialogue	<ul style="list-style-type: none"> • Raisina Dialogue is India’s premier conference on geopolitics and geo-economics, dedicated to addressing some of the most pressing global challenges. • Hosted annually in New Delhi, this dialogue brings together world leaders, policymakers, industry experts, and scholars to engage in discussions shaping the international order. • The 10th edition of the Raisina Dialogue took place from March 17 to March 19, 2025. • Theme: Kālachakra – People, Peace and Planet.
9.	WAVEX 2025	<ul style="list-style-type: none"> • Union Ministry of Information & Broadcasting (MIB) has unveiled WAVEX 2025, a groundbreaking initiative designed to support media and entertainment startups by offering funding, mentorship, and national exposure. • Venue: Jio World Convention Centre, Mumbai • Dates: May 1-4, 2025
10.	Sourcex India 2025	<ul style="list-style-type: none"> • The 3rd edition of Sourcex India 2025, organized by the Federation of Indian Export Organisations (FIEO) with support from the Ministry of Commerce & Industry, was held at Yashobhoomi Convention Centre, New Delhi. • The event aligns with India’s initiatives like Make in India, Startup India, and the PLI Scheme, reinforcing its manufacturing competitiveness and global trade footprint.
11.	Nano Electronics Roadshow	<ul style="list-style-type: none"> • Ministry of Electronics and Information Technology (MeitY), in collaboration with IISc Bengaluru, IIT Bombay, IIT Madras, IIT Delhi, IIT Kharagpur, and IIT Guwahati, successfully hosted India’s first Nano Electronics Roadshow at the National Science Seminar Complex, IISc Bangalore.
12.	International Ramayana Conclave	<ul style="list-style-type: none"> • The International Ramayana and Vedic Research Institute organized a Ramayana Conclave at the Swami Vivekananda Cultural Centre in Colombo. • Eminent scholars and religious leaders from India and Sri Lanka participated in discussions on the global impact of Lord Rama’s personality and the historical significance of Ramayana-related sites in Sri Lanka.
13.	National Conference on Environment 2025	<ul style="list-style-type: none"> • President Droupadi Murmu inaugurated the National Conference on Environment – 2025. • Organised by: National Green Tribunal (NGT)

AWARDS AND PRIZES IN MARCH 2025

	Award	Awarded to	Details
1.	97th Academy Awards (Oscars)	-	<ul style="list-style-type: none"> • Best Picture - Anora • Best Director - Sean Baker (Anora) • Actor in a Leading Role - Adrien Brody (The Brutalist) • Actress in a Leading Role - Mikey Madison (Anora) • Animated Feature Film - Flow • Animated Short Film - In the Shadow of the Cypress

2.	Honorary Order of Freedom of Barbados	Narendra Modi	<ul style="list-style-type: none"> Prime Minister Narendra Modi has been honored with the 'Honorary Order of Freedom of Barbados', a prestigious award recognizing his strategic leadership and assistance during the COVID-19 pandemic.
3.	IIFA Awards	-	<ul style="list-style-type: none"> Best Picture: Laapataa Ladies Best Direction: Kiran Rao (Laapataa Ladies) Best Performance in a Leading Role (Male): Kartik Aaryan (Bhool Bhulaiyaa 3) Best Performance in a Leading Role (Female): Nitanshi Goel (Laapataa Ladies)
4.	Ramsar Award for Wetland Wise Use	Jayshree Vencatesan	<ul style="list-style-type: none"> Jayshree Vencatesan is the co-founder of Chennai-based Care Earth Trust. She has become the first Indian to be honored with the Ramsar Award for 'Wetland Wise Use', a globally recognized accolade celebrating contributions to the sustainable management of wetlands. The award was announced by the Ramsar Secretariat in Geneva on the eve of International Women's Day 2024.
5.	Lifetime Achievement Award by the UK Government	Chiranjeevi	<ul style="list-style-type: none"> Veteran Telugu cinema superstar Chiranjeevi was honoured with the Lifetime Achievement Award for his immense contribution to Indian cinema, cultural influence, and public service. The award was presented by London-based think tank Bridge India at the prestigious House of Commons in the UK Parliament.
6.	Maharashtra Bhushan Award	Ram Sutar	<ul style="list-style-type: none"> Renowned sculptor Ram Sutar, best known for designing the Statue of Unity, has been honored with the Maharashtra Bhushan award. The Maharashtra Bhushan Award is the highest civilian award of Maharashtra. It is presented annually by the Government of Maharashtra.
7.	Knight's Cross of the Order of Dannebrog	Vijay Sankar	<ul style="list-style-type: none"> Vijay Sankar, serving as the Honorary Consul General of Denmark for Southern India and Chairman of The Sanmar Group, has been honored with the Knight's Cross of the Order of Dannebrog by the King of Denmark.
8.	Stockholm Water Prize	Günter Blöschl	<ul style="list-style-type: none"> Günter Blöschl, a professor at Vienna University of Technology, won the 2025 Stockholm Water Prize. The award was given for his groundbreaking contributions in flood risk analysis and climate change research. The Stockholm Water Prize is the world's most prestigious water award. Since 1991, the Stockholm Water Prize has been awarded to people and organizations for extraordinary water-related achievements.
9.	Jnanpith Award	Vinod Kumar Shukla	<ul style="list-style-type: none"> Eminent Hindi writer Vinod Kumar Shukla has been named the recipient of the 59th Jnanpith Award, India's highest literary honour.

10.	Sangita Kalanidhi Award	R.K. Shriramkumar	<ul style="list-style-type: none"> Violinist R.K. Shriramkumar has been selected for the prestigious Sangita Kalanidhi award for 2025, presented by the Music Academy.
11.	2025 Abel Prize	Masaki Kashiwara	<ul style="list-style-type: none"> Japanese mathematician Masaki Kashiwara has been awarded the 2025 Abel Prize for his exceptional contributions to algebraic analysis and representation theory. The Abel Prize remains one of the most prestigious awards in mathematics, often considered equivalent to the Nobel Prize in this field.
12.	2025 Holberg Prize	Gayatri Chakravorty Spivak	<ul style="list-style-type: none"> Gayatri Spivak, celebrated literary critic and postcolonial scholar, has won the 2025 Holberg Prize, considered the equivalent of the Nobel Prize in the field of humanities, social sciences, law or theology research.

TERMS IN NEWS: MARCH 2025

	Term	Meaning and Details
1.	Coalition of the Willing	<ul style="list-style-type: none"> It refers to a pragmatic ad hoc grouping of countries allied for a common cause, typically a joint military effort.
2.	Hantavirus Pulmonary Syndrome (HPS)	<ul style="list-style-type: none"> Hantavirus is a family of rodent-borne viruses that can cause serious illness and death in humans. Infected rodents spread the viruses through their urine, faeces, and saliva. HPS is endemic to the Western Hemisphere. The deer mouse carries the most common HPS-causing hantavirus. There is no known cure or treatment for HPS.
3.	Pig butchering scams	<ul style="list-style-type: none"> Pig butchering is a type of scam that makes investors believe they are getting high returns on their investments by making up numbers. Scammers often use social engineering techniques to prevent the user from withdrawing their pseudo profit and encourage users to keep on investing more and more money.
4.	Autopen	<ul style="list-style-type: none"> An autopen is essentially a printer-size machine that duplicates signatures using real ink. The machine has an arm that can hold a standard pen or pencil and can reproduce the programmed signature on paper.
5.	Muzharas	<ul style="list-style-type: none"> March 19 commemorates the anniversary of the Muzhara movement, a significant agrarian struggle in Punjab. The movement began in the 1930s and was later renamed the PEPSU Muzhara movement. The muzharas were landless tenant farmers seeking ownership rights on the land they had cultivated for generations. The British also forced some small farmers to surrender the land they owned and work as muzharas.

OBITUARIES IN MARCH 2025

	PERSON	IMPORTANT INFORMATION
1.	Garimella Balakrishna Prasad	<ul style="list-style-type: none"> Garimella Balakrishna Prasad was a renowned classical singer and former Asthana Vidwan (court musician) of Tirumala Tirupati Devasthanams (TTD).
2.	Ramakanta Rath	<ul style="list-style-type: none"> He was a legendary Odia poet and former IAS officer who revolutionized modern Odia poetry.
3.	Dr. Senkalong (Senka) Yaden	<ul style="list-style-type: none"> He was an esteemed Naga scientist and academician. He was widely known as the "Man of Science of the United States of America."

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MARCH 2025 - DAILY MCQs FROM THE HINDU & INDIAN EXPRESS

DAILY MCQs PRACTICE

Q1. Which of the following statements are correct in respect of Council of Ministers in India:

1. The Council of Ministers is headed by the Prime Minister, and it includes Cabinet Ministers, Ministers of State, and Deputy Ministers.
2. The total number of ministers in the new Cabinet is restricted to 65 as per the constitutional amendment.
3. The President appoints members of the Council of Ministers based on the advice of the Prime Minister.

Select the answer using the code given below:

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

Q2. Which of the following is not a ground for imposing reasonable restrictions under Article 19(2) of the Indian Constitution?

- (a) Sovereignty and integrity of India
- (b) Friendly relations with foreign states
- (c) Public order
- (d) Religious beliefs

Q3. Which of the following determines the question of a person's membership in a House of Parliament under Article 101 of the Indian Constitution?

- (a) The Supreme Court of India
- (b) The Election Commission of India
- (c) The President of India
- (d) The House in which the person is elected

Q4. Consider the following statements regarding Artificial Intelligence (AI):

1. AI systems can perform tasks such as natural language processing, image recognition, and decision-making without explicit human intervention.

2. Machine learning, a subset of AI, relies solely on supervised learning and does not include unsupervised or reinforcement learning techniques.

3. Ethical concerns surrounding AI include issues related to bias, privacy, and the potential for job displacement in various industries.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q5. Quality of Public Expenditure Index is released by

- (a) NITI Aayog
- (b) Reserve Bank of India
- (c) Directorate of Enforcement
- (d) Ministry of Commerce

Q6. Consider the following statements regarding Group of Seven (G7):

1. The G7 is a group of countries comprising of some of the world's largest advanced economies.
2. The G7 was formally established in 1975 with six members and became seven with the addition of Russia in 1997.

Which of the statements above is/are correct?

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

Q7. Consider the following with reference to the transactions regulated under the Foreign Exchange Management Act (FEMA), 1999:

1. Import and export of goods
2. Foreign direct investment (FDI)
3. External commercial borrowings (ECBs)

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q8. What is the minimum qualification required to be appointed as the Chief Justice of a High Court?

- (a) Must have served as a judge in any court for at least 7 years
(b) Must have been an advocate for at least 10 years in a High Court
(c) Must be a sitting Supreme Court judge
(d) Must have been a Governor before appointment

Q9. Consider the following statements regarding thermal expansion of seawater:

1. It is the process by which water expands as it warms up.
2. It is responsible for global rise in sea level.

Which of the statements above is/are correct?

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

Q10. Consider the following statements regarding Human Immunodeficiency Virus (HIV):

1. HIV attacks the body's immune system.
2. It cannot be managed and certainly leads to AIDS.
3. Nagaland has the highest HIV prevalence in India.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q11. Consider the following with reference to the Gulf Cooperation Council:

1. Saudi Arabia was the last GCC country to formally recognize Israel under the Abraham Accords.
2. The GCC Summit is held every two years.
3. Qatar is not the only largest producer of natural gas.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q12. Consider the following with reference to the key functions of the Finance Commission:

1. Regulating stock markets
2. Recommending financial distribution between the Centre and States
3. Ensuring Cooperative federalism
4. Formulating monetary policy

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q13. The historic Tea Horse Road, connected ...

- (a) India and Central Asia
(b) India and West Asia
(c) India and China
(d) India and East Asia

Q14. The ideal average ratio of Nitrogen-Phosphorus-Potassium (NPK) for fertilisers is:

- (a) 1:2:3 (b) 3:2:1
(c) 4:2:1 (d) 1:2:4

Q15. Consider the following with reference to the powers of the office of the Speaker:

1. Casting a vote in case of a tie
2. Deciding if a bill is a Money Bill
3. Suspending MPs for disorderly conduct

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q16. Consider the following with reference to functions not performed by the United Nations General Assembly:

1. Approving the UN budget
2. Electing non-permanent members of the Security Council
3. Passing legally binding resolutions on all member states

4. Appointing the Secretary-General on the recommendation of the Security Council

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q17. Risdiplam drug is used for the treatment of ...

- (a) Down Syndrome (b) Sickle cell Anaemia
(c) Thalassemia (d) Spinal Muscular Atrophy

Q18. Consider the following statements regarding National Geospatial Knowledge-based Land Survey of Urban Habitations (NAKSHA):

1. It is a city survey and mapping initiative under the Digital India Land Records Modernisation Programme (DILRMP).
2. It is spearheaded by the Department of Land Resources (DoLR) under the Ministry of Rural Development.

Which of the statements above is/are correct?

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

Q19. What was the primary issue in the case of Anuradha Bhasin vs. Union of India?

- (a) Violation of Right to Freedom of Speech and Expression
(b) Violation of Right to Privacy
(c) Violation of Right to Property
(d) Violation of the Right to Information

Q20. Consider the following with reference to the primary goal of North Atlantic Treaty Organization (NATO):

1. Economic cooperation among member states
2. The defense and security of its members
3. Cultural exchanges among nations
4. Political unity within Europe

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q21. Which of the following has developed the SPHEREx telescope to better understand the formation of Universe?

- (a) Indian Space Research Organisation (ISRO)
(b) European Space Agency (ESA)
(c) National Aeronautics and Space Administration (NASA)
(d) Japan Aerospace Exploration Agency (JAXA)

Q22. Consider the following statements regarding Gharials:

1. Gharials are long-snouted, fish-eating crocodilians found only in India.
2. They are critically endangered and their distribution is only limited to Chambal River in Madhya Pradesh.

Which of the statements above is/are correct?

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

Q23. Consider the following with reference to the benefits provided under the Maternity Benefit Act, 1961:

1. Paid maternity leave
2. Medical bonus
3. Free childcare services for newborns
4. Protection from dismissal during pregnancy

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q24. Consider the following with reference to the key areas emphasized for early childhood education in New Education Policy (NEP):

1. Anganwadi and pre-primary education
2. Directly starting from Grade 1
3. Promote multidisciplinary education
4. Reduce school education duration

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q25. Consider the following statements regarding Joint Parliamentary Committees (JPCs):

1. A Joint Parliamentary Committee (JPC) is an ad hoc body comprising members of both Houses of Parliament.
2. The proportion of representation in a JPC is 2:1 for Treasury and Opposition.
3. A motion to set up a JPC can only be introduced in Lok Sabha.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q26. How is the National Green Tribunal (NGT) different from the Central Pollution Control Board (CPCB)?

1. The NGT has been established by an Act whereas the CPCB has been created by an executive order of the Government.
2. The NGT provides environmental justice and helps reduce the burden of litigation in the higher courts whereas the CPCB promotes cleanliness of streams and wells, and aims to improve the quality of air in the country.

Which of the statements given above is/are correct?

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

Q27. Which of the following statements is not correct about the Delimitation Commission?

- (a) It is an independent body
- (b) It is responsible for adjusting boundaries of constituencies
- (c) Its orders can be challenged in a court of law
- (d) It works in consultation with the Election Commission of India

Q28. Consider the following with reference to the items that are audited by the Comptroller and Auditor General (CAG) of India:

1. State Government accounts
2. Central Government accounts
3. Government-owned corporations

4. Private companies directly
5. Election expenses of political parties

How many of the above is/are correct?

- (a) Only two (b) Only three
(c) Only four (d) All five

Q29. Consider the following statements with reference to Solar Flares:

1. Solar flares are sudden, intense bursts of energy and radiation from the sun's surface and atmosphere.
2. Solar flares can affect communication systems and navigation signals on Earth.
3. Solar flares are the only source of auroras on Earth.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q30. What is the FAO's 'Codex Alimentarius' related to?

- (a) Climate adaptation policies
- (b) Agricultural subsidies
- (c) Deforestation regulations
- (d) International food standards

Q31. Kurdistan Workers' Party (PKK) is an insurgent group in ...

- (a) Iran (b) Iraq
- (c) Syria (d) Turkey

Q32. Consider the following statements regarding Avian Flu:

1. It is caused by influenza virus.
2. It is also known as bird flu and is limited to birds and their eggs.
3. H5N1 is the most common subtype of bird flu.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q33. Abkhazia is a disputed territory between which two countries?

- (a) Russia and Ukraine (b) Georgia and Armenia
(c) Georgia and Russia (d) Turkey and Azerbaijan

Q34. Consider the following with reference to the acts enforced by Election Commission of India:

1. Narcotic Drugs and Psychotropic Substances Act, 1985
2. Benami Transactions (Prohibition) Act, 1988
3. Foreign Exchange Management Act (FEMA), 1999

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q35. The annual Madhi Yatra is held in ...

- (a) Gujarat (b) Madhya Pradesh
(c) Maharashtra (d) Uttar Pradesh

Q36. Consider the following statements regarding National Board for Wildlife (NBWL):

1. It is a statutory body established under the Forest Conservation Act, 1980.
2. It appraises and approves development projects that fall within the protected areas.

Which of the statements above is/are correct?

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

Q37. Which of the following state in India is the largest producer of Makhana (Foxnut)?

- (a) Uttar Pradesh (b) Madhya Pradesh
(c) Odisha (d) Bihar

Q38. Consider the following species:

1. Cheetah 2. Leopard
3. Clouded leopard 4. Snow Leopard

How many of the above species are included in the International Big Cat Alliance (IBCA)?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q39. With reference to the assets such as gold, which of the following is not a benefit of the Gold Monetisation Scheme launched by the government?

- (a) Depositors earn interest on idle gold
(b) Reduces gold imports
(c) Helps in the recycling of gold
(d) Provides tax-free gold purchases

Q40. Consider the following with reference to 'The Gir Wildlife Sanctuary in Gujarat':

1. The Sabarmati River flows through the Gir Wildlife Sanctuary.
2. Dry deciduous forest type of ecosystem is found in Gir Wildlife Sanctuary.
3. Bishnoi community living near Gir has been instrumental in the conservation of lions.

How many of the above is/are incorrect?

- (a) Only one (b) Only two
(c) All three (d) None

Q41. Which of the following statements are correct in respect of Chief Electoral Officer (CEO):

1. The CEO acts as a link between the Election Commission of India and the District Election Officers.
2. The CEO supervises the election process at the state level and ensures compliance with election laws.
3. The CEO has the authority to make final decisions regarding election disputes at the state level.

Select the answer using the code given below:

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

Q42. Khyber Pakhtunkhwa was formerly known as?

- (a) North-West Frontier Province (NWFP)
(b) Federally Administered Tribal Areas (FATA)
(c) Gilgit-Baltistan
(d) Baluchistan Agency

Q43. Consider the following statements regarding Proba 3:

1. It is NASA's latest mission to study the solar corona.
2. The mission will attempt the first-ever precision formation flying, where two satellites will fly together and maintain a fixed configuration in space.
3. It was launched by SpaceX's heavy falcon rocket.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q44. Consider the following statements regarding Census in India:

1. Since 1881, it is conducted every 10 years but was not done in 2021.
2. It is conducted by Registrar General and Census Commissioner of India under Ministry of Statistics and Program Implementation.

Which of the statements above is/are correct?

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

Q45. Consider the following:

1. Pollution 2. Riverbed Mining
3. Excessive Damming 4. Habitat Damage

Which of the above are threats to the River Dolphin population in India?

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

Q46. Consider the following statements regarding Starlink project:

1. It is a satellite internet constellation project developed by SpaceX to provide high-speed broadband internet globally, especially in remote areas.
2. Starlink satellites are communication satellites orbiting in a geosynchronous orbit.
3. These satellites are impeding the work of astronomers by creating radio noise.

How many of the above statements are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q47. Consider the following with reference to 'The Hemkund Sahib':

1. The Hemkund Sahib is located in the state of Himachal Pradesh.
2. The Valley of Flowers National Park is located near Hemkund Sahib.
3. The famous Alaknanda River originates from Hemkund Sahib.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q48. What is the main objective of the National Rural Health Mission?

- (a) Strengthening urban healthcare infrastructure
(b) Providing free medical education
(c) Reducing maternal and child mortality and improving rural healthcare
(d) Expanding private hospitals in rural areas

Q49. Consider the following with reference to 'The Shivaji Maharaj':

1. The Treaty of Purandar was signed between Shivaji Maharaj and the Mughals in 1665.
2. Battle of Pratapgad is famous for the defeat of Afzal Khan by Shivaji Maharaj.
3. Zamindari System was introduced by Shivaji Maharaj in his kingdom.
4. Zakat tax was introduced by Shivaji Maharaj, which was a form of military tribute.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q50. Consider the following with reference to the State Budget Session:

1. The State Budget is presented annually by the Governor in the Legislative Assembly.
2. The Legislative Council (where applicable) has equal authority in passing the Budget as the Legislative Assembly.

3. If the Budget is not passed, the government must resign immediately.
4. A Vote on Account allows the government to withdraw funds for essential expenses.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q51. Consider the following statements regarding the Intergovernmental Panel on Climate Change (IPCC):

1. The IPCC is an international body established to assess scientific information on climate change and to provide policymakers with regular assessments based on the latest climate science.
2. The IPCC is responsible for enforcing international climate policies, imposing sanctions on countries that fail to meet emission targets.

Which of the statements above is/are correct?

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

Q52. Consider the following global conventions related to environment:

1. Vienna Convention for the Protection of the Ozone Layer
2. Convention on Biological Diversity
3. United Nations Convention to Combat Desertification
4. United Nations Framework Convention on Climate Change

How many of the above conventions came out of Rio Earth Summit, 1992?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q53. Which of the following statements are incorrect in respect of the Badrinath Temple:

1. It is situated on the banks of the Mandakini River in Uttarakhand.
2. It follows the Dravidian style of temple architecture.
3. It is dedicated to Lord Vishnu and is one of the Char Dham pilgrimage sites.

Select the answer using the code given below:

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

Q54. Who appoints the Chairman of Securities and Exchange Board of India (SEBI)?

- (a) The Government of India
(b) The Reserve Bank of India
(c) The Prime Minister of India
(d) The President of India

Q55. Consider the following statements regarding Loss and Damage Fund:

1. It was formally established under the UNFCCC to address irreversible climate impacts in vulnerable developing countries.
2. The fund focuses on compensating for economic losses, excluding non-economic losses like cultural heritage or biodiversity.

Which of the statements above is/are correct?

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

Q56. Consider the following statements regarding Rheumatoid Arthritis (RA):

1. Rheumatoid Arthritis is an autoimmune disease where the body's immune system mistakenly attacks the lining of the joints, leading to inflammation and damage.
2. It primarily affects large joints like the hips and knees, and does not affect smaller joints of the hands and feet.

Which of the statements above is/are correct?

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

Q57. Which of the following statements are correct in respect of the Exclusive Economic Zone (EEZ):

1. The maximum extent of an Exclusive Economic Zone (EEZ) from a country's baseline, as per international law is 200 nautical miles.
2. Hague Convention governs the concept of the Exclusive Economic Zone (EEZ).
3. A country's rights in its EEZ include all of the following except the Rights to regulate foreign ships' passage.

Select the answer using the code given below:

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

Q58. Which of the following statements are correct in respect of NATO (North Atlantic Treaty Organization) countries:

1. If a NATO country invokes Article 5, it means that the country is imposing trade sanctions.
2. Turkey has the second-largest military force after the United States in NATO.
3. NATO's official headquarters is located in Brussels, Belgium.

Select the answer using the code given below:

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

Q59. The Joint Comprehensive Plan of Action (JCPOA) is associated with ...

- (a) Regulation of International Trade of weapons
- (b) Sanctioning North Korea over weapons of mass destruction
- (c) Limiting Iran's nuclear program
- (d) Global cybersecurity standards

Q60. The city of Latakia is located in ...

- (a) Israel (b) Russia
(c) Ukraine (d) Syria

Q61. Which of the following statements are correct in respect of General Agreement on Tariffs and Trade (GATT):

1. It was established in 1947 as a multilateral agreement to regulate international trade.
2. It was later replaced by the World Trade Organization (WTO) in 1995.
3. GATT focused primarily on reducing tariffs and trade barriers between member nations.

Select the answer using the code given below:

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

Q62. Which lake, the largest freshwater lake in Northeast India, is located in the Imphal Valley?

- (a) Loktak Lake (b) Chilika Lake
(c) Dal Lake (d) Wular Lake

Q63. Consider the following statements regarding Swine Flu:

1. Swine Flu is caused by a variant of the Influenza B virus, primarily originating in pigs.
2. Symptoms of Swine Flu are generally similar to seasonal influenza, including fever, cough, and body aches.

Which of the statements above is/are correct?

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

Q64. Which of the following is responsible for ripening of fruits...

- (a) Oxytocin (b) Fructose
(c) Ethylene (d) Insulin

Q65. The World Air Quality Report is prepared by ...

- (a) International Union for Conservation of Nature (IUCN)
- (b) Intergovernmental Panel on Climate Change (IPCC)
- (c) World Meteorological Organization (WMO)
- (d) None of the above

Q66. Consider the following statements regarding United Nations Framework Convention on Climate Change (UNFCCC):

1. Established in 1992, the UNFCCC serves as the foundational framework for subsequent climate agreements, such as the Kyoto Protocol and the Paris Agreement.
2. It imposes legally binding emission reduction targets on its signatory nations.

Which of the statements above is/are correct?

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

Q67. Consider the following statements:

1. The report "Compassion and primary health care" is released by Ministry of Health and Family Welfare.
2. It lays specific attention on the quality of health-care services and its connection to primary health care.

Which of the statements given above is/are correct?

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

Q68. The term 'Trichophyton indotineae' recently seen in news refers to.

- (a) A bacterial pathogen causing skin infections
(b) A viral agent responsible for respiratory diseases
(c) A fungal species causing dermatophytosis
(d) A parasitic worm infecting the intestines

Q69. Consider the following statements regarding Chagos Archipelago:

1. It is a group of islands in the Indian Ocean belonging to Maldives.
2. Diego Garcia is the largest island in the archipelago.

Which of the statements above is/are correct?

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

Q70. Consider the following statements about Umtru River:

1. It originates in Meghalaya, enters Bangladesh and merges with the Brahmaputra.
2. It passes through the industrial city of Byrnihat.

Which of the statements above is/are correct?

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

Q71. Consider the following statements:

1. Human Development Index (HDI) takes into account income inequality while calculating a country's development level.

2. Countries with lower HDI rankings tend to have higher literacy rates and life expectancy.

Which of the statements given above is/are correct?

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

Q72. Consider the following with reference to the factors that would lead to a rise in Private Final Consumption Expenditure (PFCE):

1. Increase in household income
2. Higher interest rates on loans
3. Higher inflation reducing purchasing power

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q73. Consider the following statements regarding National Board for Wildlife (NBWL):

1. It is a statutory body established under the Forest Conservation Act, 1980.
2. It appraises and approves development projects that fall within the protected areas.

Which of the statements above is/are correct?

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

Q74. Consider the following statements regarding Andes Mountain Range:

1. The Andes Mountain Range is the longest continental mountain range in the world.
2. It stretches along the western coast of South America, traversing seven countries.

Which of the statements above is/are correct?

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

Q75. Consider the following with reference to the National Quantum Mission (NQM):

1. India is the first country to launch a dedicated quantum mission.

2. The mission is implemented by the Ministry of Electronics and Information Technology.
3. It plans to develop intermediate-scale quantum computers with 50-1000 qubits.

How many of the above is/are not correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q76. Consider the following statements:

1. If the government spends less than its revenue earnings, it is called a balanced budget.
2. If a budget fails to get passed in Parliament, the budget is modified and resubmitted.

Which of the statements given above is/are correct?

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

Q77. Consider the following with reference to Balochistan:

1. Balochistan shares a border with Iran to the west and Afghanistan to the north.
2. Gwadar Port in Balochistan is a key part of China-Pakistan Economic Corridor (CPEC).
3. Balochistan is rich in natural resources like coal, copper, and gold.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q78. Which of the following statements are correct in respect of Chandrayaan-2:

1. It was India's second lunar exploration mission, developed by ISRO.
2. The lander (Vikram) and rover (Pragyan) were part of the mission, but the lander failed to perform a soft landing.
3. The mission aimed to explore the Moon's South Pole region.

Select the answer using the code given below:

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

Q79. Consider the following countries:

1. USA 2. France
3. UK 4. Germany

How many of the above countries are members of the Five Eyes Intelligence Alliance?

- (a) Only one (b) Only two
(c) Only three (d) All four

Q80. What is a Menhir recently seen in news?

- (a) prehistoric underground tomb.
(b) A type of cave painting.
(c) A circular arrangement of stones used in rituals
(d) A large upright standing stone from ancient times.

Q81. Which of the following events/movements marked the beginning of Civil Disobedience Movement (CDM) in India?

- (a) World War I (b) World War II
(c) Salt Satyagraha (d) Rowlatt Satyagraha

Q82. Consider the following acts:

1. Prevention of Money Laundering Act, 2002 (PMLA)
2. Foreign Exchange Management Act, 1999 (FEMA)
3. Fugitive Economic Offenders Act, 2018 (FEOA)

The Directorate of Enforcement has a statutory mandate to enforce which of the above acts?

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

Q83. The Indian Parliament consists of:

- (a) Lok Sabha and Rajya Sabha
(b) Prime Minister, Lok Sabha, and Rajya Sabha
(c) Lok Sabha, Rajya Sabha, and the President
(d) Lok Sabha, Rajya Sabha, and Supreme Court

Q84. Consider the following with reference to 'Unlawful Activities (Prevention) Act (UAPA), 1967':

1. The Act empowers the Central Government to declare an individual or an organization as a terrorist.
2. Under the UAPA, the burden of proof lies on the accused to prove their innocence.

3. The law provides for the banning of organizations but does not allow declaring individuals as terrorists.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q85. Which of the following statements are correct in respect of Chhatrapati Sambhaji?

1. He was the eldest son of Chhatrapati Shivaji and succeeded him as the second ruler of the Maratha Empire.
2. He was betrayed and captured by Mughal forces near Sangameshwar in 1689.
3. His execution demoralized the Maratha forces, leading to the immediate fall of the empire.

Select the answer using the code given below:

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

Q86. Consider the following with reference to the Boeing's Starliner mission:

1. Starliner is designed to transport astronauts to and from the International Space Station (ISS) under NASA's Commercial Crew Program.

2. The first uncrewed test flight of Starliner in 2019 successfully docked with the ISS.

3. Starliner uses parachutes and airbags for a controlled landing upon return to Earth.

How many of the above is/are correct?

- (a) Only one (b) Only two
(c) All three (d) None

Q87. The Houthis rebels are a militia group in which of the following country?

- (a) Iran (b) Syria
(c) Lebanon (d) Yemen

Q88. Consider the following countries:

1. Brazil 2. USA
3. Argentina 4. Mexico

How many of the above are member states of Mercosur?

- (a) Only one (b) Only two
(c) Only three (d) All four

ANSWER KEY

Q1.	c	Q2.	d	Q3.	d	Q4.	b	Q5.	b
Q6.	a	Q7.	c	Q8.	b	Q9.	c	Q10.	a
Q11.	a	Q12.	b	Q13.	c	Q14.	c	Q15.	c
Q16.	a	Q17.	d	Q18.	c	Q19.	a	Q20.	a
Q21.	c	Q22.	d	Q23.	c	Q24.	b	Q25.	a
Q26.	b	Q27.	c	Q28.	b	Q29.	b	Q30.	d
Q31.	d	Q32.	b	Q33.	c	Q34.	d	Q35.	c
Q36.	b	Q37.	d	Q38.	c	Q39.	d	Q40.	b
Q41.	a	Q42.	a	Q43.	a	Q44.	a	Q45.	d
Q46.	b	Q47.	a	Q48.	c	Q49.	b	Q50.	a
Q51.	a	Q52.	c	Q53.	a	Q54.	a	Q55.	a
Q56.	a	Q57.	c	Q58.	b	Q59.	c	Q60.	d
Q61.	d	Q62.	a	Q63.	b	Q64.	c	Q65.	d

Q66.	a	Q67.	b	Q68.	c	Q69.	b	Q70.	b
Q71.	d	Q72.	a	Q73.	b	Q74.	c	Q75.	b
Q76.	d	Q77.	c	Q78.	d	Q79.	b	Q80.	d
Q81.	c	Q82.	d	Q83.	c	Q84.	b	Q85.	a
Q86.	b	Q87.	d	Q88.	b				



DAILY MAINS ANSWER WRITING PRACTICE

- Q1. India is emerging as the voice of Global South. Explain how the rise of Global South is bringing a change in the global order. (GS 2, 15 Marks, 250 Words)
- Q2. What are the impacts of Marine Heat Waves on marine ecosystems, climate patterns, and global weather phenomena? Suggest potential measures to mitigate the impact of marine heat waves. (GS1 and 3; 15 Marks; 250 Words)
- Q3. Amid rising protectionism and geoeconomic instability worldwide, India's partnership with the European Free Trade Association (EFTA) presents a vital opportunity for economic diversification and growth. Comment. (GS 2 and 3; 10 Marks; 150 Words)
- Q4. In the backdrop of increased US interest in Greenland and Chinese engagement in the Arctic region, discuss how changes in the Arctic region can affect India and how can India safeguard its stakes in the Arctic. (GS 2, 15 Marks, 250 Words)
- Q5. Appropriate revisions in school textbooks are vital to provide a balanced, credible and reliable historical narrative. Comment. (GS 1, 15 Marks, 250 Words)
- Q6. Energy sector forms the bed-rock of India trade relationship with Qatar. Discuss the significance of Liquefied Natural Gas (LNG) imports from Qatar for India's energy security and economic growth. (GS 2; 15 Marks; 250 Words)
- Q7. What are rare diseases? Discuss the challenges associated with diagnosing and treating rare diseases in India. How can India enhance its response to rare diseases? (GS 3; 15 Marks; 250 Words)

- Q8. Sea levels around the world are rising rapidly. Discuss the causes of rising sea levels and the ways to respond to the rising sea levels around the world. (GS 1 and 3; 15 Marks; 250 Words)
- Q9. IMD predicts a fresh spell of western disturbance to bring rain and snowfall to the Himalayas and Northern India. How western disturbances shape winter precipitation in India? Write a note on the impact of western disturbances in India. (GS 1; 15 Marks; 250 Words)
- Q10. The small-scale sector has acquired a prominent place in the socio-economic development of the country. How are Small Scale Industries significant in employment creation and economic growth? Discuss the challenges to the growth of small industries. (GS 3, 10 Marks, 150 Words)
- Q11. Integration of Artificial Intelligence (AI) with healthcare is becoming crucial in enabling anytime and anywhere care. Discuss the key challenges associated with successful implementation of AI in healthcare in India. How can these challenges be addressed? (GS 3, 15 Marks, 250 Words)
- Q12. What are the geopolitical implications of India's continued strategic support to Bhutan in light of China's expanding influence in the Himalayas? (GS2; 15 Marks; 250 Words)
- Q13. India aims to explore the ocean floor for polymetallic nodules under the Deep Ocean Mission. What are polymetallic nodules? Critically analyse the economic viability and potential environmental implications of deep-sea mining. (GS 1 & 3, 15 Marks, 250 Words)
- Q14. Discuss Mahatma Gandhi's vision of women empowerment, balancing traditional feminine values with modern feminist ideals. What were the limitations of his approach in the context of evolving Indian society? (GS 1; 10 Marks; 150 Words)
- Q15. Why is anti-microbial resistance (AMR) a cause of concern? Discuss the reasons for increased anti-microbial resistance in India and the steps that needs to be taken to address the challenge of AMR. (GS3, 15 Marks, 250 Words)
- Q16. Discuss the key takeaways or major developments from the recent India-US bilateral summit in the field of trade & investment, defence, technology and energy sector. (GS 2; 15 Marks; 250 Words)

- Q17. What is the difference between structural and frictional unemployment? Discuss the challenges of structural unemployment in India and the strategies to address structural unemployment. (GS 3, 15 Marks, 250 Words)
- Q18. What are the main causes of river pollution in India? Discuss the legal provisions and policy response in overcoming the pollution in Indian rivers. (GS 1 and 3; 15 Marks; 250 Words)
- Q19. Discuss the evolution of census in India. What is the significance of census and the relationship between census data and delimitation? (GS 2; 15 Marks; 250 Words)
- Q20. What are the key schemes and initiatives implemented by the Government of India to achieve its renewable energy targets? Highlight the progress made by India in adoption of renewable energy. (GS 3, 15 Marks, 250 Words)
- Q21. Discuss the purpose of waste to energy technologies? What are the different conversion processes used in waste to energy. Write a short note on the challenges for waste to energy plants in India. (GS 3; 15 Marks; 250 Words)

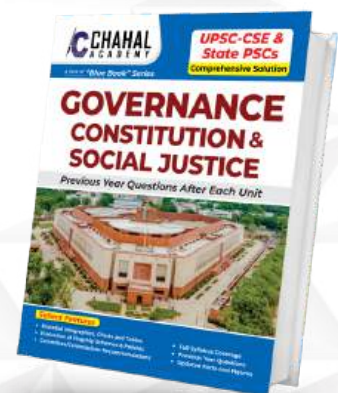
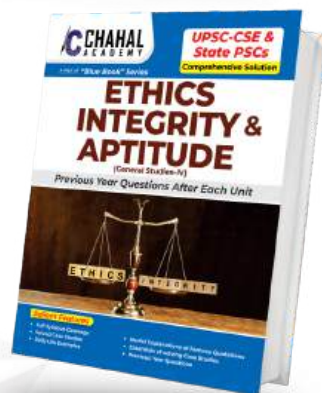
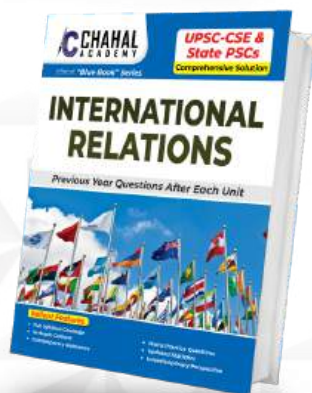
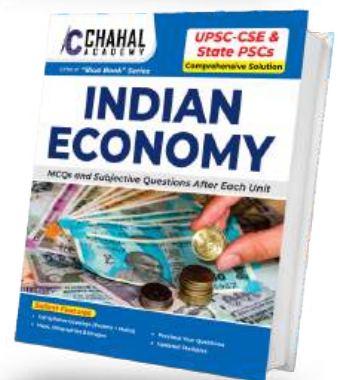
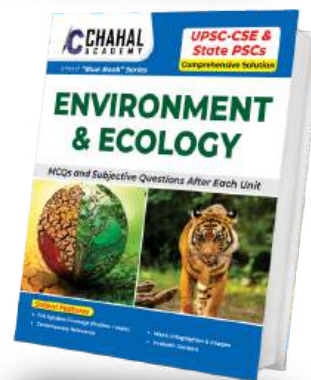
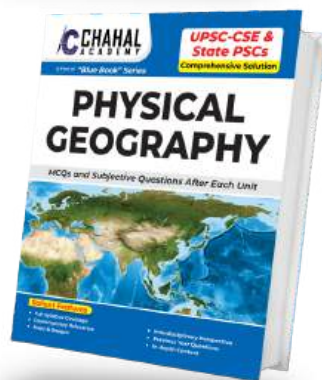
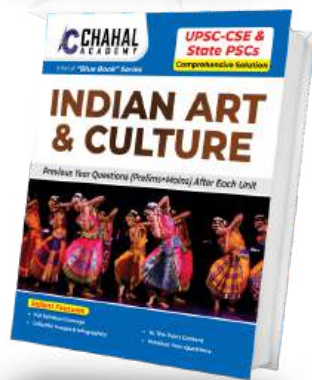
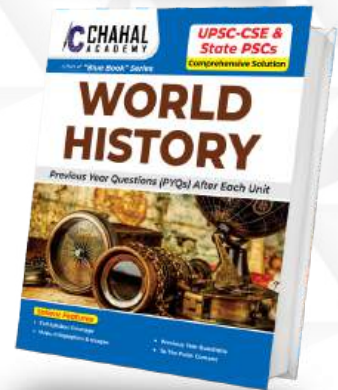
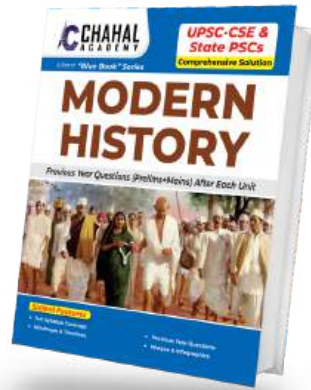
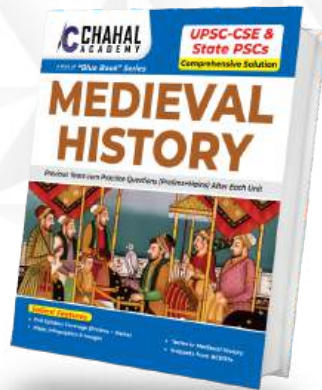
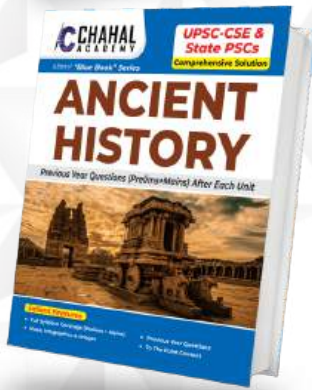
- Q22. What is Economic Survey? Discuss the main concerns flagged by the Economic Survey 2024-25 and its key recommendations for the Indian economy. (GS3; 15 marks; 250 words)
- Q23. Urban Local Self Governments (ULSGs) are critical players in delivering good quality of life to citizens. How can State Governments ensure the efficacy of the 74th Constitution Amendment Act to build robust ULSGs? (GS2; 10 Marks; 150 Words)



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